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REPORT ON

Static Test Results For Waste Rock And Tailings, Meliadine Gold Project, Nunavut, Canada

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REPORT



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Executive Summary

Comaplex Minerals Corporation (Comaplex) proposes to construct and operate the Meliadine Gold Project (Project) north of Rankin Inlet in Nunavut. The Project studied comprises three deposits: Tiriganiaq, F Zone and Discovery. Comaplex requested Golder Associates (Golder) to conduct a geochemical sampling and analysis program of the waste rock, soils and tailings anticipated to be generated from exploitation of the three deposits. Because a number of aspects of the Project are currently being developed, the study is preliminary in nature and conclusions and recommendations are subject to re-evaluation upon refinement of the mining and waste management plans. This report presents the results of static testing on mining wastes from the three deposits and provides preliminary recommendations on mine waste management.

Soil and Waste Rock

Most samples of waste rock and all surface soil samples have no potential to generate acid rock drainage (ARD). This generally stems from low sulphide content and excess buffering capacity sourced from reactive carbonate minerals. As such, most soil and waste rock do not require means to prevent oxidation. Iron formation waste rock at the Discovery deposit is the only rock group classified as having an uncertain ARD potential.

Rock from the three deposits is enriched in arsenic. Arsenic content is variable in all waste rock and soils tested but the median arsenic concentration for all rock types is more than five times the typical crustal abundance for similar rock types. Arsenic content is highest in iron formation rock, followed by greywacke and footwall mafic volcanic rock. Mafic volcanic pit waste rock distal to mineralization (ex. In hanging wall lithologies) has the lowest median arsenic content.

Water leach test results yielded parameter concentrations that meet MMER in all samples of waste rock tested, and in all but one soil sample where zinc exceeded the MMER. Leach test results also largely meet CEQG guidelines for the protection of aquatic life (CCME 2006) for most parameters except aluminum, arsenic and pH which exceed the CEQG guidelines for numerous samples of all rock types. Some other constituents slightly exceed the CEQG in a limited number of samples but median concentrations are well below CEQG values for these elements.

Arsenic is the principal constituent of environmental interest in soil and waste rock because of its enrichment in and around the mineralized rock and because of its leachability under neutral-pH water leaching conditions for all sample groups and soils in all three deposits. Arsenic is mobile under neutral conditions, which are likely to prevail in drainage water contacting Meliadine mine waste rock. For all deposits, the concentration of leached arsenic is generally proportional to the total arsenic content of the rock but does not correlate with sulphur content. The source of labile arsenic is anticipated to come, at least in part, from arsenopyrite and other arsenic-rich sulphide minerals, but may also come from soluble non-sulphide mineral and/or in mineral phases where arsenic may be present in trace amounts. The report provides further details on the distribution of labile arsenic content in waste rock.

Short term leach test results do not necessarily imply non compliance of mine waste rock contact water quality, but rather, underline the propensity of the waste rock to release arsenic and some aluminum at concentrations that warrant mine waste management planning to minimize potential negative environmental effects.



Tailings

For all deposits investigated, the sulphide-poor flotation tailings have no potential to generate ARD (non PAG) while the sulphide-rich concentrate rejects (tailings) are potentially acid generating (PAG). The difference in ARD potential stems from the higher sulphide mineral content of concentrate tailings. All tailings streams have similar buffering capacity and the alkaline paste pH values show some immediately available buffering capacity that may delay the onset of ARD conditions. The calculated ARD potential for combined tailing from each deposit (concentrate+flotation tailings) classify the Tiriganiaq Lode 1000 and F Zone combined tailings as non PAG, while Tiriganiaq Lode 1150 and Discovery combined tailings are classified as PAG. The sulphide content of the combined tailings is such that unless oxidation prevention methods are utilized when storing tailings, the sulphide minerals are likely to oxidize and lead to increased chemical release rates even with effective acid-neutralization.

Preliminary recommendations are provided with respect to mine waste management and rock use for construction.



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1.0 INTRODUCTION

Comaplex Minerals Corporation (Comaplex) proposes to construct and operate a gold mine, known as the Meliadine Gold Project (Project), located north of Rankin Inlet in Nunavut (Figure 1.1). The Project is situated on Inuit Owned Land administered by the Kivalliq Inuit Association (KIA), on a peninsula between the east, south, and west basins of Meliadine Lake.

The Project comprises three deposits that include, from west to east: Tiriganiaq, located 25 kilometres (km) north of Rankin Inlet, the F Zone deposit, located approximately 3.5 km to the southeast of Tiriganiaq, and the Discovery deposit, located approximately 16 km southeast of the Tiriganiaq and 18 km north of Rankin Inlet.

It is understood that multiple aspects of the project are currently being developed and may change as the project advances. The surface of the Tiriganiaq deposit is anticipated to be operated as an open pit, while deeper portions will be exploited by underground mining techniques. Roughly 8.4 million tonnes (Mt) of ore will be extracted from this deposit. The F Zone deposit is anticipated to be operated as a series of open pits from which approximately 1.3 Mt of ore will be mined. The Discovery deposit is also anticipated to be operated as an open pit from which will be mined 286 000 tonnes of gold ore (Comaplex, 2010).

The main infrastructure (mill and camp) for the proposed project will be constructed immediately north of the Tiriganiaq open pit. Ore will be processed at on-site-facilities. It is currently planned to use Lake B7 basin for a management area with a portion of the tailings possibly to be used as backfill. Alternative tailings disposal methods are currently being assessed. Waste rock will be deposited in rock storage facilities (RSFs) adjacent to each deposit.

Golder Associates Ltd. (Golder) initiated a staged geochemical characterization program for the Project in 2008 that is consistent with INAC (1992) and MEND (2009) recommended methods. The objective of the first stage of the program was to perform a scoping-level assessment of the chemical characteristics of the waste rock that is likely to be generated from exploitation of the Tiriganiaq deposit. Further sampling and testing of mining wastes was conducted in 2009 to characterize waste rock, tailings and overburden from the Tiriganiaq, F Zone and Discovery deposits. Static testing methods were used to assess the chemical composition of the mine waste, its potential to generate acid rock drainage (ARD) and its potential to leach metals (ML) to the receiving environment upon exposure to ambient conditions. Results of this static testing program are meant to guide mine waste management practices for the proposed mining operation.

This report discusses the static test results for waste rock, soil and tailings expected to be produced through the exploitation of the Tiriganiaq, F Zone and Discovery deposits. It describes the methods utilized as part of the static testing program, presents the interpreted test results, and provides preliminary recommendations on mine waste management planning.

1.1 Information Reviewed

Background information on the geology, mineralogy, and chemistry of rock types present at the site was extracted from the following documentation:

- Preliminary Project Description, Meliadine Gold Project, Nunavut (Comaplex, 2010)
- Tiriganiaq Gold Deposit, Nunavut – Resource Update (NI43-101 report) (Snowden 2008);



- Report on Tiriganiaq Geochemistry (SRK 2006);
- Final Report on Meliadine West Gold Project: Water Quality Baseline Studies (Golder 2008);
- Interim Static Test Report for Waste Rock from the Tiriganiaq Deposit (Golder 2009); and,
- Geological cross-sections, borehole logs and maps provided by Comaplex and Meliadine Resources Inc.

1.2 Regional and Site Geology

The following summary is adapted from Snowden (2008), Pincock, Allen & Holt (2008) and Comaplex (2009).

The Meliadine properties are located in the Rankin Inlet Greenstone Belt of the Churchill Structural Province. This is an Archean, deformed and metamorphosed sequence of mafic volcanic, felsic pyroclastic, sedimentary rocks and gabbro sills. The Meliadine trend is defined by the regional Pyke Fault, a prominent high-strain fault zone which is northwest trending within the stratigraphy of the Archean Rankin Inlet Group. The Rankin Inlet Group was subjected to lower to middle greenschist facies metamorphism and multiple periods of deformation, including two identified periods of Archean and Proterozoic age. The Meliadine ore deposits are low-sulfide, gold-quartz vein deposits as per the geo-environmental classifications provided in Plumlee et al. (1999).

Stratigraphy in the Project area strikes east-west, and dips to the north at inclinations of 60 to 70 degrees. The stratigraphy is interpreted as being overturned. The principal lithological units that are likely to be disturbed by mining include:

- 1) Turbiditic sedimentary rocks of the hanging wall, comprising greywacke, siltstone and argillite (Sam Formation) with gabbro dykes;
- 2) Volcanic-hosted and sediment-hosted iron formation, including greywacke, siltstone and argillite (Upper Iron Formation) with abundant magnetite and chert layers;
- 3) Sericite altered siltstones and graphitic argillite near the Lower Fault zone contact (Tiriganiaq Formation); and,
- 4) Schistose and carbonate-altered mafic volcanic rocks in the footwall (Wesmeg Formation).

1.2.1 Tiriganiaq Deposit

Gold ore in the Tiriganiaq deposit is hosted in the Tiriganiaq Formation which constitutes the hanging wall of the Lower Fault. The Lower Fault zone is a basal detachment surface of unknown age from which listric (i.e. "spoon-shaped") faults emanate. This results in the repetition of the Tiriganiaq Deposit stratigraphy in multiple sequences above the Lower Fault.

The Tiriganiaq deposit is hosted in sulphidized iron formation and quartz veins associated with the iron formation, sedimentary units and mafic volcanics. Gold mineralization is divided into multiple lodes based on structural features, shearing, quartz veining, grade, and the occurrence of coarse arsenopyrite. Of the major lodes, five are parallel to the stratigraphic sequence and the Lower Fault and two are controlled by shear structures associated with the listric faults splays. The two major lodes, the 1000 and 1100 lodes, have a strike length exceeding 800 metres and are open down-plunge (easterly) along a length exceeding 500 metres. Underground mining would target these and other lodes (1150 and 1250) by either bulk or selective narrow vein mining techniques (Snowden 2008).



Sulphide mineralization in the Tiriganiaq Deposit developed in two distinct generations. Primary sulphides are found parallel to bedding in the oxide iron formations and black argillite, and include laminations of pyrrhotite, pyrite, and chalcopyrite. Gold values are low to absent in this generation, indicating gold mineralization is not strongly correlated with primary sulphidization (lodes 1100, 1150, 1250). The second phase of sulphidization includes coarse-grained arsenopyrite and pyrrhotite associated with gold-bearing zones and quartz veining (1000 lode). Galena and sphalerite are also present in both sulphide assemblages and associated with gold-bearing zones.

1.2.2 F Zone Deposit

The F Zone deposit is hosted in sheared, quartz vein-bearing portions of a lean iron formation hosted entirely in mafic volcanics of the Wesmeg formation. The deposit occurs as a series of mineralized pods of pyrrhotite and arsenopyrite-bearing iron formation that extend over a distance of just over 1 kilometre in length. These pods extend to the bedrock surface and are the target of the several shallow open pits proposed for the project. Underground potential also exists with gold mineralization present at depths of approximately 250 meters below surface.

1.2.3 Discovery Deposit

The Discovery deposit is hosted in NW-trending mineralized Iron Formation belts of approximately 20 km in overall length. The principal lithological units associated with the deposit include greywacke with lesser argillites, pelites and siltstone, and argillite (Sam Formation) interbedded with oxide facies iron formation units. Late gabbro dykes are present, trending east-west across the deposit area.

Gold mineralization is predominantly hosted in the northernmost 'upper oxide' iron formation, located parallel to the trend of the Pyke fault, within southeast-northwest trending stratigraphy. Gold mineralization is structurally controlled within folds and shear zones and is associated with quartz veining, silica flooding and sulphidization of magnetite by pyrrhotite and/or arsenopyrite. Alteration envelopes occur adjacent to veins of quartz with variable calcite content. Alteration is characterized by assemblages of hornblende/grunerite, biotite and calcite overprinting the iron formation and greywacke greenschist facies. Sulphide mineralization includes arsenopyrite and pyrrhotite with minor chalcopyrite and trace sphalerite. The highest gold concentrations are in structurally controlled zones (shearing, folds) associated with pyrrhotite and porphyroblastic arsenopyrite, as well as disseminated in quartz veins and silicate iron formation.

1.3 Mine Plan

This section describes the mine plan at the time of report preparation. Multiple aspects of the project are currently being developed and may change as the project advances. The project will be operated using conventional underground and open pit mining techniques to exploit three separate deposits. Open pit mining is proposed for the Tiriganiaq, F Zone and Discovery deposits using conventional surface mining methods. At this time, underground mining is proposed for the Tiriganiaq deposit only, although this may change with continued exploration.

1.3.1 Mining Schedule and Techniques

Mining rates are expected to be about 3,000 tonnes per day for a total of approximately 1 million tonnes per year. Based on current resources, construction will require three years and the operational mine life is estimated to be about 10 years, with a minimum project life of approximately 14 years (Comaplex 2009).



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Pre-development of the underground workings and the stripping of overburden and waste rock at Tiriganiaq will commence prior to the plant production. The open pits will be mined sequentially as follows: Tiriganiaq (2014 to 2019), F Zone (2019 to 2023), and Discovery (2021 to 2023). Tiriganiaq underground development and mining is expected span the majority of mine life (2014 to 2023).

Tiriganiaq Deposit – Three shallow open pits are proposed, including a main pit and two smaller pits to the east and west. The larger open pit and the underground development will be developed at the beginning of construction to allow the use of suitable waste rock as aggregate source. Access to the proposed underground mining will be by way of the portal developed for the underground exploration and bulk sampling program. Detailed planning of the underground program is ongoing and refinements to the mine layout and schedules are expected. Underground mining will be in the zone of continuous permafrost, which extends to depths of approximately 350 to 450 metres below ground surface. It is understood that mining may continue below the permafrost in later years.

F Zone Deposit – It is currently anticipated to be operated as a series of 6 shallow open pits 50 m to 100 m apart from each other, aligned along the east-west geological trend. A small bay of Lake A6 will be closed by a 250 m long dike and dewatered in order to allow excavation of the westernmost pit.

Discovery Deposit – one shallow open pit will be developed as a satellite operation after the Tiriganiaq pit has been exhausted and F Zone mining is slowing down.

1.3.2 Overburden and Waste Rock Management

The preliminary expected tonnages of overburden, waste rock and ore are summarized in Table 1.1 as kilotonnes (ktonnes).

Table 1.1: Estimated Production of Mine Waste Material

Deposit	Source		Estimated Tonnage (ktonnes)
Tiriganiaq	Ore	Open pit	1,752
		underground	6,674
	Medium / Low Grade Ore		280
	Overburden		3,970
	Waste Rock	open pit	3,110
		underground	834
F-Zone	Ore		1,324
	Overburden		690
	Waste Rock		4,710
	Medium / Low Grade Ore		410
Discovery	Open Pit		286
	Overburden		200
	Waste Rock		2,800

Source: Comaplex (2009)



It is anticipated that suitable waste rock from the development of the Tiriganiaq open pit and access ramps will be used as an aggregate source for construction. All other waste rock will report to the RSF of each deposit. Soils stripped from the open pit will also be stockpiled near their respective pits. The anticipated mine waste management plan is illustrated on the location plan for Tiriganiaq and F Zone (Figure 1.2) and Discovery (Figure 1.3).

1.3.3 Metallurgical Process and Tailings Management

Based on information provided to date, the Project will use a conventional milling and gold recovery process, which is a series of sequential steps consisting of crushing, grinding, gravity separation of free gold, sulphide flotation, and cyanide leaching of the sulphide concentrate and gold recovery by carbon-in-pulp (CIP). The current mine plan is based on a production rate of approximately 3,000 tonnes per day. The milling process is likely to include the following steps:

- primary grinding circuit (150 mm) followed by a second grinding circuit to reduce to a sand sized consistency and further grinding to reduce the rock to a fine slurry;
- gravity separation, which will recover up to 45% of the total gold in the rock;
- sulphide flotation;
- regrind of the flotation concentrate;
- cyanide leach (with activated carbon) of the flotation concentrate; and,
- cyanide destruction.

Details of the process flow sheet and tailings management plan were being finalized at the time of report preparation. Ore from all deposits will be stockpiled and processed at Tiriganiaq where the mill and ore processing facilities will be located. A proportion of the tailings may be thickened and used as backfill in Tiriganiaq underground development. The feasibility of this is currently being assessed. The remaining tailings will be deposited at one tailings storage facility (TSF) to be located in the Tiriganiaq area. The tailings deposition plan is being developed at the time of this report.

Process water will be recycled and cyanide will be recovered or destroyed prior to deposition of tailings in the TSF.



1.4 Previous Studies

Geochemical investigations were initiated by previous owners in 1998 and 2001 in conjunction with a metallurgical testing program (SRK 2006). A total of 150 Tiriganiaq samples were collected from the metasediments in the hanging wall, mafic volcanic of the footwall, iron formation and quartz vein ore, and overburden, all of which were subjected to geochemical testing. Results indicated a mixed potential for acid generation, with the soils, hanging wall and footwall waste rock classified as having no ARD potential, while ore zone samples were classified as having an uncertain ARD potential.

Another geochemical investigation was completed in 2005. Forty eight (48) samples rock were collected from diamond drill core from the area of the underground exploration decline at Tiriganiaq, all of which were tested for ARD potential, rock chemistry and a smaller subset for metal leaching. The study report is included in Appendix E, and also includes results from the 1998-2001 testing program. Based on the study, it was concluded that most of the samples collected were non acid generating, although some hanging wall samples were potentially acid generating. Buffering capacity or neutralization potential (NP) was found to be high in all rock types analyzed. Short-term leach testing by shake flask extraction (SFE) found that the mafic volcanic and greywacke samples tested leached aluminum and arsenic above Canadian Environmental Quality Guidelines (CEQG) for the Protection of Aquatic Life (CCME 2006) and the mafic volcanic sample also leached copper and zinc above CEEG.

The exploration decline was completed in 2008 and the development rock was placed adjacent to the decline portal, forming a pad for placement of the crushed ore of the bulk sampling program. Drainage water quality contacting the pad and ore piles has been monitored since 2008 (Comaplex 2008, 2009).

Golder initiated a mine waste characterisation program in 2008, where 90 samples of waste rock from the Tiriganiaq open pit and underground (hanging wall) development were collected and 74 samples were subjected to geochemical characterization (Golder 2009). The results of the 2008 study were similar to those of the shallow underground development rock: all rock types tested had no potential for ARD, and arsenic and aluminum were found to be the principal constituents of interest due to their leachability under neutral pH conditions. Golder recommended further investigations on long-term leaching characteristics of the waste rock and on the source and/or mode of occurrence of arsenic. The 2008 data have been incorporated into the results database for the present study.



2.0 SAMPLE COLLECTION AND TEST METHODS

Canadian guidelines (INAC 1992 and MEND 2009) recommend that the number of samples required for an appropriate volumetric representation of geochemical characteristics be based on the quantity of waste rock to be excavated for each lithology disturbed by mining. INAC (1992) recommends a minimum number of samples as a function of the tonnage of specific rocky types. These recommendations are in line with the MEND (2009) guidelines presented in Table 2.1.

Table 2.1: Suggested Initial Sampling Frequency Based on Tonnage (MEND 2009)

Mass of Each Separate Rock Type (tonnes)	Minimum Number of Samples
<10,000	3
<100,000	8
<1,000,000	26
<10,000,000	80

The geochemical characterization program is a scoping-level study. Since lithology-specific waste rock quantities have not yet been defined, sample numbers are based on the overall expected tonnage of waste rock from each deposit. Further sampling may be required once the pit sizes and mine plans are finalized and waste rock volumes by lithologic unit are defined.

2.1 Sample Selection and Collection

Cross-sections showing the waste rock sample intervals are presented in Appendix A. A summary of the waste rock, soil and tailings sampling and analysis programs is presented in Appendix B (Table B1; waste rock and soil) and Appendix C (Table C1; tailings).

2.1.1 Waste Rock and Soil Samples

Geological cross-sections through the Tiriganiaq, F Zone and Discovery deposits were reviewed by Valérie Bertrand, P.Geol. (NT, NU), Golder senior geochemist, to target sample intervals that represented waste rock to be disturbed by mining. Golder's sample selection plan aimed to represent the Tiriganiaq and F Zone waste rock in terms of both lithological and spatial variation.

Samples were collected from previously drilled exploration and geotechnical boreholes in October 2008 and in July-August 2009. The October 2008 samples were collected by Comaplex geologists based on instructions provided by V. Bertrand and focused on characterizing Tiriganiaq waste rock from the hanging wall and underground development. These samples were forwarded to Golder for review prior to submission to the analytical laboratory. Sample descriptions provided by Comaplex geologists were verified in terms of rock type, apparent sulphide content and mineralogy, alteration and staining associated with sulphide mineral oxidation. The July-August 2009 sample collection was initiated by V. Bertrand and completed by Comaplex geologists (Tiriganiaq and F Zone sampling) and Meliadine Resources geologists (Discovery deposit sampling). This sampling program included Tiriganiaq footwall development rock, waste rock from F Zone and Discovery deposits and surface soil samples from within the proposed pit outline.



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Each waste rock sample was described in terms of rock type, sulphide mineralogy, metamorphism, alteration, and staining associated with sulphide mineral oxidation. Each sample consisted of a composite of 3 to 5 kilograms of core (whole or split) collected from previously drilled diamond drill core over an interval of up to 5 m for underground samples and up to 10 metres for open pit samples. The length of the sample interval was intended to circumvent the effect of mineral clusters particularly sulphide minerals, which may not be representative of the bulk rock mass along the targeted interval.

Soil sample locations and pit outlines are shown in Figure 2.1 for Tiriganiaq and F Zone and Figure 2.2 for Discovery. Grab samples were collected by V. Bertrand using a metal shovel. Sample depth was in all cases, limited by the presence of ground ice. Each soil sample consisted of approximately 5 kg of material and was described in terms of texture, colour and water/ice content.

All waste rock and soil samples were forwarded to SGS Canada Inc. (SGS) of Lakefield, Ontario for geochemical testing, as summarized in Table 2.2 and detailed in Section 2.2.

Table 2.2: Summary of the Geochemical Sampling and Analytical Programs

Sample Location		Estimated Tonnage ¹		Total Samples Analyzed	
		ktonnes	%	Count	Proportion
Tiriganiaq	open pit waste rock	3,110	39%	84	54%
	underground rock	834	11%	66	43%
	overburden	3,970	50%	5	3%
	TOTAL	7,914	100%	155	100%
F Zone	waste rock	4,710	87%	58	92%
	overburden	690	13%	5	8%
	TOTAL	5,400	100%	63	100%
Discovery	waste rock	2,800	93%	41	93%
	overburden	200	7%	3	7%
	TOTAL	3,000	100%	44	100%

1 – From Table 1-2 estimated production schedule (received from Comaplex, November 2009)

A total of 262 samples were collected to represent 16,314,000 tonnes of waste material, complying with requirements outlined in Table 2.1.

2.1.2 Tailings Samples

Samples of the anticipated milling residues were obtained from preliminary metallurgical test work conducted in 2009 at SGS under the direction of Comaplex. Metallurgical testing was conducted on ore samples from each deposit. Each test generated a sulphide-poor flotation reject solid (flotation tailings) and a sulphide-rich concentrate reject (concentrate tailings). Samples retained for geochemical tests at SGS are described in Table 2.3.



Table 2.3: Summary of Tiriganiaq and F Zone and Discovery Tailings Sampling Program

Deposit	Estimated Tonnage (ktonnes)	Sample ID	Tailings Type	Mass Split %
Tiriganiaq (lode 1000)	8,426	F-1 Ro Conc	Concentrate	13.7
		F-1 Ro Tls	Flotation	86.3
Tiriganiaq (lode 1150)		F-2 Ro Conc	Concentrate	22.0
		F-2 Ro Tls	Flotation	78.0
F-Zone	1,324	F-4 Ro Conc	Concentrate	21.0
		F-4 Ro Tls	Flotation	79.0
Discovery	286	F-3R Ro Conc	Concentrate	11.8
		F-3R Ro Tls	Flotation	88.2

The Tiriganiaq ore samples used for metallurgical testing were collected from two different lodes (lode 1000 and lode 1150). One concentrate and one flotation samples were obtained from ore processing batch tests of each lode. The mass split between lode 1000 and lode 1150 was not known at the time of reporting.

Metallurgical test work is being finalized at SGS, and final test material, including supernatant chemistry, was not available at the time of reporting. Results presented in this report are therefore preliminary and conclusions and recommendations regarding tailings geochemistry are subject to change based on final test results.

2.2 Test Methods

The test program incorporated a comprehensive set of standard geochemical methods to characterize the ARD/ML potential of the different material types expected to be produced during mine life. The static testing program included the following components:

- Mineralogical composition on select waste rock samples;
- Whole rock and trace element chemistry (ICP);
- Acid base accounting (ABA) by the Modified Sobek method;
- Net acid generation (NAG) tests on select waste rock samples; and,
- Readily leachable metals through short-term metal leach testing by a modified version of the shake flask extraction (SFE; Modified ASTM D3987).

All tests and analyses except the mineralogical investigation were performed at SGS. Geochemical characterization methods are discussed in the next sections.



2.2.1 Mineralogical Analyses

A subset of thirteen samples was submitted to Dr. Mati Raudsepp of the University of British Columbia, Earth and Ocean Sciences Department for mineralogical analysis by x-ray diffraction (XRD) and evaluation of the XRD patterns by the Rietveld method. This method allows for a quantitative characterisation of the mineralogical composition of a sample for crystalline mineral phases with a detection limit of approximately 1%. XRD does not detect amorphous mineral phases. This analysis was used to assist in the identification and quantification of minerals that provide buffering capacity and acidification potential to the sample.

2.2.2 Chemical Composition

The chemical composition of each sample was determined through whole rock and trace element analysis to determine the content of major rock forming elements and trace metals, respectively. This information is used to assess the variation in chemical composition by lithology and to identify parameters of potential environmental concern. Results for waste rock are compared to typical crustal abundances (Price 1997) for similar lithologies, while soil results are compared against CEQG guidelines. The following components were included in the chemical analyses:

- Metals (including arsenic and selenium) by inductively coupled plasma-mass spectroscopy (ICP-MS), with samples extracted using a concentrated strong acid solution of perchloric, nitric, hydrochloric and hydrofluoric acids;
- Mercury by cold vapour atomic absorption spectroscopy (CVAAS), EPA245.1 methodology; and,
- Whole rock analysis for major metals by borate fusion / x-ray fluorescence (XRF).

2.2.3 Potential for Acid Rock Drainage

The potential of geologic material to oxidize and generate acidic drainage is evaluated through acid-base accounting (ABA). This test was conducted following the Modified NP method (MEND 2009) and included determination of the following parameters:

- Paste pH;
- Total sulphur by LECO furnace, (ASTM E 1915-01 methodology);
- Sulphide and sulphate sulphur;
- Total Carbon (TC as %C), Total Inorganic Carbon (TIC as %C) and carbonate (as %C) by LECO furnace; and,
- Bulk neutralization potential (NP; by the 1996 Modified NP method (MEND 2009)).

Nine samples from Tiriganiaq, 3 samples from F Zone and 20 samples from Discovery deposits were subjected to net acid generation (NAG) tests (AMIRA 2002) to further assess ARD potential, as discussed in Section 2.2.2.1.



Neutralization Potential (NP)

The NP is a bulk measurement of the acid-buffering capacity of a sample provided by various minerals of different reactivities and effective neutralization capacity. It is measured by digestion of a pulverized portion of the sample using a strong acid. This process consumes all minerals affected by the acid, including minerals that may not normally be reactive under ambient conditions and minerals that would not neutralize to pH-neutral conditions (such as silicate minerals; Blowes and Ptacek 1994). Because the type and occurrence of neutralizing minerals present in the sample will have a determining effect on whether the ARD potential of a sample will be realized, NP was evaluated using two different analytical techniques to more accurately determine the amount of available NP:

1996 Modified NP Determination: Represents the bulk NP of the sample, including contributions from some reactive aluminosilicate minerals, if present. It is calculated from the amount of base consumed to neutralize acid remaining from the sample acid-digested at room temperature. This test method is modified from the Standard (Sobek) NP method which more aggressively dissolves neutralization minerals and may thus overestimate NP because of the higher digestion temperature (boiling).

Carbonate NP: Represents the NP available from reactive carbonate minerals, including siderite and other divalent metal carbonates (which provide no net neutralization). It was calculated based on the total inorganic carbon or the carbonate (%C) content of the sample, assuming all carbonate and TIC is in the form of carbonate minerals. Carbonate NP was calculated using the detection limit value for carbonate and TIC when these were measured as less than detection limit (<0.005 or 0.0025).

Acid Potential (AP)

The AP is calculated from the sulphide sulphur content of the sample, on the basis that the entire sulphide content of the rock will oxidize to generate acid. The sulphide content of the sample is calculated as the difference between laboratory-measured total sulphur and sulphate sulphur.

Values of AP, NP and CaNP are reported as kg equivalent calcium carbonate per tonne of rock.

2.2.3.1 Net Acid Generation (NAG)

Net acid generation (NAG) tests are used in combination with ABA to assess the ARD potential of a sample. The NAG test uses hydrogen peroxide to induce complete oxidation of sulphide minerals and concurrent buffering by available minerals in the sample. Unlike ABA results, NAG tests do not provide an estimate of NP relative to AP, but rather the net effect of sulphide oxidation and buffering reactions within a sample. This test is particularly useful for samples containing low AP and low NP or where other results yield conflicting predictions. Results of NAG pH are used to verify ARD potential, while NAG leachate chemical composition can be used to assess the potential degree of metal release upon sulphide oxidation.

NAG tests were conducted on nine samples of Tiriganiaq waste rock, three samples of F Zone waste rock and 20 samples of Discovery rock (NAG pH and acidity only).



2.2.3.2 ARD Screening Criteria

For this study, ABA results were compared to *Guidelines for Acid Rock Drainage Prediction in the North* (INAC 1992). The suggested screening criteria for inferring ARD potential based on the net potential ratio (NPR) are summarized in Tables 2.4 and 2.5 for waste rock and tailings, respectively. The NPR is the ratio of NP to AP (or CaNP to AP for CaNPR).

Table 2.4: Acid-Base Accounting Screening Criteria for Waste Rock (INAC 1992)

Potential for ARD	Initial Screening Criteria	Description
Likely	$\text{NPR} < 1$	Likely to generate acidity, unless sulphide minerals are non-reactive
Uncertain	$1 < \text{NPR} < 3$	Neither clearly acid generating nor acid consuming
None	$\text{NPR} > 3$	Acid consuming

Table 2.5: Acid-Base Accounting Screening Criteria for Tailings (INAC 1992)

Potential for ARD	Initial Screening Criteria	Description
Likely	$\text{NPR} < 1.2$	Likely to generate acidity
None	$\text{NPR} > 1.2$	Non acid-generating

In evaluating the ARD potential of the waste material at this site, consideration was also given to the *Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials* (MEND 2009). According to MEND (2009), samples with NPR values between 1 and 2 are considered “possibly acid generating” if NP is insufficiently reactive or is depleted at a rate faster than the sulphide oxidation rate. Samples with NPR values greater than 2 have low potential to generate acid unless significant preferential exposure of sulphide along fracture planes, or extremely reactive sulphides in combination with insufficiently reactive NP.

Results of NAG tests were compared to criteria defined by AMIRA (2002) to identify the ARD potential of the test material, as summarized in Table 2.6.

Table 2.6: Net Acid Generation Criteria (AMIRA 2002)

NAG pH	NAG Acidity (to pH 4.5) kg $\text{H}_2\text{SO}_4/\text{t}$	Potential for Acid Generation
≥ 4.5	0	Non-acid generating.
< 4.5	$\leq 5^1$	Low potential to be acid generating.
< 4.5	$> 5^1$	Potentially acid generating.

Note: The NAG criteria used may vary from site to site with a cut-off up to 10 kg $\text{H}_2\text{SO}_4/\text{t}$ (Source: AMIRA 2002).



2.2.4 Metal Leaching Potential

Metal leaching tests are used to assess the potential of the waste rock to release readily-soluble metals to the receiving environment by simulating interaction between water and solids.

Samples were subjected to short-term leach tests using a modified version of the shake flask extraction (Modified ASTM D3987). Crushed samples (< 9.5 mm) were mixed with distilled water (4:1 solution to solid ratio) and the pulp was placed in a flask and shaken for 24 hours using a variable speed shaker table. Leachate was collected from the pump through a 0.45-µm filter and analyzed for pH, sulphate, chloride, and dissolved metals.

The results of the short-term leach tests were screened against Metal Mining Effluent Regulations (MMER) (DFO 2006) and Canadian Environmental Quality Guidelines (CEQG) for the Protection of Aquatic Life (CCME 2006). These comparisons are an initial screening tool in the identification of potential constituents of concern for mine site water management planning and potential treatment requirements. Short-term leach tests provide an estimate of which metals have a potential to leach from a particular material. However, actual site drainage chemistry will almost certainly differ from short-term leach test results due to the inability of short-term leach tests to accurately simulate natural conditions, in particular transient processes such as sulphide oxidation. Short term leach test results are therefore only considered as indicators of potential constituents of interest rather than accurate representations of future drainage compositions.

2.3 Quality Assurance and Quality Control

The objective of a quality assurance/quality control (QA/QC) program is to assess sample representativeness and defensibility of reported results based on the level of accuracy and precision achieved during the study. Samples of core and soils collected by Golder were obtained using a consistent sampling procedure and sample size. Sampled material was bagged individually to avoid cross-contamination, sealed, numbered and sent to the analytical laboratory with chain-of-custody records. The samples collected by Comaplex personnel were not part of the sampling QA/QC assessment. These samples were received by Golder in individual bags labelled with the unique sample identification number and with copies of sample documentation. Similar analytical methods were used on all solid samples (rock, tailings, soils) to allow direct comparison of results.



3.0 WASTE ROCK AND SOIL GEOCHEMICAL CHARACTERIZATION

Static test results for waste rock and surface soil samples are discussed in the following sections. Tabulated results and figures are presented in Appendix B and laboratory analytical certificates are included in Appendix D.

Results are reported by deposit and rock type. Samples collected from Tiriganiaq deposit were grouped based on sample location with respect to the open pit and underground development areas as well as by lithology. Samples collected from F Zone and Discovery deposits were grouped based on lithology and sample location within the pit (i.e. hanging wall, foot wall, near ore zone and ore zone).

For purposes of data evaluation, samples of greywacke, siltstone, and argillite collected from the Sam and Tiriganiaq formations are considered one rock type as sample composition is frequently a combination of greywacke and siltstone. Little variation was found between the pure greywacke and siltstone samples in terms of chemical composition or acid rock drainage potential.

3.1 Mineralogical Analyses

Results of mineralogical analyses are presented in Appendix B, Table B-2 for the 13 samples analyzed from Tiriganiaq and F Zone deposits. The focus of the mineralogical investigation was to identify the source of potential acidity (sulphide minerals) and buffering capacity, including carbonate minerals and some silicate minerals that may offer some neutralization potential.

3.1.1 Tiriganiaq

The five mafic volcanic samples consist primarily of quartz (17 to 27 weight percent or wt%), and ankerite (19 to 39 wt%), with lesser plagioclase feldspar (6.5 to 21 wt%), muscovite (7.2 to 21 wt%), calcite (1.4 to 11 wt%) and clinocllore (3.8% to 18 wt%). Other minerals are present in lower amounts. The sulphide mineral content was above the XRD detection limit in three of the five samples, all in the form of pyrite (0.3 to 0.6 wt%).

The four greywacke/siltstone samples consist primarily of quartz (27 to 43 wt%), plagioclase feldspar (21 to 37 wt%) and muscovite (14 to 29 wt%) with lesser ankerite and calcite (6.7 to 9.2 wt% combined), and clinocllore (4.7 to 13 wt%). One underground sample contains arsenopyrite (0.3 wt%). No other sulphide mineral was detected.

The one iron formation sample principally consists of quartz (57 wt%), clinocllore (17 wt%) and calcite (11 wt%) with lesser magnetite (8.6 wt%). The only sulphide mineral present in sufficiently high concentration for detection was pyrrhotite (2.3 wt%). No other sulphides were detected.

In all samples analyzed, the bulk of the reactive buffering capacity is provided by reactive carbonate minerals. Calcite is the most common mineral contributing NP. Ankerite only contributes NP at conditions below approximately pH 4.5; at higher pH values, the iron that is released through dissolution re-precipitates in the form of ferric hydroxide, which generates acidity. This results in no net buffering capacity from ankerite. Plagioclase feldspar, muscovite and clinocllore aluminosilicate minerals may also provide buffering capacity but their reaction kinetics are considerably slower, and as such they are less effective than carbonate minerals.



3.1.2 F Zone

The three mafic volcanic samples consist primarily of quartz (20 to 25 wt%), plagioclase (20 to 30 wt%), clinocllore (22 to 30 wt%) and calcite (15 to 25 wt%), with lesser ilmenite and biotite. No sulphide minerals were detected. Buffering capacity at the F Zone deposit is also expected to be provided by calcite, which is generally a fast-reacting carbonate mineral. Some buffering capacity is also likely to be provided by plagioclase and clinocllore.

The mineralogical analyses show good agreement with the results of ABA and chemical composition tests for the samples tested, as discussed in more detail in the next sections.

3.1.3 Discovery

The three greywacke samples consist primarily of plagioclase feldspar (30 to 39 wt%), quartz (30 to 32 wt%), and muscovite (7.5 to 20 wt%) with lesser biotite (6.1 to 8.4 wt%) and clinocllore (9.2 to 11 wt%). The footwall sample contains calcite, magnesite and gypsum at concentrations <1 wt% each. No sulphide minerals were detected in any samples.

The mineralogical analyses show good agreement with the results of ABA and chemical composition tests for the samples tested. The bulk of the reactive buffering capacity is provided by non reactive aluminosilicate minerals, which is reflected in the lower NP content.

3.2 Chemical Composition

The results of chemical analyses are presented in Appendix B.1 as tables and figures. Summary statistics are provided for each sample type, including: minimum, maximum, average, median, 75th percentile and standard deviation. Tables B.1-1 to B.1-3 present chemistry results for Tiriganiaq, F Zone and Discovery waste rock, respectively. Table B.1-4 presents results for soils from all deposits.

Major constituents are similar for all rock types and include silica, aluminum and iron in greywacke as well as calcium in mafic volcanic rocks for all deposits. Minor constituents include magnesium, potassium and sodium. Major constituents show little variation within each sample group as demonstrated by standard deviation values.

Figures showing trace metal content (Appendix B, Figures B.1-1 to B.1-8) plot the median concentration for each element. Figures include typical crustal abundance concentrations for comparison purposes only. Element concentrations that are greater than five times the typical crustal abundance for a similar rock type are considered to be significantly enriched compared to typical crustal abundance. The results of the comparisons are summarized in Table 3.1.

There was some variation in trace element compositions within each sample group with standard deviation values generally equal to or less than median values. Arsenic was found at concentrations exceeding five times typical crustal abundance in all rock types (Appendix Figure B.1-9). For most rock types, the median concentration of arsenic also exceeded five times crustal abundance. There is no correlation between total arsenic concentration and depth (Appendix Figure B.1-10) or sulphide sulphur (Appendix Figure B.1-11) for any rock group.



Table 3.1: Summary of Waste Rock Chemical Composition

Deposit	Sample Location / Rock Type		Number of Samples	Parameter Concentrations Greater than Five Times Typical Crustal Abundance (Price 1997) ^{1,2}
Tiriganiaq	Pit HW	Greywacke / Siltstone	69	Ag, As , Bi
	Pit FW	Mafic Volcanic	10	Ag, As , Bi, Cd, Sb, Se, Zn
	Underground	Mafic Volcanic	22	Ag, As , Bi, Pb, Se
		Greywacke / Siltstone	40	Ag, As , Bi , Cr, Cu, Pb
		Iron Formation	4	As , Bi, Se
F Zone	Pit HW	Mafic Volcanic	39	Ag, As, Bi, Cd, Cu, Sb, Se, Sn, Zn
	Pit FW		16	Ag, As , Sb , Se
	Ore Zone	Iron Formation / Quartz Vein	3	Ag , As , Bi, Cd , Se
Discovery	Pit HW	Iron Formation	9	Ag, As , Bi
		Greywacke	16	Ag, As , Bi
	Pit FW	Iron Formation	1	As
		Greywacke	15	Ag, As , Bi

1- where at least one sample exceeds five times crustal abundance

2- bold values indicate parameters where median concentration exceed times five the stated typical crustal abundance

3- Selenium detection limit is greater than five-times crustal abundance concentration

n/a – not applicable

3.2.1 Tiriganiaq

The median arsenic concentration in greywacke waste rock is similar (around 50 ppm) whether samples are from open pit, deeper underground development or from the shallow access ramp previously characterized (54 ppm; SRK 2006). The median arsenic content of mafic volcanic waste rock is lower in the footwall development area (12 ppm) than the open pit footwall (82 ppm), which is closer to the mineralized zone.

Iron formation rock has the highest median arsenic concentration (215 ppm) of all Tiriganiaq waste rock and a relatively low standard deviation of arsenic concentrations. The iron formation is the host and proximal to gold and sulphide mineralization in which arsenopyrite is documented to occur (Pincock, Allen and Holt 2008).

3.2.2 F Zone

The median arsenic concentration in mafic volcanic waste rock is lower in the hanging wall (5.6 ppm) than in the footwall (34 ppm). Both of these are lower than arsenic concentrations in Tiriganiaq mafic volcanic waste rock. The iron formation waste rock contains the highest median arsenic concentration (96 ppm) of the F zone rocks.

3.2.3 Discovery

Arsenic concentrations are relatively uniform in greywacke at Discovery and similar to F Zone total arsenic content. The hanging wall and footwall greywacke have similar median arsenic concentrations (40 and 29 ppm respectively). Iron formation rocks of the Discovery area have lower arsenic concentrations (median of 11 ppm), lower than that of iron formation from Tiriganiaq and F Zone.



Arsenic is present as arsenopyrite (FeAsS) which is documented to be associated with mineralization at the Project. Arsenopyrite typically is abundant in low-sulphide, gold-quartz vein deposits (Plumlee et al. 1999).

However, arsenic is also likely to be present in other mineral phases, such as arsenic-rich pyrite and as impurities in non-sulphide minerals. Arsenic may replace sulphur and/or iron in magnetite, pyrite and other sulphides, aluminum in feldspars and micas, silicon in quartz and carbonate in calcite and possibly ankerite (Onishi and Sandell 1955; Horton *et al.* 2000). The mode of occurrence of arsenic will influence its mobility upon weathering. If arsenic is present in minerals other than sulphides, arsenic releases may not be exclusively associated with their oxidation, but may also be caused by mineral dissolution and/or buffering reactions.

3.2.4 Soil Samples

Soil sample results were compared against CEQG Soil Quality Guidelines for the Protection of Environmental and Human Health, Industrial Land Use (Figure B.1-8). Soil samples from all three deposits contain arsenic and chromium at concentrations exceeding CEQG soil guidelines for industrial land use (Appendix Figure B.1-8). Soil from F Zone also exceeds CEQG guidelines for nickel and vanadium. Soil concentrations for these parameters are within the range of observed concentrations for waste rock.

3.3 Acid Generation Potential

The results of ABA and NAG testing are presented as tables and figures in Appendix B.2. The results provide information on the ARD potential of each sample as determined based on sulphide content, net neutralization potential ($NNP = NP - AP$), NPR, CaNPR and NAG pH. Presented with the data are results of statistical analyses and the calculated bulk characteristics for each sample group using median sulphide content, NNP and NPR.

A summary of the ARD potential of all samples and the designated ARD potential for each sample group is presented in Table 3.2. Samples that have a potential to generate ARD are referred to as “potentially acid generating” (PAG), while those that are acid-buffering are referred to as non PAG. All other material is referred to as “uncertain” as these samples are either not clearly net acid generating or acid producing or have variable NPR results within the sample group based on available ABA and NAG results.

Most samples of waste rock and all surface soil samples have no potential to generate acid drainage. This generally stems from their low sulphide content and excess buffering capacity.

Acid Potential

Total sulphur concentrations range from <0.005 to 3.2% in all waste rock samples with a median concentration of 0.15%. The dominant sulphur species in most samples is sulphide sulphur (Appendix B, Figure B.2-1) although some samples have a significant proportion of sulphate. Since the differences between total sulphur and sulphide sulphur are greatest for samples with low sulphur contents, this apparent discrepancy may be due to increasing analytical uncertainty with decreasing sulphur values. The sulphide sulphur content ranges from <0.01 to 3.2% and is generally variable in all rock types from the three deposits. Soil samples report sulphide sulphur between <0.01 and 0.02%.



Table 3.2: Summary of ARD Potential for Waste Rock and Surface Soil Samples

Deposit	Sample Location / Rock Type		Sample Number			Overall ARD Designation
			Non PAG	uncertain	PAG	
Tiriganiaq	Pit HW	Greywacke / Siltstone	44	0	0	non PAG
	Pit FW	Mafic Volcanic	10	0	0	non PAG
	Underground	Mafic Volcanic	22	0	0	non PAG
		Greywacke / Siltstone	40	0	0	non PAG
		Iron Formation	4	0	0	non PAG
	Surface Soil		5	0	0	non PAG
F Zone	Pit HW	Mafic Volcanic	25	0	0	non PAG
	Pit FW		16	0	0	non PAG
	Ore Zone	Iron Formation / Quartz Vein	1	2	0	non PAG
	Surface Soil		5	0	0	non PAG
Discovery	Pit HW	Iron Formation	4	3	2	uncertain
		Greywacke	12	4	0	non PAG
	Pit FW	Iron Formation	1	0	0	non PAG
		Greywacke	15	0	0	non PAG
	Surface Soil (sand)		3	0	0	non PAG

HW - hanging wall; FW - footwall

Acid Potential

Total sulphur concentrations range from <0.005 to 3.2% in all waste rock samples with a median concentration of 0.15%. The dominant sulphur species in most samples is sulphide sulphur (Appendix B, Figure B.2-1) although some samples have a significant proportion of sulphate. Since the differences between total sulphur and sulphide sulphur are greatest for samples with low sulphur contents, this apparent discrepancy may be due to increasing analytical uncertainty with decreasing sulphur values. The sulphide sulphur content ranges from <0.01 to 3.2% and is generally variable in all rock types from the three deposits. Soil samples report sulphide sulphur between <0.01 and 0.02%.

Neutralization Potential

All paste pH values are circum-neutral to alkaline, ranging from 6.7 to 10.2. The bulk NP is generally high and is generally similar to that of the Carbonate NP (Appendix Figure B.2-2). A deviation of this general trend is observed in the low-NP portion of Figure B.2-2 for samples from the Discovery deposit greywackes. This is likely due to aluminosilicate minerals being a significant provider of NP. Buffering capacity is typically highest in the mafic volcanic samples of all deposits, followed by Tiriganiaq greywacke/siltstone. Discovery-area greywacke tends to have lower buffering capacity than other rock groups, although NP is still present in excess of AP. Ankerite is present in concentrations higher than calcite in all of the Tiriganiaq samples subjected to mineralogy testing, including mafic volcanics, greywackes and iron formation samples. Ankerite composition can vary in terms of iron content ($\text{Ca(Fe,Mg,Mn)(CO}_3)_2$), such that the proportion of iron will reduce the effective buffering capacity of this mineral.



ARD Potential

ABA tests: ARD classification (INAC 1992) is shown graphically for all samples in Appendix Figures B.2-3 and B.2-4. Based on the low sulphide sulphur content and high NPR values, most samples are classified as non acid generating (non PAG).

NAG tests: NAG pH values are plotted against NPR in Figure B.2-5. They are mostly alkaline, with only 3 samples from Discovery showing a NAG pH of less than 4.5 (one iron formation sample, two hanging wall greywacke samples). Two of these samples have NPR values less than 2.6 kg eq. CaCO₃/tonne rock. The NAG pH results generally confirm the PAG classification by NPR (INAC 1992) for all tested samples. Four of the 12 hanging wall greywacke samples from Discovery are classified as having uncertain ARD potential based on the NPR criteria but produce NAG pH values ranging from 3.3 to 6.4. Many other samples classified as having uncertain ARD potential using NPR (INAC 1992) produce neutral to alkaline NAG pH values. Since NAG tests are more representative of terminal conditions, it appears that some of these samples have sufficient buffering capacity to neutralize the acidity they may generate.

Overall, although a few individual samples may be PAG or have uncertain ARD potential, there is an excess of buffering capacity in Tiriganiaq, F Zone or Discovery waste rock. Therefore, ARD is not anticipated to be of concern from a waste rock management perspective.

3.4 Metal Leaching Potential

3.4.1 SFE Leach Tests

Leachate quality results for waste rock and surface soil samples are presented in Appendix B.3 and are plotted along with the sample location on geological cross-sections in Appendix A. Results are compared with effluent regulations (MMER 2006) and CEQG guidelines for the protection of aquatic life (CCME 2006). Table 3.3 presents a summary of parameters exceeding screening criteria.

Table 3.3: Summary of Waste Rock and Soil SFE Parameters Exceeding Screening Criteria

Deposit	Sample Location / Rock Type		Number of Samples	Median Final pH	CEQG ¹	MMER ²
Tiriganiaq	Pit HW	Greywacke / Siltstone	58	9.4	pH (>9.0), Al, As, Cd	pH (>9.5)
	Pit FW	Mafic Volcanic	8	9.0	pH (>9.0), Al, As	n.e.
	Underground	Mafic Volcanic	22	8.9	pH (>9.0), Al, As	n.e.
		Greywacke / Siltstone	34	9.4	pH (>9.0), Al, As, Fe	pH (>9.5)
		Iron Formation	4	8.7	Al, As	n.e.
	Surface Soil		5	7.0	Al, As, Cd, Cu, Fe, Pb, Zn	Zn
F Zone	Pit HW	Mafic Volcanic	39	9.5	pH (>9.0), Ag, Al, As, Cd, Fe	pH (>9.5)
	Pit FW		16	9.3	pH (>9.0), Al, As, Cd	pH (>9.5)
	Ore Zone	Iron Formation / Quartz Vein	3	8.4	pH (>9.0), Al, As, Cd	n.e.
	Surface Soil		5	8.5	Al, As, Cd, Cr, Cu, Fe, Pb, Zn	n.e.



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Deposit	Sample Location / Rock Type		Number of Samples	Median Final pH	CEQG ¹	MMER ²
Discovery	Pit HW	Iron Formation	9	9.2	pH (>9.0), Ag, Al, As, Cd, Fe	pH (>9.5)
		Greywacke	16	9.6	pH (>9.0), Al, As, Cr, Fe	pH (>9.5)
	Pit FW	Iron Formation	1	9.2	pH (>9.0), Al	n.e.
		Greywacke	15	9.7	pH (>9.0), Al, As, Cd, Cr, Fe,	pH (>9.5)
	Surface Soil (sand)		3	7.2	Al, As, Cd, Cr, Cu, Pb, Zn	n.e.

1- Canadian Environmental Quality Guidelines for the protection of aquatic life

n.e. no exceedances

2- Metal Mining Effluent Regulations (DFO 2006)

HW – hanging wall; FW – foot wall

The final pH values of the SFE leachates are circum-neutral to alkaline with values ranging from 6.7 to 10.0. For most samples, the alkaline pH values corroborate the available buffering capacity. The alkaline pH values reported by samples classified as PAG and uncertain ARD potential indicate that these samples have some readily available buffering capacity to neutralize acid in the short term.

For all rock types investigated in the three deposits, the concentrations of most leachate parameters meet CEQG guidelines for the protection of aquatic life (CCME 2006). Exceptions include aluminum, arsenic and pH, which are discussed further. All other parameters, except pH in some samples and zinc in one soil sample, meet mine effluent criteria (MMER; DFO 2006).

Parameters with median concentrations frequently exceeding CEQG include pH (>9.0), aluminum and arsenic. Chemical principles dictate that the dissolved aluminum concentration should be lower in the pH range of the SFE tests. The reported concentrations of aluminum are likely to include a portion of colloidal (particulate) aluminum in the leachate sample. Colloidal particles are typically smaller than the 45-µm filter pore size used to collect leach test water for analysis and thus this solid-phase aluminum fraction can be erroneously reported as a dissolved phase concentration. To assess the proportion of the aluminum concentration that may be precipitated (colloidal), partial results (pH, alkalinity, aluminum and iron, assumed oxidizing pe of 4) from four SFE test samples¹ were used as input for chemical speciation and saturation modelling using the USGS Code PhreeQC (Parkhurst, 1995). The four samples represent median to high-end range SFE pH and aluminum values. Modelling results show that aluminum is supersaturated in all four solutions and when allowed to precipitate (as gibbsite), the remaining aqueous concentrations of aluminum are between 22% and 35% of the SFE result. Projecting this proportion to the other SFE results decreases the dissolved aluminum concentrations to average levels that are at or marginally above the CEQG guideline for aluminum.

As mentioned previously, arsenic is considered to be a constituent of environmental interest in low-sulphide gold-quartz vein deposits, as corroborated by the enrichment of this element in the rock samples tested (Section 3.2) and the documented occurrence of arsenopyrite in the deposit (Pincock, Allen and Holt 2008).

Exceedances in leachates from laboratory tests do not necessarily imply non-compliance of mine site contact water quality. The quality of mine drainage water will depend on a number of factors that are difficult to

¹ SFE leachate from samples M09-823-01; M07-649-01_Dec2009; M99-349-01; M07-685-01.



reproduce in static leach tests such as the SFE test, including, but not necessarily limited to, grain size, solution to solid ratio, water:rock contact time, etc. Rather, these results underline the propensity of the Meliadine waste rock to release arsenic at concentrations that warrant site water quality monitoring during and throughout exploration, mine development and operation, and closure.

3.4.1.1 Arsenic Leachability

Results from the 2008-2009 sampling program are compared to MMER effluent criteria, CEQG receiving water quality guidelines, and to results from contact water samples previously collected from the area of the exploration decline at Tiriganiaq. Tiriganiaq decline rock has since been excavated and piled adjacent to the underground access portal. A summary of arsenic geochemistry results for greywacke waste rock from the Tiriganiaq open pit and underground development is presented in Table 3.4. For comparison, a summary of Tiriganiaq greywacke waste rock from the exploration decline and 2009 pad contact water quality is also shown in Table 3.5. The agreement between laboratory data and field water quality for decline rock is relevant to the interpretation of 2008-2009 waste rock data, particularly given the similarity in solid-phase arsenic concentration ranges for both data sets.

Table 3.4: Summary of Arsenic Geochemistry of Tiriganiaq Open Pit and Underground Development Waste Rock

	Number of samples	Total arsenic (mg/kg)			SFE-Leachate arsenic (mg/L)		
		median	average	range	median	average	range
Open pit hanging wall greywacke	58	60	255	11 - 2200	0.032	0.059	0.004 -0.65
Underground development greywacke	34	47	121	7.2 - 1500	0.023	0.033	0.001 – 0.14

Table 3.5: Summary of Arsenic Geochemistry of Tiriganiaq Exploration Decline Waste Rock

	Number of samples	Total arsenic (mg/kg)			SFE-Leachate arsenic (mg/L)	Arsenic in Primary Containment Pond (mg/L)	
		median	average	range		July 2009	August 2009
Decline greywacke	48	53	77	5.7 – 247	0.015*	0.014	0.011

* Only one SFE test done on one sample having total arsenic of 260 mg/kg

The following summarizes the observations on arsenic leachability:

- Greywacke waste rock at Tiriganiaq and Discovery deposits has the highest median leachable arsenic concentrations of all rock types tested (Appendix Figure B.3-1), ranging from 0.023 to 0.073 mg/L. These concentrations are well below MMER arsenic levels (0.5 mg/L) but above the CEQG guideline of 0.005 mg/L, and in the range of the one sample of shallow decline waste rock (0.015 mg/L);
- Greywacke from the Tiriganiaq exploration decline has similar arsenic concentrations as greywacke from the open pit and underground development;
- Leachate arsenic concentrations in mafic volcanic rock depend on the sample location relative to the mineralized zone. Arsenic levels are relatively high in near-ore samples (Tiriganiaq and F Zone open pit



footwall samples), but are an order of magnitude lower in samples located further from the mineralized zone (Tiriganiaq underground (footwall) development rock and F Zone hanging wall waste rock); and,

- Iron formation rock from all three deposits and mafic volcanic rock distal to the ore zone in Tiriganiaq and F Zone have the lowest median leachable arsenic, ranging from 0.002 to 0.004 mg/L, which is below the CEQG criterion. Considering Tiriganiaq and F Zone iron formation waste rock had the highest total arsenic concentration of all rock groups, the leachability of iron formation rock appears to be very low under circum-neutral pH conditions.

For all rock types, leachable arsenic shows no correlation to sulphide content (Appendix Figure B.3-2) but shows a positive correlation with total arsenic content particularly for the following rock groups (R^2 of 0.57 – 0.92) (Appendix Figure B.3-3):

- Tiriganiaq mafic volcanic rock and open pit greywacke rock;
- F Zone footwall mafic volcanic rock (weaker correlation in hanging wall mafic volcanic rock); and,
- Discovery greywacke (hanging wall and footwall) and iron formation rock.

The correlation between total and leachable arsenic, together with the finding that total arsenic is not correlated to sulphide content (Section 3.2), suggests that arsenopyrite may not be the only source of labile arsenic, and that other mineral phases (possibly non-sulphide minerals) may contribute to the leached arsenic load. For samples where the concentration of total and leachate arsenic is correlated, total arsenic content could be used as an indicator of likely arsenic release. For rock groups where total and leachable arsenic are not correlated, total arsenic content will not be an effective determinant of arsenic leachability. Use of additional testing methods, such as sequential extraction, would provide detailed information on the distribution of the arsenic over the various mineral phases, which might, in turn, lead to development of a more predictive relationship between total and leachable arsenic for waste rock.

3.4.2 NAG Leach Tests

Results for NAG pH and acidity releases are presented in the ABA Tables for each Deposit (Appendix Tables B2-1, B2-2 and B2-3). Metal results for NAG leachates are presented in Appendix Table B3-4. Results are compared with MMER (2006) Regulations and CEQG guidelines for the protection of aquatic life (CCME 2006), but it should be noted that leachate generated by NAG represents “terminal conditions”, or complete and instantaneous oxidation and leaching from all reactive sulphides. In actuality, sulphide oxidation and chemical release will occur gradually and concentrations in leachate are expected to be lower than NAG leachate chemistry at any given time.

NAG pH values are mostly alkaline, with only 3 samples from Discovery showing a NAG pH of less than 4.5 (one iron formation sample, two hanging wall greywacke samples). For all rock types tested, NAG leachate arsenic concentrations are lower than neutral pH SFE leachate arsenic concentrations. The cause of this is not known but may be due to: 1) the limited amount of reactive sulphide in the samples, 2) the more dilute NAG test leachate than the SFE leachate (100:1 solution to solid for NAG vs. 4:1 for SFE) and/or 3) to arsenic attenuation reactions occurring during sulphide oxidation and neutralization in the NAG test (such as adsorption of arsenic (and other chemicals) onto secondary minerals or coatings of iron or aluminum oxyhydroxides).



3.4.3 Waste Rock for Construction Use

Early mine development rock from the Tiriganiaq deposit is being considered for use as a coarse granular base for mine site road construction and Tiriganiaq area infrastructure foundations (building pads). At Tiriganiaq, this includes run of mine greywacke rock from the underground (hanging wall) development and from the open pit footprint down to about 50 meters pit depth. Pit waste rock below 50 meters depth would report to the RSF. F Zone and Discovery pit waste rock would also be used for construction, if geochemically suitable.

Since all rock types have no potential to generate ARD, the only parameter of interest in defining the suitability of rock for construction² is arsenic leachability. Leachable arsenic concentrations are plotted against the mine grid easting (UTM coordinate) of their borehole collar location (Appendix Figure B.3-4).

Leachate arsenic concentrations tend to decrease eastward within the open pit outline and continue to decrease east of the pit in underground development rock. Within the Tiriganiaq pit outline, a greater number of samples have elevated (more than 0.1 mg/L) leachate arsenic concentration west of grid line 539475 E. The average leachate arsenic concentration of samples collected west of this line is 0.09 mg/L, while it is 0.03 mg/L for samples collected east of this line. The variability of leachable arsenic concentrations is nonetheless high and, as inferred from the lower median leachate arsenic values, numerous samples throughout the open pit have lower leachable arsenic concentrations, while a few samples have considerably higher leachable arsenic concentrations. The relationship between arsenic leachability and location is therefore not definitive, and caution must be exercised if this relationship were to form the basis for selection of construction rock.

At the F Zone and Discovery deposits, the hanging wall mafic volcanic rock (F Zone) and the iron formation rock (F Zone and Discovery) all have median and average leachate arsenic concentrations that are below MMER and below to marginally above CEQG. Other waste rock groups from these deposits have higher leachate arsenic concentrations, although none exceed the MMER arsenic level.

All surface soils from within the open pit outlines leach arsenic at median concentrations that are three to four times the CEQG criterion for arsenic.

² Suitability based on a probable contact water quality perspective



4.0 TAILINGS GEOCHEMICAL CHARACTERIZATION

Static test results for tailings samples are discussed in the following sections. Tabulated results and figures are presented in Appendix C and SGS analytical certificates are included in Appendix D.

4.1 Chemical Composition

The results of whole rock and trace metal chemistry of tailings samples are presented in Appendix Table C-2. Analytical results are also shown graphically in Appendix Figure C-1.

The major constituents of flotation and concentrate tailings are the same as for waste rock, and include silica, iron and aluminum. Calcium, magnesium, sodium and potassium are present in minor amounts. A clearer segregation of trace element content occurs between flotation and concentrate tailings. Trace metal concentrations are generally higher in the concentrate tailings than the flotation tailings for any given ore. Arsenic has the highest concentration difference between concentrate and flotation tailings (two to three orders of magnitude enrichment in concentrate tailings), followed by antimony, cobalt, copper and silver (one to two orders of magnitude enrichment), and lead in the Tiriganiaq ores. There is less enrichment of other trace metals. Trace elements that exceed 5x typical crustal abundance (Price 1997) are listed in Table 4.1.

Table 4.1: Summary of Constituents in Tailings that Exceed 5x Typical Crustal Abundance (Price 1997)

Tailings Sample			Exceedance of 5x Typical Crustal Abundance
Description	Sample ID	Ore Zone	
Concentrate Tailings	F-1 Ro Conc	Tiriganiaq (Iode 1000)	Ag, As, B, Bi, Cd, Cu, Mo, Pb, Sb, Se
	F-2 Ro Conc	Tiriganiaq (Iode 1150)	Ag, As, Bi, Cu, Fe, Mo, Pb, Sb
	F-4 Ro Conc	F Zone	Ag, As, Bi, Cd, Cr, Cu, Mo, Sb, Se, Zn
	F-3R Ro Conc	Discovery	As, Bi, Cu, Fe, Mo, Sb, Sn, U
Flotation Tailings	F-1 Ro Tls	Tiriganiaq (Iode 1000)	As, B, Bi
	F-2 Ro Tls	Tiriganiaq (Iode 1150)	As, Bi, Mo, Sb
	F-4 Ro Tls	F Zone	As
	F-3R Ro Tls	Discovery	As, Bi, Cu, Mo

4.2 Acid Generation Potential

Results of ABA and NAG testing are presented in Appendix Table C-3 and graphically in Appendix Figures C-2 to C-5. The ARD potential of each sample is determined based on ABA (classification according to INAC 1992) and NAG test results. A summary of the ARD designation for each sample and each combined ore tailing is presented in Table 4.2.

The combined concentrate and flotation ARD potential was calculated for each tailings stream using the bulk NNP and NPR, accounting for the mass proportions between flotation and concentrate tailings.



Table 4.2: Summary of ARD Potential for Tailings

Tailings Sample			Sample ARD	Bulk ARD
Description	Sample ID	Ore Zone		
Concentrate	F-1 Ro Conc	Tiriganiaq (lode 1000)	PAG	-
	F-2 Ro Conc	Tiriganiaq (lode 1150)	PAG	-
	F-4 Ro Conc	F Zone	PAG	-
	F-3R Ro Conc	Discovery	PAG	-
Flotation	F-1 Ro Tls	Tiriganiaq (lode 1000)	non PAG	-
	F-2 Ro Tls	Tiriganiaq (lode 1150)	non PAG	-
	F-4 Ro Tls	F Zone	non PAG	-
	F-3R Ro Tls	Discovery	non PAG	-
Combined Concentrate + Flotation ¹	F-1	Tiriganiaq (lode 1000)	-	non PAG
	F-2	Tiriganiaq (lode 1150)	-	PAG
	F-4	F Zone	-	non PAG
	F-3R	Discovery	-	PAG

1-calculated based on bulk ARD potential considering mass split for each tailings stream

All concentrate tailings are potentially acid generating while all flotation tailings have no potential for ARD. The combined tailings for Tiriganiaq lode 1000 and F Zone ores have excess buffering capacity and therefore are classified as non PAG, but the combined tailings for Discovery and Tiriganiaq lode 1150 are potentially acid generating.

Acid Potential

The concentrate samples have a higher sulphide content (ranges from 6.5 to 17%, median of 12%) than the flotation samples (ranges from 0.02 to 2.04%, median of 0.05%). For most tailings streams, the sulphur is in the form of sulphide (Appendix Figure C-2). In Discovery flotation tailings, a significant proportion of sulphur is in the form of sulphate.

Neutralization Potential

Buffering capacity is similar in the flotation tailing and the concentrate tailing of each deposit and lode, but varies between deposits/lodes. The buffering capacity is highest in the F Zone and Tiriganiaq lode 1000 tailings, and is lowest in Discovery tailings. Except for the Discovery tailings, buffering capacity is largely provided by carbonate minerals, as shown by the similar Carbonate NP and bulk NP values (Appendix Figure C-3). All paste pH values are alkaline, ranging from 7.4 to 9.6, indicating there is some immediately available buffering capacity from all tailings streams.

ARD Potential

Sulphide sulphur is plotted against the NPR in Appendix Figure C-4, showing that samples with lower NPR (i.e. the concentrate tailings) have higher sulphide sulphur contents. AP versus NP is shown in Appendix Figure C-5, illustrating that flotation tailings are classified as non PAG based on the low AP and high NP while concentrate tailings samples have similar NP but higher AP.



NAG pH and acidity values are included in ABA results Table C-3 and plotted against NPR in Appendix Figure C-6. Flotation tailings NAG pH values are alkaline, ranging from 8.0 to 10.6, corroborating the low sulphide content. All concentrate tailings have NAG pH values less than 4.5 and significant acidity release, confirming the ARD potential of concentrate tailings.

ARD Potential of Combined Tailings for Each Deposit

Tiriganiaq Lode 1150 and Discovery tailings contain sufficient sulphide content to make the combined tailings (concentrate + flotation tailings) potentially acid generating. Conversely, the F Zone and the Tiriganiaq Lode 1000 combined tailings remain non PAG. For all combined tailings, the sulphide content is such that sulphide oxidation is likely to occur, which would lead to increased chemical release rates even if the proton acidity is buffered.

4.3 Metal Leaching Potential

4.3.1 SFE Leach Tests

Results for metal leaching under SFE conditions are presented in Appendix Table C-4. Results are compared with MMER (2006) Regulations and CEQG guidelines for the protection of aquatic life (CCME 2006). Table 4.3 presents a summary of parameters exceeding the screening criteria.

Table 4.3: Summary of Tailings SFE Leachate Parameters Exceeding Screening Criteria

Tailings Sample			CEQG ¹	MMER ²
Description	Sample ID	Ore Zone		
Concentrate	F-1 Ro Conc	Tiriganiaq (lode 1000)	Al, As	n.e.
	F-2 Ro Conc	Tiriganiaq (lode 1150)	As	As
	F-4 Ro Conc	F Zone	As	As
	F-3R Ro Conc	Discovery	Al, As	n.e.
Flotation	F-1 Ro Tls	Tiriganiaq (lode 1000)	Al, As	n.e.
	F-2 Ro Tls	Tiriganiaq (lode 1150)	Al, As	As
	F-4 Ro Tls	F Zone	Al, As	n.e.
	F-3R Ro Tls	Discovery	Al, As	n.e.

1- Canadian Environmental Quality Guidelines for the protection of aquatic life

n.e. no exceedances

2- Metal Mining Effluent Regulations (DFO 2006)

The final pH value of each SFE leachate is alkaline, ranging from 7.5 to 9.0, indicating the presence of immediately available buffering capacity which could procure a delay to the onset of ARD. Most leachates have constituent concentrations below CEQG guidelines for the protection of aquatic life (CCME 2006) with the exception of aluminum and arsenic. The predominant form of arsenic leached from all concentrate tailings and Discovery flotation tailings is arsenite (As^{+3}) (80 to 87% of total dissolved arsenic), while arsenate (As^{+5}) is the predominant arsenic species in leachates of flotation tailings (69 to 82% of total dissolved arsenic).



Leachate arsenic concentrations are 3 to 10 times higher for concentrate tailings than flotation tailings. Leachate arsenic levels are higher for all tailings streams than any waste rock group, except for Discovery greywacke waste rock which has similar to slightly higher leachate arsenic concentrations than concentrate and flotation tailings, respectively.

4.3.2 NAG Leach Tests

Results for metal leaching under NAG conditions are presented in Appendix Table C-5. Results are compared with MMER (2006) Regulations and CEQG guidelines for the protection of aquatic life (CCME 2006).

NAG leachate arsenic concentrations (and numerous other metals) are higher for concentrate tailings than flotation tailings due to the higher sulphide content in concentrate tailings and thus greater dissolution of associated metals. NAG leachate levels for concentrate tailings are also significantly higher than those of SFE leachates because of enhanced metal release upon sulphide oxidation. NAG leachate concentrations from Tiriganiaq and F Zone flotation tailings are generally similar to those of SFE leachates.



5.0 SUMMARY OF ENVIRONMENTAL CHARACTERISTICS

The geochemical characterization program conducted to date is limited to the use of static tests. With these results, it is possible to develop screening-level observations with regard to the general chemical characteristics of the major rock types and mine wastes. The following mine waste management considerations are preliminary and are subject to re-evaluation upon completion of additional studies, further sampling and/or finalization of the mining plan and mine waste management plans.

The results of the geochemical characterization programs can be summarized as follows:

5.1 Soil and Waste Rock

Most samples of waste rock and all surface soil samples have no potential to generate acid rock drainage (ARD). This generally stems from the low sulphide content and excess buffering capacity sourced from reactive carbonate minerals. As such, most soil and waste rock do not require means to prevent oxidation. Iron formation waste rock at the Discovery deposit is the only rock group classified as having an uncertain ARD potential.

Rock from the three deposits is enriched in arsenic. The arsenic content is variable in all waste rock and soils tested, but the median arsenic concentration for all rock types is more than five times the typical crustal abundance for similar rock types.

Water leach test results yield concentrations that meet MMER in all samples of waste rock tested and in all but one soil sample, where zinc exceeds the MMER. Leach test results also largely meet CEQG guidelines for the protection of aquatic life for most parameters except aluminum, arsenic and pH, which exceed the CEQG guidelines for numerous samples of all rock types.

Arsenic is the principal element of environmental interest in soil and waste rock because of its enrichment in and around the mineralized rock and because of its leachability under SFE leaching conditions for all sample groups and soils in all three deposits. Arsenic is mobile under the neutral conditions which are likely to prevail in drainage water contacting waste rock. For all deposits, the concentration of leached arsenic is generally proportional to the total arsenic content of the rock, but does not correlate with sulphur content. The labile arsenic is anticipated to originate mostly from arsenopyrite and other arsenic-rich sulphide minerals, but may also come from soluble non-sulphide mineral phases in which arsenic may be present in trace amounts.

5.1.1 Tiriganiaq Shallow Open Pit and Underground Development Waste Rock

Development rock from Tiriganiaq open pit (to about 50 meters pit depth) and from the underground hanging wall development is targeted for construction purposes. Since all rock types have no potential to generate ARD, the only parameter of interest in defining the suitability of rock for construction is arsenic leachability. Leachate arsenic concentrations tend to decrease eastward within the open pit outline and deeper in underground development rock east of the pit. Within the Tiriganiaq pit outline, a greater number of samples have elevated (more than 0.1 mg/L) leachate arsenic concentration west of grid line 539475 E. The average leachate arsenic concentration of samples collected east of this line is three times lower (0.03 mg/L) than samples collected west of this line. Leachable arsenic concentrations are, however, variable and would need to be monitored (sampled) during development. Since the relationship between arsenic leachability and location is not definitive, caution must be exercised if a relationship between solid-phase arsenic content and leachable arsenic were to form the basis for selection of construction rock,



The results from the geochemical characterization program are in excellent agreement with geo-environmental considerations for low-sulphide, gold-quartz vein deposits (Plumlee et al. 1999). These deposits typically generate mine waters with near-neutral pH values, although acidic waters can develop in mine tailings. Due to the low base metal content of the veins, the circum-neutral waters generally have low dissolved metal concentrations, although the presence of sphalerite may lead to elevated dissolved zinc concentrations. Due to the abundance of arsenopyrite, arsenic typically is the parameter of most environmental concern (Plumlee et al. 1999).

5.2 Tailings

All flotation tailings tested are non acid generating, while all concentrate tailings are potentially acid generating. The difference in ARD potential stems from the higher sulphide mineral content of concentrate tailings. All tailings streams have similar buffering capacity, and alkaline paste pH values show some immediately available buffering capacity that may delay to onset of acidic conditions. The calculated ARD potential for combined tailing from each deposit (concentrate+flotation) shows that Tiriganiaq Lode 1000 and F Zone combined tailings are likely non acid generating but that Tiriganiaq Lode 1150 and Discovery combined tailings are likely to be acid generating. The sulphide content of the combined tailings is such that, unless ARD prevention methods are utilized when storing tailings, oxidation is likely to occur, which will lead to increased chemical release rates even with effective acid-neutralization.



6.0 MINE WASTE MANAGEMENT CONSIDERATIONS

6.1.1 Waste Rock and Surface Soils

Surface soils from within the pit outlines and waste rock from most lithologies (with the possible exception of Discovery iron formation rock), are non acid generating, and have a low sulphide content. As such, soil and waste rock do not require means to prevent oxidation. Management of iron formation waste rock from the Discovery area will depend on the quantity of this rock type relative to other acid-buffering rock. Should the quantity be relatively small, mixing this rock with acid-buffering greywacke waste will likely prevent ARD from developing. Otherwise, consideration should be given to segregating this rock type and including measures to prevent air and/or water from contacting the pile. This can be achieved, for instance, by covering the rock pile with a low permeability material or submerging the rock (such as in a flooded open pit).

Arsenic will be released from all rock and soil types when exposed to ambient conditions, rain and snow melt infiltration. The water quality effect on the receiving environment is not known and will require development of a site-wide water balance and detailed predictive modelling, which is not part of the scope of this report.

Leachable arsenic concentrations released from iron formation and hanging wall mafic volcanic rock are generally lower than for greywacke waste rock and footwall mafic volcanic rock. However, variability is high and some samples from all rock types can leach elevated concentrations of arsenic. For the following rock groups where the concentration of total and leachate arsenic is correlated, total arsenic content could be used as an indicator of likely arsenic release:

- Tiriganiaq mafic volcanic rock and open pit greywacke rock;
- F Zone footwall mafic volcanic rock; and,
- Discovery greywacke and iron formation rock.

For other rock groups, total arsenic content may not be an effective determinant of arsenic leachability and thus, it is likely to be more difficult to identify or exclude highly leachable rock from these rock groups.

Notwithstanding this finding, exceedances of water quality guidelines in leachates from laboratory tests do not necessarily imply non-compliance of mine site contact water quality because the latter depends on a number of site-specific factors that are not reproducible in laboratory tests. The results to date underline, however, the propensity of the waste rock to release arsenic at concentrations that warrant mine waste management planning, including the following, to minimize negative environmental effects:

- Monitoring of arsenic concentrations in waste rock during mine development and operation; and,
- Mine site water management, including prevention of contact water, water quality monitoring and contingency mitigative measures.



6.1.2 Waste Rock for Construction Use

Early mine development rock from the Tiriganiaq deposit (greywacke rock from the shallow open pit and underground development) is being considered for use as construction material. Like other waste rock, this material is non PAG and does not require means to prevent ARD. To minimize potential environmental effects due to arsenic release from exposed rock, consideration should be given to restricting construction rock use to greywacke located east of grid line 539475 E and to sampling this rock for total arsenic content ahead of blasting and avoid the use of high arsenic rock for construction.

Shallow soils also contain leachable arsenic and should thus be subjected to the same monitoring before use where the material would be exposed to precipitation or snow melt.

6.1.3 Tailings

Given the PAG nature and highly leachable character of concentrate tailings, consideration should be given to segregating concentrate tailings from flotation tailings for separate disposal. Disposal of concentrate tailings would require a means to prevent oxidation and minimize leaching. Flotation tailings should also be managed in ways that minimize water infiltration and contact. If tailings are combined prior to disposal, the entire mass would require measures to prevent ARD and minimize water contact. Because of the leachability of arsenic from all tailing streams, submergence of tailings under a permanent water cover should be avoided, unless discharges to the environment (e.g., seepage, overflow) from the TSF can be eliminated.



7.0 RECOMMENDATIONS

Upon finalization of the mine plan, the geochemical characterization program results should be re-evaluated according to the chosen mining technique and development sequence. The number of samples that constitute the Tiriganiaq, F Zone and Discovery geochemistry database may need to be reviewed for adequacy based on the relative proportion of each rock type to be mined.

The long-term acid generation capacity and leaching characteristics of the flotation tailings and concentrate tailings should be further evaluated through kinetic testing. Subsets of waste rock samples from Tiriganiaq, F Zone and Discovery have been retained for long-term kinetic testing, the results of which will be presented in another report. Sequential leach testing should be considered to better define the provenance of the leachable arsenic in waste rock, soil and tailings.



8.0 LIMITATIONS AND USE OF REPORT

This report was prepared for the exclusive use of Comaplex Minerals Corporation. The report, which specifically includes all tables, figures and appendices, is based on data and information collected during the subsurface environmental investigation conducted by Golder Associates Ltd. and is based solely on the conditions of the properties at the time of the field investigation, supplemented by historical information and data obtained by Golder Associates Ltd. as described in this report.

Except where specifically stated to the contrary, the information contained in these reports was provided to Golder Associates Ltd. by others and has not been independently verified or otherwise examined by Golder Associates Ltd. to determine its accuracy or completeness. Golder Associates Ltd. has relied in good faith on this information and does not accept responsibility for any deficiency, misstatements, or inaccuracies contained in the reports as a result of omissions, misinterpretation, fraudulent acts or the persons interviewed or contacted or errors or omissions in the reviewed documentation.

The assessment of waste rock geochemical characteristics of this project has been made using the results of chemical analysis of discrete rock samples from a limited number of locations. The geochemical characteristics between sampling locations have been inferred based on conditions observed at borehole locations. Subsurface conditions may vary from these sample locations. Additional study, including further subsurface investigation, can reduce the inherent uncertainties associated with this type of study. However, it is never possible, even with exhaustive sampling and testing, to dismiss the possibility that part of a site may have considerably different characteristics.

The services performed as described in this report were conducted in a manner consistent with that level of care and skill normally exercised by other members of the geoscience profession currently practising under similar conditions, subject to the time limits and financial and physical constraints applicable to the services. Any use which a third party makes of this report, or any reliance on, or decisions to be made based on it, are the responsibilities of such third parties. Golder Associates Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

The content of this report is based on information collected during our investigation, our present understanding of the site conditions, and our professional judgement in light of such information at the time of this report. This report provides a professional opinion and therefore no warranty is either expressed, implied, or made as to the conclusions, advice and recommendations offered in this report. This report does not provide a legal opinion regarding compliance with applicable laws. With respect to regulatory compliance issues, it should be noted that regulatory statutes and the interpretation of regulatory statutes are subject to change.

The findings and conclusions of this report are valid only as of the date of this report. If new information is discovered in future work, including excavations, borings, or other studies, Golder Associates Ltd. should be requested to re-evaluate the conclusions of this report, and to provide amendments as required.



9.0 CLOSURE

We trust this report meets your current requirements. Please contact us should you have any questions or comments.

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STATIC TEST REPORT FOR WASTE ROCK AND TAILINGS, MELIADINE GOLD PROJECT

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ACRONYMS AND ABBREVIATIONS

ABA	acid-base accounting
AP	acid potential
ARD	acid rock drainage
ASTM	American Society for Testing and Materials
CaNP	Carbonate Neutralization Potential
CEQG	Canadian Environmental Quality Guidelines
CIP	carbon-in-pulp
CVAAS	cold vapour atomic absorption spectroscopy
ICP	Inductively Coupled Plasma
ICP-MS	Inductively Coupled Plasma – Mass Spectrometry
KIA	Kivalliq Inuit Association
km	kilometre
Ktonne	kilotonnes
masl	metres above sea level
MDL	method detection limit
mg/kg	milligrams per kilogram
mg/L	milligrams per litre
ML	metals leaching
MMER	Metal Mining Effluent Regulations
Mt	million tonnes
NAG	net acid generation
NNP	net neutralization potential
non PAG	non acid generating
NP	neutralization potential
NPR	net potential ratio
PAG	potentially acid generating
pH	The pH is an indication of the acidic or basic, i.e., alkaline, nature of water. Neutral water has a pH of 7.
ppm	Parts per million
QA/QC	quality assurance/quality control
RSF	Rock Storage Facility
SFE	Shake Flask Extraction
SGS	SGS Canada Inc.



STATIC TEST REPORT FOR WASTE ROCK AND TAILINGS, MELIADINE GOLD PROJECT

t	tonnes
t CaCO ₃ /1000t	tonnes calcium carbonate per 1000 tonnes
TC	total carbon
TDS	total dissolved solids
TIC	total inorganic carbon
TSF	Tailings Storage Facility
XRD	x-ray diffraction
XRF	x-ray fluorescence
wt %	Weight percent



GLOSSARY OF TERMS

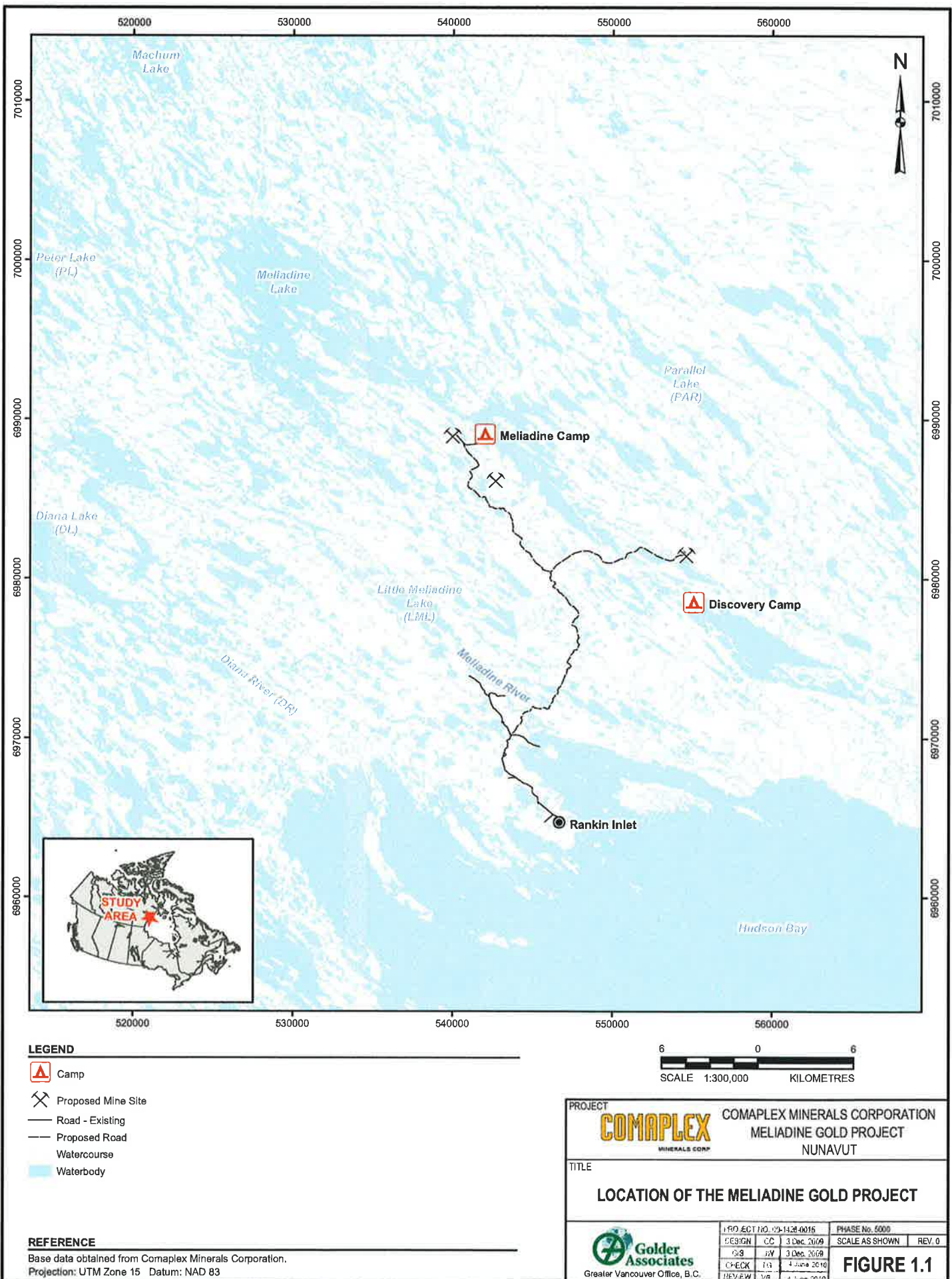
Acid Base Accounting (ABA)	An analytical technique applied to mine wastes and geologic materials that determines the potential acidity from sulphur analysis versus the neutralization potential. It is used to predict the potential of that material to be acid producing or acid neutralizing.
Acid rock drainage (ARD)	A low pH, metal-laden, sulphate-rich drainage that occurs during land disturbance where sulphur or metal sulphides are exposed to atmospheric conditions. It forms under natural conditions from the oxidation of sulfide minerals and where the acidity exceeds the alkalinity.
Acid Potential (AP)	The ability of a rock or other geologic material to produce acid leachates.
Bedrock	A general term for the rock, usually solid, that underlies soil or other unconsolidated, superficial material.
Geochemistry	A discipline of geology that studies chemical composition of the Earth and of the reactions that control the distribution of chemical elements in its minerals, rocks, soil, waters, and atmosphere.
Metal leaching (ML)	The release of metals from mineral phases.
Net Neutralization Potential (NNP)	The difference of neutralization potential (NP) and acid potential (AP) that determines, based on defined criteria, whether a material is acid generating or not. The lower the NNP, the higher the potential for acid generation.
Net Potential Ratio (NPR)	The ratio of neutralization potential (NP) and acid potential (AP) that determines, based on defined criteria, whether a material is acid generating or not. The lower the NPR, the higher the potential for acid generation.
Neutralization Potential (NP)	The amount of alkaline or basic material in rock or soil materials that is estimated by acid reaction followed by titration to determine the capability of neutralizing acid from exchangeable acidity or pyrite (FeS_2) oxidation. Neutralization potential is comprised of more reactive minerals, such as carbonate, that provide short-term buffering and less reactive minerals, such as aluminosilicates, that provide longer-term buffering.
Overburden	Barren rock material, either loose or consolidated, overlying a mineral deposit, which must be removed prior to mining.
pH	A measure of the acidity (pH less than 7) or alkalinity (pH greater than 7) of a solution; a pH of 7 is considered neutral. It is a measure of the hydrogen ion concentration (more specifically, the negative log of the hydrogen ion activity for glass electrodes) of a soil suspension or solution.
Shake Flask Extraction (SFE)	A static test that simulates the dissolution, or flushing, of soluble mineral phases from a sample. Solid material is placed in a flask, with a solution and shaken over a specified period of time.



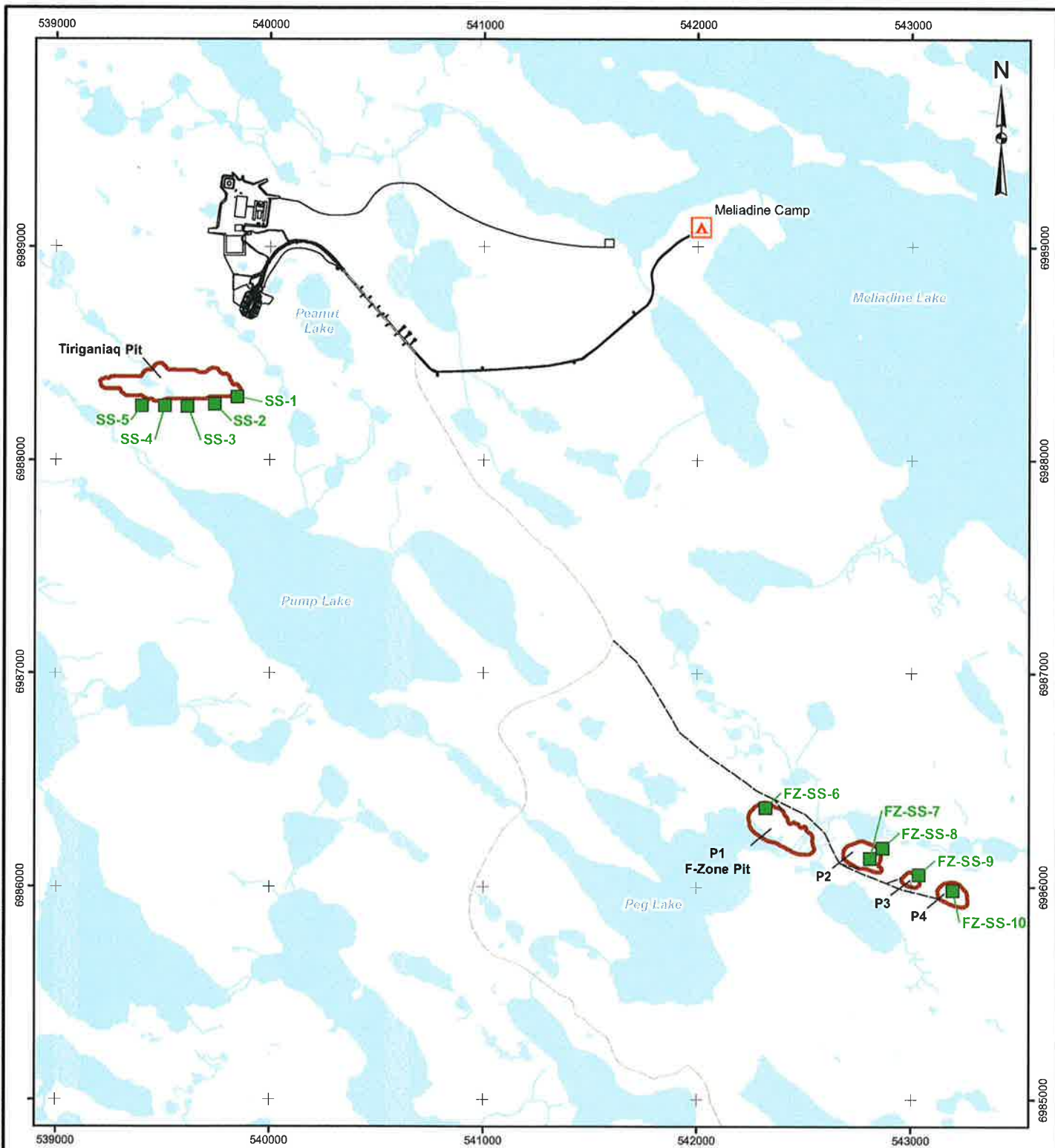
STATIC TEST REPORT FOR WASTE ROCK AND TAILINGS, MELIADINE GOLD PROJECT

Acid Base Accounting (ABA)	An analytical technique applied to mine wastes and geologic materials that determines the potential acidity from sulphur analysis versus the neutralization potential. It is used to predict the potential of that material to be acid producing or acid neutralizing.
Static test	A procedure for characterizing the physical and/or chemical properties of a sample at a point in time, such as acid base accounting. Static tests, unlike kinetic tests, do not evaluate the relative weathering rates of different minerals contained in geologic materials. Static tests provide a snapshot of the balance between acid producing and acid consuming minerals.
Sulphate sulphur	The sulphur component of a solid material that is comprised of sulphate. See also sulphide sulphur and total sulphur.
Sulphide oxidation	A chemical process involving a reaction(s) that produces an increase in the oxidation state of sulphur. Generally used to refer to the oxidation of the sulphide in pyrite (FeS_2) to sulphate (SO_4), which can result in acid drainage.
Sulphide sulphur	The sulphur component of a solid material that is comprised of sulphide. With respect to acid base accounting, sulphide sulphur is the component that is most commonly used to calculate the acid potential. See also sulphate sulphur and total sulphur.
Shake Flask Extraction (SFE)	A static test that simulates the dissolution, or flushing, of soluble mineral phases from a sample. Solid material is placed in a flask with de-ionized water at an established ratio, and shaken over a specified period of time.
Tailings	The solid waste product resulting from the milling and mineral concentration process (washing, concentration, and/or treatment) applied to ore. This term is usually used for sand to clay-sized rock particles that remain after the valuable minerals have been extracted from the rest of the rock.
Total sulphur	The sum of all sulphur species of a solid material, including sulphide sulphur and sulphate sulphur.
Waste rock	In mining, rock that must be broken and disposed of in engineered storage facilities to gain access to and excavate the ore.

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LEGEND

- Soil Sample Location
- ▲ Camp
- Service Road
- Proposed Road
- Watercourse
- Waterbody
- Open Pit

REFERENCE

Base data obtained from Comaplex Minerals Corporation.
Projection: UTM Zone 15 Datum: NAD 83

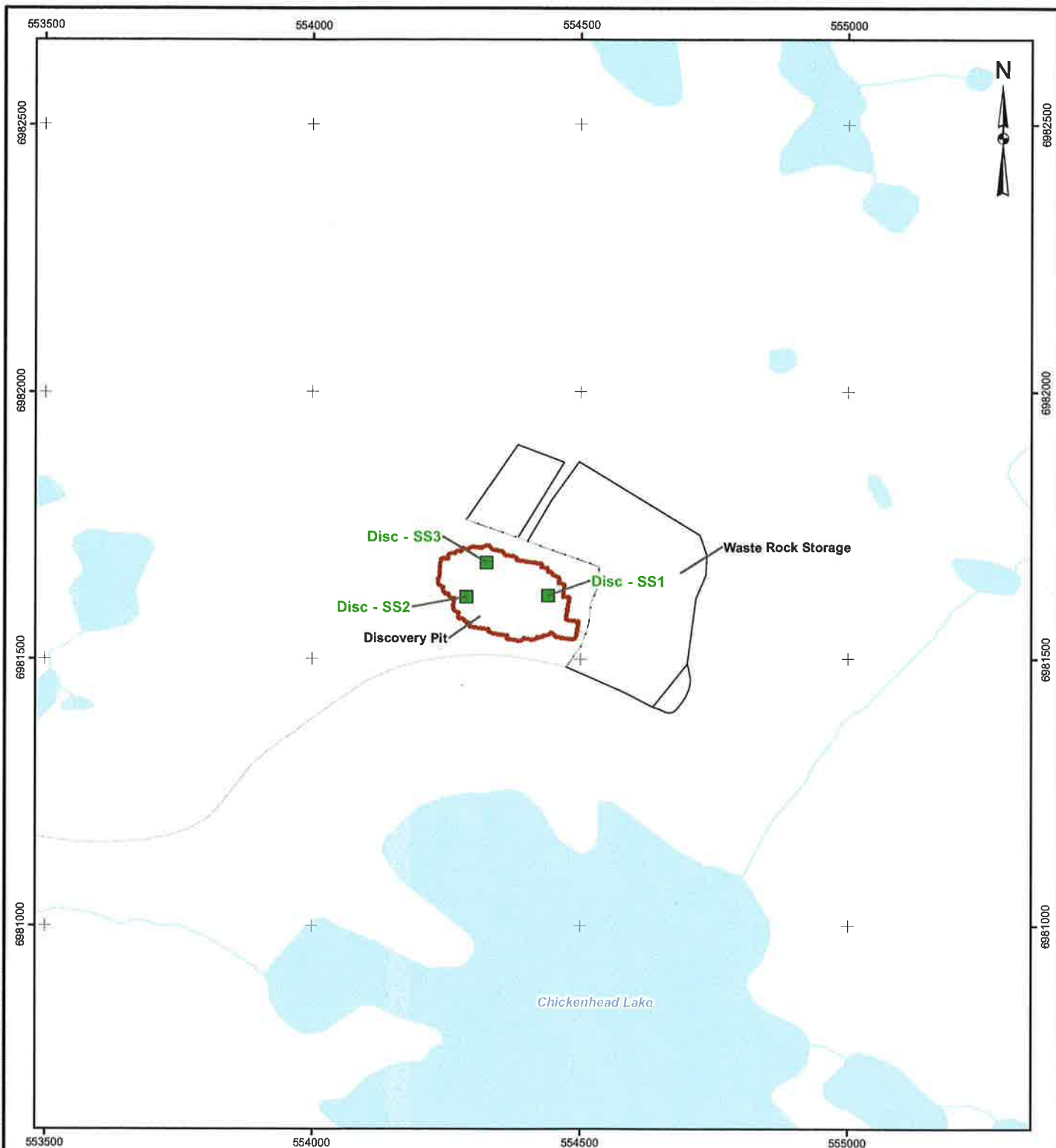
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PROJ. NO.	09-11-2-0015	PHASE No.	5000
DESIGN	CC	3 Dec. 2009	SCALE AS SHOWN
CHECK	1/1	4 June 2010	REV. 0
REVIEW	0/1	4 June 2010	

Greater Vancouver Office, B.C.

FIGURE 1.2

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LEGEND

- Soil Sample Location
- ▲ Camp
- Service Road
- - - Proposed Road
- Watercourse
- Waterbody
- Proposed Open Pit

REFERENCE

Base data obtained from Comaplex Minerals Corporation.
Projection: UTM Zone 15 Datum: NAD 83

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SCALE 1:10,000 METRES

PROJECT
COMAPLEX MINERALS CORPORATION
MELIADINE GOLD PROJECT
NUNAVUT

TITLE DISCOVERY SOIL SAMPLE LOCATION MAP

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PROJECT NO. 09-1426-0015			PHASE No. 5000	
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FIGURE 1.3

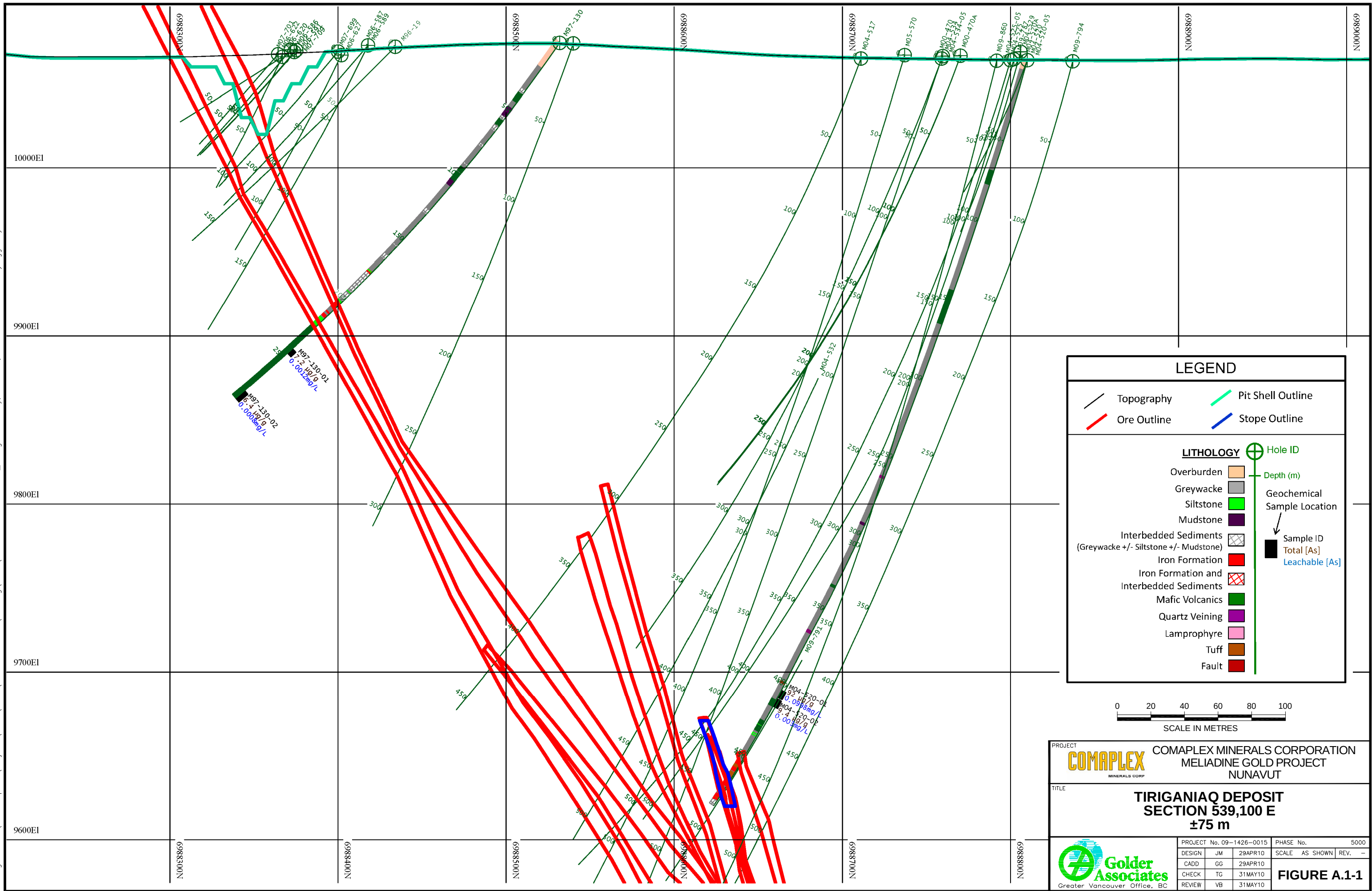


APPENDIX A

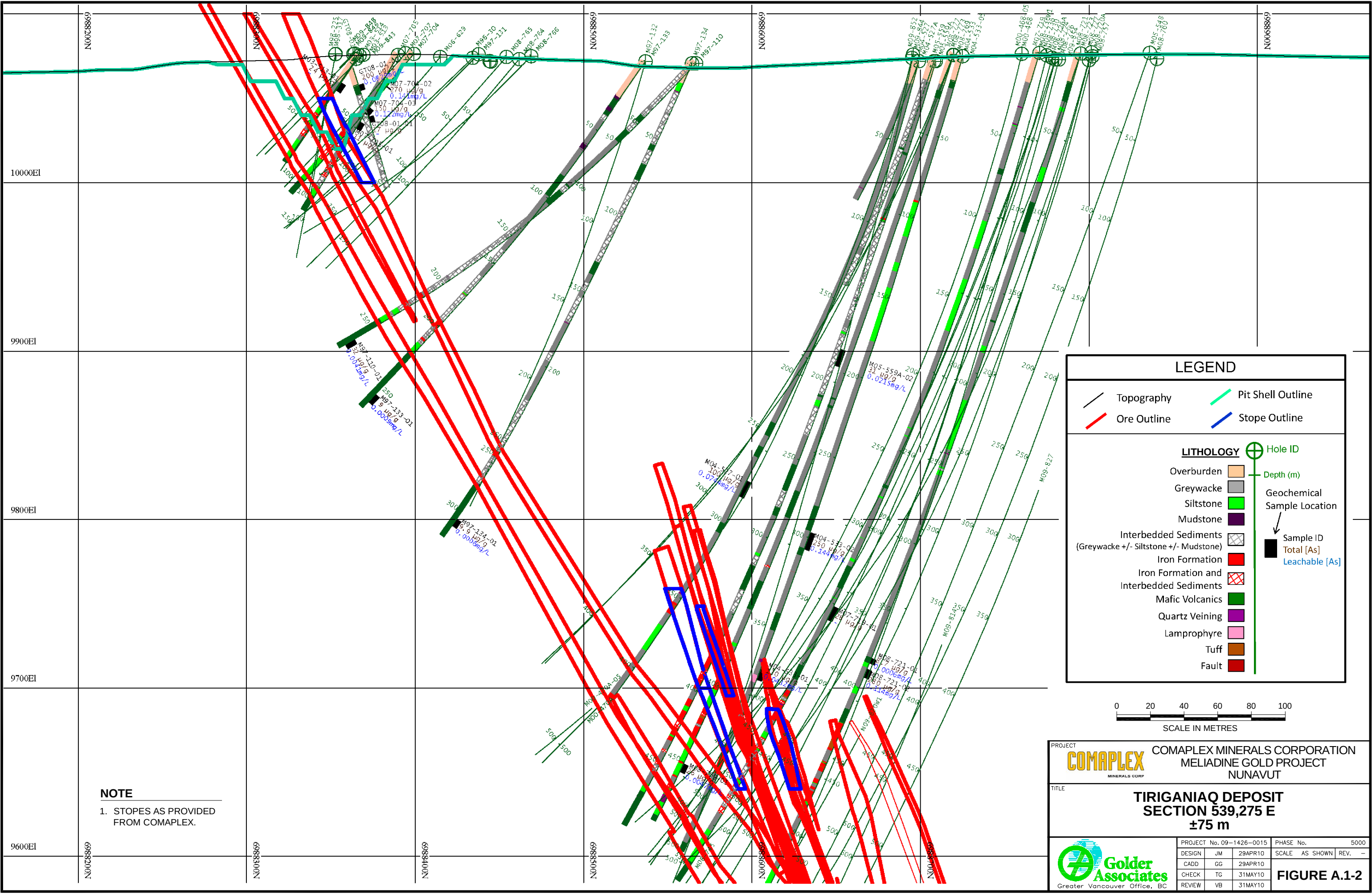
Geological Cross-Sections



A.1 Tiriganiaq



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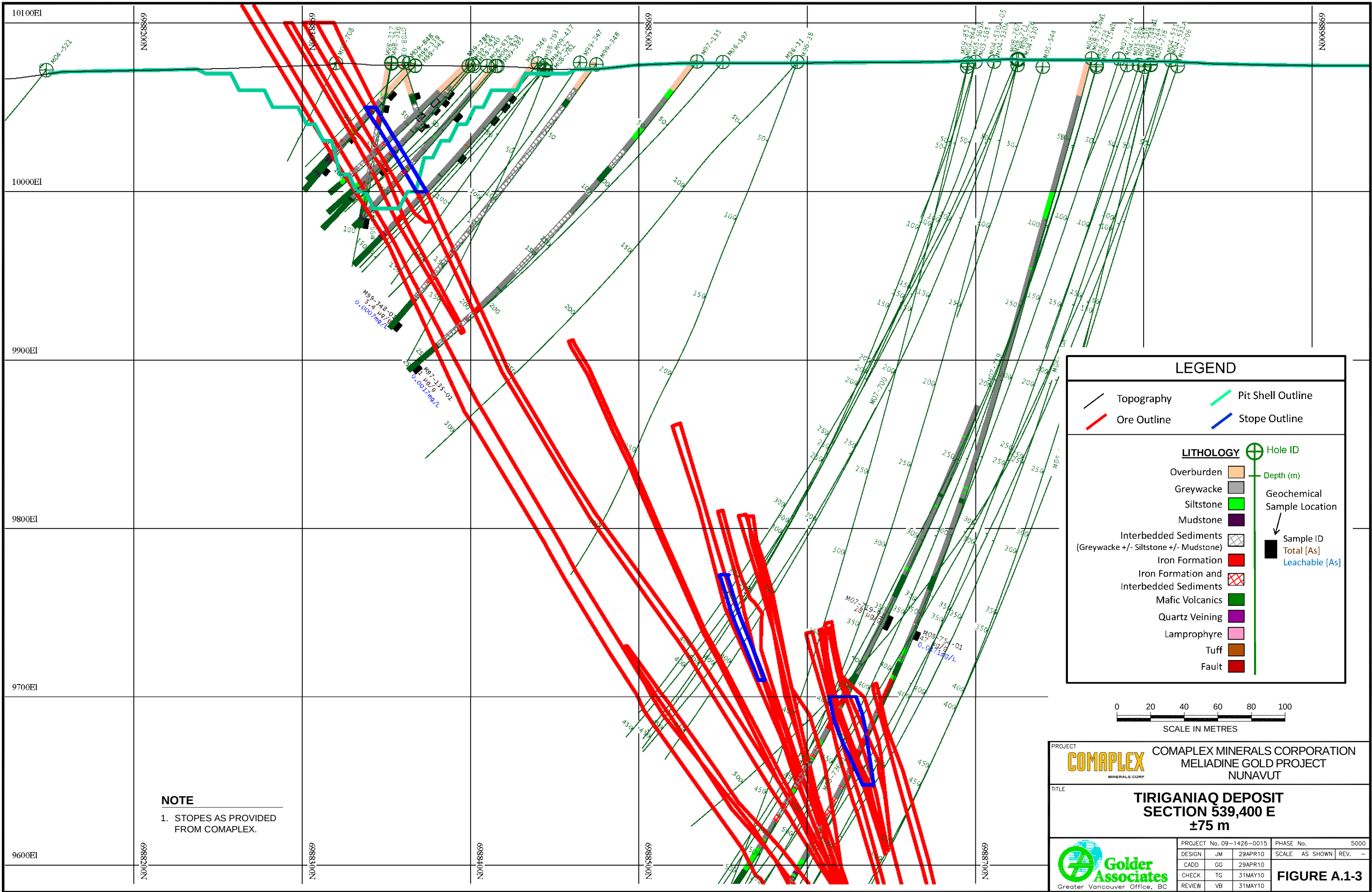
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TIRIGANIAQ DEPOSIT
SECTION 539,275 E
±75 m

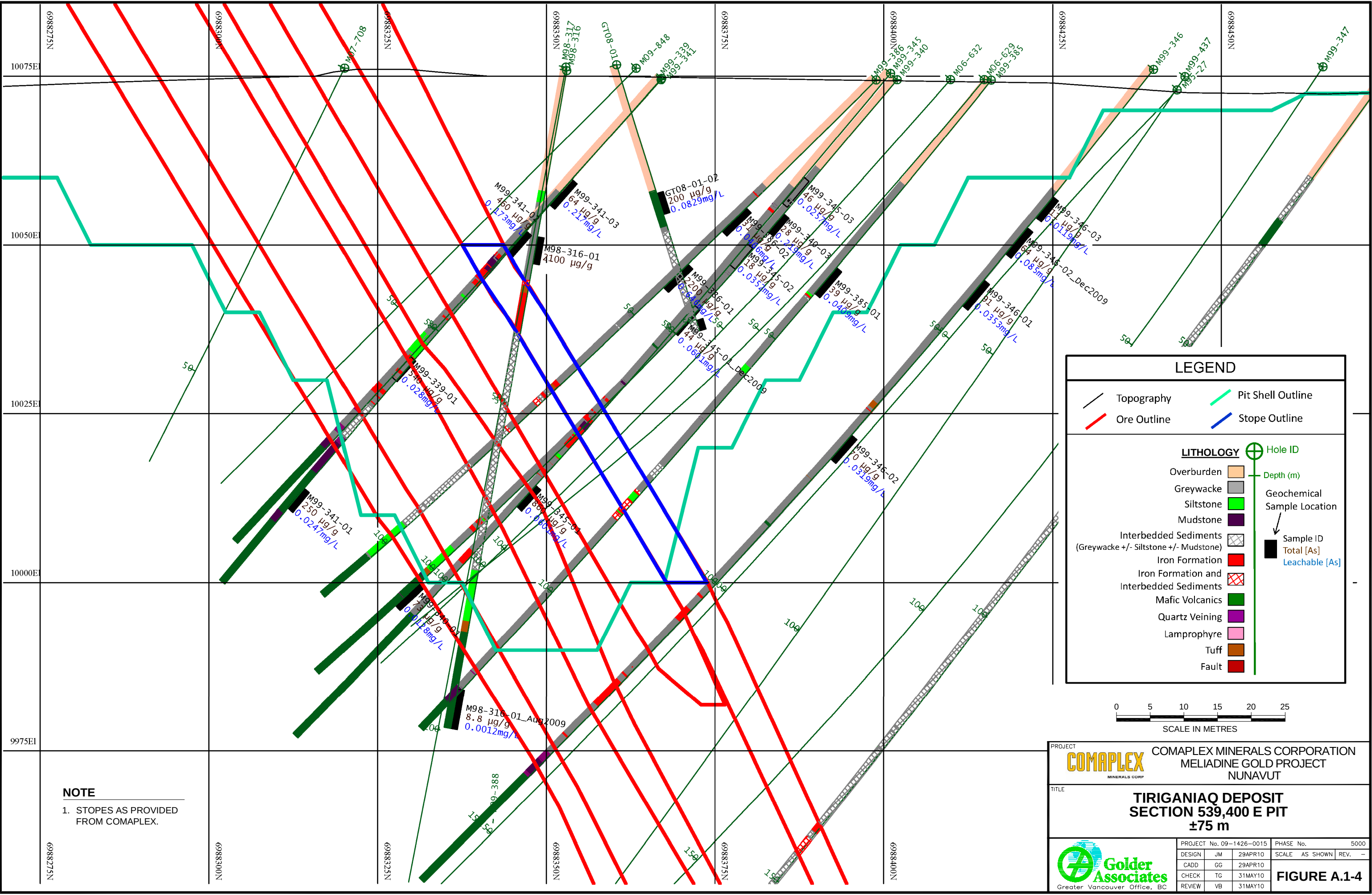
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FIGURE A.1-2



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TITLE

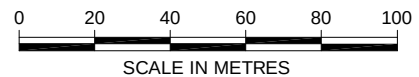
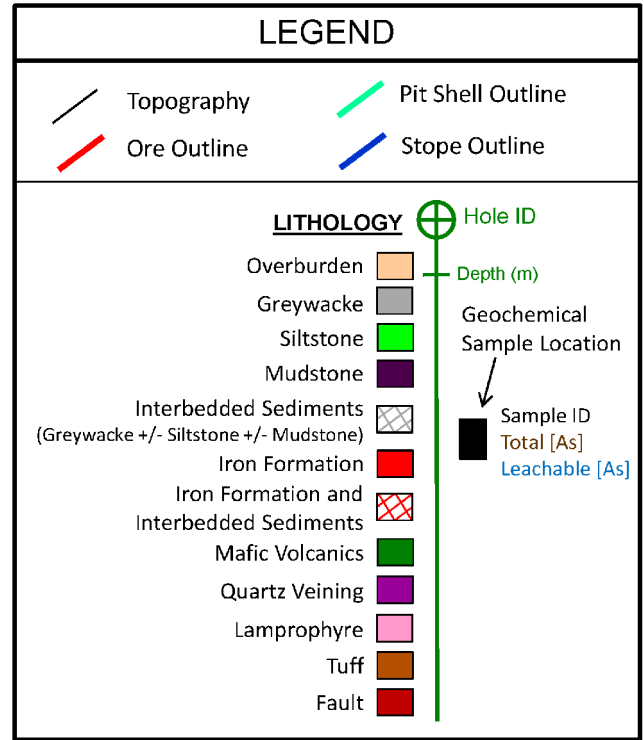
**TIRIGANIAQ DEPOSIT
SECTION 539,400 E PIT
±75 m**



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REVIEW	VB	31MAY10		

1. STOPES AS PROVIDED
FROM COMAPLEX.



PROJECT
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MINERALS CORP

COMAPLEX MINERALS CORPORATION
MELIADINE GOLD PROJECT
NUNAVUT

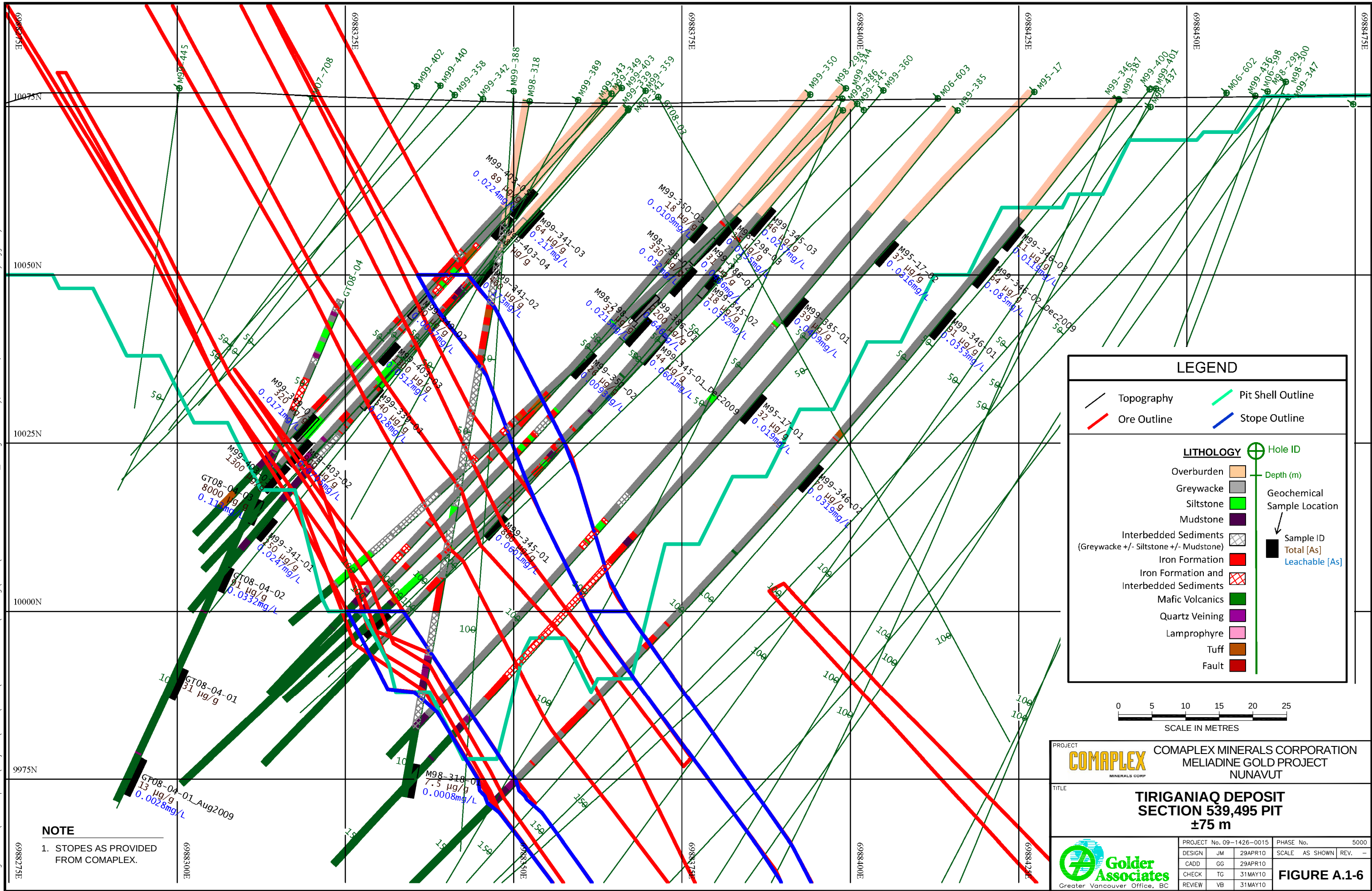
**TIRIGANIAQ DEPOSIT
SECTION 539,495
±75 m**



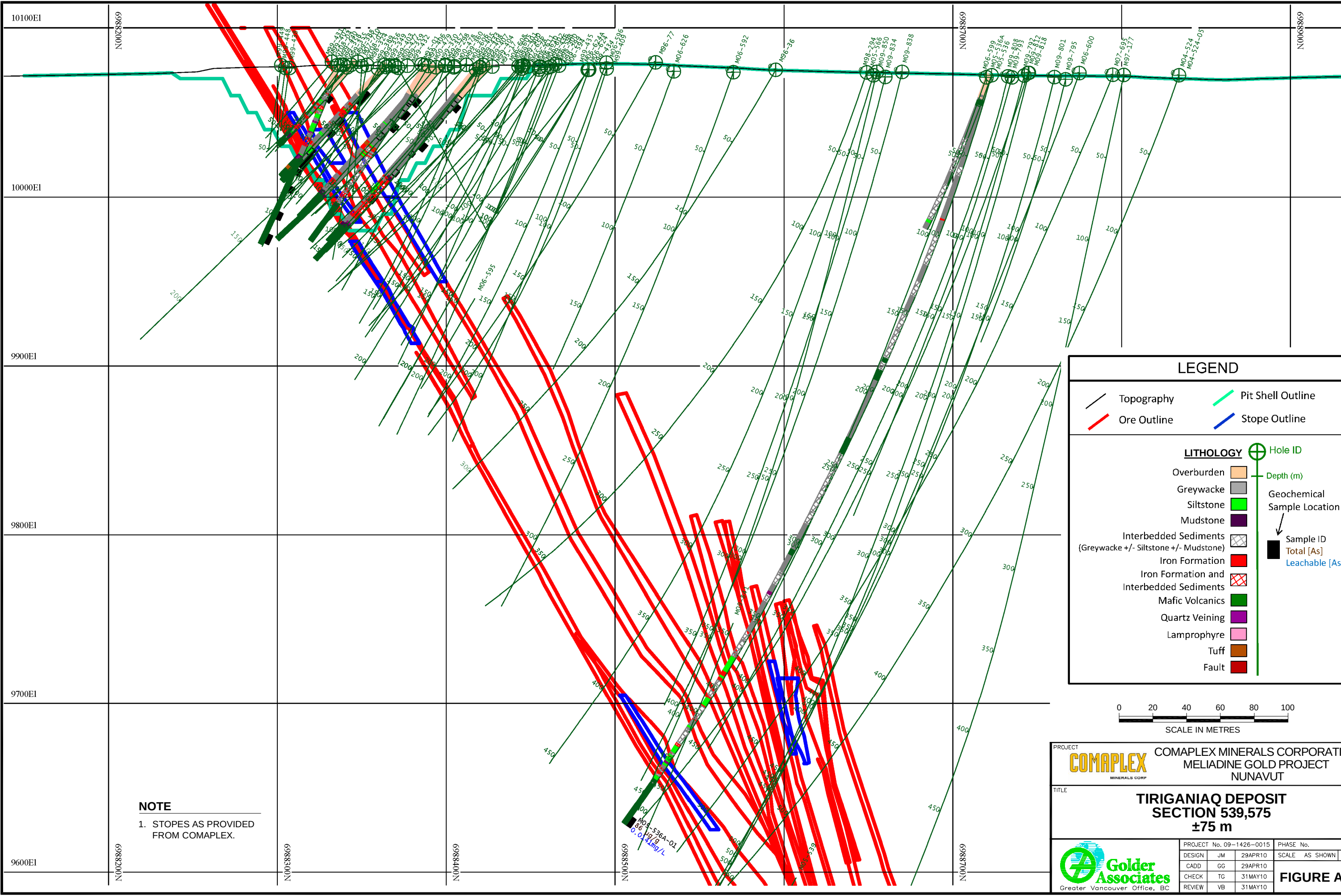
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CHECK	TG	31MAY10			
REVIEW	VB	31MAY10			

FIGURE A.1-5

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LEGEND

Topography

Ore Outline

Pit Shell Outline

Stope Outline

LITHOLOGY

Overburden

Greywacke

Siltstone

Mudstone

Interbedded Sediments (Greywacke +/- Siltstone +/- Mudstone)

Iron Formation

Iron Formation and Interbedded Sediments

Mafic Volcanics

Quartz Veining

Lamprophyre

Tuff

Fault

Hole ID

Depth (m)

Geochemical Sample Location

Sample ID

Total [As]

Leachable [As]

PROJECT

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COMAPLEX MINERALS CORPORATION

MELIADINE GOLD PROJECT

NUNAVUT

TITLE

TIRIGANIAQ DEPOSIT

SECTION 539,575

±75 m

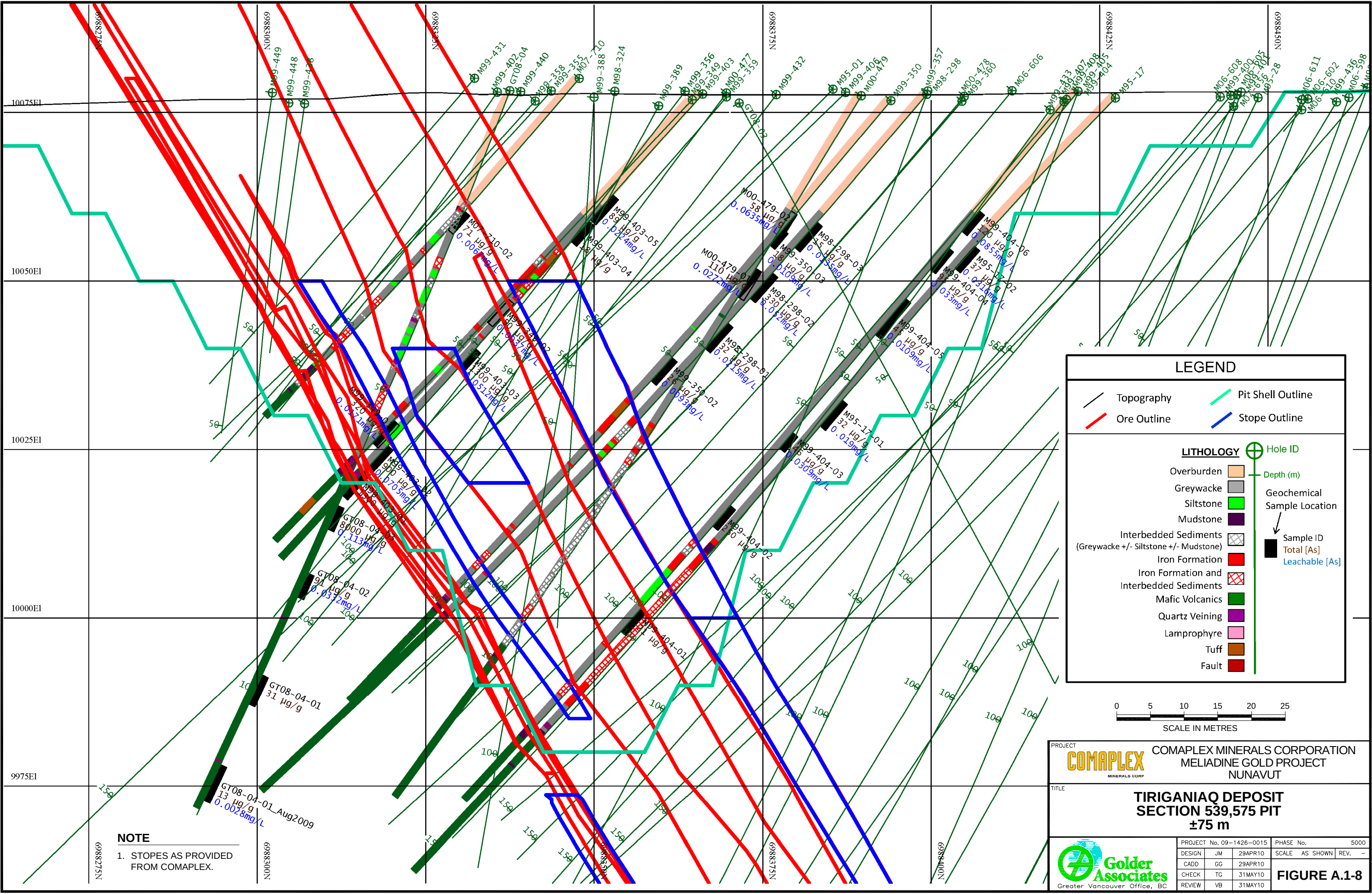
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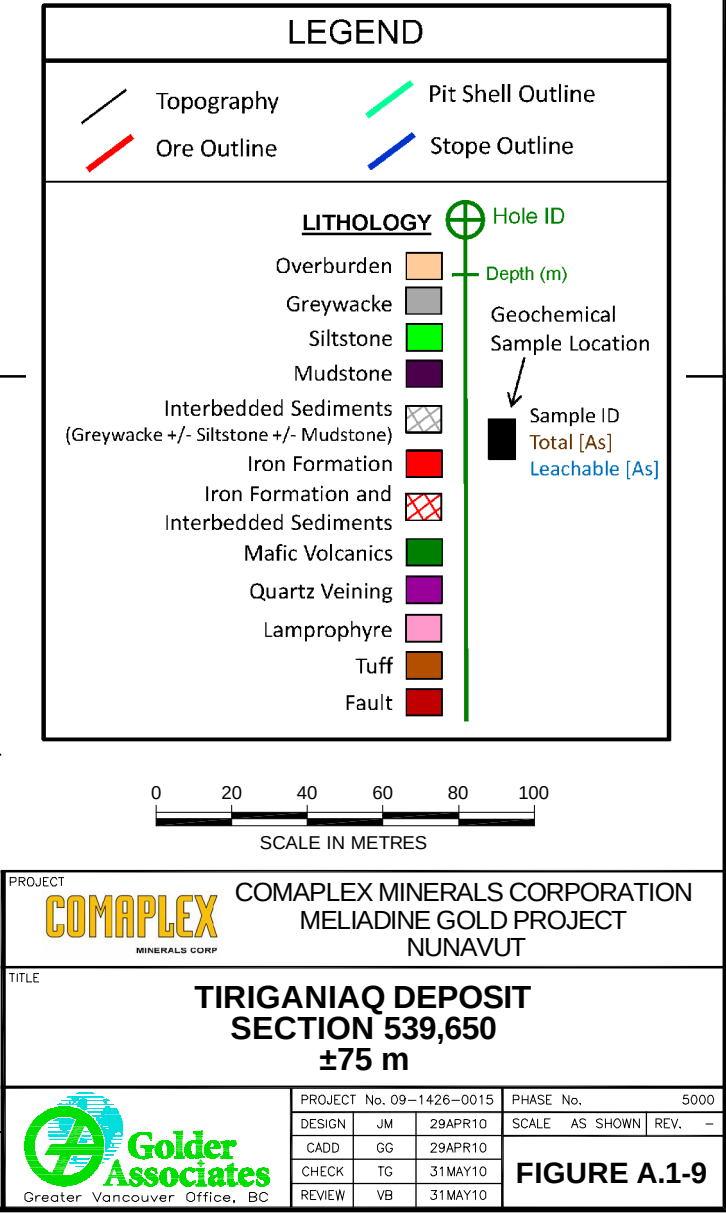
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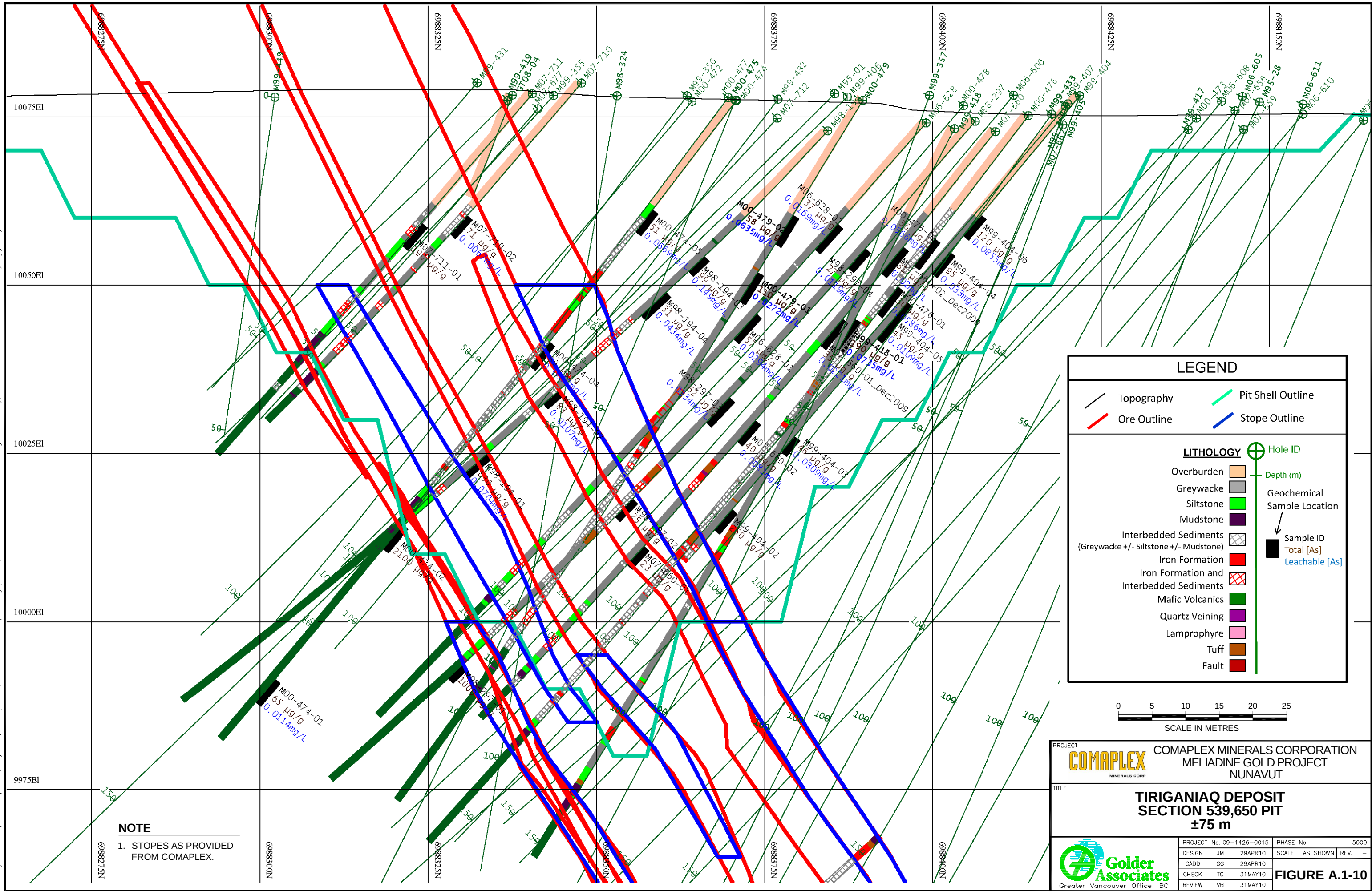
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REVIEW	VB 31MAY10		

FIGURE A.1-7

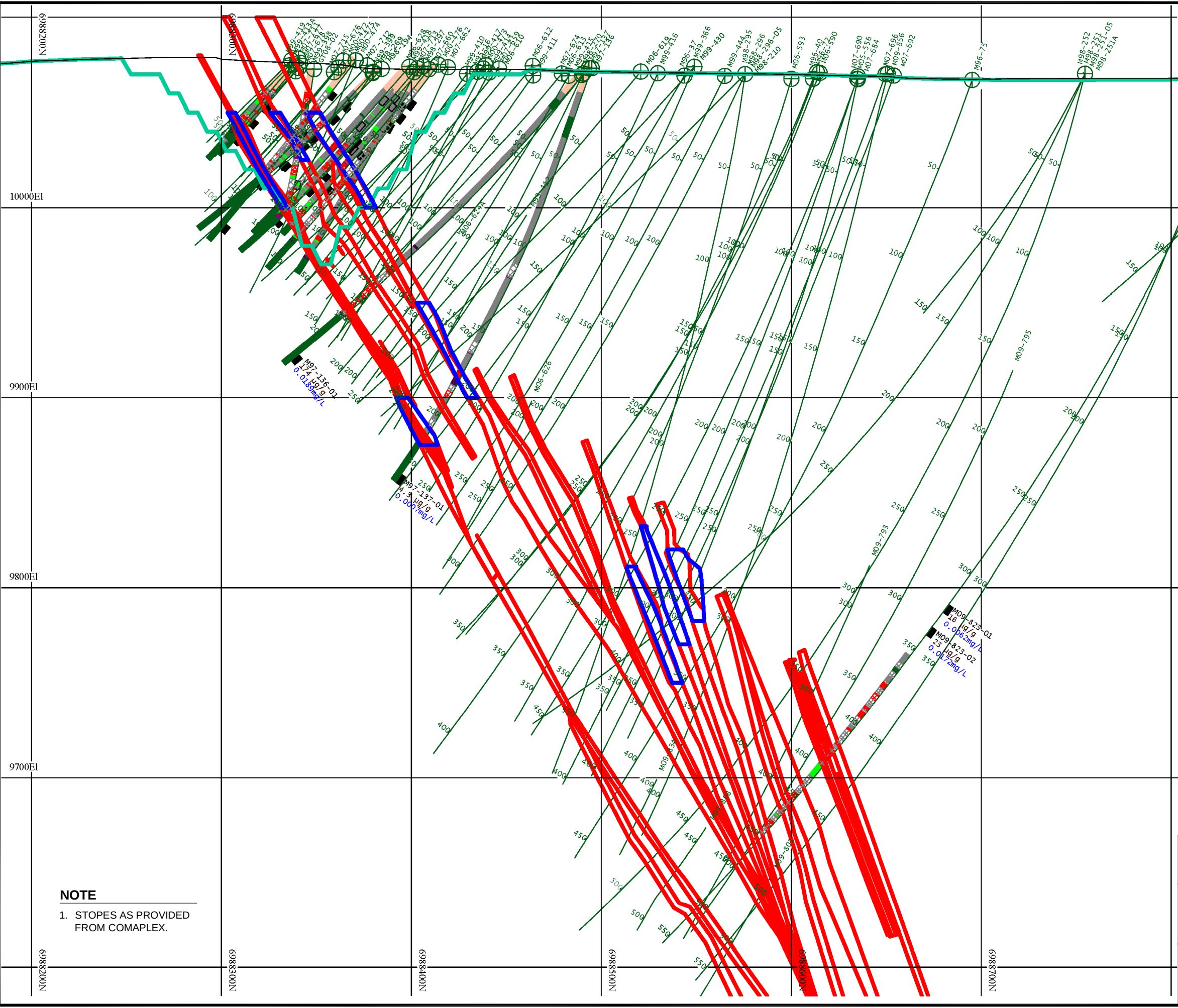
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LEGEND

Topography

Ore Outline

Pit Shell Outline

Stope Outline

LITHOLOGY

Overburden

Greywacke

Siltstone

Mudstone

Interbedded Sediments
(Greywacke +/- Siltstone +/- Mudstone)

Iron Formation

Iron Formation and
Interbedded Sediments

Mafic Volcanics

Quartz Veining

Lamprophyre

Tuff

Fault

Hole ID

Depth (m)

Geochemical
Sample Location

Sample ID
Total [As]
Leachable [As]

NOTE
1. STOPES AS PROVIDED
FROM COMPLEX.

PROJECT

COMAPLEX MINERALS CORP

COMAPLEX

COMAPLEX MINERALS CORPORATION
MELIADINE GOLD PROJECT
NUNAVUT

TITLE

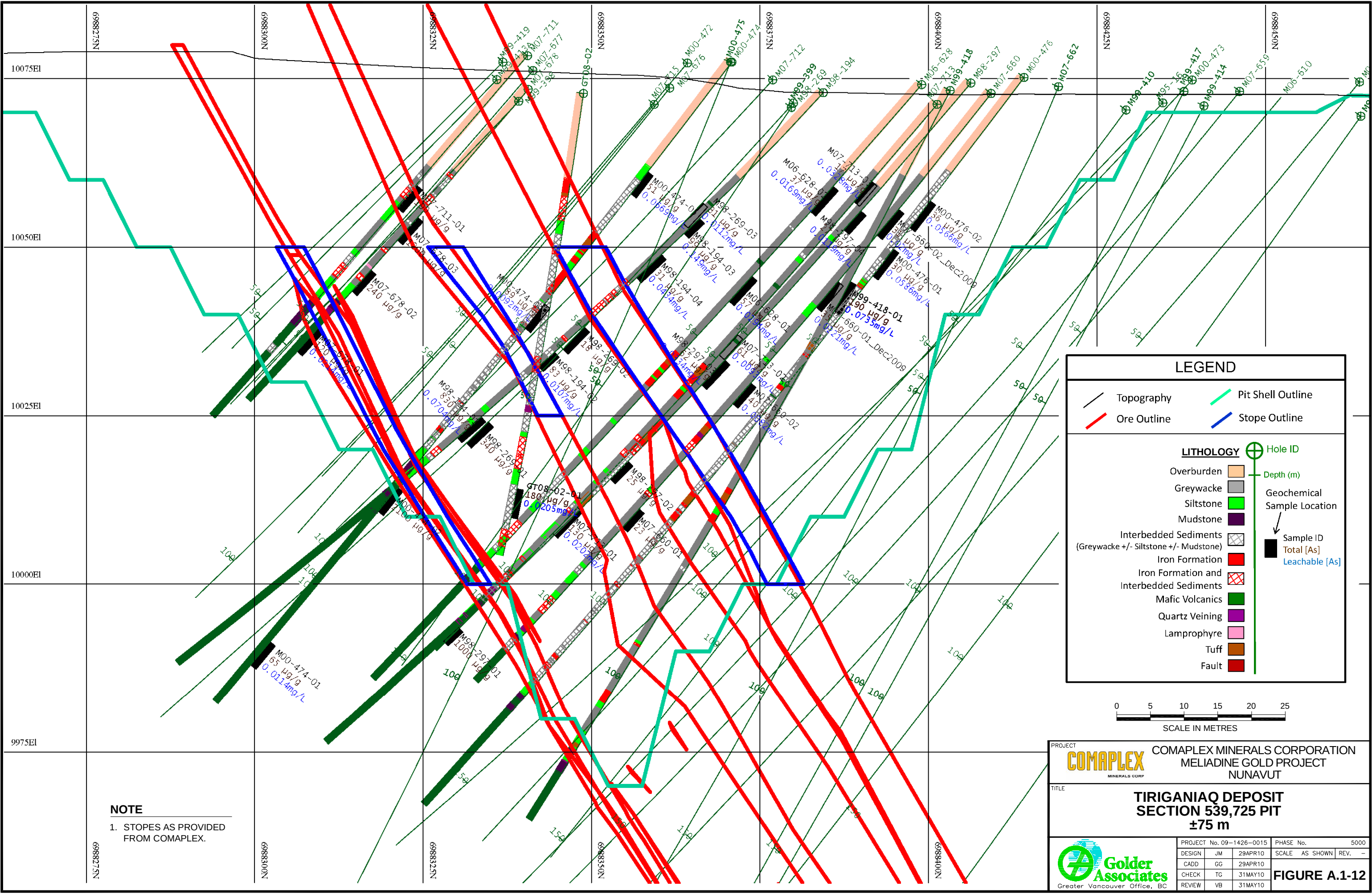
TIRIGANIAQ DEPOSIT
SECTION 539,725
±75 m

Golder Associates
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CHECK	TG	31MAY10		
REVIEW	VB	31MAY10		

FIGURE A.1-11

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PROJECT

COMAPLEX
MINERALS CORP.

TITLE

TIRIGANIAQ DEPOSIT
SECTION 539,725 PIT
±75 m

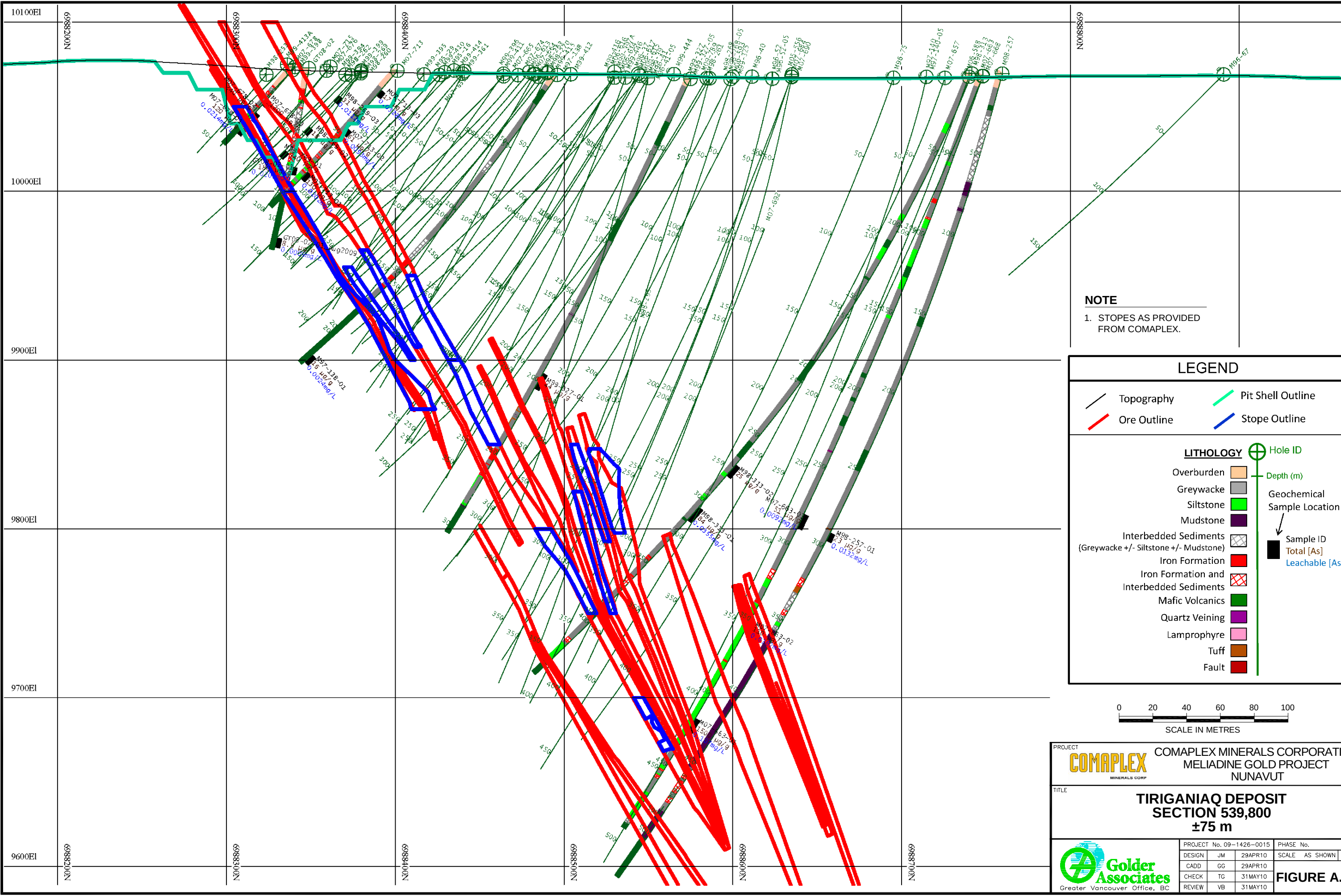


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REVIEW	VB	31MAY10		

FIGURE A.1-12

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NOTE

1. STOPES AS PROVIDED FROM COMAPLEX.

LEGEND

- Topography
- Ore Outline
- Pit Shell Outline
- Stope Outline

LITHOLOGY

- Overburden
 - Greywacke
 - Siltstone
 - Mudstone
 - Interbedded Sediments (Greywacke +/- Siltstone +/- Mudstone)
 - Iron Formation
 - Iron Formation and Interbedded Sediments
 - Mafic Volcanics
 - Quartz Veining
 - Lamprophyre
 - Tuff
 - Fault
- Hole ID
- Depth (m)
- Geochemical Sample Location
- Sample ID
- Total [As]
- Leachable [As]

0 20 40 60 80 100
SCALE IN METRES

PROJECT

COMAPLEX
MINERALS CORP.

COMAPLEX MINERALS CORPORATION
MELIADINE GOLD PROJECT
NUNAVUT

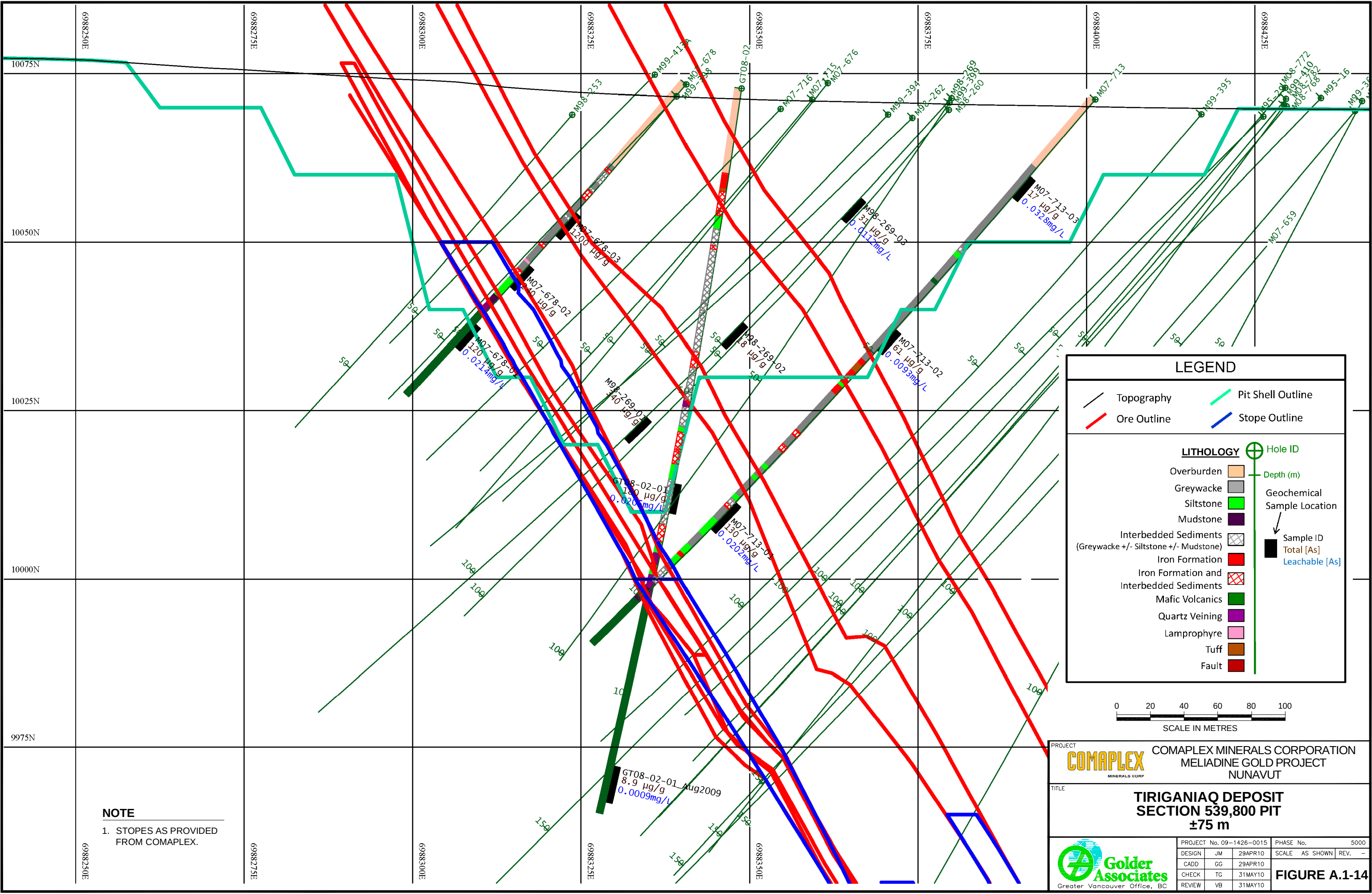
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**TIRIGANIAQ DEPOSIT
SECTION 539,800
±75 m**

**Golder Associates**
Greater Vancouver Office, BC

PROJECT	No. 09-1426-0015	PHASE	No.	5000
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CHECK	TG	31MAY10	FIGURE A.1-13	
REVIEW	VB	31MAY10		

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NOTE

1. STOPES AS PROVIDED FROM COMAPLEX.

LEGEND

- Topography
Ore Outline
Pit Shell Outline
Stope Outline

LITHOLOGY

- Overburden
Greywacke
Siltstone
Mudstone
Interbedded Sediments (Greywacke +/- Siltstone +/- Mudstone)
Iron Formation
Iron Formation and Interbedded Sediments
Mafic Volcanics
Quartz Veining
Lamprophyre
Tuff
Fault

- Hole ID
Depth (m)
Geochemical Sample Location
Sample ID
Total [As]
Leachable [As]

0 20 40 60 80 100
SCALE IN METRES

PROJECT
COMAPLEX MINERALS CORP.
COMAPLEX MINERALS CORPORATION
MELIADINE GOLD PROJECT
NUNAVUT

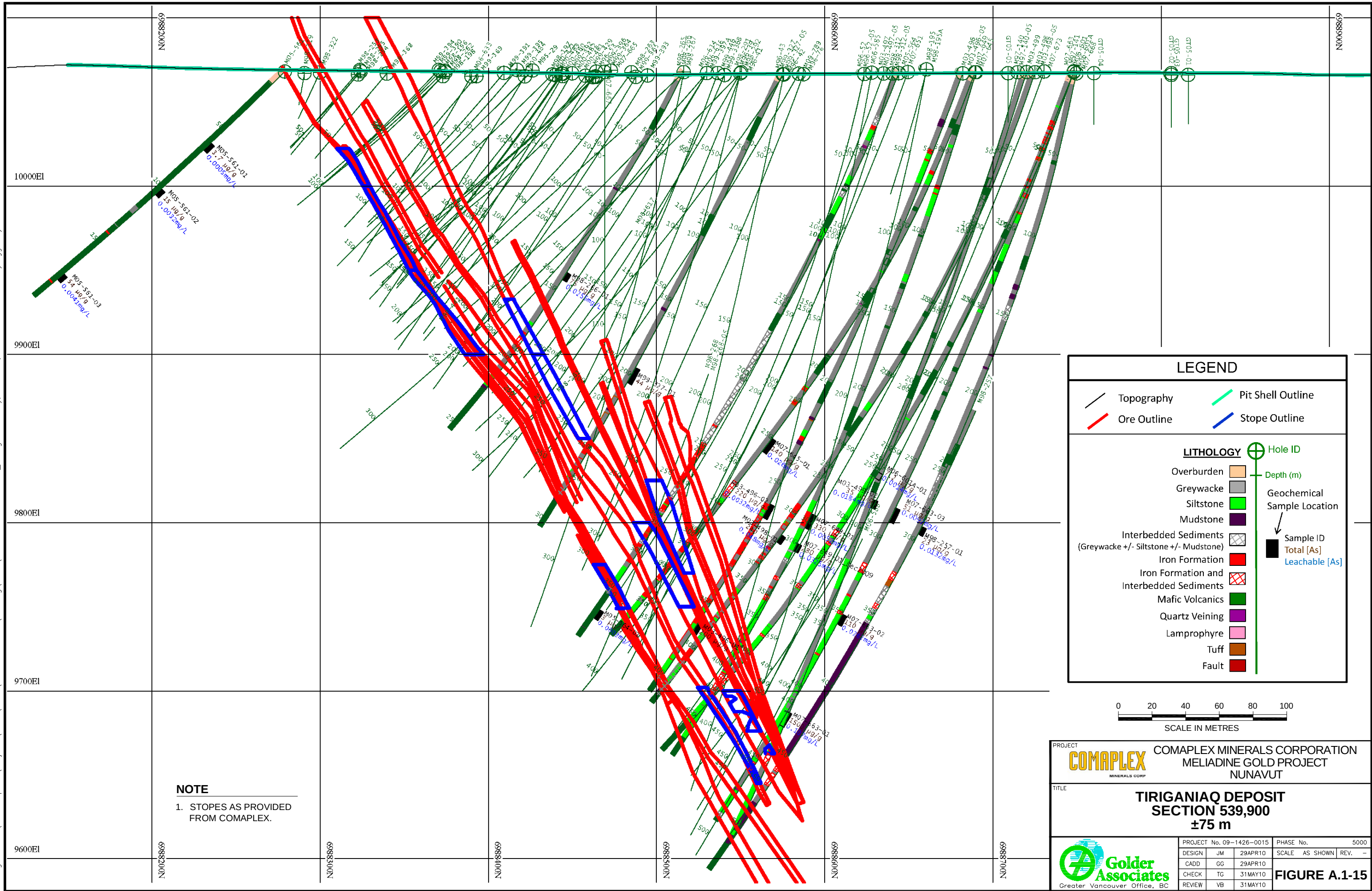
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SECTION 539,800 PIT
±75 m**

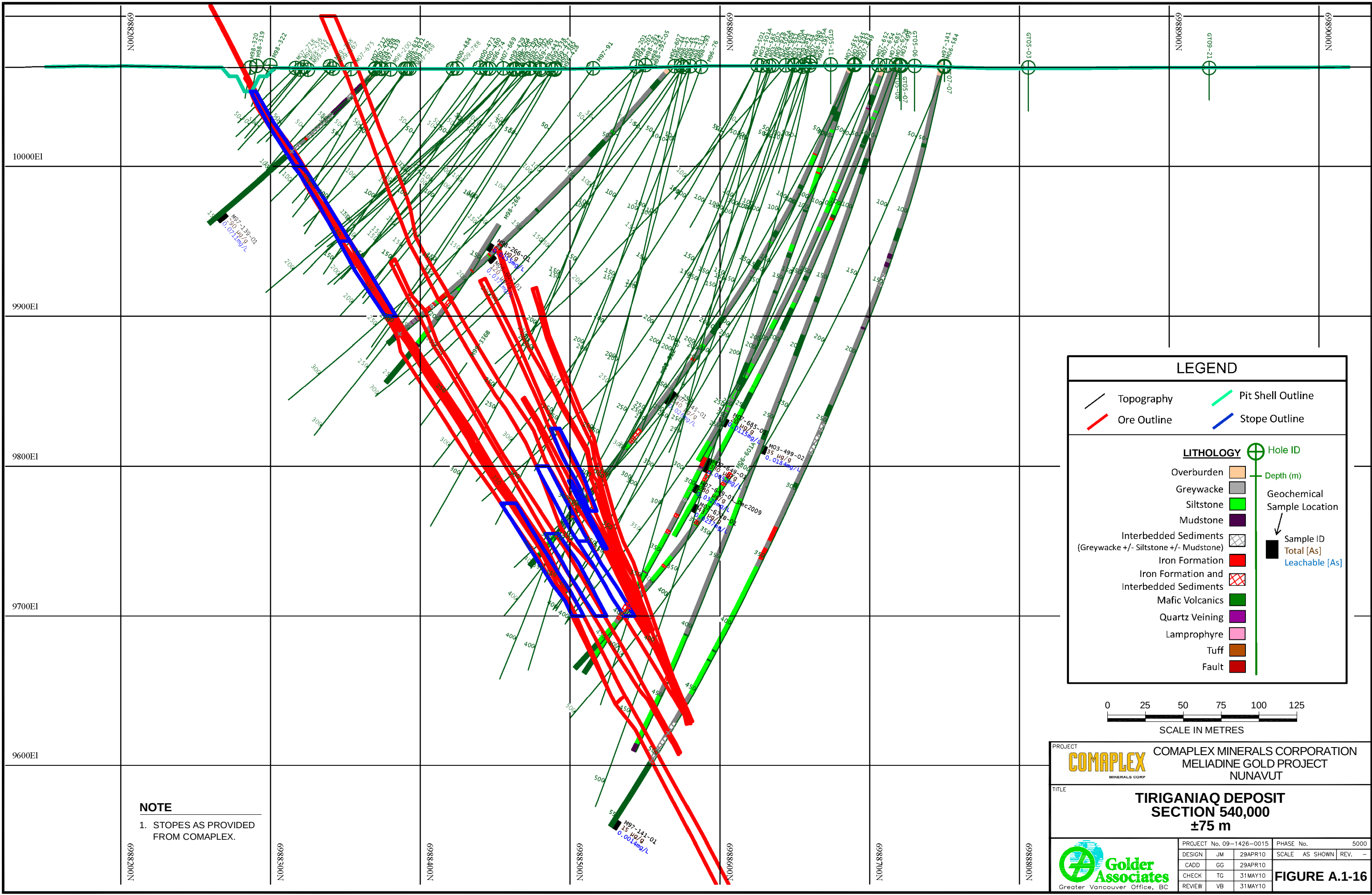


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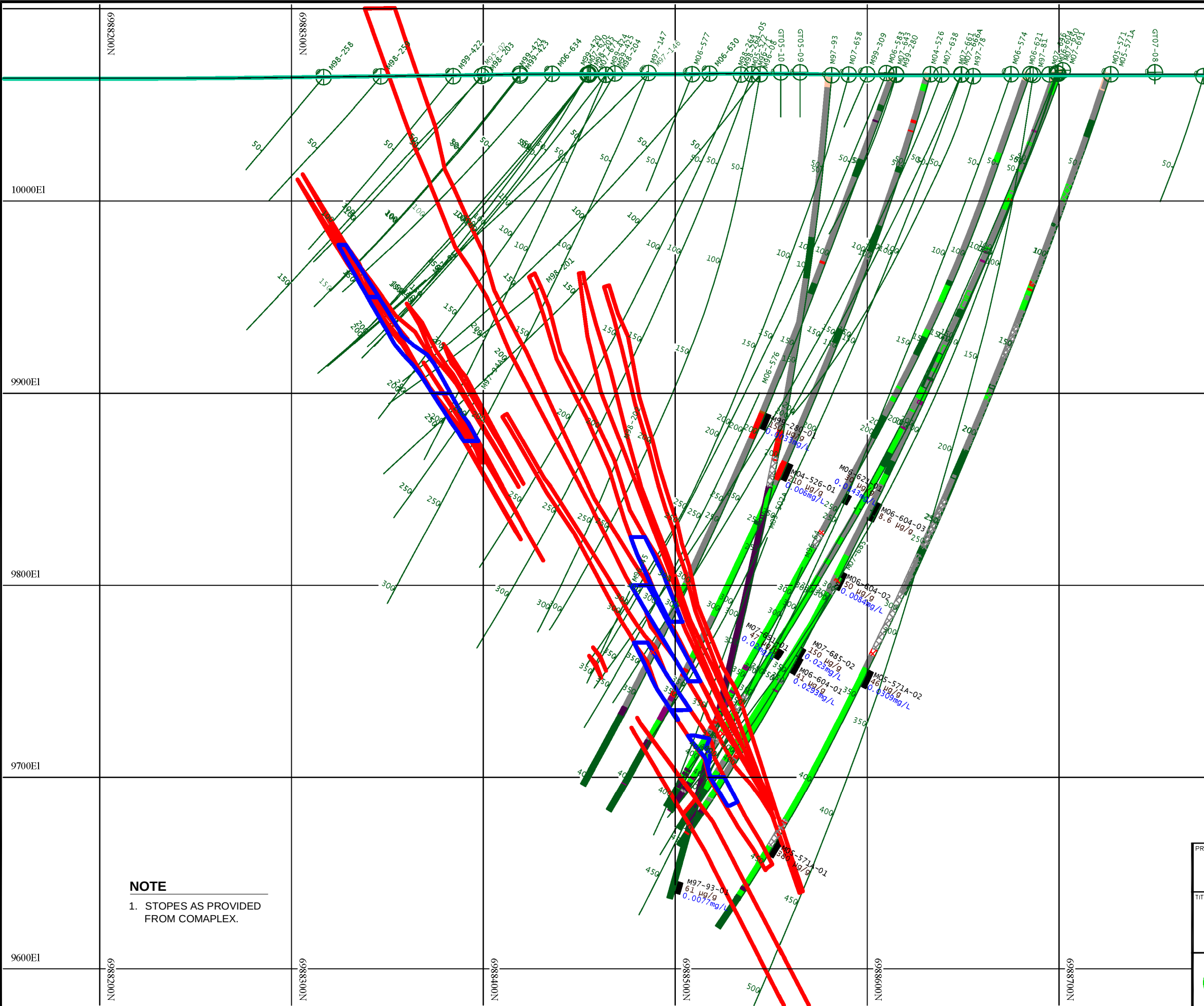
FIGURE A.1-14

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Topography

Ore Outline

Pit Shell Outline

Stope Outline

LITHOLOGY

Overburden

Greywacke

Siltstone

Mudstone

Interbedded Sediments
(Greywacke +/- Siltstone +/- Mudstone)

Iron Formation

Iron Formation and
Interbedded Sediments

Mafic Volcanics

Quartz Veining

Lamprophyre

Tuff

Fault

Hole ID

Depth (m)

Geochemical
Sample Location

Sample ID
Total [As]
Leachable [As]

PROJECT

COMAPLEX MINERALS CORP.

COMAPLEX MINERALS CORPORATION
MELIADINE GOLD PROJECT
NUNAVUT

TITLE

TIRIGANIAQ DEPOSIT
SECTION 540,150
±75 m

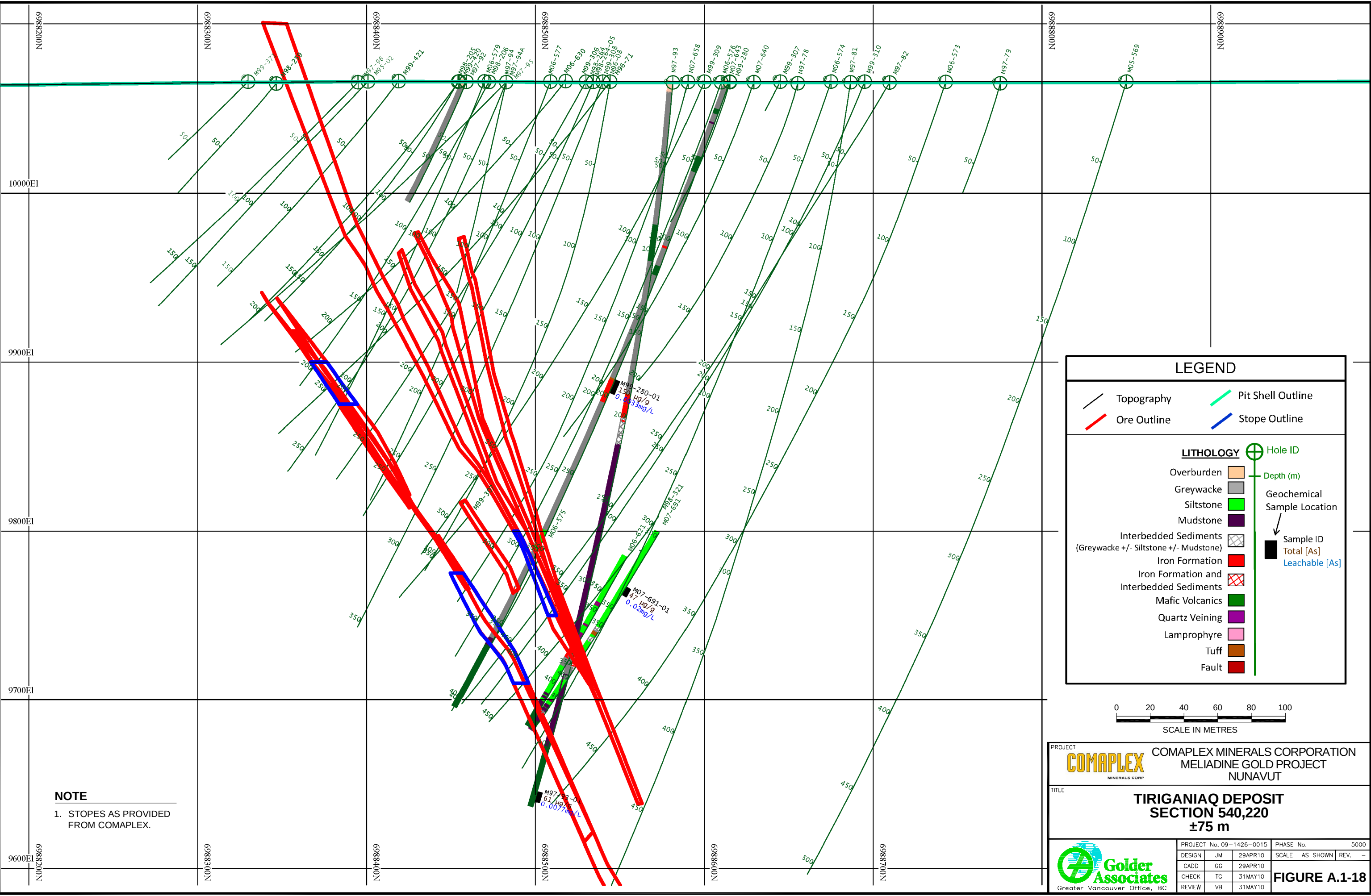
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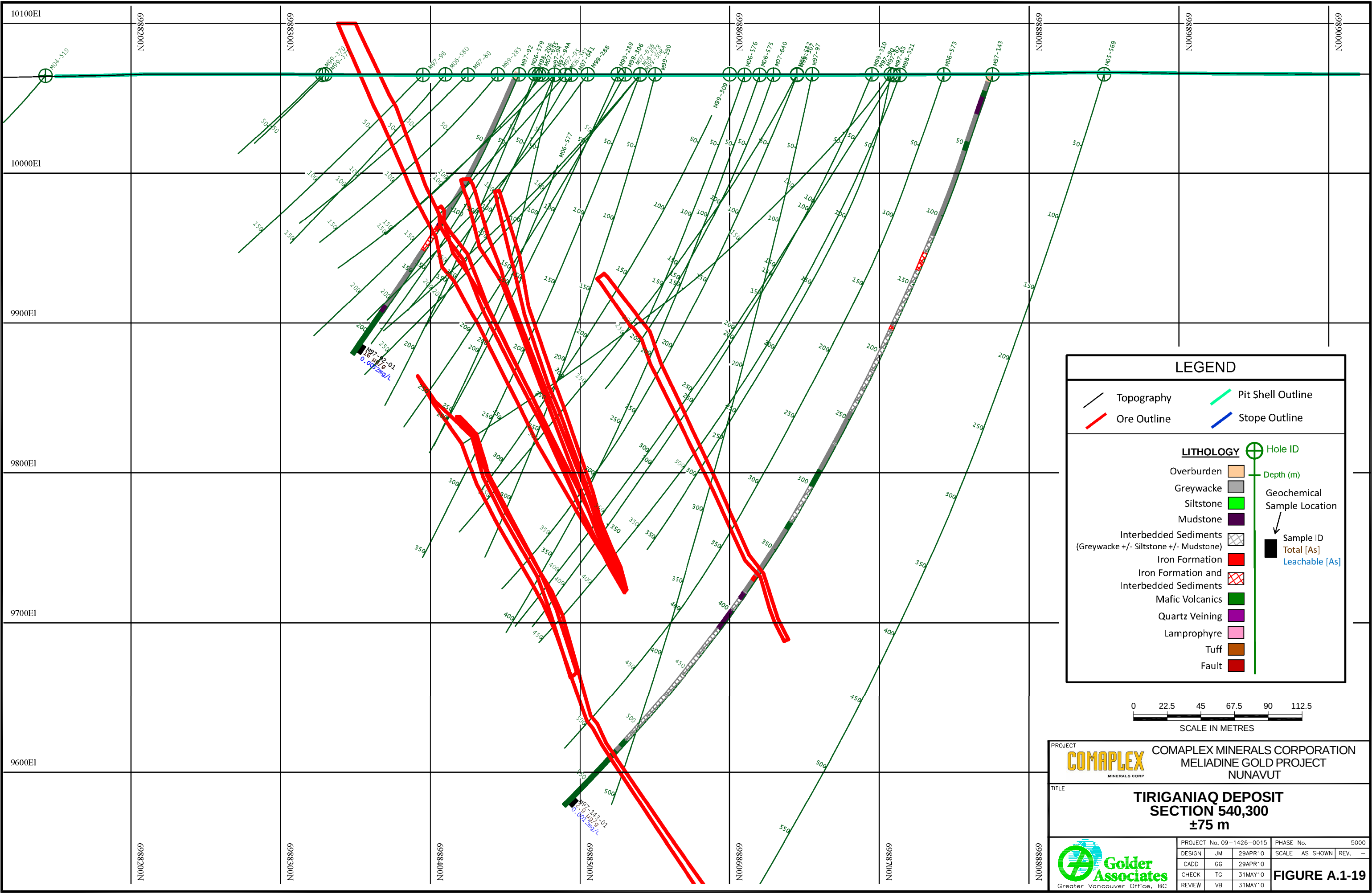
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FIGURE A.1-17

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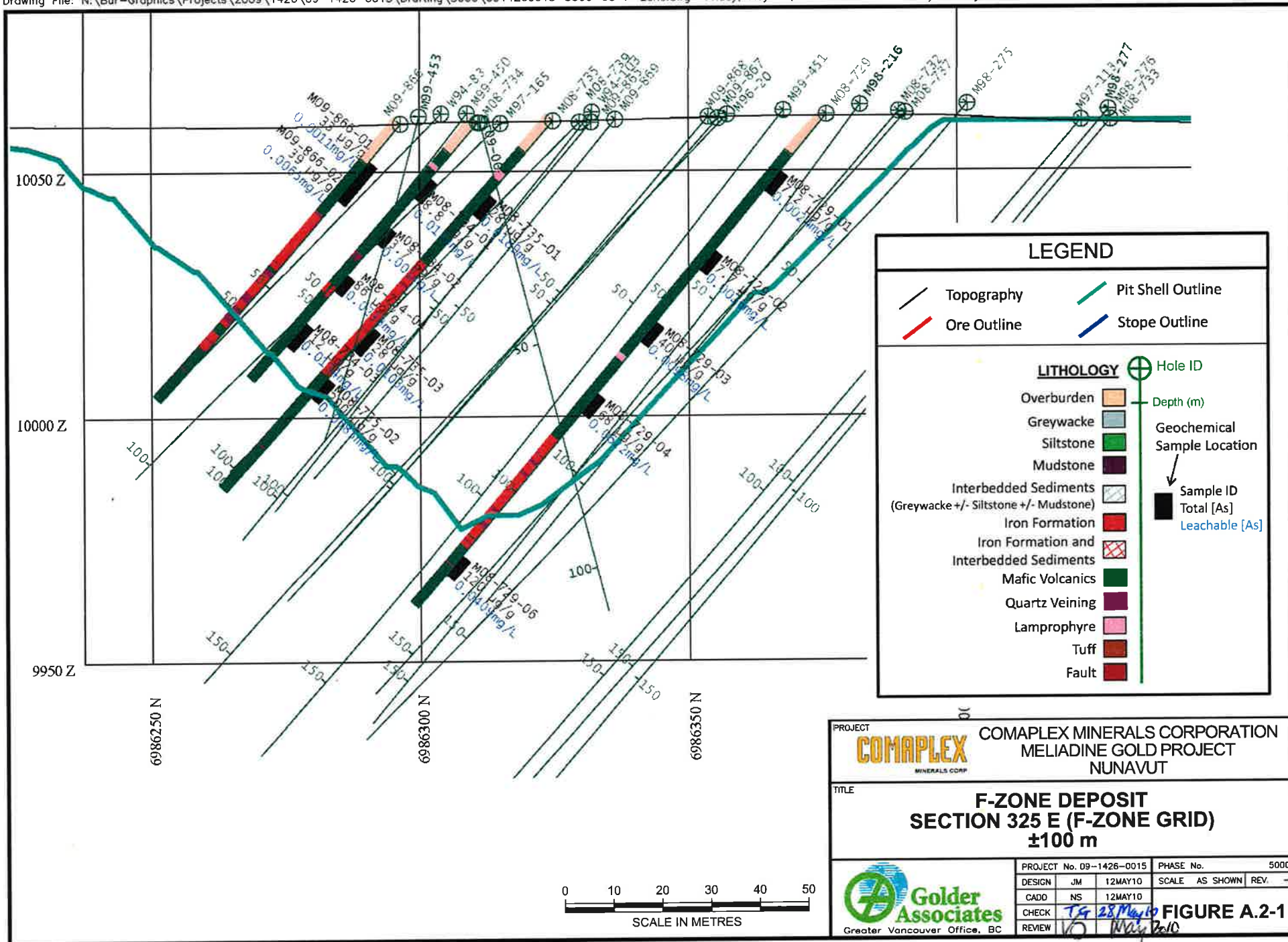


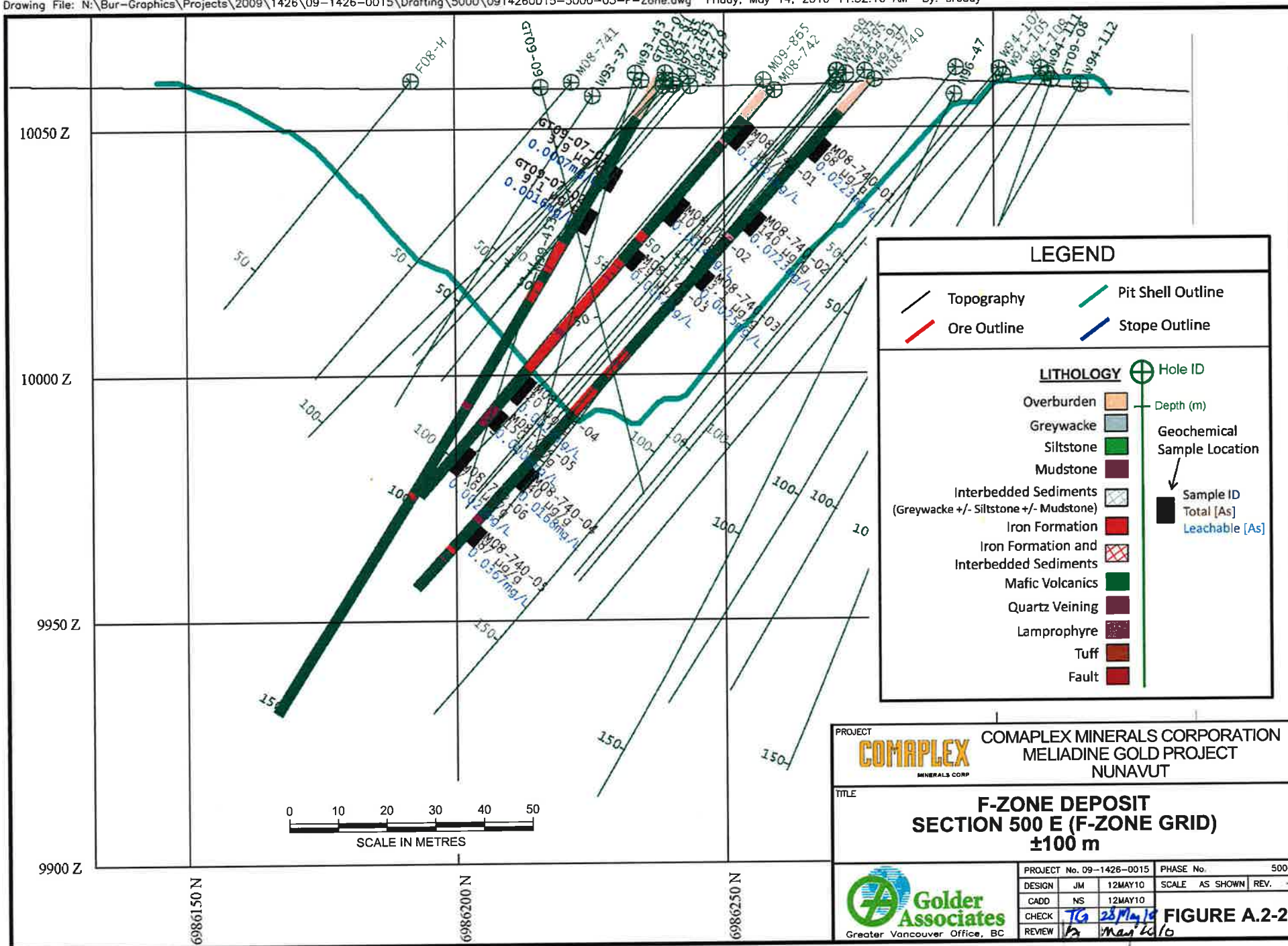
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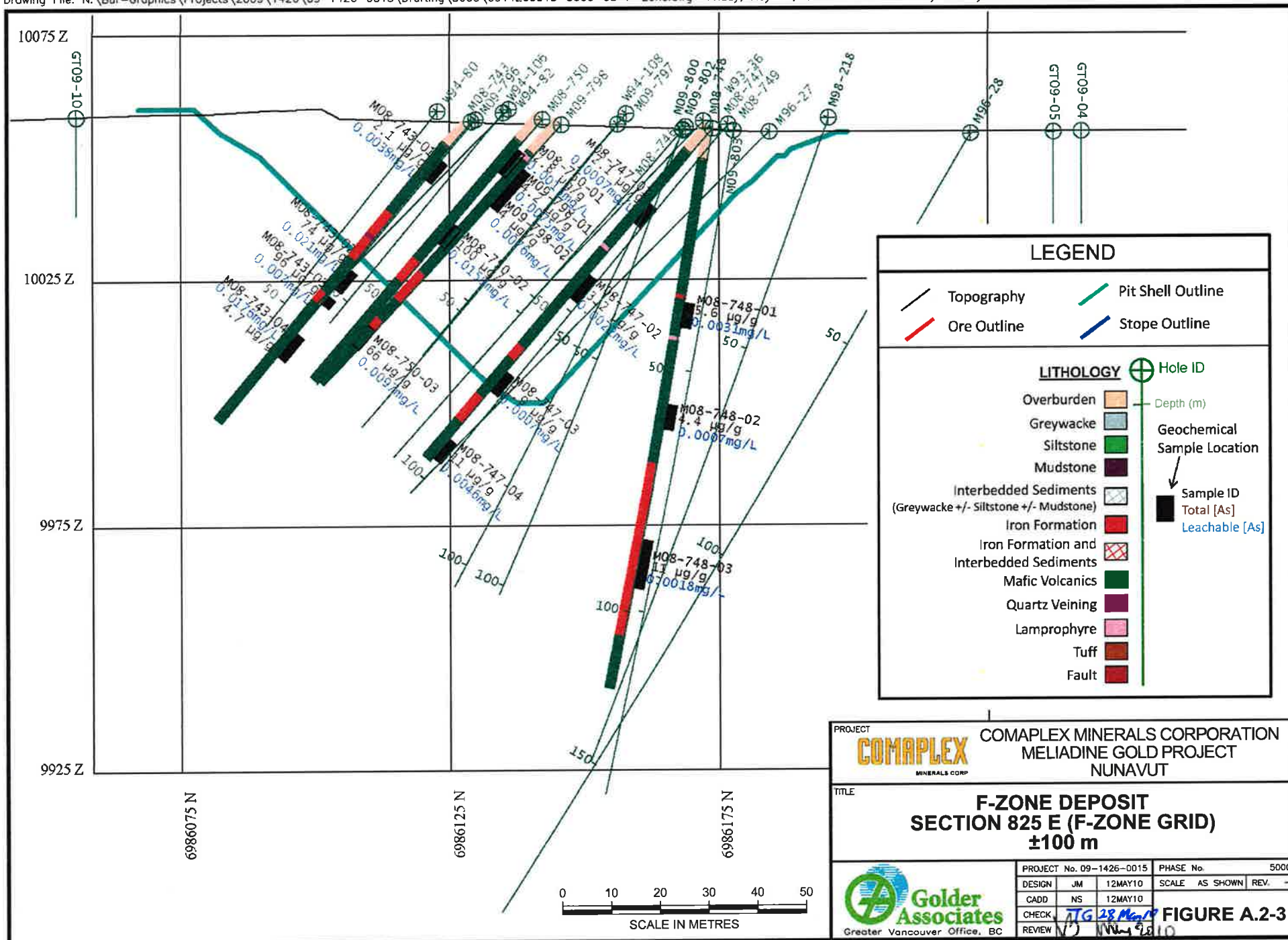


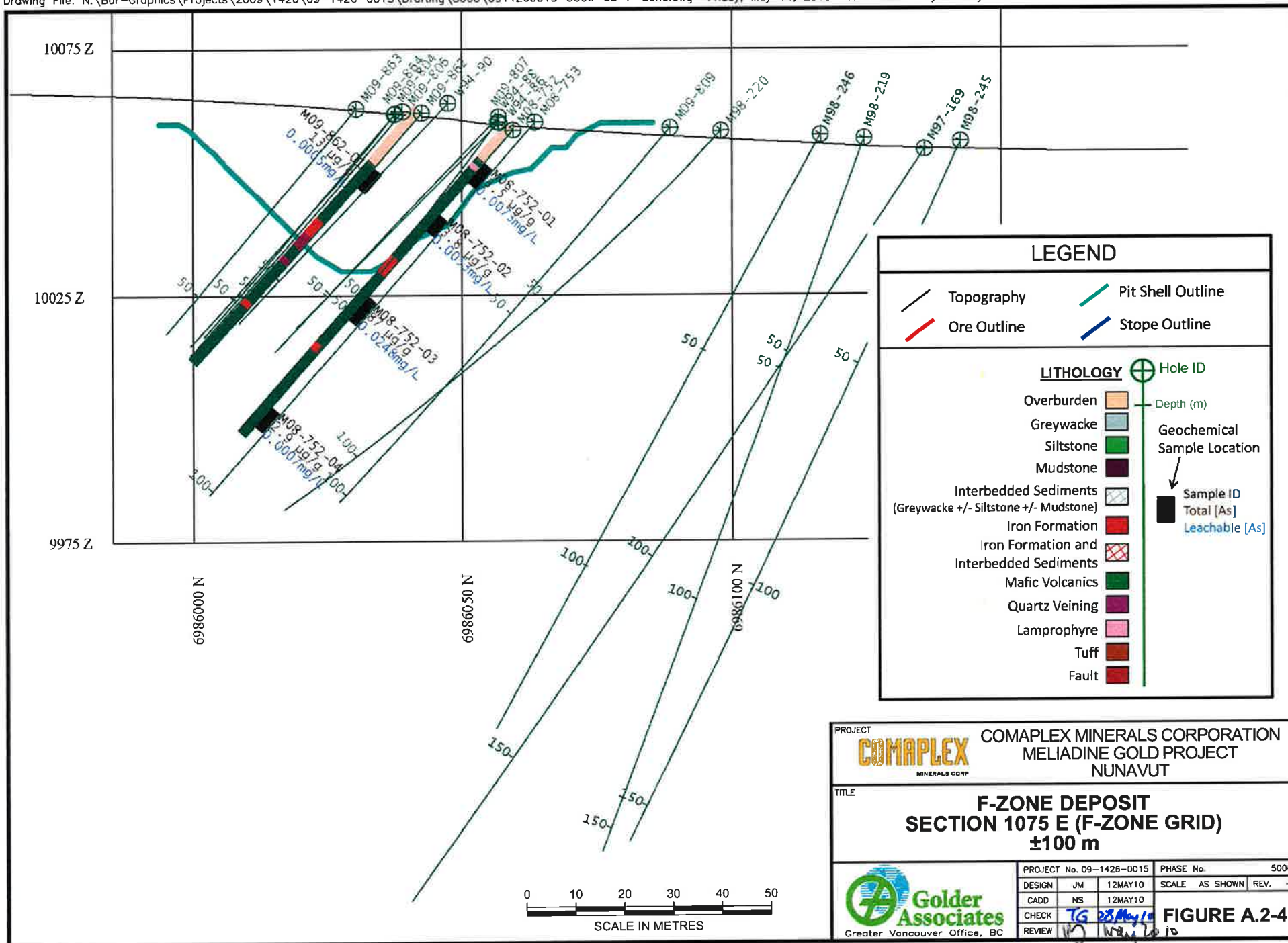


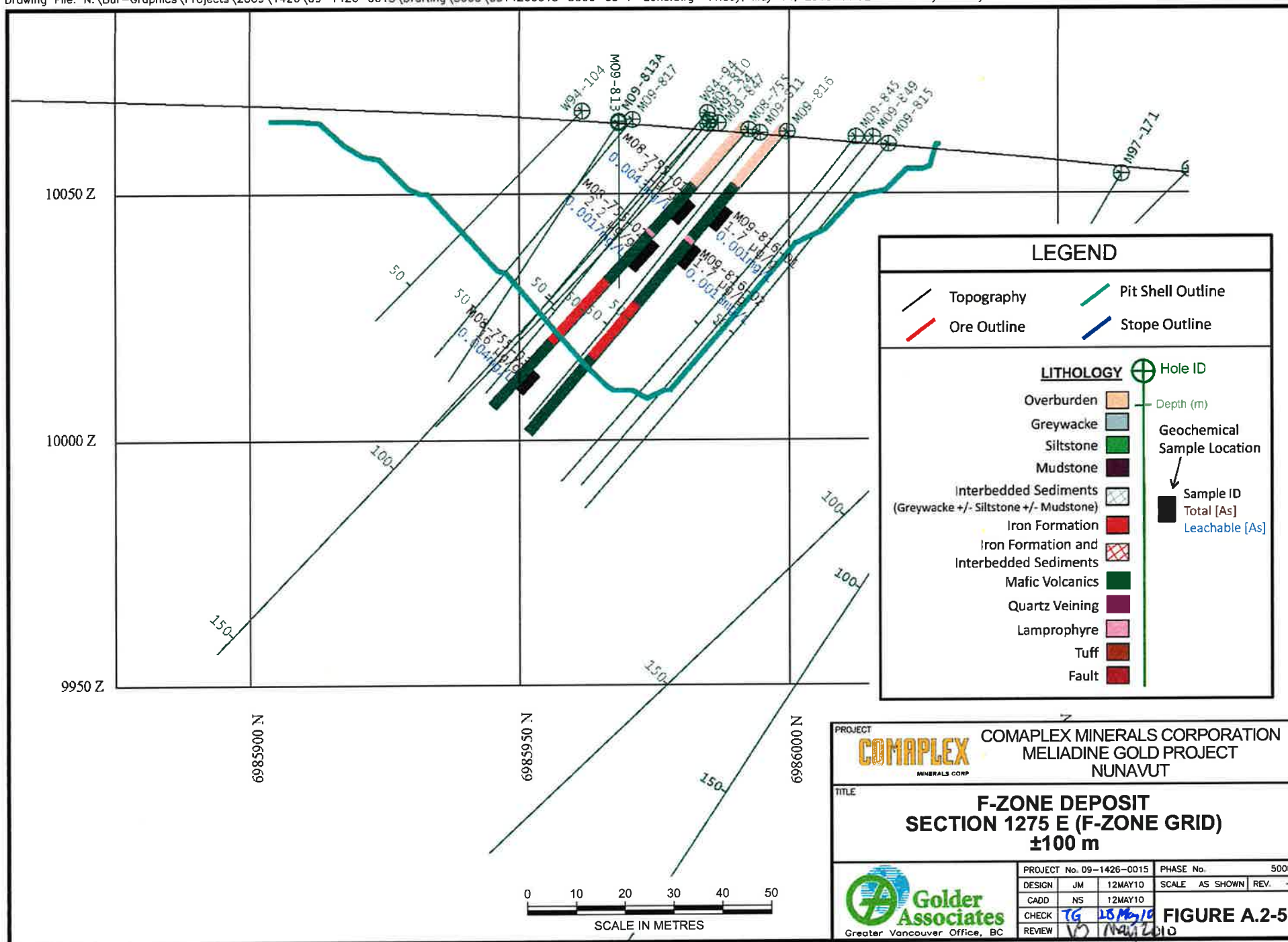
A.2 F Zone

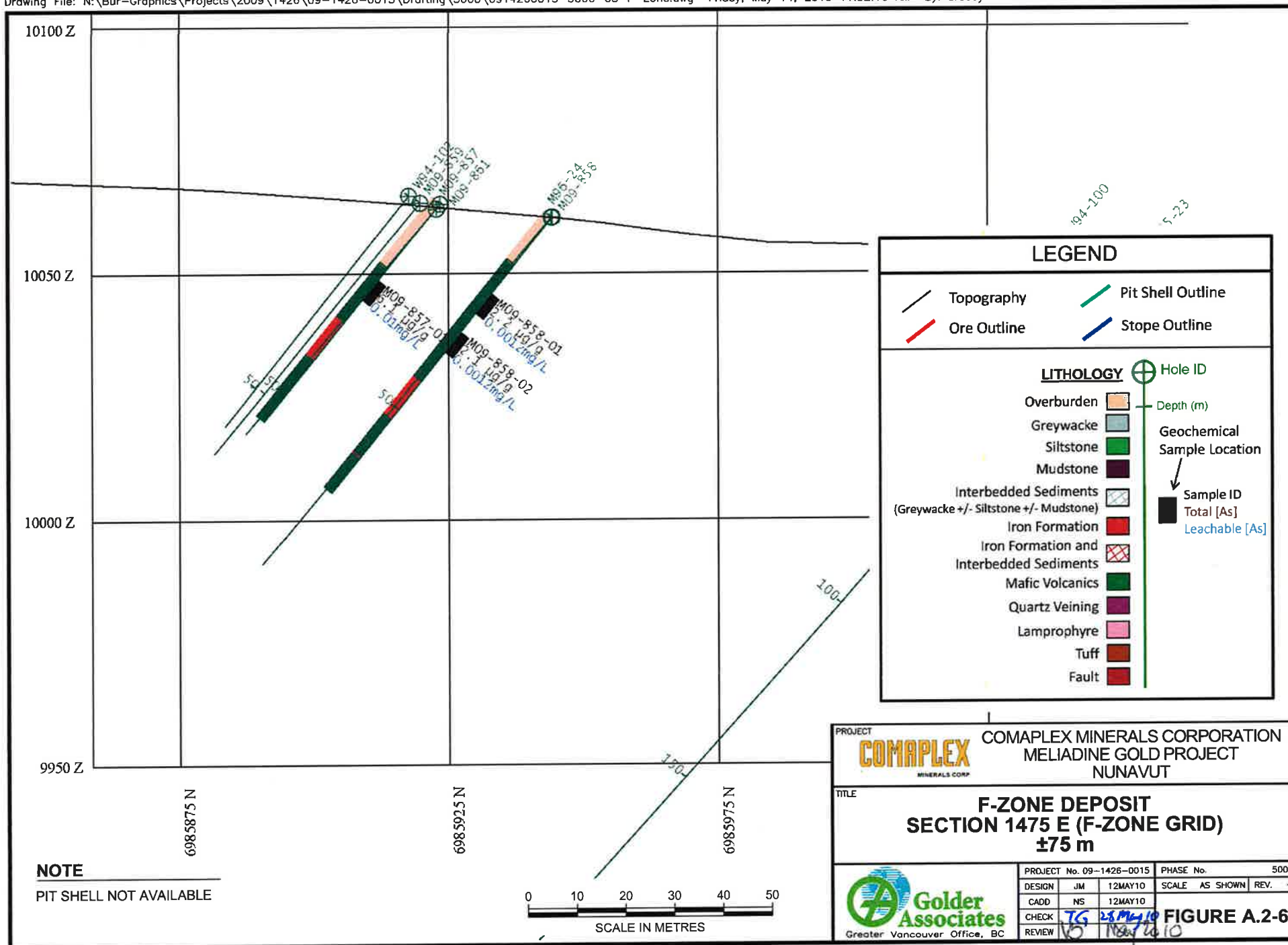


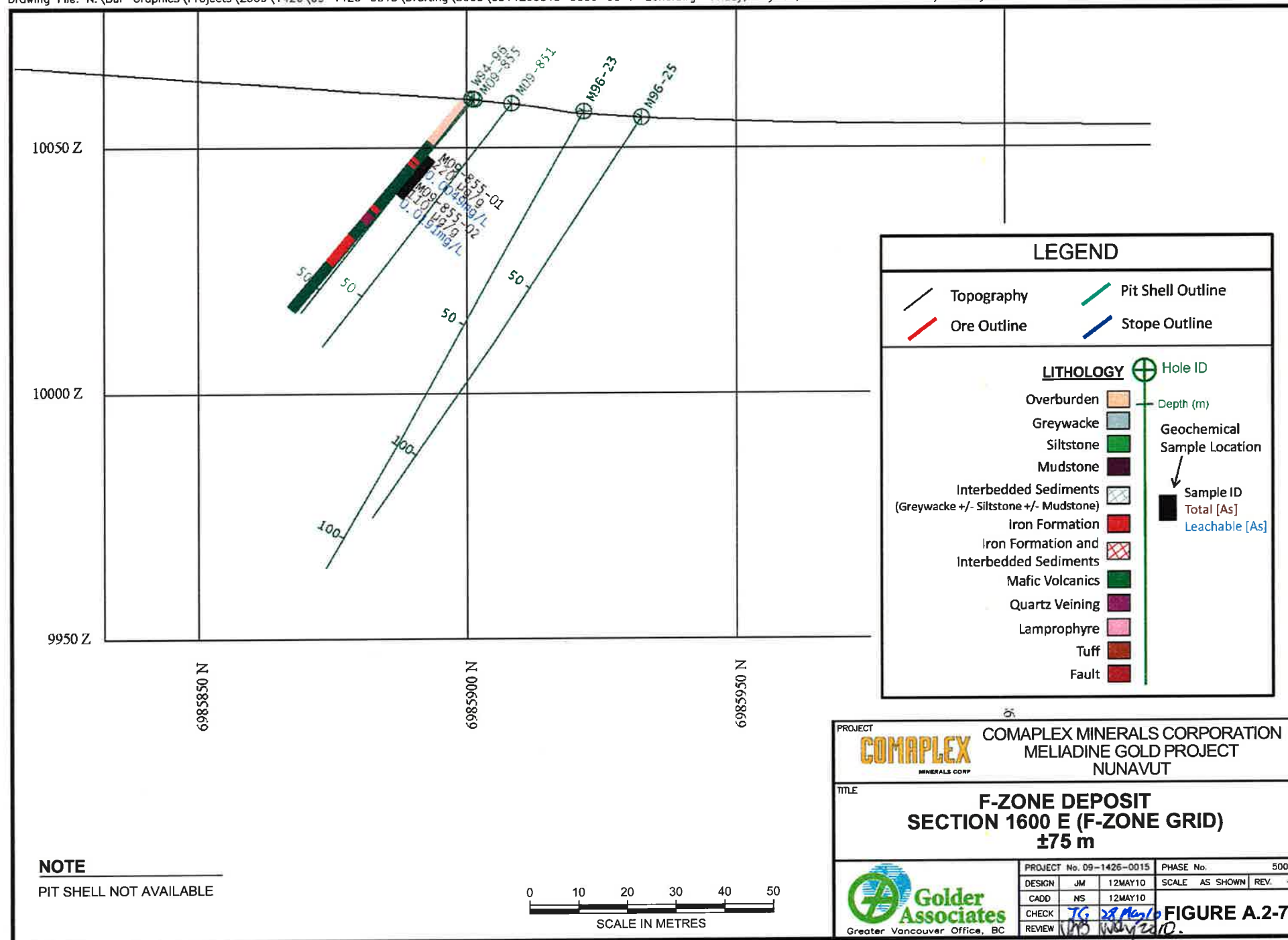








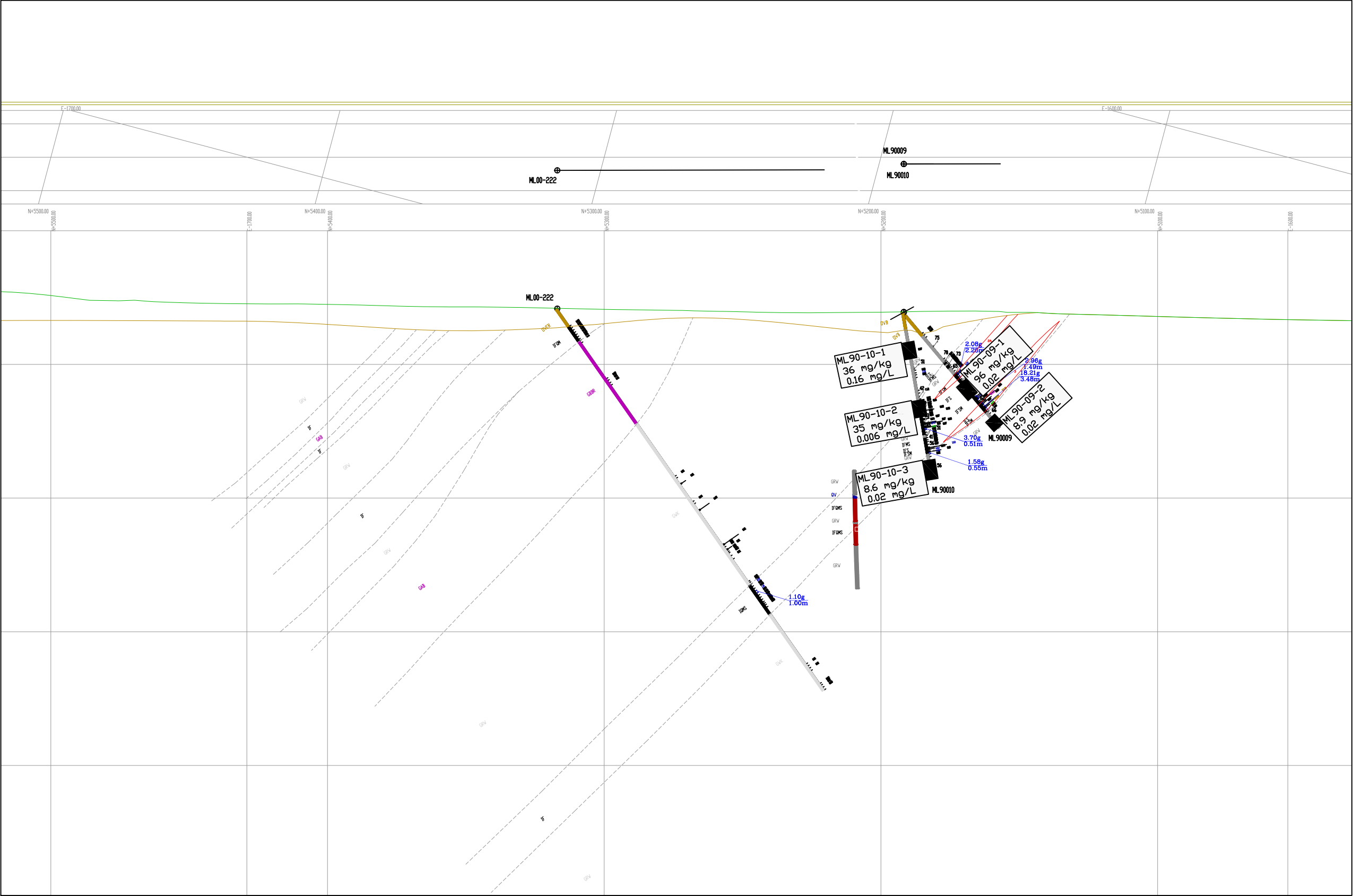






A.3 Discovery

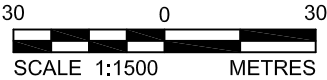
PLOT DATE: June 04, 2010
FILENAME: N:\Active\2009\0-Mining\09-1426-0015 Comaplex_Meliadine\ACAD\0914260015-5000-400E.dwg



ML90-09-2	Sample ID
8.9 mg/kg	Total Arsenic
0.02 mg/L	Leachable Arsenic

Total Arsenic (mg/kg) and Leachable Arsenic (mg/L) are plotted with respective sample interval

DISCOVERY GRID		
SECTION 4+00E		
Scale: 1:500	N.T.S. 55 J/13	Date: Sept 21, 2009
Revised by: RM/JTK	I.O.L. RI-01	Map No.
Filename: Discovery 400E 2009.dwg		



FILE No.	0914260015-5000-400E.dwg
PROJECT No.	09-1426-0015
REV.	

SCALE	AS SHOWN
DATE	31 MAY 2010
DESIGN	JC
CAD	BT
CHECK	TG
REVIEW	VB



DISCOVERY DEPOSIT

MELIADINE GOLD PROJECT

FIGURE
A.3-1

PLOT DATE: June 04, 2010
FILENAME: N:\Active\2009\O-Mining\09-1426-0015 Comaplex_Meliadine\ACAD\0914260015-5000-425E.dwg

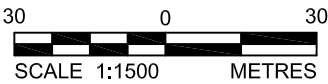


ML95-93-01	Sample ID
85 mg/kg	Total Arsenic
0.18 mg/L	Leachable Arsenic

Total Arsenic (mg/kg) and Leachable Arsenic (mg/L) are plotted with respective sample interval

DISCOVERY GRID
SECTION 4+25E

Scale: 1:500	N.T.S. 55 J/13	Date: Sept 21, 2009
Revised by: RM/JTK	I.O.L. RI-01	Map No.
Filename: Discovery 425E 2009.dwg		

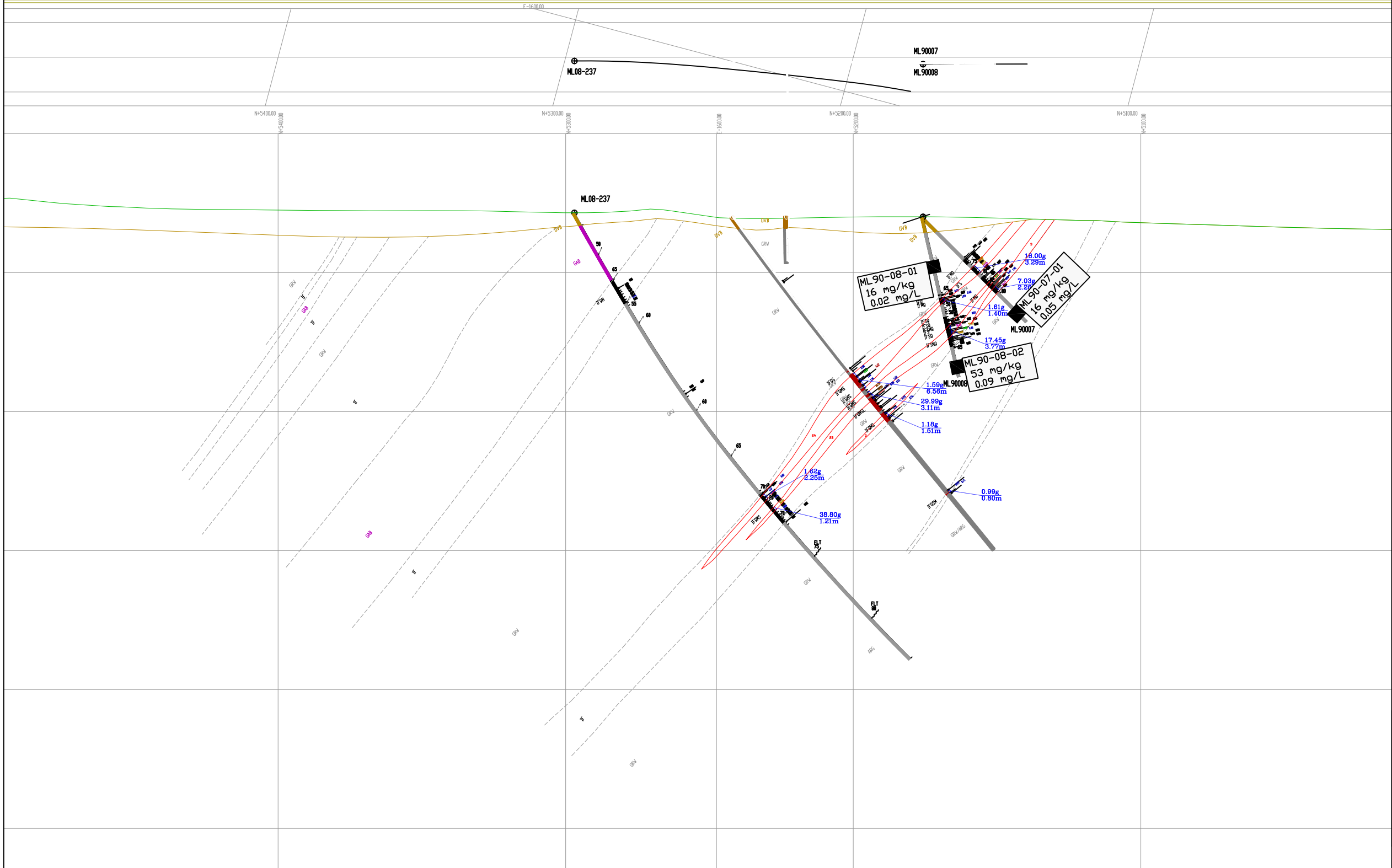


FILE No. 0914260015-5000-425E.dwg
PROJECT No. 09-1426-0015 REV.

SCALE	AS SHOWN
DATE	31 MAY 2010
DESIGN	JC
CAD	BT
CHECK	TG
REVIEW	VB

TITLE COMAPLEX MINERALS CORP DISCOVERY DEPOSIT	
MELIADINE GOLD PROJECT	FIGURE A.3-2

PLOT DATE: June 04, 2010
FILENAME: N:\Active\2009\0-Mining\09-1426-0015 Comaplex_Meliadine\ACAD\0914260015-5000-450E.dwg



ML90-08-01	Sample ID
16 mg/kg	Total Arsenic
0.02 mg/L	Leachable Arsenic

Total Arsenic (mg/kg) and Leachable Arsenic (mg/L) are plotted with respective sample interval

DISCOVERY GRID
SECTION 4+50E

Scale: 1:500	N.T.S. 55 J/13	Date: Sept 21, 2009
Revised by: RM/JTK	I.O.L. RI-01	Map No. 7
Filename: Discovery 450E 2009.dwg		

30 0 30
SCALE 1:1500 METRES



FILE No. 0914260015-5000-450E.dwg
PROJECT No. 09-1426-0015 REV.

SCALE	AS SHOWN
DATE	31 MAY 2010
DESIGN	JC
CAD	BT
CHECK	TG
REVIEW	VB

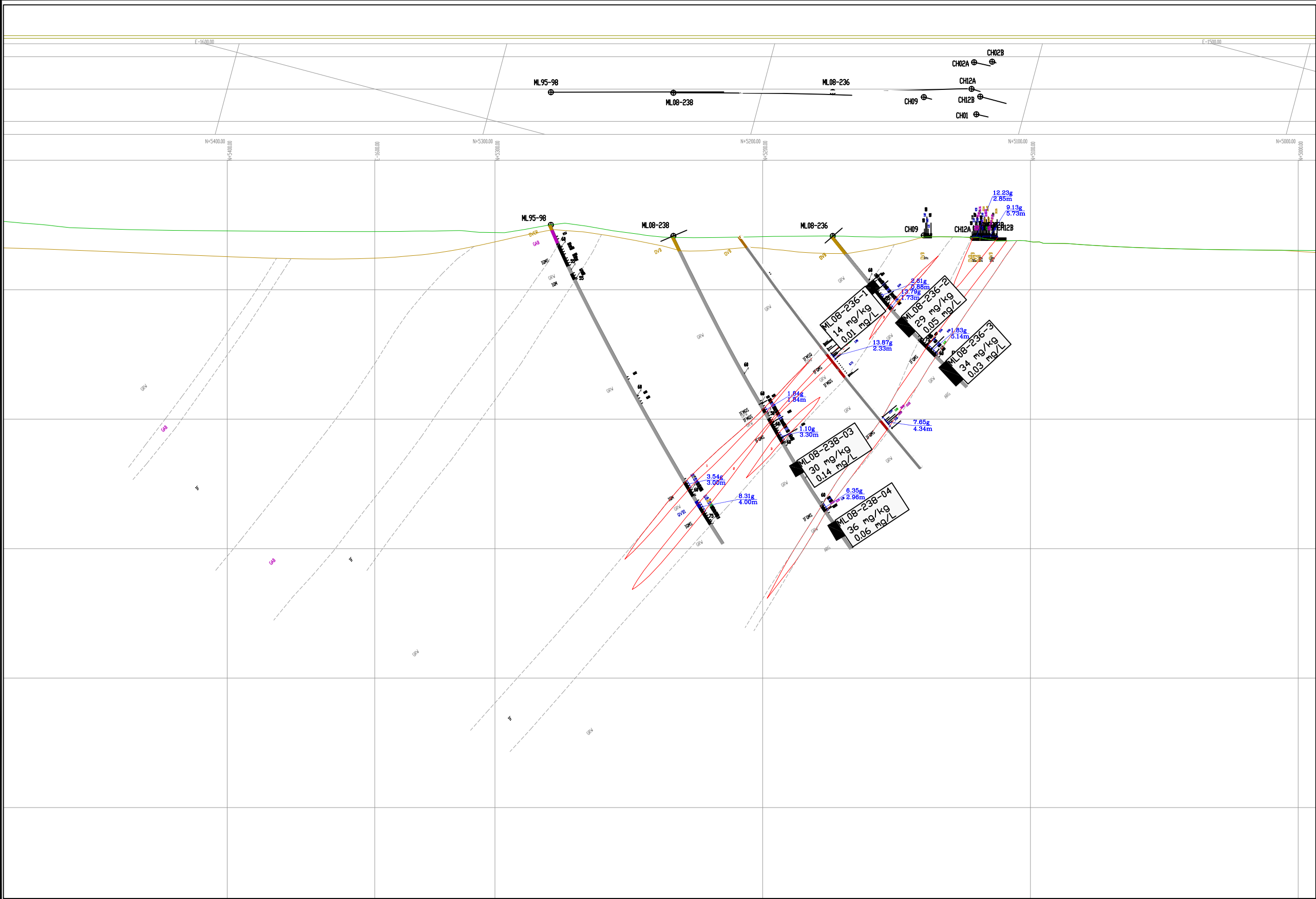


DISCOVERY DEPOSIT

MELIADINE GOLD PROJECT

FIGURE
A.3-3

PLOT DATE: June 04, 2010
FILENAME: N:\Active\2009\0-Mining\09-1426-0015 Comaplex_Meliadine\ACAD\0914260015-5000-475E.dwg

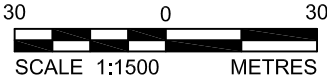


ML08-236-2	Sample ID
29 mg/kg	Total Arsenic
0.05 mg/L	Leachable Arsenic

Total Arsenic (mg/kg) and Leachable Arsenic (mg/L) are plotted with respective sample interval

DISCOVERY GRID
SECTION 4+75E

Scale: 1:500	N.T.S. 55 J/13	Date: Sept 21, 2009
Revised by: RM/JTK	I.O.L. RI-01	Map No. 8
Filename: Discovery 475E 2009.dwg		



FILE No. 0914260015-5000-475E.dwg
PROJECT No. 09-1426-0015

SCALE	AS SHOWN
DATE	31 MAY 2010
DESIGN	JC
CAD	BT
CHECK	TG
REVIEW	VB

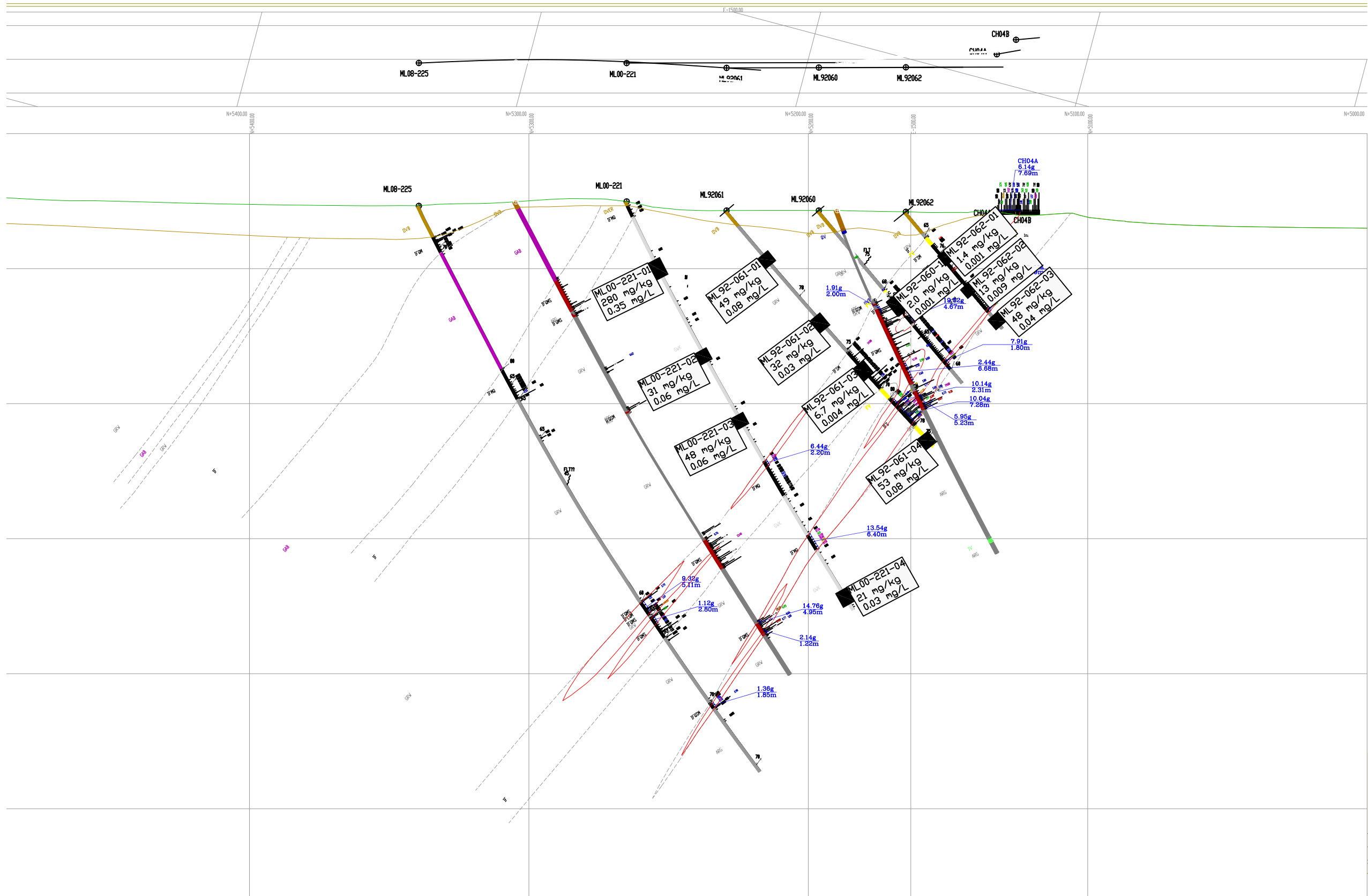


DISCOVERY DEPOSIT

MELIADINE GOLD PROJECT

FIGURE
A.3-4

PLOT DATE: June 04, 2010
FILENAME: N:\Active\2009\O-Mining\09-1426-0015 Comaplex_Meliadine\ACAD\0914260015-5000-525E.dwg



ML00-221-01	Sample ID
280 mg/kg	Total Arsenic
0.35 mg/L	Leachable Arsenic

Total Arsenic (mg/kg) and Leachable Arsenic (mg/L) are plotted with respective sample interval

DISCOVERY GRID SECTION 5+25E

Scale: 1:500	N.T.S. 55 J/13	Date: Sept 21, 2009
Revised by: RM/JTK	I.O.L. RI-01	Map No. 10
Filename: Discovery 525E 2009.dwg		



FILE No. 0914260015-5000-525E.dwg
PROJECT No. 09-1426-0015 REV.

SCALE AS SHOWN
DATE 31 MAY 2010
DESIGN JC
CAD BT
CHECK TG
REVIEW VB

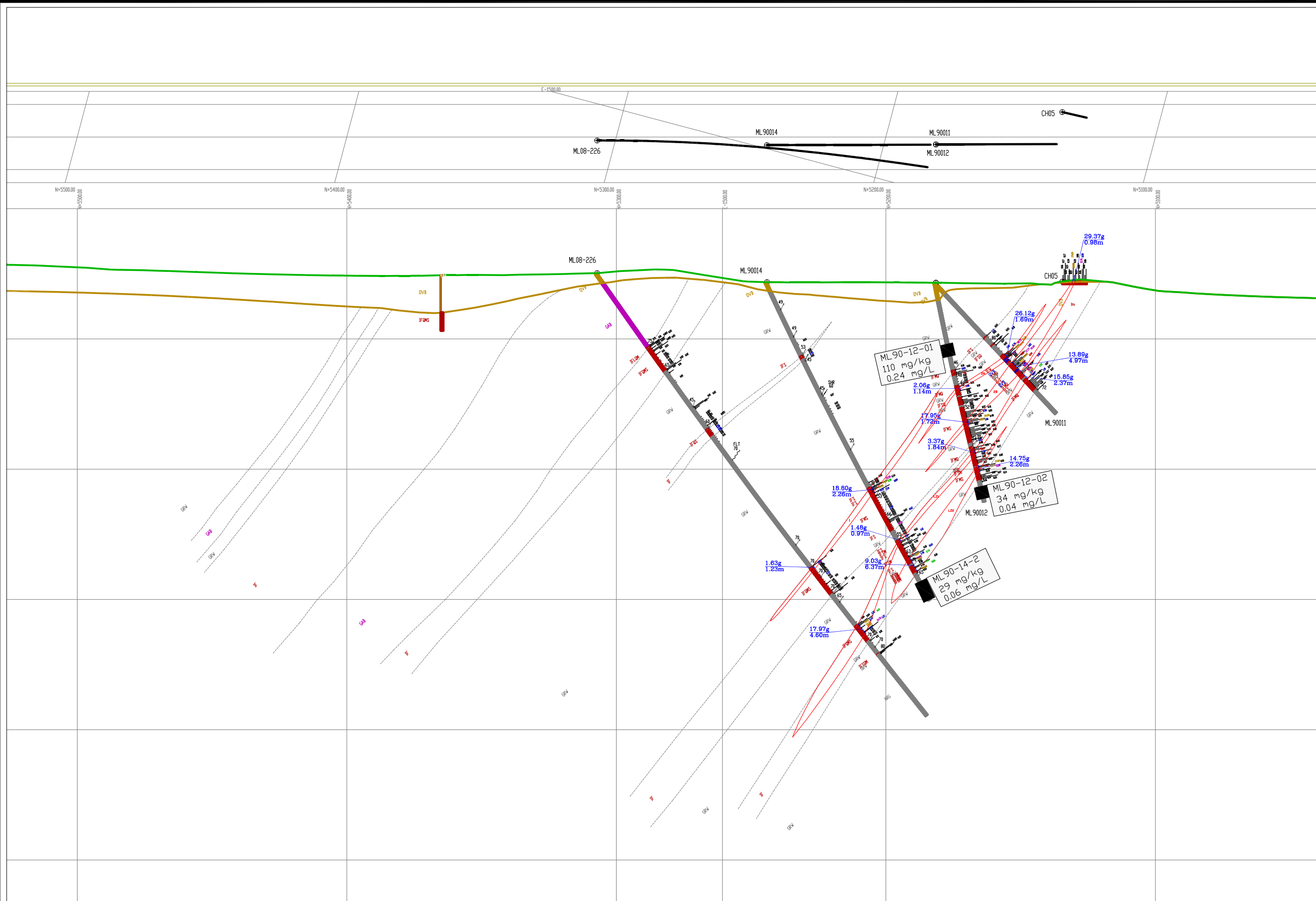


DISCOVERY DEPOSIT

MELIADINE GOLD PROJECT

FIGURE
A.3-5

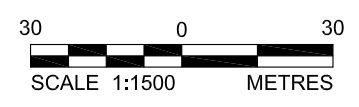
PLOT DATE: June 04, 2010
FILENAME: N:\Active\2009\0-Mining\09-1426-0015 Comaplex_Meliadine\ACAD\0914260015-5000-550E.dwg



ML90-12-01	Sample ID
110 mg/kg	Total Arsenic
0.24 mg/L	Leachable Arsenic

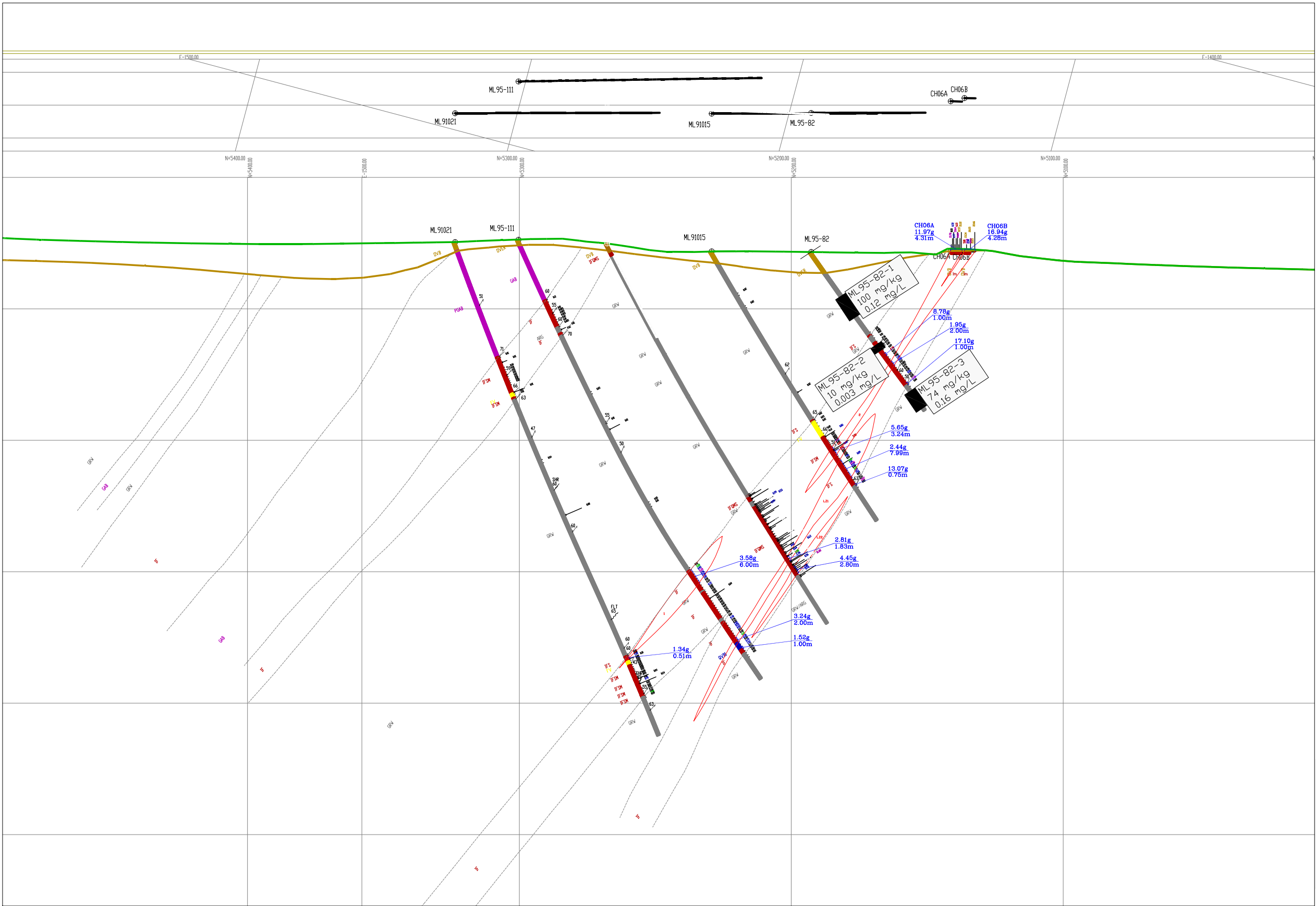
Total Arsenic (mg/kg) and Leachable Arsenic (mg/L) are plotted with respective sample interval

DISCOVERY GRID		
SECTION 5+50E		
Scale: 1:500	N.T.S. 55 J/13	Date: Sept 21, 2009
Revised by: RM/JTK	I.O.L. RI-01	Map No. 11
Filename: Discovery 550E 2009.dwg		



 Ottawa, Ontario, Canada		SCALE AS SHOWN		DISCOVERY DEPOSIT			
FILE No. 0914260015-5000-550E.dwg		DATE 31 MAY 2010					
PROJECT No. 09-1426-0015		DESIGN JC					
REV.		CAD BT					
		CHECK TG	MELIADINE GOLD PROJECT				
		REVIEW VB					
				FIGURE A.3-6			

PLOT DATE: June 04, 2010
FILENAME: N:\Active\2009\0-Mining\09-1426-0015 Comaplex_Meliadine\ACAD\0914260015-5000-575E.dwg



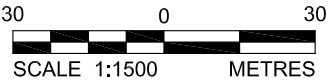
ML95-82-1
100 mg/kg
0.12 mg/L

Sample ID
Total Arsenic
Leachable Arsenic

Total Arsenic (mg/kg) and Leachable Arsenic (mg/L) are plotted with respective sample interval

DISCOVERY GRID
SECTION 5+75E

Scale: 1:500	N.T.S. 55 J/13	Date: Sept 28, 2009
Revised by:RM/JTK	I.O.L. RI-01	Map No.
Filename: Discovery 757E 2009.dwg		

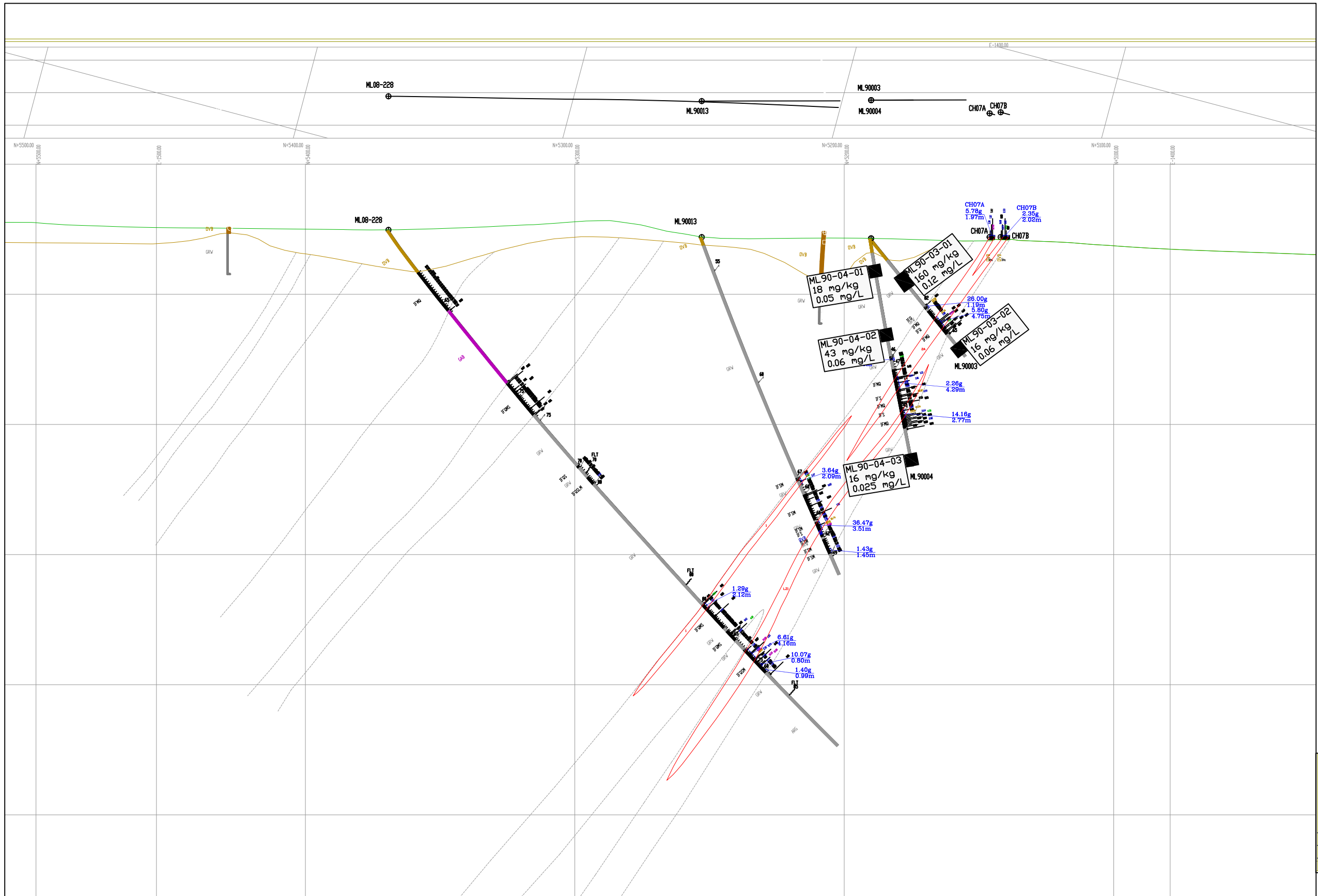


FILE No. 0914260015-5000-575E.dwg
PROJECT No. 09-1426-0015 REV.

SCALE	AS SHOWN
DATE	31 MAY 2010
DESIGN	JC
CAD	BT
CHECK	TG
REVIEW	VB

TITLE	
COMAPLEX MINERALS CORP. DISCOVERY DEPOSIT	
MELIADINE GOLD PROJECT	FIGURE A.3-7

PLOT DATE: June 04, 2010
FILENAME: N:\Active\2009\0-Mining\09-1426-0015 Comaplex_Meliadine\ACAD\0914260015-5000-600E.dwg



ML90-04-01
18 mg/kg
0.05 mg/L

Sample ID
Total Arsenic
Leachable Arsenic

Total Arsenic (mg/kg) and Leachable Arsenic (mg/L) are plotted with respective sample interval

DISCOVERY GRID
SECTION 6+00E

Scale: 1:500	N.T.S. 55 J/13	Date: Oct 2, 2009
Revised by: RM/JTK	I.O.L. RI-01	Map No. 12
Filename: Discovery 600E 2009.dwg		

30 0 30
SCALE 1:1500 METRES



FILE No. 0914260015-5000-600E.dwg
PROJECT No. 09-1426-0015 REV.

SCALE	AS SHOWN
DATE	31 MAY 2010
DESIGN	JC
CAD	BT
CHECK	TG
REVIEW	VB



DISCOVERY DEPOSIT

MELIADINE GOLD PROJECT

FIGURE
A.3-8



APPENDIX B

Tabulated Results of Geochemical Analyses on Waste Rock and Soil



B.1 Chemical Composition Analytical Results: Tables and Figures

Appendix B Table B-1
Waste Rock and Soil Samples and Geochemistry Analytical Program
Meliadine Gold Project, Nunavut
Comaplex Minerals Corporation

Deposit	Location	Sample Number	Borehole Interval (m)		Lithology	Location	Whole Rock	Trace Metals	ABA ¹	TC/TIC ²	SFE ³	NAG ⁴	
			from	to								pH	pH + leach
Tiriganiaq Deposit	Open Pit (FW) Waste Rock	GTO8-02-01_Aug2009	112	118	mafic volcanic	Pit footwall	x	x	x	x	x		
		GTO8-04-01	97	102	mafic volcanic	Pit footwall	x	x	x	x			
		GTO8-04-02	80	84	mafic volcanic	Pit footwall	x	x	x	x	x		x
		GTO8-04-03	69	73	mafic volcanic	Pit footwall	x	x	x	x	x		
		M00-474-01	110	114	mafic volcanic	Pit footwall	x	x	x	x	x		
		M98-678-01	47	52	mafic volcanic	Pit footwall	x	x	x	x	x		
		M98-297-01	111	114	mafic volcanic	Pit footwall	x	x	x	x	x		
		M98-316-01_Aug2009	93	99	mafic volcanic	Pit footwall	x	x	x	x	x		
		M99-340-01	103	108	mafic volcanic	Pit footwall	x	x	x	x	x		
		M99-341-01	81	84	mafic volcanic	Pit footwall	x	x	x	x	x		x
	Open Pit (HW) Waste Rock	GTO8-01-01	50	54	greywacke/siltstone	Pit hanging wall	x	x	x	x			
		GTO8-01-02	25	29	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		GTO8-02-01	65	70	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M00-474-02	80	85	greywacke/siltstone	Pit hanging wall	x	x	x	x			
		M00-474-04	45	50	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M00-474-05	21	25	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M00-476-01	32	37	greywacke/siltstone	Pit hanging wall	x	x			x		
		M00-476-02	23	28	greywacke/siltstone	Pit hanging wall	x	x			x		
		M00-479-01	30	25	greywacke/siltstone	Pit hanging wall	x	x	x ²		x		
		M00-479-02	20	25	greywacke/siltstone	Pit hanging wall	x	x			x		
		M03-513-01	20	25	greywacke/siltstone	Pit hanging wall	x	x	x	x			
		M06-628-01	38	43	greywacke/siltstone	Pit hanging wall	x	x	x ²		x		
		M06-628-02	20	25	greywacke/siltstone	Pit hanging wall	x	x			x		
		M07-660-01_Dec2009	36	41	greywacke/siltstone	Pit hanging wall	x	x			x		
		M07-660-01	81	85	greywacke/siltstone	Pit hanging wall	x	x	x	x			
		M07-660-02_Dec2009	22	27	greywacke/siltstone	Pit hanging wall	x	x			x		
		M07-660-02	56	60	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M07-678-02	36	40	greywacke/siltstone	Pit hanging wall	x	x	x	x			
		M07-678-03	25	30	greywacke/siltstone	Pit hanging wall	x	x	x	x			
		M07-704-01	41	46	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M07-704-02	25	25	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M07-705-01	46	50	greywacke/siltstone	Pit hanging wall	x	x	x	x			
		M07-710-02	26	30	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M07-711-01	25	30	greywacke/siltstone	Pit hanging wall	x	x	x	x			
		M07-713-01	80	86	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M07-713-02	45	49	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M07-713-03	15	19	greywacke/siltstone	Pit hanging wall	x	x			x		
		M95-17-01	61	66	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M95-17-02	30	35	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M98-194-01	70	75	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		x
		M98-194-02	55	59	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M98-194-03	26	29	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M98-194-04	34	39	greywacke/siltstone	Pit hanging wall	x	x	x ²		x		
		M98-269-01	66	70	greywacke/siltstone	Pit hanging wall	x	x	x	x			
		M98-269-02	46	50	greywacke/siltstone	Pit hanging wall	x	x	x	x			
		M98-269-03	20	24	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M98-297-02	76	80	greywacke/siltstone	Pit hanging wall	x	x	x	x			
		M98-297-03	55	60	greywacke/siltstone	Pit hanging wall	x	x			x		
		M98-297-04	25	29	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M98-298-01	45	50	greywacke/siltstone	Pit hanging wall	x	x	x ²		x		
		M98-298-02	35	40	greywacke/siltstone	Pit hanging wall	x	x			x		
		M98-298-03	25	30	greywacke/siltstone	Pit hanging wall	x	x			x		
		M98-316-01	25	29	greywacke/siltstone	Pit hanging wall	x	x	x	x			
		M99-339-01	55	59	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M99-340-03	26	30	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M99-341-02	30	35	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M99-341-03	20	25	greywacke/siltstone	Pit hanging wall	x	x	x ²		x		
		M99-345-01_Dec2009	45	50	greywacke/siltstone	Pit hanging wall	x	x	x ²		x		
		M99-345-01	81	85	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M99-345-02	36	40	greywacke/siltstone	Pit hanging wall	x	x			x		
		M99-345-03	20	25	greywacke/siltstone	Pit hanging wall	x	x			x		
		M99-346-01	40	45	greywacke/siltstone	Pit hanging wall	x	x			x		
		M99-346-02_Dec2009	30	35	greywacke/siltstone	Pit hanging wall	x	x			x		
		M99-346-02	70	75	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M99-346-03	35	40	greywacke/siltstone	Pit hanging wall	x	x			x		
		M99-349-01	65	70	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M99-349-02	40	45	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M99-350-02	50	55	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M99-350-03	25	28	greywacke/siltstone	Pit hanging wall	x	x			x		
		M99-385-01	36	41	greywacke/siltstone	Pit hanging wall	x	x			x		
		M99-386-01	39	44	greywacke/siltstone	Pit hanging wall	x	x	x ²		x		
		M99-386-02	27	32	greywacke/siltstone	Pit hanging wall	x	x			x		
		M99-403-01	75	80	greywacke/siltstone	Pit hanging wall	x	x	x	x			
		M99-403-02	70	75	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		
		M99-403-03	51	54	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		x
		M99-403-04	25	29	greywacke/siltstone	Pit hanging wall	x	x	x	x			
		M99-403-05	20	25	greywacke/siltstone	Pit hanging wall	x	x	x ²		x		
		M99-404-01	101	105	greywacke/siltstone	Pit hanging wall	x	x	x	x			
		M99-404-02	80	84	greywacke/siltstone	Pit hanging wall	x	x	x	x			
		M99-404-03	66	69	greywacke/siltstone	Pit hanging wall	x	x			x		
		M99-404-04	30	34	greywacke/siltstone	Pit hanging wall	x	x	x	x	x		x
		M99-404-05	40	45	greywacke/siltstone	Pit hanging wall	x	x			x		
		M99-404-06	23	27	greywacke/siltstone	Pit hanging wall	x	x	x ²		x		
		M99-418-01	32	37	greywacke/siltstone	Pit hanging wall	x	x			x		

Appendix B Table B-1
Waste Rock and Soil Samples and Geochemistry Analytical Program
Meliadine Gold Project, Nunavut
Comaplex Minerals Corporation

Deposit	Location	Sample Number	Borehole Interval (m)		Lithology	Location	Whole Rock	Trace Metals	ABA ¹	TC/TIC ²	SFE ³	NAG ⁴	
			from	to								pH	pH + leach
Underground Development Waste Rock		G708-04-01	113	119	mafic volcanic	UG development	x	x	x	x	x		
		M05-536A-01	491	497	mafic volcanic	UG development	x	x	x	x	x		x
		M05-561-01	61	67	mafic volcanic	UG development	x	x	x	x	x		
		M05-561-02	101	106	mafic volcanic	UG development	x	x	x	x	x		
		M05-561-03	178	183	mafic volcanic	UG development	x	x	x	x	x		
		M05-564-01	366	372	mafic volcanic	UG development	x	x	x	x	x		
		M97-92-01	209	215	mafic volcanic	UG development	x	x	x	x	x		
		M97-93-01	429	435	mafic volcanic	UG development	x	x	x	x	x		
		M97-110-01	262	268	mafic volcanic	UG development	x	x	x	x	x		
		M97-130-01	242	246	mafic volcanic	UG development	x	x	x	x	x		
		M97-130-02	280	288	mafic volcanic	UG development	x	x	x	x	x		
		M97-133-01	255	261	mafic volcanic	UG development	x	x	x	x	x		
		M97-134-01	305	310	mafic volcanic	UG development	x	x	x	x	x		
		M97-135-01	245	250	mafic volcanic	UG development	x	x	x	x	x		
		M97-136-01	215	220	mafic volcanic	UG development	x	x	x	x	x		
		M97-137-01	237	242	mafic volcanic	UG development	x	x	x	x	x		
		M97-138-01	222	228	mafic volcanic	UG development	x	x	x	x	x		
		M97-139-01	142	149	mafic volcanic	UG development	x	x	x	x	x		
		M97-141-01	552	558	mafic volcanic	UG development	x	x	x	x	x		x
		M97-143-01	564	570	mafic volcanic	UG development	x	x	x	x	x		
		M98-318-01	100	105	mafic volcanic	UG development	x	x	x	x	x		
		M99-348-01	193	198	mafic volcanic	UG development	x	x	x	x	x		
		M03-496-01	360	370	greywacke/siltstone	UG development	x	x	x	x	x		
		M03-498-01	315	320	greywacke/siltstone	UG development	x	x	x	x	x		
		M03-499-02	270	275	greywacke/siltstone	UG development	x	x	x	x	x		
		M04-520-01	405	410	greywacke/siltstone	UG development	x	x	x	x	x		
		M04-520-02	411	416	greywacke/siltstone	UG development	x	x	x	x	x		
		M04-527-01	270	280	greywacke/siltstone	UG development	x	x	x	x	x		
		M04-533-01	380	390	greywacke/siltstone	UG development	x	x	x	x	x		x
		M04-533-02	297	307	greywacke/siltstone	UG development	x	x	x	x	x		
		M05-559A-02	180	190	greywacke/siltstone	UG development	x	x	x	x	x		
		M05-571A-01	435	445	greywacke/siltstone	UG development	x	x	x	x	x		
		M05-571A-02	335	344	greywacke/siltstone	UG development	x	x	x	x	x		
		M06-601A-01	266	270	greywacke/siltstone	UG development	x	x	x	x	x		
		M06-604-01	336	344	greywacke/siltstone	UG development	x	x	x	x	x		
		M06-604-02	286	295	greywacke/siltstone	UG development	x	x	x	x	x		
		M06-604-03	245	255	greywacke/siltstone	UG development	x	x	x	x	x		
		M06-607-01	175	180	greywacke/siltstone	UG development	x	x	x	x	x		
		M06-621-01	240	245	greywacke/siltstone	UG development	x	x	x	x	x		
		M07-645-01	250	260	greywacke/siltstone	UG development	x	x	x	x	x		
		M07-649-01 Dec2009	300	305	greywacke/siltstone	UG development	x	x	x	x	x		
		M07-663-01	417	427	greywacke/siltstone	UG development	x	x	x	x	x		
		M07-663-02	351	357	greywacke/siltstone	UG development	x	x	x	x	x		
		M07-663-03	280	289	greywacke/siltstone	UG development	x	x	x	x	x		
		M07-672B-01	323	328	greywacke/siltstone	UG development	x	x	x	x	x		
		M07-685-01	260	265	greywacke/siltstone	UG development	x	x	x	x	x		
		M07-685-02	335	340	greywacke/siltstone	UG development	x	x	x	x	x		
		M07-691-01	335	340	greywacke/siltstone	UG development	x	x	x	x	x		
		M07-719-01	351	360	greywacke/siltstone	UG development	x	x	x	x	x		
		M08-721-01	381	384	greywacke/siltstone	UG development	x	x	x	x	x		
		M08-721-02	388	393	greywacke/siltstone	UG development	x	x	x	x	x		
		M08-731W1-01	330	335	greywacke/siltstone	UG development	x	x	x	x	x		
		M08-731W1-02	350	355	greywacke/siltstone	UG development	x	x	x	x	x		
		M08-754-01	360	365	greywacke/siltstone	UG development	x	x	x	x	x		
		M08-769-01	451	456	greywacke/siltstone	UG development	x	x	x	x	x		
		M09-823-01	320	325	greywacke/siltstone	UG development	x	x	x	x	x		
		M09-823-02	335	340	greywacke/siltstone	UG development	x	x	x	x	x		
		M98-257-01	291	296	greywacke/siltstone	UG development	x	x	x	x	x		
		M98-266-01	138	143	greywacke/siltstone	UG development	x	x	x	x	x		
		M98-313-01	305	315	greywacke/siltstone	UG development	x	x	x	x	x		
		M98-313-02	272	280	greywacke/siltstone	UG development	x	x	x	x	x		
		M99-327-01	195	205	greywacke/siltstone	UG development	x	x	x	x	x		
		M99-280-01	189	197	iron formation	UG development	x	x	x	x	x		
		M03-496-02	281	290	iron formation	UG development	x	x	x	x	x		
		M04-526-01	216	225	iron formation	UG development	x	x	x	x	x		x
		M07-649-01	280	290	iron formation	UG development	x	x	x	x	x		
Surface Soil		SS-1	0.0	0.40	soil	Pit surface	x	x	x	x	x		
		SS-2	0.0	0.35	soil	Pit surface	x	x	x	x	x		
		SS-3	0.0	0.55	soil	Pit surface	x	x	x	x	x		
		SS-4	0.0	0.40	soil	Pit surface	x	x	x	x	x		
		SS-5	0.0	0	soil	Pit surface	x	x	x	x	x		

Appendix B Table B-1
Waste Rock and Soil Samples and Geochemistry Analytical Program
Meliadine Gold Project, Nunavut
Comaplex Minerals Corporation

Deposit	Location	Sample Number	Borehole Interval (m)		Lithology	Location	Whole Rock	Trace Metals	ABA ¹	TC/TIC ²	SFE ³	NAG ⁴	
			from	to								pH	pH + leach
F-Zone Deposit	Open Pit (FW) Waste Rock	M08-729-06	117	122	mafic volcanic	Pit footwall	x	x	x	x	x		
		M08-734-04	41	45	mafic volcanic	Pit footwall	x	x	x	x	x		
		M08-735-02	70	75	mafic volcanic	Pit footwall	x	x	x	x	x		
		M08-735-03	56	62	mafic volcanic	Pit footwall	x	x	x	x	x		
		M08-740-04	106	111	mafic volcanic	Pit footwall	x	x	x	x	x		
		M08-740-05	122	126	mafic volcanic	Pit footwall	x	x	x	x	x		x
		M08-742-04	77	83	mafic volcanic	Pit footwall	x	x	x	x	x		
		M08-742-06	96	102	mafic volcanic	Pit footwall	x	x	x	x	x		
		M08-743-02	39	44	mafic volcanic	Pit footwall	x	x	x	x	x		
		M08-743-04	56	62	mafic volcanic	Pit footwall	x	x	x	x	x		
		M08-747-03	65	70	mafic volcanic	Pit footwall	x	x	x	x	x		
		M08-747-04	83	88	mafic volcanic	Pit footwall	x	x	x	x	x		
		M08-750-03	55	60	mafic volcanic	Pit footwall	x	x	x	x	x		x
		M08-752-03	45	51	mafic volcanic	Pit footwall	x	x	x	x	x		
		M08-752-04	75	80	mafic volcanic	Pit footwall	x	x	x	x	x		
		M08-755-03	66	71	mafic volcanic	Pit footwall	x	x	x	x	x		
	Open Pit (HW) Waste Rock	GT09-07-01	20	25	mafic volcanic	Pit hanging wall	x	x			x		
		GT09-07-02	30	35	mafic volcanic	Pit hanging wall	x	x			x		
		M08-729-01	15	20	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-729-02	36	41	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-729-03	55	60	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-729-04	74	79	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-734-01	15	20	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-734-02	28	32	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-734-03	54	60	mafic volcanic	Pit hanging wall	x	x	x	x	x		x
		M08-735-01	20	25	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-740-01	16	21	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-740-02	36	41	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-740-03	52	56	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-742-01	8.5	14.5	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-742-02	29	35	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-742-03	43	47	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-743-01	10	15	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-747-01	20	25	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-747-02	39	45	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-748-01	36	41	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-748-02	57	62	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-750-01	8	14	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-750-02	28	33	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-752-01	9	14	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-752-02	23	27	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-755-01	19	24	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M08-755-02	30	37	mafic volcanic	Pit hanging wall	x	x	x	x	x		
		M09-798-01	12	17	mafic volcanic	Pit hanging wall	x	x			x		
		M09-798-02	17	22	mafic volcanic	Pit hanging wall	x	x			x		
		M09-816-01	20	25	mafic volcanic	Pit hanging wall	x	x			x		
		M09-816-02	30	35	mafic volcanic	Pit hanging wall	x	x			x		
		M09-855-01	15	20	mafic volcanic	Pit hanging wall	x	x			x		
		M09-855-02	20	25	mafic volcanic	Pit hanging wall	x	x			x		
		M09-857-01	20	25	mafic volcanic	Pit hanging wall	x	x			x		
		M09-858-01	20	25	mafic volcanic	Pit hanging wall	x	x			x		
		M09-858-02	30	35	mafic volcanic	Pit hanging wall	x	x			x		
		M09-862-01	15	20	mafic volcanic	Pit hanging wall	x	x			x		
		M09-866-01	10	15	mafic volcanic	Pit hanging wall	x	x			x		
		M09-866-02	15	20	mafic volcanic	Pit hanging wall	x	x			x		
		M08-742-05	86	90	quartz vein	Pit tw/ore zone	x	x	x	x	x		
		M08-743-03	46	48	iron formation	Pit ore zone	x	x	x	x	x		
		M08-748-03	85	95	iron formation	Pit ore zone	x	x	x	x	x		
	Surface Soil	FZ-SS-10	0	>0.2	soil	Pit surface	x	x	x	x	x		
		FZ-SS-6	0	0.35	soil	Pit surface	x	x	x	x	x		
		FZ-SS-7	0	0.36	soil	Pit surface	x	x	x	x	x		
		FZ-SS-8	0	0.42	soil	Pit surface	x	x	x	x	x		
		FZ-SS-9	0	0.4	soil	Pit surface	x	x	x	x	x		

Appendix B Table B-1
Waste Rock and Soil Samples and Geochemistry Analytical Program
Meliadine Gold Project, Nunavut
Comaplex Minerals Corporation

Deposit	Location	Sample Number	Borehole Interval (m)		Lithology	Location	Whole Rock	Trace Metals	ABA ¹	TC/TiC ²	SFE ³	NAG ⁴	
			from	to								pH	pH + leach
Discovery Deposit	Open Pit (HW) Waste Rock	ML08-236-2	41	49	Greywacke	hanging wall / inter ore	x	x	x	x	x		
		ML08-238-03	99	104	Greywacke	inter ore	x	x	x	x	x		
		ML00-221-01	25	30	Greywacke	hanging wall	x	x	x	x	x		
		ML00-221-02	61	66	Greywacke	hanging wall	x	x	x	x	x		
		ML00-221-03	88	93	Greywacke	hanging wall	x	x	x	x	x		
		ML90-03-01	17	24	Greywacke	hanging wall	x	x	x	x	x		
		ML90-04-01	10	15	Greywacke	hanging wall	x	x	x	x	x	x	
		ML90-04-02	35	40	Greywacke	hanging wall	x	x	x	x	x		
		ML90-08-01	16	21	Greywacke	hanging wall	x	x	x	x	x		
		ML90-10-1	11	18	Greywacke	hanging wall	x	x	x	x	x	x	
		ML90-12-01	24	29	Greywacke	hanging wall	x	x	x	x	x	x	
		ML92-061-01	21	26	Greywacke	hanging wall	x	x	x	x	x	x	
		ML92-061-02	50	56	Greywacke	hanging wall	x	x	x	x	x		
		ML95-82-1	20	30	Greywacke	hanging wall	x	x	x	x	x	x	
		ML95-93-01	22	26	Greywacke	hanging wall	x	x	x	x	x		
		ML95-93-02	41	46	Greywacke	hanging wall	x	x	x	x	x	x	
		ML08-236-1	23	27	Iron formation	hanging wall	x	x	x	x	x	x	
		ML90-09-1	33	40	Iron formation	hanging wall	x	x	x	x	x	x	
		ML90-10-2	33	41	Iron formation	hanging wall	x	x	x	x	x	x	
		ML92-060-1	42	49	Iron formation	hanging wall	x	x	x	x	x	x	
		ML92-061-03	75	81	Iron formation	hanging wall	x	x	x	x	x		
		ML92-062-01	20	25	Iron formation	hanging wall	x	x	x	x	x		
		ML92-062-02	35	39.5	Iron formation	hanging wall	x	x	x	x	x		
		ML95-82-2	43	46	Iron formation	hanging wall	x	x	x	x	x	x	
		ML95-93-03	55	60	Iron formation	hanging wall	x	x	x	x	x	x	
	Open Pit (FW) Waste Rock	ML00-221-04	162	168	Greywacke	foot wall	x	x	x	x	x	x	
		ML08-236-3	65	75	Greywacke	foot wall	x	x	x	x	x	x	
		ML08-238-04	126	133	Greywacke	foot wall	x	x	x	x	x		
		ML90-03-02	51	56	Greywacke	foot wall	x	x	x	x	x		
		ML90-04-03	84	89	Greywacke	foot wall	x	x	x	x	x		
		ML90-07-01	46	51	Greywacke	foot wall	x	x	x	x	x		
		ML90-08-02	53	58	Greywacke	foot wall	x	x	x	x	x		
		ML90-09-2	51	56	Greywacke	foot wall	x	x	x	x	x	x	
		ML90-10-3	56	64	Greywacke	foot wall	x	x	x	x	x	x	
		ML90-12-02	80	84	Greywacke	foot wall	x	x	x	x	x		
		ML90-14-2	129	137	Greywacke	foot wall	x	x	x	x	x	x	
		ML92-061-04	109	114	Greywacke	foot wall	x	x	x	x	x		
		ML92-062-03	50	55	Greywacke	foot wall	x	x	x	x	x		
		ML95-82-3	65	74	Greywacke	foot wall	x	x	x	x	x	x	
		ML95-93-04	84	89	Greywacke	foot wall	x	x	x	x	x		
		ML92-053-1	105	112	Iron formation	foot wall	x	x	x	x	x		
	Surface Soil	Disc SS1	0	0.38	Soil Sample	surface	x	x	x	x	x		
		Disc SS2	0	0.33	Soil Sample	surface	x	x	x	x	x		
		Disc SS3	0	0.28	Soil Sample	surface	x	x	x	x	x		
Number of samples analyzed			Tiriganiaq			155	155	134	155	131	0	9	
			F Zone			63	63	49	63	63	0	3	
			Discovery			44	44	44	44	44	19	0	
			all deposits			262	262	227	262	238	19	12	

Notes:

- 1 - Acid-Base Accounting (ABA)
- 2 - Total Carbon (TC), Total Inorganic Carbon (TiC)
- 3 - Shake Flask Extraction Test (SFE)
- 4 - Net Acid Generation (NAG) Test
- 5 - Partial completion of ABA test: sample analyzed for sulphur species only

Appendix B Table B-2
Quantitative Mineralogical Analysis of Selected Waste Rock Samples
Meliadine Gold Project
Comaplex Minerals Corporation

Mineral Group/Name	Mineral Formula	Tiriganiaq Deposit										F Zone Deposit			Discovery Deposit		
		Mafic Volcanic					Greywacke/Siltstone					Mafic Volcanic			Greywacke		
		M99-341-01	GT08-04-02	M05-536A-01	M97-139-01	M97-141-01	M98-194-01	M99-403-03	M07-663-01	M04-533-01	M04-526-01	M08-734-03	M08-740-05	M08-750-03	ML95-82-1	ML92-061-01	ML90-14-2
		Open Pit	Open Pit	Underground	Underground	Underground	Open Pit	Open Pit	Underground	Underground	Underground	Hanging Wall	Foot Wall	Foot Wall	Hanging Wall	Hanging Wall	Footwall
Quartz	SiO ₂	27	27	21	17	22	33	43	34	27	57	20	23	25	32	31	30
Feldspar Group																	
K-feldspar	KAlSi ₃ O ₈	2.6	2.7	-	1.9	-	-	-	-	-	-	-	-	-			
Plagioclase	(Na,Ca)AlSi ₃ O ₈	6.5	8.4	18	14	21	37	24	23	21	-	27	20	30	30	35	39
Carbonate Group																	
Calcite	CaCO ₃	8.1	11	13	1.8	1.4	0.8	1.2	1.0	0.8	11	20	25	15			0.3
Magnesite	MgCO ₃																0.8
Dolomite Group																	
Ankerite	Ca(Fe,Mg,Mn)(CO ₃) ₂	26	25	19	39	28	8.2	5.5	4.2	8.4	0.5	-	-	15			
Amphibole Group																	
Actinolite	Ca ₅ (Mg,Fe) ₈ Si ₈ O ₂₂ (OH) ₂	-	-	-	-	-	-	-	-	-	1.8	-	-	-			3.9
Phyllosilicates																	
Biotite	K(Mg,Fe) ₂ (Al,Fe)Si ₂ O ₁₀ (OH,F) ₂	-	-	-	-	-	-	-	-	5.4	-	2.8	6.6	4.9	6.1	7.5	8.4
Clinocllore	(Mg,Fe) ₂ Al(Si,Al) ₄ O ₁₀ (OH) ₂	9.9	7.0	18	3.8	18	4.7	12	13	6.4	17	30	25	22	11	9.9	9.2
Paragonite	NaAl ₂ Si ₂ O ₇ (OH) ₂	6.5	8.3	-	-	-	-	-	-	-	-	-	-	-			
Muscovite	KAl ₂ (AlSi ₃)O ₁₀ (OH) ₂	12	10	10	21	7.2	14	15	23	29	2.0	-	-	-	20	16	7.5
Sulphides																	
Arsenopyrite	FeAsS	-	-	-	-	-	-	-	0.3	-	-	-	-	-			
Pyrite	FeS ₂	-	-	0.3	0.5	0.6	-	-	-	-	-	-	-	-			
Pyrrhotite	Fe _{1-x} S _x	-	-	-	-	-	-	-	-	-	2.3	-	-	-			
Sulphates																	
Gypsum	CaSO ₄																0.7
Garnet Group																	
Almandine	Fe ₃ Al ₂ (SiO ₄) ₃	-	-	-	-	-	-	-	-	2.3	-	-	-	-			
Spinel Group																	
Magnetite	Fe ₃ O ₄	0.9	1.0	-	-	-	1.7	-	-	-	8.6	-	-	-			
Chromite	FeCr ₂ O ₄	-	-	-	-	0.7	-	-	-	-	-	-	-	-			
Ilmenite	FeTiO ₃	-	-	-	0.8	1.1	-	0.4	1.0	-	-	1.5	0.9	2.7			
Total (%)		134	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Selected chemical characteristics																	
NP (kg CaCO ₃ equivalent/tonne)		282	289	252	321	244	75	49	36	76	115	176	222	134	7.4	7.3	12
AP(kg CaCO ₃ equivalent/tonne)		5.7	0.9	5.9	8.8	7.8	3.9	1.9	3.9	2.0	15	5	1.5	1.6	3.8	2.5	2.5
sulphide sulphur content (%)		0.18	0.02	0.19	0.28	0.25	0.13	0.06	0.12	0.06	0.49	0.17	0.15	0.05	0.12	0.08	0.08
ARD potential*		non PAG	non PAG	non PAG	non PAG	non PAG	non PAG	non PAG	non PAG	non PAG	non PAG	non PAG	non PAG	non PAG	uncertain	uncertain	non PAG

Notes:

*based on INAC 1992

NP = neutralization potential

AP = acid potential

ARD = Acid Rock Drainage Potential (per INAC 1992)

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Appendix B Table B.1-1
Waste Rock Chemical Composition - Tiriganiaq Deposit
Meliadine Gold Project, Nunavut
Comaplex Minerals Corporation

Typical Crustal Abundance (ug/g) (Price, 1997) ¹				25	102	60	56300	0.085	20850	0.425	104250	100	23300	950	1.2	23550	84	14	0.20	0.05	2.3	370	5650	0.85	2.7	120	33	70
Typical Crustal Abundance (ug/g) x5				125	510	300	281500	-	18050	-	510250	500	116500	4750	6.0	117750	420	70	1.00	0.25	11.5	1850	28250	4.25	13.5	600	165	350
Sample Number	Borehole Interval (m)		Lithology	Location	Co µg/g	Cr µg/g	Cu µg/g	Fe µg/g	Hg µg/g	K µg/g	Li µg/g	Mg µg/g	Mn µg/g	Mo µg/g	Na µg/g	Ni µg/g	Pb µg/g	Sb µg/g	Se µg/g	Sn µg/g	Sr µg/g	Ti µg/g	Ti µg/g	U µg/g	V µg/g	Y µg/g	Zn µg/g	
	From	to																										
G708-01-01	50	54	greywacke/siltstone	Pit hanging wall	17	94	42	36,000	< 0.1	22,000	22	11,000	260	1.4	21,000	53	19	< 0.8	< 0.7	1.0	460	1,900	0.45	1.60	68	7.3	65	
G708-01-02	25	29	greywacke/siltstone	Pit hanging wall	16	100	33	32,000	< 0.1	21,000	22	11,000	220	1.2	24,000	52	11	< 0.8	< 0.7	< 0.9	350	1,400	0.42	1.50	71	6.6	63	
G708-02-01	65	70	greywacke/siltstone	Pit hanging wall	12	41	29	50,000	< 0.1	20,000	16	9,000	330	0.7	26,000	31	16	< 0.8	< 0.7	< 0.9	240	2,200	0.31	1.30	52	6.3	75	
M00-474-02	80	85	greywacke/siltstone	Pit hanging wall	33	150	130	75,000	< 0.1	15,000	37	28,000	1800	0.5	11,000	74	18	< 0.8	< 0.7	1.6	160	2,400	0.53	0.17	210	7.0	130	
M00-474-04	45	50	greywacke/siltstone	Pit hanging wall	7.5	21	28	64,000	< 0.1	13,000	20	7,100	280	0.6	16,000	12	7.8	< 0.8	< 0.7	< 0.9	370	1,400	0.18	0.61	33	4.1	42	
M00-474-05	21	25	greywacke/siltstone	Pit hanging wall	17	110	43	46,000	< 0.1	26,000	35	14,000	360	1.2	17,000	56	31	< 0.8	< 0.7	1.0	290	2,400	0.42	1.70	91	7.8	71	
M00-476-01	32	37	greywacke/siltstone	Pit hanging wall	19	170	48	39,000	-	22,000	37	14,000	280	1.4	19,000	67	12	< 0.8	< 0.7	0.7	250	1,300	0.39	1.60	89	6.7	84	
M00-476-02	23	28	greywacke/siltstone	Pit hanging wall	21	160	45	39,000	-	23,000	35	14,000	300	1.4	20,000	68	11	< 0.8	< 0.7	0.8	240	1,100	0.39	1.70	92	7.0	83	
M00-479-01	30	35	greywacke/siltstone	Pit hanging wall	15	150	29	45,000	-	19,000	34	13,000	320	1.2	19,000	56	19	< 0.8	< 0.7	0.6	280	2,200	0.33	1.40	78	6.1	74	
M00-479-02	20	25	greywacke/siltstone	Pit hanging wall	19	150	52	41,000	-	26,000	36	15,000	360	2.4	16,000	72	17	< 0.8	< 0.7	1.1	260	1,400	0.49	2.10	99	7.3	82	
M03-513-01	20	25	greywacke/siltstone	Pit hanging wall	18	120	36	41,000	< 0.1	28,000	22	12,000	310	1.6	19,000	61	8.6	< 0.8	< 0.7	< 0.9	270	2,800	0.53	1.70	85	8.1	67	
M06-628-01	38	43	greywacke/siltstone	Pit hanging wall	18	140	77	41,000	-	23,000	31	14,000	310	1.5	19,000	66	22	< 0.8	< 0.7	0.6	340	2,500	0.40	1.70	89	6.6	79	
M06-628-02	20	25	greywacke/siltstone	Pit hanging wall	19	150	39	44,000	-	25,000	38	15,000	410	1.3	16,000	73	42	< 0.8	1.0	0.8	430	2,600	0.71	1.80	95	10	90	
M07-660-01_Dec2009	36	41	greywacke/siltstone	Pit hanging wall	17	140	44	37,000	-	21,000	32	13,000	290	1.3	19,000	57	15	< 0.8	< 0.7	0.8	310	1,300	0.46	1.90	88	6.4	75	
M07-660-01	81	85	greywacke/siltstone	Pit hanging wall	7.2	30	21	40,000	< 0.1	23,000	18	7,100	280	0.7	21,000	16	14	< 0.8	< 0.7	< 0.9	360	1,900	0.38	0.99	40	5.9	39	
M07-660-02_Dec2009	22	27	greywacke/siltstone	Pit hanging wall	18	140	40	40,000	-	21,000	38	15,000	270	1.7	19,000	65	10	< 0.8	< 0.7	0.8	270	1,000	0.39	1.60	90	6.2	94	
M07-660-02	56	60	greywacke/siltstone	Pit hanging wall	26	120	38	58,000	< 0.1	25,000	38	16,000	380	0.9	14,000	70	6.6	< 0.8	< 0.7	0.9	260	3,000	0.41	1.60	100	8.4	69	
M07-678-02	36	40	greywacke/siltstone	Pit hanging wall	12	70	200	58,000	< 0.1	21,000	14	10,000	350	0.7	18,000	34	13	< 0.8	< 0.7	1.9	260	1,900	0.48	1.20	54	6.3	64	
M07-678-03	25	30	greywacke/siltstone	Pit hanging wall	4.8	17	26	41,000	< 0.1	20,000	15	6,500	180	1.5	20,000	9	17	< 0.8	< 0.7	< 0.9	250	1,400	0.30	0.86	32	3.7	45	
M07-704-01	41	46	greywacke/siltstone	Pit hanging wall	20	110	50	45,000	< 0.1	29,000	32	14,000	490	1.5	15,000	64	17	< 0.8	< 0.7	< 0.9	360	2,300	0.54	2.10	97	8.2	82	
M07-704-02	25	25	greywacke/siltstone	Pit hanging wall	19	120	50	38,000	< 0.1	27,000	31	13,000	280	1.4	17,000	66	14	< 0.8	< 0.7	< 0.9	310	1,900	0.53	1.80	94	7.4	81	
M07-705-01	46	50	greywacke/siltstone	Pit hanging wall	18	110	31	32,000	< 0.1	23,000	23	9,600	280	1.6	18,000	56	29	< 0.8	< 0.7	< 0.9	370	2,500	0.45	1.90	73	7.8	64	
M07-710-02	26	30	greywacke/siltstone	Pit hanging wall	6.7	24	24	66,000	< 0.1	16,000	21	7,400	280	0.8	21,000	13	8.6	< 0.8	< 0.7	< 0.9	520	1,600	0.20	0.86	30	5.8	43	
M07-711-01	25	30	greywacke/siltstone	Pit hanging wall	6.0	21	27	86,000	< 0.1	14,000	20	7,500	320	0.7	13,000	13	5.6	< 0.8	< 0.7	< 0.9	290	1,500	0.19	0.66	31	4.7	51	
M07-713-01	80	86	greywacke/siltstone	Pit hanging wall	9.2	47	62	49,000	< 0.1	22,000	16	7,600	280	0.5	18,000	21	23	< 0.8	< 0.7	< 0.9	210	1,900	0.32	0.90	40	4.6	45	
M07-713-02	45	49	greywacke/siltstone	Pit hanging wall	21	130	52	55,000	< 0.1	26,000	34	16,000	320	0.8	16,000	66	10	< 0.8	< 0.7	< 0.9	220	2,800	0.46	2.10	100	7.3	72	
M07-713-03	15	19	greywacke/siltstone	Pit hanging wall	17	100	39	29,000	-	18,000	29	10,000	220	1.0	19,000	52	12	< 0.8	< 0.7	0.7	320	960	0.37	1.60	68	6.4	67	
M95-17-01	61	66	greywacke/siltstone	Pit hanging wall	19	120	47	51,000	< 0.1	25,000	40	16,000	310	1.2	16,000	58	11	< 0.8	< 0.7	< 0.9	260	1,400	0.40	1.60	88	6.8	75	
M95-17-02	30	35	greywacke/siltstone	Pit hanging wall	17	120	44	36,000	< 0.1	22,000	35	14,000	310	1.2	19,000	58	14	< 0.8	< 0.7	< 0.9	290	790	0.38	1.50	84	6.8	69	
M98-194-01	70	75	greywacke/siltstone	Pit hanging wall	8.0	33	22	53,000	< 0.1	17,000	15	7,200	270	0.6	19,000	18	11	< 0.8	< 0.7	< 0.9	310	1,700	0.30	0.92	38	5.3	47	
M98-194-02	55	59	greywacke/siltstone	Pit hanging wall	5.9	27	20	54,000	< 0.1	18,000	15	5,600	290	0.4	16,000	12	7.8	< 0.8	< 0.7	< 0.9	290	1,600	0.27	0.65	32	4.3	36	
M98-194-03	26	29	greywacke/siltstone	Pit hanging wall	17	110	46	47,000	< 0.1	29,000	38	16,000	310	0.9	15,000	59	15	< 0.8	< 0.7	0.9	380	2,600	0.51	1.50	93	7.5	75	
M98-194-04	34	39	greywacke/siltstone	Pit hanging wall	16	140	41	37,000	-	21,000	23	12,000	270	1.1	19,000	59	8.3	< 0.8	< 0.7	0.7	270	3,300	0.43	1.60	79	6.4	77	
M98-269-01	66	70	greywacke/siltstone	Pit hanging wall	8.0	50	97	52,000	< 0.1	21,000	17	8,300	330	0.4	20,000	21	10	< 0.8	< 0.7	< 0.9	200	2,000	0.30	1.10	43	6.3	61	
M98-269-02	46	50	greywacke/siltstone	Pit hanging wall	6.9	19	20	77,000	< 0.1	17,000	26	7,500	250	0.7	14,000	10	5.9	< 0.8	< 0.7	< 0.9	330	1,300	0.27	0.77	27	4.3	47	
M98-269-03	20	24	greywacke/siltstone	Pit hanging wall	16	110	28	43,000	< 0.1	21,000	29	13,000	290	1.0	19,000	58	10	< 0.8	< 0.7	< 0.9	290	2,200	0.37	1.40	84	7.3	57	
M98-297-02	76	80	greywacke/siltstone	Pit hanging wall	6.6	24	18	44,000	< 0.1	20,000	18	6,600	230	0.7	18,000	13	8.2	< 0.8	< 0.7	< 0.9	370	1,600	0.26	0.82	36	4.7	45	
M98-297-03	55	60	greywacke/siltstone	Pit hanging wall	16	110	42	45,000	-	24,000	35	14,000	270	1.3	16,000	66	9.2	< 0.8	< 0.7	1.1	260	2,500	0.48	1.70	92	6.3	76	
M98-297-04	25	29	greywacke/siltstone	Pit hanging wall	19	120	37	42,000	< 0.1	25,000	40	16,000	290	1.3	15,000	67	15	< 0.8	< 0.7	< 0.9	270	770	0.44	1.60	89	7.0	84	
M98-298-01	45	50	greywacke/siltstone	Pit hanging wall	21	150	43	41,000	-	23,000	36	14,000	300	1.5	18,000	65	13	< 0.8	< 0.7	< 0.5	280	1,400	0.39	1.50	91	7.4	87	
M98-298-02	35	40	greywacke/siltstone	Pit hanging wall	18	140	40	39,000	-	22,000	31	14,000	460	1.5	20,000	64	15	1.1	< 0.7	1.2	330	1,700	0.39	1.50	86	7.0	76	
M98-298-03	25	30	greywacke/siltstone	Pit hanging wall	17	150	42	33,000	-	20,000	32	12,000	270	1.1	21,000	56	13	< 0.8	< 0.7	1.3	350	930	0.33	1.70	74	7.4	74	
M98-316-01	25	29.4	greywacke/siltstone	Pit hanging wall	17	110	47	33,000	< 0.1	24,000	14	10,000	320	2.4	20,000	55	15.0	1.0	< 0.7	< 0.9	270	2,500	0.46	1.80	75	8	58	
M99-339-01	55	59	greywacke/siltstone	Pit hanging wall	9.2	40	21	68,000	< 0.1	17,000	26	9,900	260	0.6	16,000	25	43	< 0.8	< 0.7	< 0.9								

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Appendix B Table B.1-1
Waste Rock Chemical Composition - Tiriganiaq Deposit
Meliadine Gold Project, Nunavut
Comaplex Minerals Corporation

Typical Crustal Abundance (ug/g) (Price, 1997) ¹				25	102	60	56300	0.085	20850	20	23300	950	1.2	23550	84	14	0.20	0.05	2.3	370	5650	0.85	2.7	120	33	70		
Typical Crustal Abundance (ug/g) x5				125	510	300	281500	0.425	104250	100	116500	4750	6.0	117750	420	70	1.00	0.25	11.5	1850	28250	4.25	13.5	600	165	350		
Sample Number	Borehole Interval (m)		Lithology	Location	Co	Cr	Cu	Fe	Hg	K	Li	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Sn	Sr	Ti	Ti	U	V	Y	Zn	
	from	to			µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	
M99-385-01	36	41	greywacke/siltstone	Pit hanging wall	20	150	39	38,000	-	22,000	35	14,000	330	1.4	17,000	66	12	<0.8	<0.7	0.7	250	1,200	0.42	1.70	91	6.4	80	
M99-386-01	39	44	greywacke/siltstone	Pit hanging wall	18	160	73	37,000	-	22,000	28	13,000	300	2.2	20,000	59	27	1.0	<0.7	1.0	290	2,500	0.45	1.50	78	6.7	87	
M99-386-02	27	32	greywacke/siltstone	Pit hanging wall	20	170	72	38,000	-	22,000	36	14,000	290	1.3	20,000	61	12	<0.8	<0.7	0.9	300	1,200	0.40	1.70	85	7.8	97	
M99-403-01	75	80	greywacke/siltstone	Pit hanging wall	27	140	76	71,000	<0.1	20,000	22	21,000	1100	0.3	6,000	70	69	<0.8	<0.7	<0.9	170	2,800	0.68	0.51	160	6.5	170	
M99-403-02	70	75	greywacke/siltstone	Pit hanging wall	9.6	56	17	58,000	<0.1	16,000	16	10,000	320	0.7	18,000	27	16	<0.8	<0.7	<0.9	160	2,000	0.33	1.30	56	6.9	54	
M99-403-03	51	54	greywacke/siltstone	Pit hanging wall	7.6	34	13	71,000	<0.1	20,000	26	11,000	250	0.6	16,000	19	8.8	<0.8	<0.7	<0.9	190	1,700	0.28	1.10	43	5.2	55	
M99-403-04	25	29	greywacke/siltstone	Pit hanging wall	19	130	50	39,000	<0.1	26,000	30	12,000	250	1.5	21,000	57	13	<0.8	<0.7	<0.9	250	2,800	0.46	1.80	87	7.3	56	
M99-403-05	20	25	greywacke/siltstone	Pit hanging wall	18	160	37	47,000	-	21,000	36	14,000	410	1.7	17,000	71	32	<0.8	<0.7	1.1	290	3,500	0.37	1.60	97	8.6	77	
M99-404-01	101	105	greywacke/siltstone	Pit hanging wall	9.4	33	23	51,000	<0.1	19,000	22	7,600	270	0.5	19,000	19	5.6	<0.8	<0.7	<0.9	290	2,200	0.26	0.92	43	6.0	50	
M99-404-02	80	84	greywacke/siltstone	Pit hanging wall	18	130	50	40,000	<0.1	22,000	22	11,000	270	0.9	20,000	53	9.4	<0.8	<0.7	<0.9	250	2,600	0.36	1.70	80	7.1	52	
M99-404-03	66	69	greywacke/siltstone	Pit hanging wall	16	110	39	30,000	-	16,000	29	11,000	270	1.4	21,000	53	9.0	<0.8	<0.7	0.9	300	1,000	0.31	1.60	69	6.2	78	
M99-404-04	30	34	greywacke/siltstone	Pit hanging wall	19	130	47	43,000	<0.1	25,000	40	16,000	340	1.0	19,000	60	14	<0.8	<0.7	<0.9	280	930	0.44	1.60	94	7.3	77	
M99-404-05	40	47	greywacke/siltstone	Pit hanging wall	22	150	54	42,000	-	22,000	38	14,000	290	1.4	19,000	64	13	<0.8	<0.7	0.7	300	1,100	0.39	1.70	85	7.0	93	
M99-404-06	23	27	greywacke/siltstone	Pit hanging wall	19	130	41	37,000	-	23,000	35	14,000	250	1.5	19,000	65	9.4	<0.8	<0.7	1.4	260	1,100	0.40	1.70	90	6.4	84	
M99-418-01	32	37	greywacke/siltstone	Pit hanging wall	20	150	56	39,000	-	25,000	35	14,000	330	1.4	17,000	67	14	<0.8	<0.7	0.6	280	1,200	0.59	1.70	95	6.7	88	
					minimum	4.8	17	13	29,000	<0.1	13,000	14	5,600	180	0.3	6,000	8.7	5.6	<0.8	<0.7	<0.9	160	770	0.18	0.17	27	3.7	36
					maximum	33	170	200	86,000	<0.1	29,000	40	28,000	1800	2.4	26,000	74	69	1.2	1.0	1.9	520	3,700	0.71	2.10	210	10	170
					median	17	120	42	41,000	nc	22,000	31	12,500	290	1.2	19,000	58	13	nc	nc	0.9	285	1,700	0.39	1.60	81	6.8	74
					average	16	107	45	45,378	nc	21,608	28	12,184	336	1.1	18,216	50	15	nc	nc	1.0	291	1,807	0.39	1.45	76	6.7	72
					standard deviation	5.5	49	28	12,050	nc	3,511	8.2	3,553	204	0.4	2,844	20	10	nc	nc	0.3	66	695	0.10	0.40	29	1.1	23
					75th percentile	19	150	48	51,000	nc	24,000	35	14,000	328	1.4	20,000	65	17	nc	nc	1.1	330	2,375	0.45	1.70	91	7.3	82
GT08-02-01_Aug2009	112	118	mafic volcanic	Pit footwall	45	140	97	84,000	-	640	40	24,000	1,300	0.5	18,000	110	2.6	1.0	<0.7	0.7	130	5,200	0.07	0.11	220	16	100	
GT08-04-01	97	102	mafic volcanic	Pit footwall	40	140	110	79,000	<0.1	2,900	56	25,000	1,400	1.0	16,000	96	3.3	<0.8	<0.7	<0.9	110	2,800	0.09	0.08	220	8.0	100	
GT08-04-02	80	84	mafic volcanic	Pit footwall	31	150	67	57,000	<0.1	11,000	34	22,000	1,500	0.2	11,000	87	7.4	<0.8	<0.7	<0.9	120	1,900	0.36	0.09	190	5.3	64	
GT08-04-03	69	73	mafic volcanic	Pit footwall	52	110	280	110,000	<0.1	13,000	26	18,000	3,200	4.0	6,500	88	28	1.4	3.1	<0.9	140	1,800	0.58	0.64	140	6.2	410	
M00-474-01	110	114	mafic volcanic	Pit footwall	45	160	130	74,000	<0.1	4,700	45	23,000	1,900	0.2	18,000	120	4.2	<0.8	<0.7	<0.9	96	2,800	0.12	0.05	210	9.1	82	
M00-478-01	47	52	mafic volcanic	Pit footwall	36	110	100	72,000	<0.1	7,200	46	32,000	960	0.2	11,000	80	9.3	<0.8	<0.7	<0.9	170	1,200	0.24	0.10	160	4.2	89	
M98-297-01	111	114	mafic volcanic	Pit footwall	37	150	81	64,000	<0.1	20,000	26	22,000	1,700	0.2	9,700	96	16	<0.8	<0.7	<0.9	160	2,300	0.69	0.15	180	8.1	100	
M98-316-01_Aug2009	93	99	mafic volcanic	Pit footwall	46	170	110	75,000	-	620	60	31,000	1,300	0.5	7,000	110	8	0.9	<0.7	1.2	190	1,500	0.03	0.07	200	15.0	88	
M99-340-01	103	108	mafic volcanic	Pit footwall	36	180	68	64,000	<0.1	14,000	47	21,000	1,200	0.4	12,000	95	7.5	<0.8	<0.7	<0.9	160	3,000	0.55	0.10	220	6.5	110	
M99-341-01	81	84	mafic volcanic	Pit footwall	41	170	62	72,000	<0.1	14,000	36	27,000	1,100	0.5	8,800	85	11	<0.8	<0.7	<0.9	180	2,500	0.52	0.19	190	5.6	99	
					minimum	31	110	62	57,000	<0.1	620	26	18,000	960	0.2	6,500	80	2.6	<0.8	<0.7	<0.9	96	1,200	0.03	0.05	140	4.2	64
					maximum	52	180	280	110,000	<0.1	20,000	60	32,000	3,200	4.0	18,000	120	2.8	1.4	3.1	<0.9	190	5,200	0.69	0.64	220	16.0	410
					median	41	150	99	73,000	nc	9,100	43	23,500	1,350	0.5	11,000	95	7.5	nc	nc	nc	150	2,400	0.30	0.10	195	7.3	100
					average	41	148	111	75,100	nc	8,806	42	24,500	1,556	0.8	11,800	97	10	nc	nc	nc	146	2,500	0.33	0.16	193	8.4	124
					standard deviation	6.2	24	64	14,556	nc	6,580	11	4,403	640	1.2	4,221	13	7.5	nc	nc	nc	31	1,121	0.25	0.17	27	4.0	101
					75th percentile	45	168	110	78,000	nc	13,750	47	26,500	1,650	0.5	15,000	107	11	nc	nc	nc	168	2,800	0.54	0.14	218	8.9	100
GT-08-04-01_Aug2009	113	119	Mafic volcanic	UG development	43	160	120	85,000	-	1,800	37	41,000	1,100	0.5	14,000	150	2.7	0.9	<0.7	1.0	140	5,000	0.09	0.06	200	14	88	
M05-536A-01	491	497	Mafic volcanic	UG development	42	150	110	78,000	-	11,000	32	29,000	1,300	0.5	12,000	120	9.9	<0.8	<0.7	0.8	110	4,600	0.31	0.06	210	6.4	110	
M05-561-01	61	67	Mafic volcanic	UG development	40	150	64	72,000	-	7,500	70	34,000	1,300	0.6	11,000	110	4.3	<0.8	<0.7	1.6	130	1,100	0.20	0.04	240	8.8	80	
M05-561-02	101	106	Mafic volcanic	UG development	44	200	130	68,000	-	8,400	46	30,000	1,600	1.1	16,000	110	5.1	<0.8	<0.7	1.3	100	2,500	0.31	0.07	230	6.2	79	
M05-561-03	178	183	Mafic volcanic	UG development	52	23	250	110,000	-	1,900	31	33,000	1,400	0.6	21,000	59	2.3	<0.8	<0.7	2.1	130	7,400	0.03	0.12	280	5	120	
M05-564-01	366	372	Mafic volcanic	UG development	41	180	83	69,000	-	2,600	52	24,000	1,400	0.5	18,000	110	4.2	<0.8	<0.7	0.8	140	4,600	0.10	0.06	210	15	91	
M97-110-01	262	268																										

nc - not calculated

Appendix B Table B.1-1
Waste Rock Chemical Composition - Tiriganiaq Deposit
Meliadine Gold Project, Nunavut
Comaplex Minerals Corporation

Typical Crustal Abundance (ug/g) (Price, 1997) ¹				25	102	60	56300	0.085	20850	20	23300	950	1.2	23550	84	14	0.20	0.05	2.3	370	5650	0.85	2.7	120	33	70	
Typical Crustal Abundance (ug/g) x5				125	510	300	281500	0.425	104250	100	116500	4750	6.0	117750	420	70	1.00	0.25	11.5	1850	28250	4.25	13.5	600	165	350	
Sample Number	Borehole Interval (m)		Lithology	Location	Co	Cr	Cu	Fe	Hg	K	Li	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Sn	Sr	Ti	U	V	Y	Zn	
	from	to			µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
M03-496-01	360	370	greywacke/siltstone	UG development	8.1	35	27	110,000	< 0.1	17,000	19	8,400	340	0.5	9,900	22	22	< 0.8	< 0.7	< 0.9	220	1,400	0.31	1.00	37	6.0	64
M03-498-01	315	320	greywacke/siltstone	UG development	12	44	24	36,000	-	21,000	18	7,600	280	0.4	25,000	34	9.2	< 0.8	< 0.7	< 0.5	460	2,800	0.30	1.00	54	5.7	55
M03-499-02	270	275	greywacke/siltstone	UG development	19	120	45	41,000	-	25,000	26	13,000	400	1.2	16,000	71	46	< 0.8	< 0.7	1.2	280	3,800	0.38	1.50	96	7.5	62
M04-520-01	405	410	greywacke/siltstone	UG development	20.0	170	14	42,000	-	26,000	27	13,000	360	1.6	14,000	73	10	< 0.8	< 0.7	1.3	220	3,700	0.48	1.60	96	7.0	65
M04-520-02	411	416	greywacke/siltstone	UG development	43	720	54	71,000	-	11,000	52	35,000	1100	0.4	9,600	250	14	< 0.8	0.7	0.7	270	4,400	0.51	0.28	200	6.5	94
M04-527-01	270	280	greywacke/siltstone	UG development	19	150	86	39,000	< 0.1	25,000	28	14,000	320	2.0	21,000	82	14	< 0.8	< 0.7	< 0.9	330	2,300	0.49	2.10	84	8.3	83
M04-533-01	380	390	greywacke/siltstone	UG development	23	130	43	58,000	< 0.1	37,000	40	19,000	480	1.2	16,000	81	130	< 0.8	< 0.7	< 0.9	690	3,700	1.20	1.90	120	11.0	130
M04-533-02	297	307	greywacke/siltstone	UG development	21	160	700	40,000	< 0.1	32,000	35	15,000	350	1.7	19,000	88	8.7	< 0.8	< 0.7	1.3	240	3,400	0.49	2.00	110	10.0	110
M05-559A-02	180	190	greywacke/siltstone	UG development	20	160	68	44,000	< 0.1	28,000	47	17,000	330	1.5	17,000	71	12	< 0.8	< 0.7	< 0.9	300	1,100	0.52	1.80	100	8.3	88
M05-571A-01	435	445	greywacke/siltstone	UG development	13	63	22	55,000	< 0.1	28,000	28	12,000	300	0.9	15,000	41	8.4	< 0.8	< 0.7	< 0.9	220	2,200	0.47	1.80	66	7.1	56
M05-571A-02	335	344	greywacke/siltstone	UG development	20	120	28	53,000	< 0.1	30,000	33	15,000	290	1.5	15,000	72	7.5	< 0.8	< 0.7	< 0.9	210	3,200	0.50	1.80	110	7.6	75
M06-601A-01	266	270	greywacke/siltstone	UG development	39	39	57	82,000	-	6,500	39	27,000	990	0.3	20,000	63	8.5	< 0.8	< 0.7	0.5	270	7,100	0.40	0.21	220	11	110
M06-604-01	336	344	greywacke/siltstone	UG development	20	120	43	50,000	< 0.1	29,000	33	17,000	280	1.4	21,000	70	14	< 0.8	< 0.7	1.3	230	3,000	0.46	1.80	110	8.1	85
M06-604-02	286	295	greywacke/siltstone	UG development	13	72	35	64,000	< 0.1	25,000	25	12,000	310	0.9	14,000	45	8.2	< 0.8	< 0.7	< 0.9	330	2,500	0.39	1.30	72	6.4	59
M06-604-03	245	255	greywacke/siltstone	UG development	18	110	48	32,000	< 0.1	20,000	21	10,000	320	1.2	21,000	57	16	< 0.8	< 0.7	< 0.9	350	1,900	0.36	1.80	72	7.7	68
M06-607-01	175	180	greywacke/siltstone	UG development	19	120	22	45,000	-	20,000	37	13,000	300	1.2	16,000	73	11	< 0.8	< 0.7	1.0	220	3,100	0.38	1.60	94	6.3	82
M06-621-01	240	245	greywacke/siltstone	UG development	17	110	46	35,000	-	22,000	29	13,000	290	1.3	20,000	57	12	< 0.8	< 0.7	1.0	290	1,500	0.41	1.60	86	6.2	74
M07-645-01	250	260	greywacke/siltstone	UG development	20	130	54	45,000	< 0.1	27,000	41	16,000	310	1.5	17,000	71	13	< 0.8	< 0.7	< 0.9	310	2,200	0.50	1.90	110	8.5	89
M07-649-01_Dec2009	300	305	greywacke/siltstone	UG development	18	92	44	53,000	-	24,000	26	14,000	290	0.9	17,000	63	8.3	< 0.8	< 0.7	0.7	230	3,600	0.39	1.40	94	6.7	73
M07-663-01	417	427	greywacke/siltstone	UG development	20	120	63	59,000	< 0.1	27,000	34	16,000	360	1.4	16,000	69	8.7	0.9	< 0.7	< 0.9	210	3,300	0.47	1.70	110	9.5	86
M07-663-02	351	357	greywacke/siltstone	UG development	20	130	41	52,000	< 0.1	30,000	39	15,000	300	1.3	15,000	71	36	< 0.8	< 0.7	< 0.9	310	3,500	0.57	1.80	120	8.8	90
M07-663-03	280	289	greywacke/siltstone	UG development	22	110	59	53,000	< 0.1	23,000	38	16,000	420	1.0	17,000	64	12	< 0.8	< 0.7	< 0.9	270	3,300	0.37	1.60	120	8.4	84
M07-672B-01	323	328	greywacke/siltstone	UG development	21	120	27	48,000	-	22,000	31	13,000	260	1.2	14,000	73	11	< 0.8	< 0.7	0.8	150	3,800	0.41	1.50	110	6.1	77
M07-685-01	260	265	greywacke/siltstone	UG development	20	99	40	29,000	-	17,000	22	9,700	250	1.2	18,000	57	8.9	< 0.8	< 0.7	< 0.5	240	2,200	0.29	1.50	66	5.7	62
M07-685-02	335	340	greywacke/siltstone	UG development	22	130	47	45,000	-	23,000	31	15,000	350	1.4	18,000	79	12	< 0.8	< 0.7	1.1	190	3,800	0.44	1.70	110	6.7	84
M07-691-01	335	340	greywacke/siltstone	UG development	18	99	43	38,000	-	21,000	28	13,000	250	1.1	18,000	65	10	< 0.8	< 0.7	0.6	190	3,100	0.39	1.60	91	5.5	75
M07-719-01	351	360	greywacke/siltstone	UG development	19	120	33	33,000	< 0.1	27,000	19	11,000	220	1.2	18,000	58	13	< 0.8	< 0.7	< 0.9	330	2,700	0.59	1.80	81	8.7	51
M08-721-01	381	384	greywacke/siltstone	UG development	44	690	59	65,000	-	610	54	40,000	1200	0.3	12,000	230	7	0.8	< 0.7	< 0.5	280	620	< 0.02	0.11	180	2.4	89
M08-721-02	388	393	greywacke/siltstone	UG development	17	160	40	36,000	-	25,000	23	13,000	300	1.2	17,000	67	340	< 0.8	< 0.7	1.1	230	3,400	0.47	1.60	90	7.4	65
M08-731W1-01	330	335	greywacke/siltstone	UG development	46	60	99	96,000	-	2,200	22	27,000	1300	0.4	15,000	68	14	0.9	< 0.7	0.5	320	7,900	0.04	0.23	260	21	120
M08-731W1-02	350	355	greywacke/siltstone	UG development	20	97	61	41,000	-	26,000	26	14,000	370	1.0	18,000	63	12.0	< 0.8	< 0.7	1.3	290	3,400	0.47	1.70	110	8.2	73
M08-754-01	360	365	greywacke/siltstone	UG development	18	140	30	42,000	-	26,000	29	14,000	190	1.5	16,000	75	17	< 0.8	< 0.7	0.9	230	3,500	0.47	1.70	100	7.4	69
M08-769-01	451	456	greywacke/siltstone	UG development	8.2	79	22	62,000	-	12,000	19	7,400	350	0.4	19,000	23	11	< 0.8	< 0.7	0.9	420	2,100	0.19	0.73	37	5.5	45
M09-823-01	320	325	greywacke/siltstone	UG development	47	34	110	99,000	-	7,400	24	28,000	1300	0.5	17,000	70	14	1.2	0.7	1.2	250	8,200	0.27	0.75	280	21	120
M09-823-02	335	340	greywacke/siltstone	UG development	21	120	47	35,000	-	21,000	29	13,000	270	1.2	20,000	64	10	< 0.8	< 0.7	0.7	260	2,600	0.33	1.60	84	7.4	73
M98-257-01	291	296	greywacke/siltstone	UG development	17	110	40	43,000	-	21,000	27	13,000	370	1.4	19,000	64	11	< 0.8	< 0.7	1.4	250	3,500	0.30	1.60	89	7.1	72
M98-266-01	138	143	greywacke/siltstone	UG development	22	130	51	44,000	-	29,000	34	16,000	360	1.4	14,000	77	18	< 0.8	< 0.7	1.1	260	2,400	0.50	1.70	110	7.3	90
M98-313-01	305	315	greywacke/siltstone	UG development	18	120	25	46,000	< 0.1	25,000	32	14,000	260	1.2	18,000	65	14	< 0.8	< 0.7	< 0.9	290	3,200	0.48	1.60	110	7.4	67
M98-313-02	272	280	greywacke/siltstone	UG development	20	160	66	45,000	< 0.1	33,000	44	16,000	300	1.9	14,000	76	15	< 0.8	< 0.7	< 0.9	340	2,500	0.53	1.90	110	9.8	97
M99-327-01	195	205	greywacke/siltstone	UG development	17	120	70	40,000	< 0.1	27,000	26	12,000	310	1.1	17,000	69	11	< 0.8	< 0.7	< 0.9	260	2,600	0.52	1.60	87	7.8	

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Appendix B Table B.1-1
Waste Rock Chemical Composition - Tiriganiaq Deposit
Meliadine Gold Project, Nunavut
Comaplex Minerals Corporation

Typical Crustal Abundance (ug/g) (Price, 1997) ¹					25	102	60	56300	20850	20	23300	950	1.2	23550	84	14	0.20	0.05	2.3	370	5650	0.85	2.7	120	33	70
Typical Crustal Abundance (ug/g) x5					125	510	300	281500	104250	100	116500	4750	6.0	117750	420	70	1.00	0.25	11.5	1850	28250	4.25	13.5	600	165	350
Sample Number	Borehole Interval (m)		Lithology	Location	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Sn	Sr	Ti	U	V	Y	Zn	
	from	to			µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
GT09-07-01	20	25	mafic volcanic	hanging wall	42	170	100	71,000	2,000	29	32,000	1,100	0.2	19,000	60	1.2	< 0.8	< 0.7	1.0	93	6,100	0.05	0.18	230	16	95
GT09-07-02	30	35	mafic volcanic	hanging wall	34	170	59	68,000	4,800	48	25,000	1,700	0.6	13,000	69	3.4	2.2	< 0.7	1.6	98	6,800	0.16	0.37	200	20	100
M08-729-01	15	20	mafic volcanic	hanging wall	49	260	160	71,000	4,000	55	35,000	1,300	1.0	15,000	110	2.8	1.3	< 0.7	0.9	140	5,900	0.12	0.11	300	16	95
M08-729-02	36	41	mafic volcanic	hanging wall	38	260	100	65,000	1,200	49	35,000	1,500	0.8	14,000	84	1.6	< 0.8	< 0.7	0.6	120	5,600	< 0.02	0.20	260	14	78
M08-729-03	55	60	mafic volcanic	hanging wall	46	260	84	76,000	5,500	46	31,000	1,400	1.0	12,000	87	1.6	< 0.8	1.4	3.1	62	5,800	0.19	< 0.002	290	15	130
M08-729-04	74	79	mafic volcanic	hanging wall	41	190	110	61,000	6,700	46	27,000	1,100	1.0	19,000	78	6.1	< 0.8	3.2	1.2	110	5,900	0.33	0.16	290	6.7	90
M08-734-01	15	20	mafic volcanic	hanging wall	40	160	150	75,000	1,900	21	32,000	1,100	1.0	19,000	76	3.3	< 0.8	< 0.7	1.0	110	6,400	0.05	0.21	230	18	110
M08-734-02	28	32	mafic volcanic	hanging wall	34	150	91	95,000	3,000	46	40,000	1,800	0.9	6,300	75	3.2	< 0.8	< 0.7	2.3	53	5,700	0.14	0.37	190	22	170
M08-734-03	54	60	mafic volcanic	hanging wall	42	200	120	77,000	2,900	37	35,000	1,100	0.6	18,000	120	3.6	1	< 0.7	0.8	120	5,100	0.09	0.34	200	12	96
M08-735-01	20	25	mafic volcanic	hanging wall	41	160	140	66,000	8,600	27	24,000	1,100	0.9	13,000	76	2.4	< 0.8	< 0.7	1.0	88	6,400	0.40	0.43	230	14	98
M08-740-01	16	21	mafic volcanic	hanging wall	47	260	87	83,000	3,100	38	26,000	1,800	0.7	12,000	120	3.5	< 0.8	1.5	< 0.5	92	5,100	0.07	0.22	270	10	90
M08-740-02	36	41	mafic volcanic	hanging wall	53	420	46	58,000	2,400	51	40,000	880	0.9	18,000	130	5.1	< 0.8	< 0.7	< 0.5	140	1,700	0.06	0.01	230	5	73
M08-740-03	52	56	mafic volcanic	hanging wall	40	180	100	72,000	2,600	30	32,000	910	0.9	17,000	55	1.5	< 0.8	0.7	3.1	110	5,400	0.18	0.13	290	16	82
M08-742-01	9	14.5	mafic volcanic	hanging wall	42	210	110	60,000	5,700	15	26,000	940	0.8	24,000	84	2.7	< 0.8	1.3	1.0	99	5,800	0.26	0.17	230	14	88
M08-742-02	29	35	mafic volcanic	hanging wall	41	150	140	80,000	3,600	26	38,000	1,200	0.7	13,000	71	4.1	< 0.8	< 0.7	1.1	86	5,700	0.14	0.18	210	14	110
M08-742-03	52	56	mafic volcanic	hanging wall	37	170	62	77,000	4,700	37	37,000	1,100	0.4	14,000	67	6.8	1.2	< 0.7	1.1	97	5,900	0.25	0.28	200	11	120
M08-743-01	10	15	mafic volcanic	Pit hanging wall	42	140	100	88,000	2,000	18	37,000	1,100	1.1	15,000	59	3.0	< 0.8	< 0.7	0.9	130	6,100	0.07	0.41	190	17	110
M08-747-01	20	25	mafic volcanic	hanging wall	49	300	120	76,000	1,200	25	26,000	1,900	1.0	12,000	140	3.4	< 0.8	2.1	2.1	93	5,000	0.08	0.03	260	16	180
M08-747-02	39	45	mafic volcanic	hanging wall	43	360	92	77,000	1,400	24	49,000	1,100	0.9	19,000	110	3.0	1.8	2.6	15	110	3,400	0.06	0.15	210	12	170
M08-748-01	36	41	mafic volcanic	hanging wall	49	140	110	91,000	8,400	41	31,000	1,100	1.3	16,000	81	7.7	1.0	1.4	1.5	200	6,500	0.79	1.00	210	17	110
M08-748-02	57	62	mafic volcanic	hanging wall	39	280	88	90,000	4,800	42	36,000	1,500	1.1	11,000	86	3.8	1.6	0.8	2.2	140	4,200	0.29	0.08	220	12	180
M08-750-01	8	14	mafic volcanic	hanging wall	37	140	64	69,000	9,400	38	33,000	1,200	0.9	21,000	51	3.8	< 0.8	< 0.7	0.5	190	5,100	0.41	0.18	180	12	87
M08-750-02	28	33	mafic volcanic	hanging wall	43	64	97	85,000	9,500	25	26,000	1,000	1.4	23,000	88	10	< 0.8	< 0.7	0.7	150	6,700	0.37	0.20	150	10	200
M08-752-01	9	14	mafic volcanic	hanging wall	41	280	110	72,000	3,200	26	38,000	1,200	0.8	18,000	85	6.3	< 0.8	1.8	1.2	170	4,300	0.16	0.11	230	13	110
M08-752-02	23	27	mafic volcanic	hanging wall	39	77	90	95,000	9,800	32	22,000	980	1.8	15,000	34	9.4	0.9	0.7	1.1	170	8,700	0.90	1.30	210	20	130
M08-755-01	19	24	mafic volcanic	hanging wall	47	210	100	82,000	3,500	27	35,000	1,300	1.3	15,000	64	2.5	< 0.8	0.9	1.9	100	5,700	0.17	0.20	290	17	110
M08-755-02	30	37	mafic volcanic	hanging wall	41	170	95	82,000	4,700	30	35,000	1,400	1.4	9,900	60	5.9	< 0.8	1.1	2.3	110	5,600	0.34	0.23	250	22	160
M09-798-01	12	17	mafic volcanic	hanging wall	47	72	120	93,000	9,100	23	28,000	1,200	0.8	18,000	67	7.6	1.0	< 0.7	1.8	210	8,200	0.44	1.10	190	19	120
M09-798-02	17	22	mafic volcanic	hanging wall	45	110	110	87,000	6,300	22	29,000	1,100	0.6	19,000	76	6.0	1.1	< 0.7	1.3	260	6,600	0.27	0.87	180	16	110
M09-816-01	20	25	mafic volcanic	hanging wall	40	160	91	72,000	850	14	30,000	1,300	0.3	13,000	57	2.3	< 0.8	< 0.7	1.1	110	5,400	< 0.02	0.18	200	16	92
M09-816-02	30	35	mafic volcanic	hanging wall	41	170	110	73,000	2,300	16	34,000	1,100	1.1	14,000	57	32	5.6	< 0.7	2.2	180	5,500	< 0.02	0.27	210	17	76
M09-855-01	15	20	mafic volcanic	hanging wall	53	180	330	110,000	6,300	27	23,000	2,800	1.3	7,000	86	9.5	11	1.7	6.3	68	3,900	0.39	0.43	140	10	540
M09-855-02	20	25	mafic volcanic	hanging wall	44	290	86	72,000	3,500	45	19,000	1,900	0.4	14,000	89	5.7	< 0.8	< 0.7	0.6	120	4,200	0.12	0.14	220	3.7	140
M09-857-01	20	25	mafic volcanic	hanging wall	40	150	110	61,000	6,500	34	30,000	1,200	0.2	17,000	56	4.4	< 0.8	< 0.7	1.0	110	5,200	0.19	0.39	200	13	110
M09-858-01	20	25	mafic volcanic	hanging wall	40	160	94	64,000	1,400	15	32,000	1,300	0.3	17,000	57	3	< 0.8	< 0.7	1.4	160	5,600	< 0.02	0.20	220	15	90
M09-858-02	30	35	mafic volcanic	hanging wall	36	160	98	70,000	1,200	20	31,000	1,200	0.4	15,000	49	3.8	< 0.8	< 0.7	0.6	210	5,300	< 0.02	0.21	210	17	71
M09-862-01	15	20	mafic volcanic	hanging wall	41	150	83	74,000	4,100	41	36,000	1,200	0.2	15,000	53	3.6	< 0.8	< 0.7	1.3	90	4,900	0.09	0.2	200	11	97
M09-866-01	10	15	mafic volcanic	hanging wall	37	140	130	98,000	7,400	40	30,000	2,200	0.5	2,400	63	4.9	< 0.8	< 0.7	2.4	40	5,300	0.27	0.28	170	13	230
M09-866-02	15	20	mafic volcanic	hanging wall	34	150	62	70,000	5,300	35	30,000	1,700	0.4	12,000	67	4.9	< 0.8	< 0.7	1.3	91	6,000	0.16	0.26	180	16	120
	minimum				34	64	46	58,000	850	14	19,000	880	0.2	2,400	34	1.2	< 0.8	< 0.7	< 0.5	40	1,700	< 0.02	< 0.002	140	3.7	71
	maximum				53	420	330	110,000	9,800	55	49,000	2,800	1.8	24,000	140	32	11.0	3.2	15	260	8,700	0.90	1.3	300	22	540
	median				41	170	100	75,000	4,000	30	32,000	1,200	0.9	15,000	75	3.8	nc	nc	1.2	110	5,600	0.18	0.21	210	15	

Appendix B Table B.1-1
Waste Rock Chemical Composition - Tiriganiaq Deposit
Meliadine Gold Project, Nunavut
Comaplex Minerals Corporation

Typical Crustal Abundance (ug/g) (Price, 1997) ¹																			0.075	82300	1.8	425	3	0.009	41500	0.15	
Typical Crustal Abundance (ug/g) x5																			0.375	411500	9.0	2125	15	0.043	207500	0.75	
Sample Number	Borehole Interval (m)		Lithology	Location	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	V2O5	LOI	Sum	Ag	Al	As	Ba	Be	Bi	Ca	Cd	
	from	to			%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
M08-742-05	86	90	quartz vein	FW/ore zone	78	2.4	10	1.3	2.1	0.62	0.06	0.16	0.05	0.26	0.04	< 0.01	2.9	98	0.22	12,000	150	12	0.15	< 0.09	15,000	0.93	
M08-743-03	46	48	iron formation	ore zone	73	2.8	13	1.8	3.1	0.40	0.30	0.13	0.05	0.51	0.04	< 0.01	2.9	98	0.60	15,000	96	29	0.19	0.27	22,000	1.4	
M08-748-03	85	95	iron formation	ore zone	45	14	10	6.8	11	2.0	0.05	0.74	0.05	0.21	0.06	0.05	10.7	100	<0.01	73,000	11	9.2	0.22	< 0.09	76,000	0.02	
					minimum	45	2	10	1.3	2.1	0.4	0.05	0.13	0.05	0.21	0.04	<0.01	2.9	98	<0.04	12,000	11	9.2	0.15	<0.09	15,000	0.02
					maximum	78	14	13	6.8	11	2.0	0.30	0.74	0.05	0.51	0.06	0.05	11	100	0.60	73,000	150	29	0.22	0.27	76,000	1.40
					median	73	3	10	1.8	3.1	0.62	0.06	0.16	0.05	0.26	0.04	nc	3	98	0.41	15,000	96	12	0.19	nc	22,000	0.93
					average	65	6	11	3.3	5.4	1.0	0.14	0.34	0.05	0.33	0.05	nc	5	99	0.41	33,333	86	17	0.19	nc	37,667	0.78
					standard deviation	18	6.3	1.7	3.0	4.9	0.89	0.14	0.34	0.00	0.16	0.01	nc	4.5	1.2	0.27	34,385	70	11	0.04	nc	33,382	0.70
					75th percentile	75	8	12	4.3	7.1	1.3	0.18	0.45	0.05	0.39	0.05	nc	7	99	0.51	44,000	123	21	0.21	nc	49,000	1.2

Notes:
1- Price (1997)
Bolded values indicate values above typical crustal abundance
Shaded values indicate values above five times typical crustal abundance
nc - not calculated

Appendix B Table B.1-1
Waste Rock Chemical Composition - Tiriganiaq Deposit
Meliadine Gold Project, Nunavut
Comaplex Minerals Corporation

Typical Crustal Abundance (ug/g) (Price, 1997) ¹					25	102	60	56300	20850	20	23300	950	1.2	23550	84	14	0.20	0.05	2.3	370	5650	0.85	2.7	120	33	70
Typical Crustal Abundance (ug/g) x5					125	510	300	281500	104250	100	116500	4750	6.0	117750	420	70	1.00	0.25	11.5	1850	28250	4.25	13.5	600	165	350
Sample Number	Borehole interval (m)		Lithology	Location	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Sn	Sr	Ti	U	V	Y	Zn	
	from	to			µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
M08-742-05	86	90	quartz vein	FW/ore zone	10	220	110	73,000	530	7.0	7,400	1,900	4.8	4,000	17	3.7	< 0.8	< 0.7	< 0.5	27	930	0.04	0.43	19	3.0	200
M08-743-03	46	48	iron formation	ore zone	15	240	70	91,000	2,600	7.0	11,000	3,500	4.4	2,700	34	4.8	< 0.8	1.5	1.3	30	840	0.22	0.19	37	3.4	170
M08-748-03	85	95	iron formation	ore zone	45	330	88	70,000	500	38	40,000	1,200	1.1	14,000	110	3.3	0.9	1.6	1.5	130	4,300	< 0.02	0.06	250	12	81
					10	220	70	70,000	500	7	7,400	1,200	1.1	2,700	17	3.3	<0.8	<0.7	<0.5	27	840	<0.02	0.06	19	3.0	81
					45	330	110	91,000	2,600	38	40,000	3,500	4.8	14,000	110	5	0.9	1.6	1.5	130	4,300	0.22	0.43	250	12	200
					15	240	88	73,000	530	7	11,000	1,900	4.4	4,000	34	3.7	nc	1.6	1.4	30	930	0.13	0.19	37	3.4	170
					23	263	89	78,000	1,210	17	19,467	2,200	3.4	6,900	54	3.9	nc	1.6	1.4	62	2,023	0.13	0.23	102	6.1	150
					18.9	59	20	11,358	1,204	18	17,873	1,179	2.0	6,183	50	0.8	nc	0.1	0.1	59	1,972	0.13	0.19	128	5.1	62
75th percentile					30	285	99	82,000	1,565	23	25,500	2,700	4.6	9,000	72	4.3	nc	1.6	1.5	80	2,615	0.18	0.31	144	7.7	185

Notes:
1- Price (1997)
Bolded values indicate values above typical crustal abundance
Shaded values indicate values above five times typical crustal abundance
nc - not calculated

nc - not calculated

Appendix B Table B.1-1
Waste Rock Chemical Composition - Tiriganiaq Deposit
Meliadine Gold Project, Nunavut
Comaplex Minerals Corporation

Typical Crustal Abundance (ug/g) (Price, 1997) ¹					25	102	60	56300	20850	20	23300	950	1.2	23550	84	14	0.20	0.05	2.3	370	5650	0.85	2.7	120	33	70
Typical Crustal Abundance (ug/g) x5					125	510	300	281500	104250	100	116500	4750	6.0	117750	420	70	1.00	0.25	11.5	1850	28250	4.25	13.5	600	165	350
Sample Number	Borehole Interval (m)		Lithology	Location	Co µg/g	Cr µg/g	Cu µg/g	Fe µg/g	K µg/g	Li µg/g	Mg µg/g	Mn µg/g	Mo µg/g	Na µg/g	Ni µg/g	Pb µg/g	Sb µg/g	Se µg/g	Sn µg/g	Sr µg/g	Ti µg/g	Ti µg/g	U µg/g	V µg/g	Y µg/g	Zn µg/g
	from	to																								
ML08-236-1	23	27	Iron formation	hanging wall	3.9	130	2.0	140000	15000	23	8600	330	1.4	2700	12	8.8	<0.8	<0.7	1.6	280	1200	0.34	1.3	22	6	40
ML90-09-1	33	40	Iron formation	hanging wall	3.7	99	<1	260000	2100	6.0	9100	350	3.5	2000	9.0	3.4	<0.8	<0.7	<0.5	230	570	0.07	0.5	16	6	78
ML90-10-2	33	41	Iron formation	hanging wall	6.0	130	18	170000	9900	20	5600	380	1.2	2200	19	6.0	<0.8	<0.7	0.5	260	1300	0.19	1.4	28	7	41
ML92-060-1	42	49	Iron formation	hanging wall	3.0	91	5.0	270000	2700	5.0	10000	310	3.3	3500	7.7	3.2	<0.8	<0.7	<0.5	210	500	0.08	0.5	17	6	41
ML92-061-03	75	81	Iron formation	hanging wall	3.4	70	<6	240000	5700	12	8100	210	1.3	11000	12	4.2	<0.8	<0.7	<0.5	290	810	0.20	0.7	16	6	36
ML92-062-01	20	25	Iron formation	hanging wall	2.8	84	<6	280000	1600	6.0	11000	290	2.6	6500	8.6	3.2	<0.8	<0.7	<0.5	250	510	0.04	0.3	12	6	39
ML92-062-02	35	40	Iron formation	hanging wall	9.0	130	<6	130000	20000	58	12000	190	1.0	15000	25	39	<0.8	<0.7	1.8	930	1900	0.51	1.3	37	7	67
ML95-82-2	43	46	Iron formation	hanging wall	2.3	68	25	220000	2300	7.0	8900	630	2.4	1900	6.4	5.5	<0.8	<0.7	<0.5	270	330	0.06	0.7	9	8	53
ML95-93-03	55	60	Iron formation	hanging wall	3.3	190	31	220000	2300	8.0	5300	330	0.7	250	14	3.4	<0.8	<0.7	<0.6	140	700	0.08	0.5	9	6	58
				minimum	2.3	68	<1	130,000	1,600	5.0	5,300	190	0.7	250	6.4	3.2	<0.8	<0.7	<0.5	140	330	0.04	0.3	9	5.5	36
				maximum	9.0	190	31	280,000	20,000	58	12,000	630	3.5	15,000	25	39	<0.8	<0.7	1.8	930	1,900	0.51	1.4	37	8.0	78
				median	3.4	99	18	220,000	2,700	8.0	8,800	330	1.4	2,700	12	4.2	nc	nc	1.1	260	700	0.08	0.7	16	6.3	41
				average	4.2	110	16	214,444	6,844	16	8,722	336	1.9	5,006	13	8.5	nc	nc	1.1	318	869	0.17	0.8	18	6.5	50
				standard deviation	2.1	39	13	55,703	6,696	17	2,224	127	1.0	4,935	6.0	11.6	nc	nc	0.7	234	504	0.16	0.4	9	0.8	15
				75th percentile	3.9	130	25	260,000	9,900	20	10,000	350	2.6	6,500	14	6.0	nc	nc	1.7	280	1,200	0.20	1.3	22	6.6	58
ML08-236-2	41	49	Greywacke	inter ore	14	130	41	53000	23000	42	15000	430	3.1	21000	45	11	<0.8	<0.7	1.7	240	3600	0.41	1.9	90	9.9	74
ML08-238-03	99	104	Greywacke	inter ore	14	130	31	54000	21000	41	15000	440	1.3	27000	49	9.1	<0.8	<0.7	1.8	330	3800	0.40	1.8	87	8.9	76
ML00-221-01	25	30	Greywacke	hanging wall	17	170	45	42000	22000	40	16000	350	3.1	24000	67	12	<0.8	<0.7	0.9	300	4200	0.43	1.8	98	8.3	94
ML00-221-02	61	66	Greywacke	hanging wall	17	220	50	39000	21000	34	15000	320	1.7	24000	63	11	<0.8	<0.7	1.6	290	3900	0.42	1.9	87	7.1	88
ML00-221-03	88	93	Greywacke	hanging wall	17	160	42	39000	20000	34	16000	290	2.0	24000	65	8.6	<0.8	<0.7	1.5	290	3700	0.36	1.7	93	7.4	77
ML90-03-01	17	24	Greywacke	hanging wall	21	170	42	49000	25000	44	19000	380	5.0	24000	69	12	<0.8	<0.7	1.4	340	4600	0.56	2.0	110	8.7	98
ML90-04-01	10	15	Greywacke	hanging wall	18	210	54	40000	22000	37	15000	360	1.5	25000	58	16	<0.8	<0.7	1.2	320	4200	0.41	1.9	93	7.6	86
ML90-04-02	35	40	Greywacke	hanging wall	18	170	49	42000	23000	36	15000	330	1.9	26000	58	12	<0.8	<0.7	1.2	310	4100	0.43	1.8	91	7.7	93
ML90-08-01	16	21	Greywacke	hanging wall	16	160	55	37000	19000	31	12000	290	1.5	28000	51	12	<0.8	<0.7	1.4	260	3600	0.30	1.6	78	7.2	77
ML90-10-1	11	18	Greywacke	hanging wall	16	160	31	36000	20000	35	14000	270	3.8	24000	49	9.4	<0.8	<0.7	0.8	250	3100	0.42	2.9	77	9	71
ML90-12-01	24	29	Greywacke	hanging wall	18	160	84	44000	21000	35	15000	320	1.3	23000	59	10	<0.8	<0.7	1.2	240	3900	0.38	2.4	88	9.1	93
ML92-061-01	21	26	Greywacke	hanging wall	18	170	48	43000	22000	40	17000	380	2.6	23000	71	9.4	<0.8	<0.7	1.2	300	4100	0.45	1.7	100	8	92
ML92-061-02	50	56	Greywacke	hanging wall	20	180	43	41000	21000	34	16000	330	1.5	21000	67	8.3	<0.8	<0.7	1.1	260	4000	0.42	1.7	97	7.4	82
ML95-82-1	20	30	Greywacke	hanging wall	18	140	50	44000	23000	39	17000	340	1.8	21000	62	11	<0.8	<0.7	1.2	270	4000	0.47	2.5	100	8.3	87
ML95-93-01	22	26	Greywacke	hanging wall	20	170	56	50000	26000	37	18000	340	1.8	20000	79	8.5	<0.8	<0.7	1.6	230	4600	0.43	1.8	120	9	96
ML95-93-02	41	46	Greywacke	hanging wall	19	160	52	53000	22000	38	17000	370	2.6	23000	72	11	<0.8	<0.7	1.4	260	4200	0.39	1.6	100	8.2	110
				minimum	14	130	31	36,000	19,000	31	12,000	270	1.3	20,000	45	8.3	<0.8	<0.7	0.8	230	3,100	0.30	1.6	77	7.1	71
				maximum	21	220	84	54,000	26,000	44	19,000	440	5.0	28,000	79	16	<0.8	<0.7	1.8	340	4,600	0.56	2.9	120	9.9	110
				median	18	165	49	42,500	22,000	37	15,500	340	1.9	24,000	63	11	nc	nc	1.3	280	4,000	0.42	1.8	93	8.3	88
				average	18	166	48	44,125	21,938	37	15,750	346	2.3	23,625	62	11	nc	nc	1.3	281	3,975	0.42	1.9	94	8.2	87
				standard deviation	2.0	24	12	5,886	1,806	3	1,653	47	1.0	2,217	9.5	1.9	nc	nc	0.3	34	377	0.05	0.4	11	0.8	10
				75th percentile	18	170	53	49,250	23,000	40	17,000	373	2.7	24,250	68	12	nc	nc	1.5	303	4,200	0.43	1.9	100	8.9	93
ML92-053-1	105	112	Iron formation	foot wall	3	99	5	260,000	1,200	6.0	9,000	250	1.1	910	8.0	2.7	<0.8	<0.7	<0.5	220	560	0.03	0.4	14	5.7	42
ML00-221-04	162	168	Greywacke	foot wall	18	130	46	57000	23000	43	17000	330	1.4	16000	66	12	<0.8	<0.7	1.3	170	4500	0.42	1.7	110	8.1	99
ML08-236-3	65	75	Greywacke	foot wall	17	170	44	55000	20000	44	17000	410	1.5	22000	54	16	<0.8	<0.7	1.0	260	3900	0.40	1.8	110	8.6	87
ML08-238-04	126	133	Greywacke	foot wall	17	160	45	51000	24000	43	16000	340	1.3	24000	66	12	<0.8	<0.7	1.6	240	4100	0.53	1.9	100	9.2	86
ML90-03-02	51	56	Greywacke	foot wall	12	140	35	56000	22000	45	15000	350	1.3	25000	39	9.9	<0.8	<0.7	1.0	290	3500	0.33	1.5	73	8	86
ML90-04-03	84	89	Greywacke	foot wall	13	110	36	50000	15000	36	15000	320	0.7	29000	39	9.3	<0.8	<0.7	0.8	300	3700	0.22	1.3	78	8.4	76
ML90-07-01	46	51	Greywacke	foot wall	12	150	20	44000	18000	35	14000	370	0.7	25000	44	8.5	<0.8	<0.7	1.3	320	3300	0.29	1.5	76	8.7	64
ML90-08-02	53	58	Greywacke	foot wall	15	120	40	44000	21000	42	13000	430	2.5	25000	46	7.3	<0.8	<0.7	1.2	290	3500	0.36	1.4	79	8.8	59
ML90-09-2	51	56	Greywacke	foot wall	13	120	23	43000	19000	40	14000	410	3.0	27000	40	7.9	<0.8	<0.7	0.7	320	3300					

Appendix B Table B.1-4
Soil Chemical Composition
Meliadine Gold Project, Nunavut
Comaplex Minerals Corporation

CCME Industrial Soil Guideline																			12	2000				22						
Sample Number	sample depth (m)	sample type	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	V2O5 %	LOI %	Sum %	Ag µg/g	Al µg/g	As µg/g	Ba µg/g	Be µg/g	Bi µg/g	Ca µg/g	Cd µg/g						
Tiriganaq Soil Samples																														
SS-1	0.40	soil	69	14	4.6	1.7	2.2	3.2	2.1	0.51	0.14	0.06	0.03	0.02	2.6	100	0.31	71000	48	620	1.1	0.17	15000	0.23						
SS-2	0.35	soil	57	14	4.6	1.9	1.6	3.0	1.8	0.48	0.13	0.05	0.02	0.02	15.1	100	0.28	73000	48	580	1.1	0.14	11000	0.22						
SS-3	0.55	soil	66	15	4.6	1.9	1.7	3.8	2.5	0.46	0.12	0.05	0.04	0.02	2.7	99	0.23	70000	17	600	1.1	0.12	10000	0.18						
SS-4	0.40	soil	58	12	3.5	1.3	2.1	2.9	1.7	0.38	0.12	0.03	0.03	0.01	18.7	100	0.22	60000	22	540	1.0	0.11	14000	0.17						
SS-5	0.35	soil	68	14	5.1	1.9	2.1	3.6	1.9	0.56	0.18	0.07	0.05	0.01	2.6	100	0.33	79000	48	610	1.1	0.14	15000	0.25						
	minimum		57	12	3.5	1.3	1.6	2.9	1.7	0.38	0.12	0.03	0.02	0.01	2.6	99	0.22	60000	17	540	1.0	0.11	10000	0.17						
	maximum		69	15	5.1	1.9	2.2	3.8	2.5	0.56	0.18	0.07	0.05	0.02	18.7	100	0.33	79000	48	620	1.1	0.17	15000	0.25						
	median		66	14	4.6	1.9	2.1	3.2	1.9	0.48	0.13	0.05	0.03	0.02	2.7	100	0.28	71000	48	600	1.1	0.14	14000	0.22						
	average		64	14	4.5	1.8	1.9	3.3	2.0	0.48	0.14	0.05	0.03	0.02	8.3	100	0.27	70600	37	590	1.1	0.14	13000	0.21						
	standard deviation		5.6	1.4	0.6	0.2	0.3	0.4	0.3	0.07	0.02	0.01	0.01	0.01	7.9	0.3	0.05	6877	16	32	0.1	0.02	2345	0.03						
	75th percentile		68	14	4.6	1.9	2.1	3.6	2.1	0.51	0.14	0.06	0.04	0.02	15.1	100	0.31	73000	48	610	1.1	0.14	15000	0.23						
F-Zone Soil Samples																														
FZ-SS-6	0.35	soil	70	12	4.5	1.7	2.3	3.1	1.7	0.48	0.14	0.06	0.03	0.02	3.5	100	0.34	62000	56	580	1.1	0.12	15000	0.29						
FZ-SS-7	0.36	soil	60	13	7.4	3.2	5.2	2.8	1.3	0.64	0.11	0.12	0.04	0.03	5.4	100	0.27	67000	68	430	0.8	0.10	33000	0.37						
FZ-SS-8	0.42	soil	67	12	5.0	2.1	4.0	3.0	1.6	0.49	0.13	0.08	0.04	0.02	4.0	100	0.29	64000	26	560	1.0	0.10	27000	0.23						
FZ-SS-9	0.4	soil	71	12	4.9	1.9	2.9	3.0	1.7	0.48	0.13	0.09	0.04	0.02	2.3	100	0.33	60000	28	590	1.1	< 0.09	19000	0.28						
FZ-SS-10	>0.2	soil	71	12	4.7	1.9	2.2	3.1	1.7	0.50	0.13	0.06	0.04	0.02	1.9	100	0.32	62000	13	560	1.0	< 0.09	14000	0.22						
	minimum		60	12	4.5	1.7	2.2	2.8	1.3	0.48	0.11	0.06	0.03	0.02	1.9	100	0.27	60000	13	430	0.8	< 0.09	14000	0.22						
	maximum		71	13	7.4	3.2	5.2	3.1	1.7	0.64	0.14	0.12	0.04	0.03	5.4	100	0.34	67000	68	590	1.1	0.12	33000	0.37						
	median		70	12	4.9	1.9	2.9	3.0	1.7	0.49	0.13	0.08	0.04	0.02	3.5	100	0.32	62000	28	560	1.0	0.10	19000	0.28						
	average		68	12	5.3	2.1	3.3	3.0	1.6	0.52	0.13	0.08	0.04	0.02	3.4	100	0.31	63000	38	544	1.0	0.11	21600	0.28						
	standard deviation		4.5	0.4	1.2	0.6	1.3	0.1	0.2	0.07	0.01	0.02	0.00	0.00	1.4	0.2	0.03	2646	23	65	0.1	0.01	8173	0.06						
	75th percentile		71	12	5.0	2.1	4.0	3.1	1.7	0.50	0.13	0.09	0.04	0.02	4.0	100	0.33	64000	56	580	1.1	0.11	27000	0.29						
Discovery Soil Samples																														
Disc SS1	0.38	soil	71	14	4.0	1.7	2.4	3.5	2.1	0.44	0.14	0.03	0.03	0.02	1.5	101	0.25	77000	13	670	1.2	0.15	17000	0.24						
Disc SS2	0.33	soil	73	13	3.4	1.2	2.4	3.4	2.0	0.40	0.14	0.02	0.03	< 0.01	1.3	101	0.22	71000	10	630	1.1	0.12	17000	0.21						
Disc SS3	0.28	soil	73	13	3.7	1.5	2.4	3.5	2.0	0.44	0.14	0.03	0.03	0.01	1.2	101	0.26	72000	13	650	1.2	0.13	17000	0.20						
	minimum		71	13	3.4	1.2	2.4	3.4	2.0	0.40	0.14	0.02	0.03	0.01	1.2	101	0.22	71000	10	630	1.1	0.12	17000	0.20						
	maximum		73	14	4.0	1.7	2.4	3.5	2.1	0.44	0.14	0.03	0.03	0.02	1.5	101	0.26	77000	13	670	1.2	0.15	17000	0.24						
	median		73	13	3.7	1.5	2.4	3.5	2.0	0.44	0.14	0.03	0.03	0.02	1.3	101	0.25	72000	13	650	1.2	0.13	17000	0.21						
	average		72	13	3.7	1.5	2.4	3.5	2.0	0.43	0.14	0.03	0.03	0.02	1.3	101	0.24	73333	12	650	1.2	0.13	17000	0.22						
	standard deviation		1.3	0.5	0.3	0.2	0.0	0.0	0.1	0.02	0.00	0.01	0.00	0.01	0.1	0.1	0.02	3215	2	20	0.1	0.02	0.0	0.02						
	75th percentile		73	14	3.9	1.6	2.4	3.5	2.1	0.44	0.14	0.03	0.03	0.02	1.4	101	0.26	74500	13	660	1.2	0.14	17000	0.23						

Notes:

Bolded values indicate values above CCME Soil guidelines

nc - not calculated

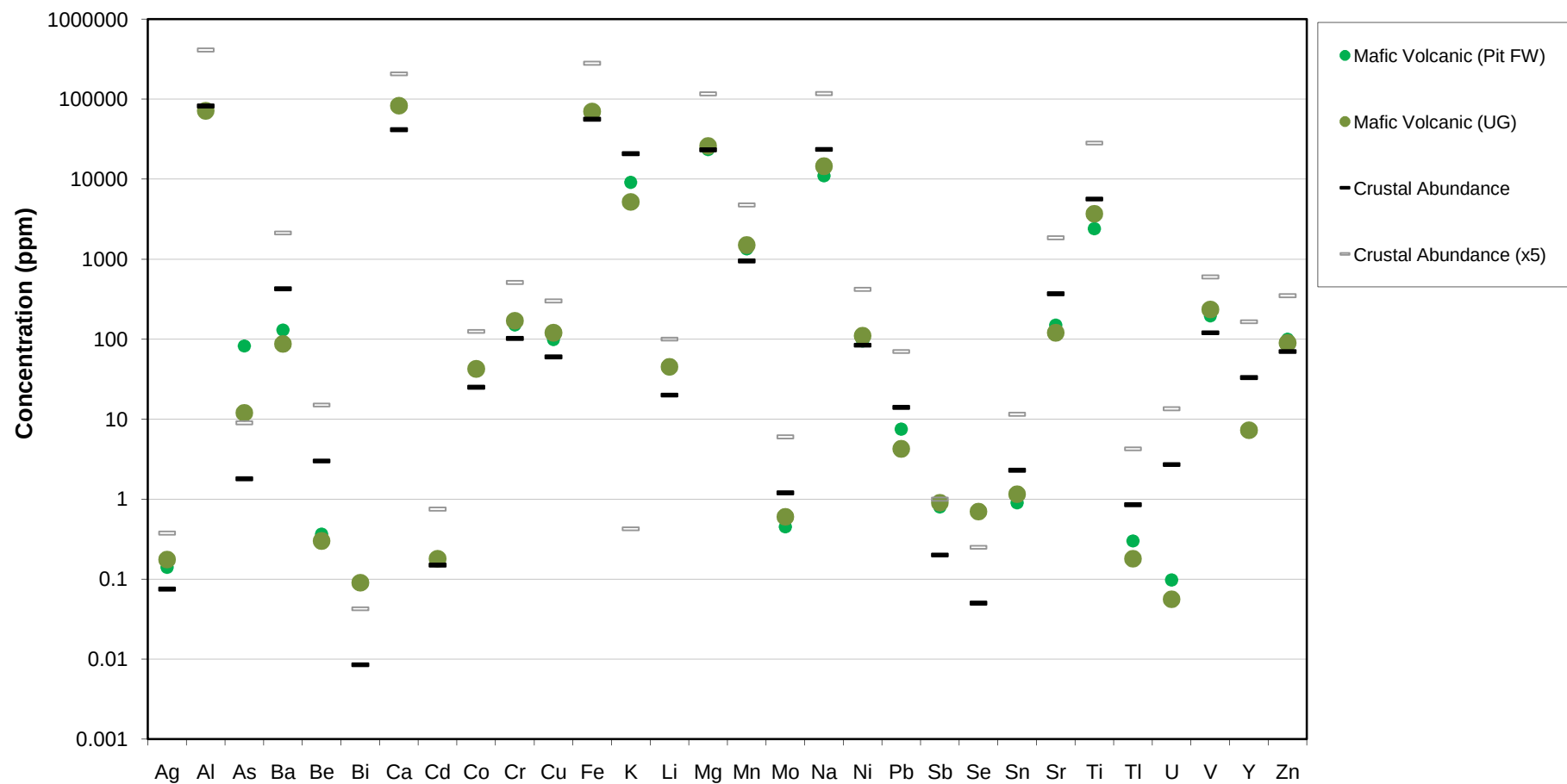
Appendix B Table B.1-4
Soil Chemical Composition
Meliadine Gold Project, Nunavut
Comaplex Minerals Corporation

CCME Industrial Soil Guideline				87	91									50	600		2.9				1.0	300	130		360			
Sample Number	sample depth (m)	sample type	Co µg/g	Cr µg/g	Cu µg/g	Fe µg/g	K µg/g	Li µg/g	Mg µg/g	Mn µg/g	Mo µg/g	Na µg/g	Ni µg/g	Pb µg/g	Sb µg/g	Se µg/g	Sn µg/g	Sr µg/g	Ti µg/g	Tl µg/g	U µg/g	V µg/g	Y µg/g	Zn µg/g				
Tiriganaq Soil Samples																												
SS-1	0.40	soil	14	210	29	31000	18000	18	9600	450	3.3	21000	37	15	< 0.8	1.0	1.3	310	1900	0.41	1.3	82	8.6	55				
SS-2	0.35	soil	9.2	200	23	32000	16000	22	11000	370	2.4	21000	33	12	< 0.8	1.4	2.0	290	1700	0.38	1.4	91	6.9	67				
SS-3	0.55	soil	7.8	230	9.2	28000	18000	21	9400	360	3.9	22000	30	12	< 0.8	1.6	< 0.5	300	1700	0.42	1.2	67	6.7	51				
SS-4	0.40	soil	6.7	220	46	25000	14000	14	7700	270	4.1	19000	28	11	< 0.8	1.9	1.7	300	1600	0.33	1.4	58	6.9	38				
SS-5	0.35	soil	14	270	24	36000	17000	20	12000	490	4.6	25000	35	15	< 0.8	0.9	1.3	350	2200	0.38	1.6	85	9.7	61				
	minimum		6.7	200	9.2	25000	14000	14	7700	270	2.4	19000	28	11	< 0.8	0.9	< 0.5	290	1600	0.33	1.2	58	6.7	38				
	maximum		14	270	46	36000	18000	22	12000	490	4.6	25000	37	15	< 0.8	1.9	2.0	350	2200	0.42	1.6	91	9.7	67				
	median		9.2	220	24	31000	17000	20	9600	370	3.9	21000	33	12	nc	1.4	1.5	300	1700	0.38	1.4	82	6.9	55				
	average		10	226	26	30400	16600	19	9940	388	3.7	21600	33	13	nc	1.4	1.6	310	1820	0.38	1.4	77	7.8	54				
	standard deviation		3.5	27	13	4159	1673	3.2	1643	86	0.8	2191	3.6	1.9	nc	0.4	0.3	23	239	0.04	0.1	14	1.3	11				
	75th percentile		14	230	29	32000	18000	21	11000	450	4.1	22000	35	15	nc	1.6	1.8	310	1900	0.41	1.4	85	8.6	61				
F-Zone Soil Samples																												
FZ-SS-6	0.35	soil	14	200	34	31000	15000	18	9000	490	3.7	21000	39	16	< 0.8	< 0.7	1.3	310	2200	0.37	1.2	77	9.2	45				
FZ-SS-7	0.36	soil	26	240	74	48000	11000	29	18000	890	3.8	19000	69	12	< 0.8	< 0.7	0.9	250	3200	0.33	0.9	140	10	110				
FZ-SS-8	0.42	soil	14	250	22	33000	15000	20	12000	570	4.8	21000	38	13	< 0.8	< 0.7	1.3	330	2600	0.36	1.2	86	9.5	55				
FZ-SS-9	0.4	soil	16	250	32	33000	15000	16	11000	630	3.8	20000	40	13	< 0.8	< 0.7	0.8	280	2700	0.38	1.0	84	11	45				
FZ-SS-10	>0.2	soil	14	250	33	32000	15000	17	11000	390	4.8	21000	39	14	< 0.8	< 0.7	0.9	290	2700	0.36	1.0	80	10	44				
	minimum		14	200	22	31000	11000	16	9000	390	3.7	19000	38	12	< 0.8	< 0.7	0.8	250	2200	0.33	0.9	77	9.2	44				
	maximum		26	250	74	48000	15000	29	18000	890	4.8	21000	69	16	< 0.8	< 0.7	1.3	330	3200	0.38	1.2	140	11	110				
	median		14	250	33	33000	15000	18	11000	570	3.8	21000	39	13	nc	nc	0.9	290	2700	0.36	1.0	84	10	45				
	average		17	238	39	35400	14200	20	12200	594	4.2	20400	45	14	nc	nc	1.0	292	2680	0.36	1.1	93	9.9	60				
	standard deviation		5.2	22	20	7092	1789	5.2	3421	188	0.6	894	13	1.5	nc	nc	0.2	30	356	0.02	0.1	26	0.7	28				
	75th percentile		16	250	34	33000	15000	20	12000	630	4.8	21000	40	14	nc	nc	1.3	310	2700	0.37	1.2	86	10	55				
Discovery Soil Samples																												
Disc SS1	0.38	soil	11	180	30	29000	20000	20	10000	340	1.8	26000	33	15	< 0.8	< 0.7	1.1	380	2900	0.42	1.3	61	10	50				
Disc SS2	0.33	soil	10	160	17	26000	19000	12	8000	300	0.7	26000	24	14	< 0.8	< 0.7	0.8	360	2500	0.34	1.2	48	8.8	36				
Disc SS3	0.28	soil	11	190	33	27000	20000	15	8800	320	4.6	25000	29	15	< 0.8	< 0.7	1.1	360	2700	0.36	1.3	53	9.7	41				
	minimum		10	160	17	26000	19000	12	8000	300	0.7	25000	24	14	< 0.8	< 0.7	0.8	360	2500	0.34	1.2	48	8.8	36				
	maximum		11	190	33	29000	20000	20	10000	340	4.6	26000	33	15	< 0.8	< 0.7	1.1	380	2900	0.42	1.3	61	10	50				
	median		11	180	30	27000	20000	15	8800	320	1.8	26000	29	15	nc	nc	1.1	360	2700	0.36	1.3	53	9.7	41				
	average		11	177	27	27333	19667	16	8933	320	2.4	25667	29	15	nc	nc	1.0	367	2700	0.37	1.3	54	9.5	42				
	standard deviation		0.7	15	8.5	1528	577	4.0	1007	20	2.0	577	5	0.6	nc	nc	0.2	12	200	0.04	0.1	7	0.6	7.1				
	75th percentile		11	185	32	28000	20000	18	9400	330	3.2	26000	31	15	nc	nc	1.1	370	2800	0.39	1.3	57	9.9	46				

Notes:

Bolded values indicate values above CCME Soil guidelines

nc - not calculated



Notes:

Median concentrations plotted.

Non-detect values are plotted as the detection limit.

Hg, was not plotted since sample results of these parameters were consistently less than detection limit

UG: underground

FW: foot wall

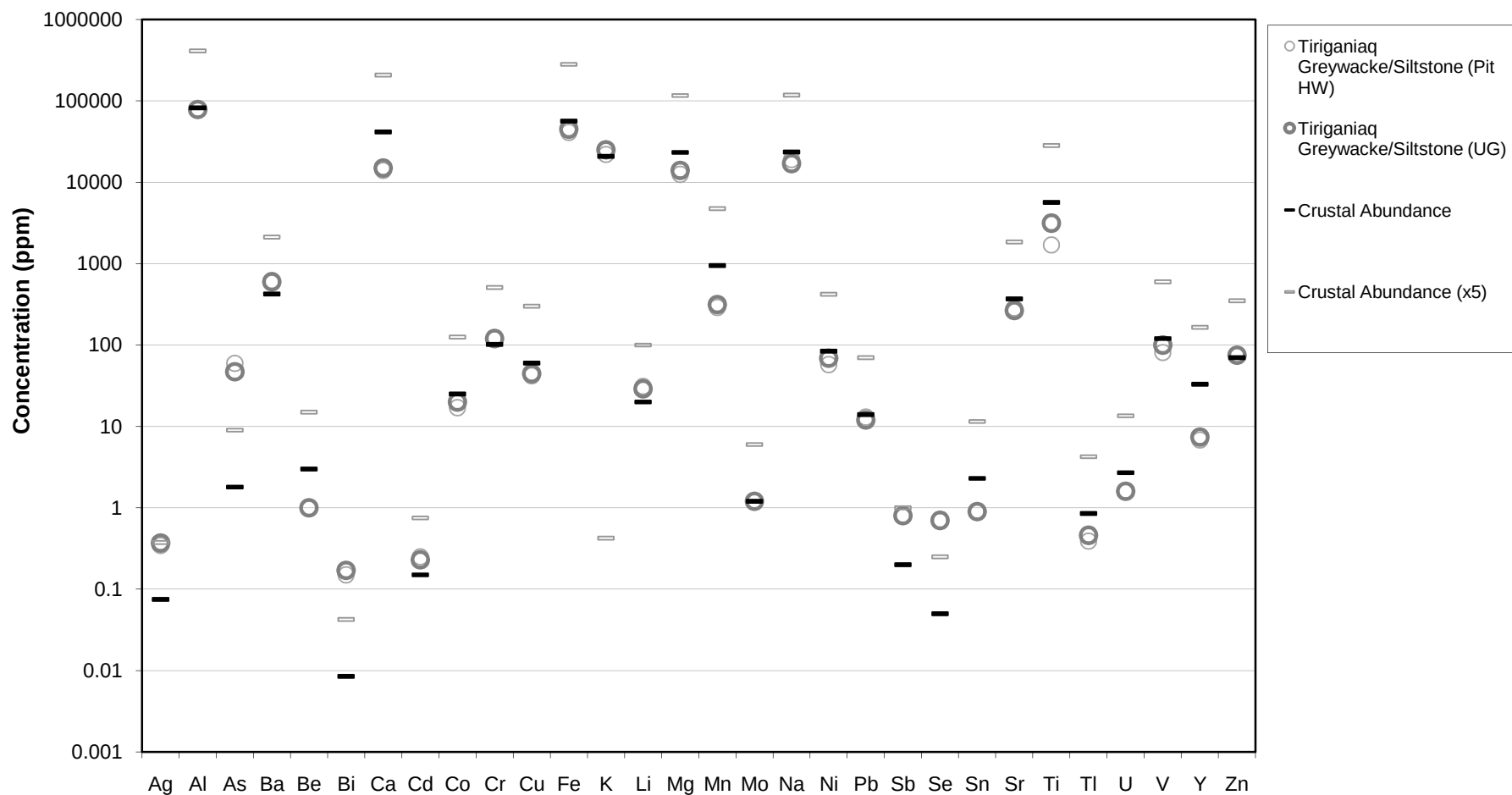


Waste Rock Static Testing

**Trace Element Content
Mafic Volcanic - Tiriganiaq Deposit**

**Meliadine Gold Project
Comaplex Minerals Corporation**

DRAWN	TG	DATE	Feb-10	JOB NO	09-1426-0015
CHECKED	JMC				
REVIEWED	VJB			FIGURE	B.1-1



Notes:

Median concentrations plotted;

Non-detect values are plotted as the detection limit.

Hg, was not plotted since sample results of these parameters were consistently less than detection limit

UG: underground

HW: hanging wall

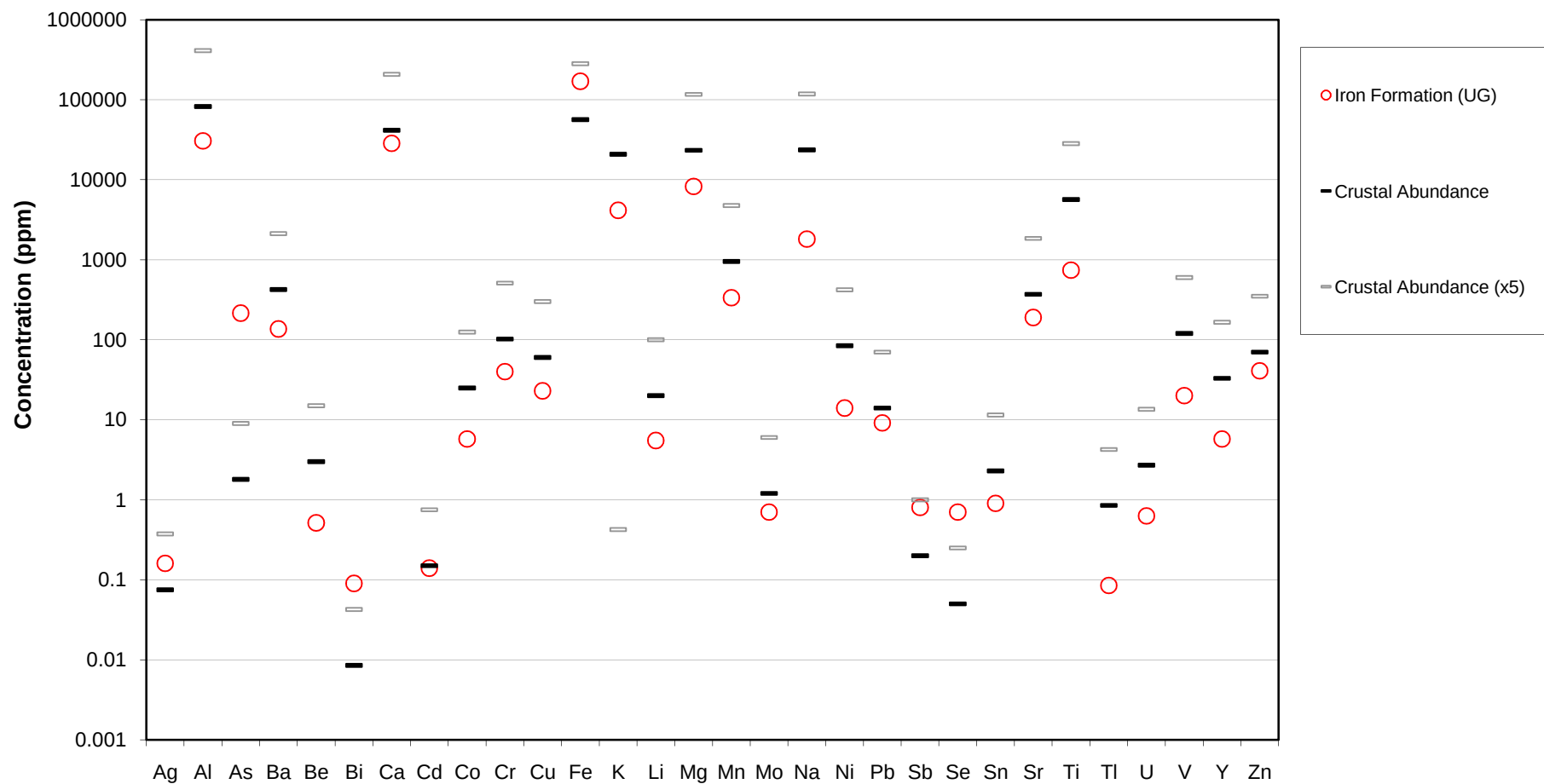


Waste Rock Static Testing

**Trace Element Content
Greywacke/Siltstone - Tiriganiaq Deposit**

**Meliadine Gold Project
Comaplex Minerals Corporation**

DRAWN	TG	DATE	Feb-10	JOB NO	09-1426-0015
CHECKED	JMC				
REVIEWED	VJB			FIGURE	B.1-2



Notes:

Median concentrations plotted;

Non-detect values are plotted as the detection limit.

Hg, was not plotted since sample results of these parameters were consistently less than detection limit

UG: underground

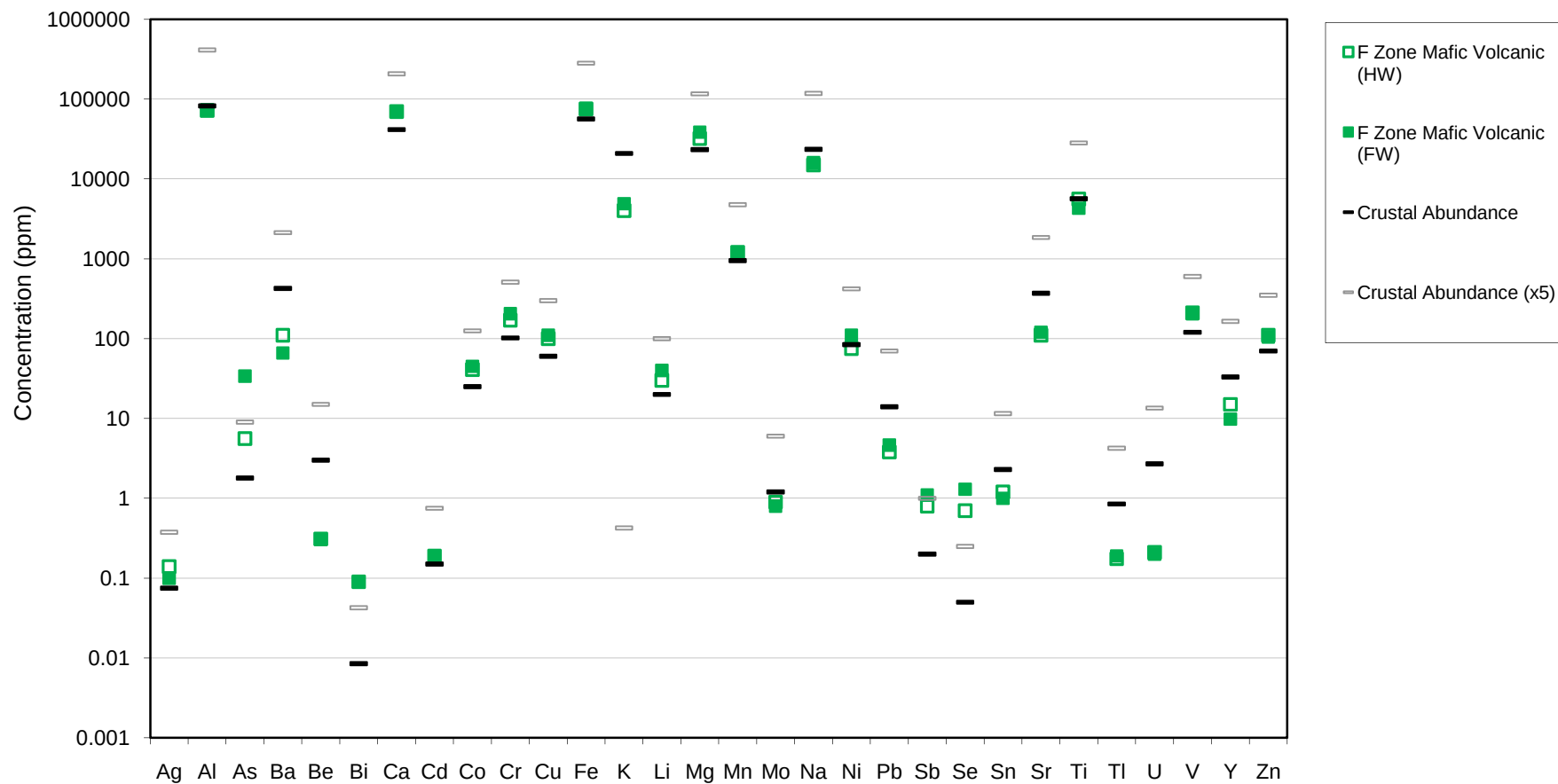


Waste Rock Static Testing

**Trace Element Content
Iron Formation - Tiriganiaq Deposit**

**Meliadine Gold Project
Comaplex Minerals Corporation**

DRAWN	AJS	DATE	Feb-10	JOB NO	09-1426-0015
CHECKED	TG				
REVIEWED	VJB			FIGURE	B.1-3



Notes:

Median concentrations plotted;

Non-detect values are plotted as the detection limit.

HW: hanging wall

FW: foot wall

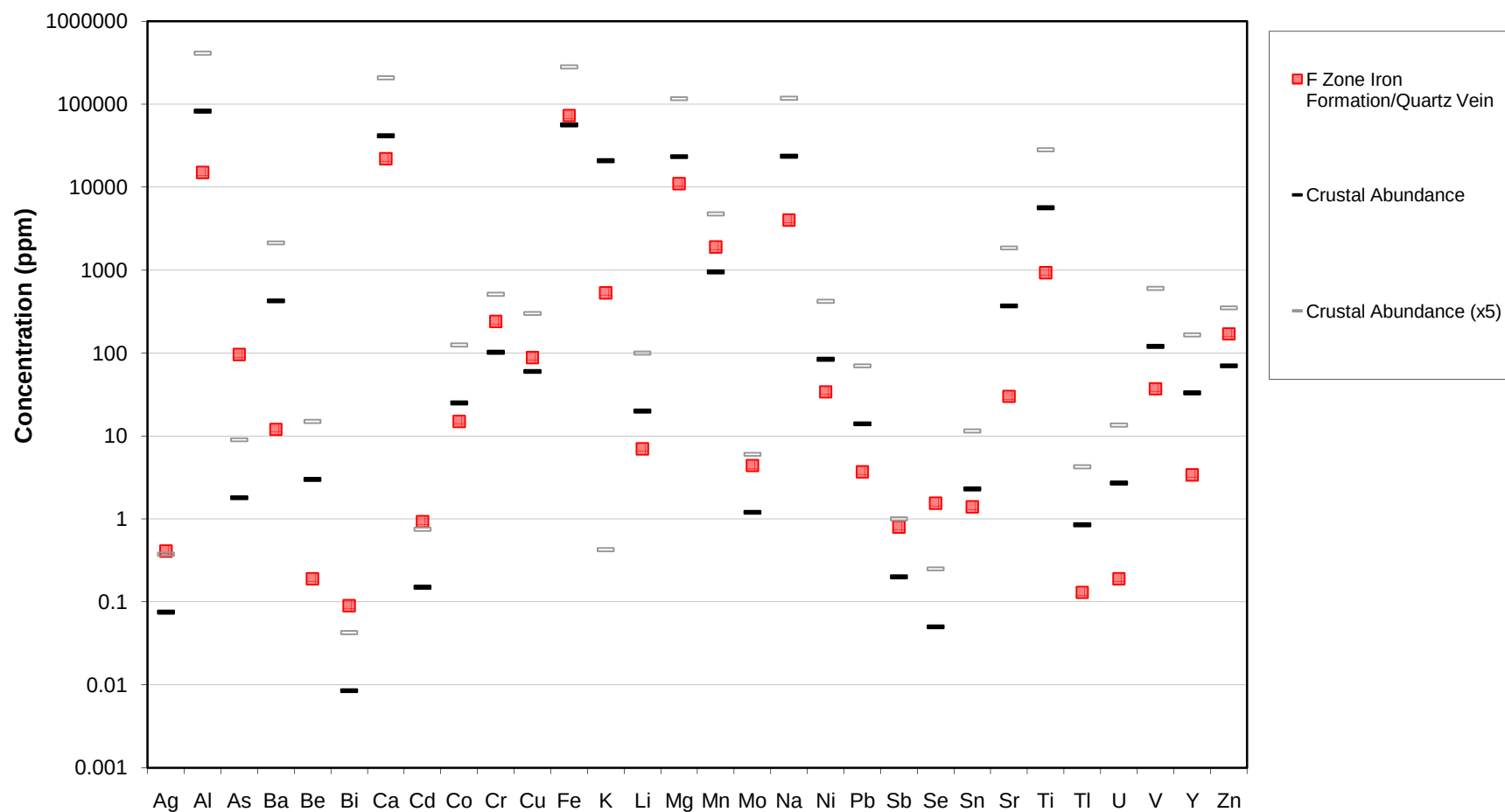


Waste Rock Static Testing

**Trace Element Content
Mafic Volcanic - F Zone Deposit**

**Meliadine Gold Project
Comaplex Minerals Corporation**

DRAWN	AJS	DATE	Feb-10	JOB NO	09-1426-0015
CHECKED	TG				
REVIEWED	VJB			FIGURE	B.1-4



Notes:

Median concentrations plotted;

Non-detect values are plotted as the detection limit.



**Golder
Associates**

Waste Rock Static Testing

**Trace Element Content
Quartz Vein and Iron Formation - F Zone Deposit**

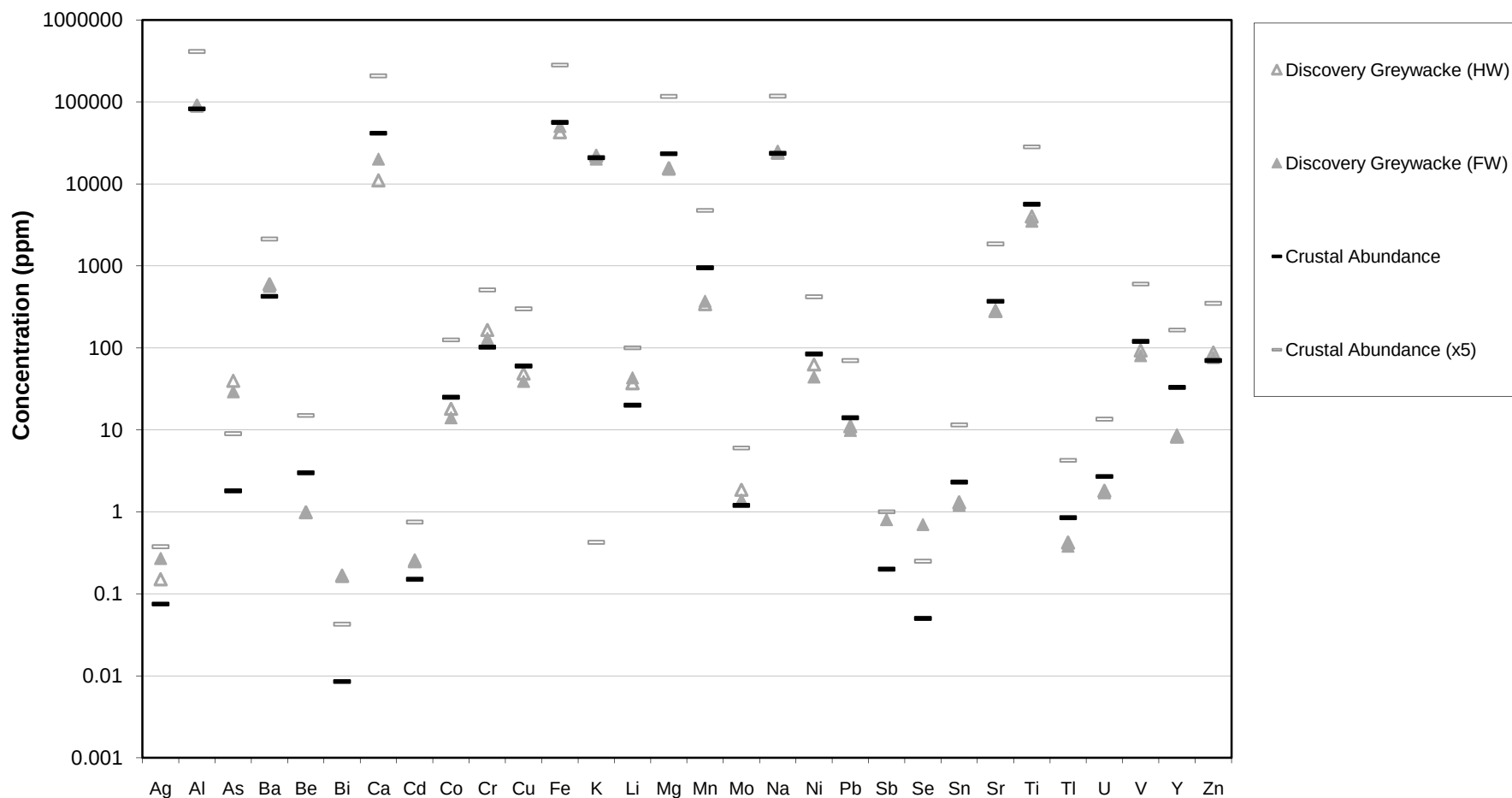
**Meliadine Gold Project
Comaplex Minerals Corporation**

DRAWN TG
CHECKED JMC
REVIEWED VJB

DATE Feb-10

JOB NO 09-1426-0015

FIGURE **B.1-5**



Notes:

Median concentrations were plotted for hanging wall and foot wall greywacke samples.

Non-detect values are plotted as the detection limit.

HW: hanging wall

FW: foot wall

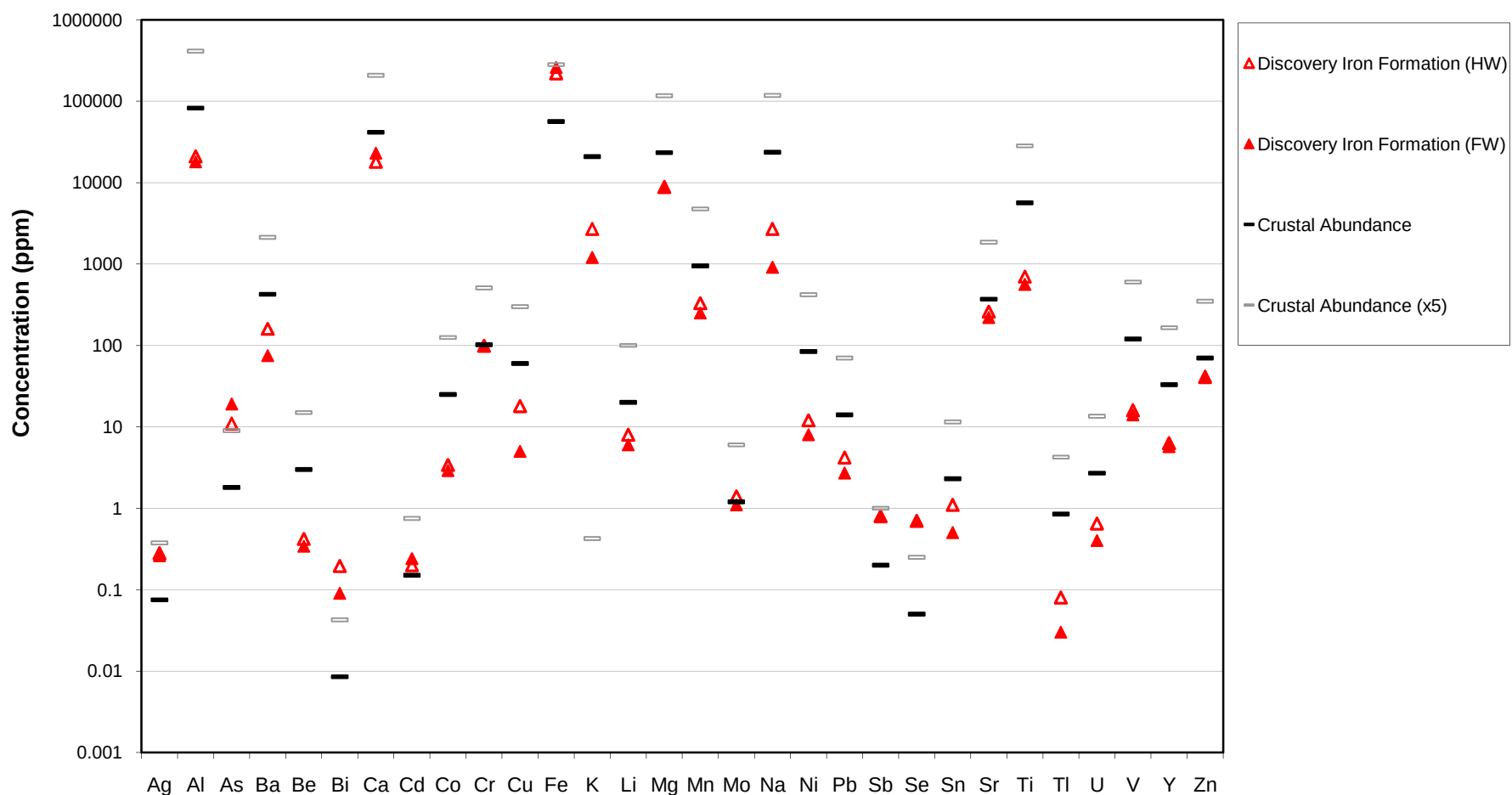


Waste Rock Static Testing

Meliadine Gold Project
Comaplex Minerals Corporation

Trace Element Content
Greywacke - Discovery Deposit

DRAWN	TG	DATE	Feb-10	JOB NO	09-1426-0015
CHECKED	JMC				
REVIEWED	VJB			FIGURE	B.1-6



Notes:

Median concentrations were plotted for hanging wall iron formation samples.

Non-detect values are plotted as the detection limit.

HW: hanging wall

FW: foot wall

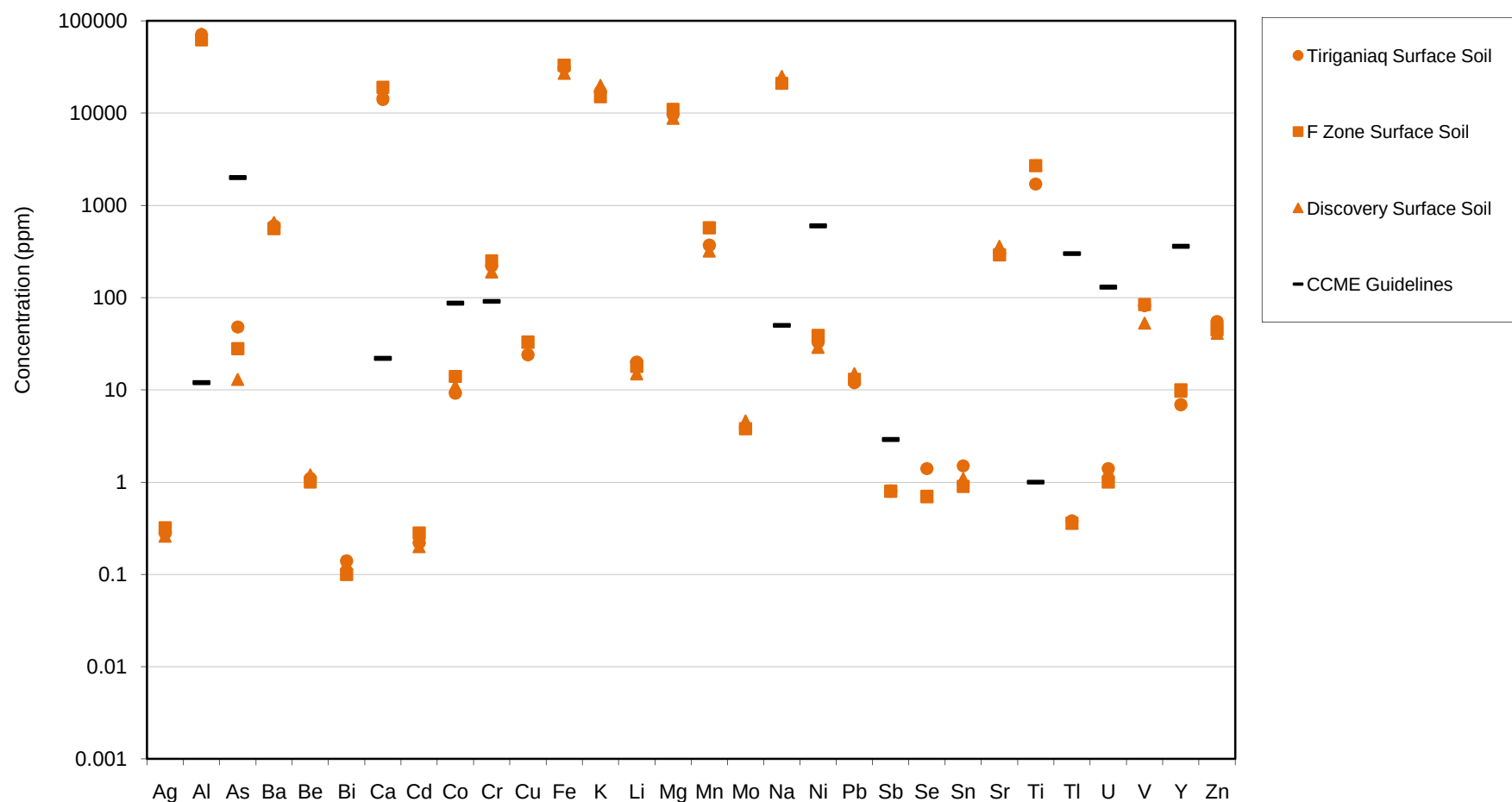


Waste Rock Static Testing

**Trace Element Content
Iron Formation - Discovery Deposit**

**Meliadine Gold Project
Comaplex Minerals Corporation**

DRAWN	TG	DATE	Feb-10	JOB NO	09-1426-0015
CHECKED	JMC				
REVIEWED	VJB			FIGURE	B.1-7



Notes:

Median concentrations plotted;

Non-detect values are plotted as the detection limit.

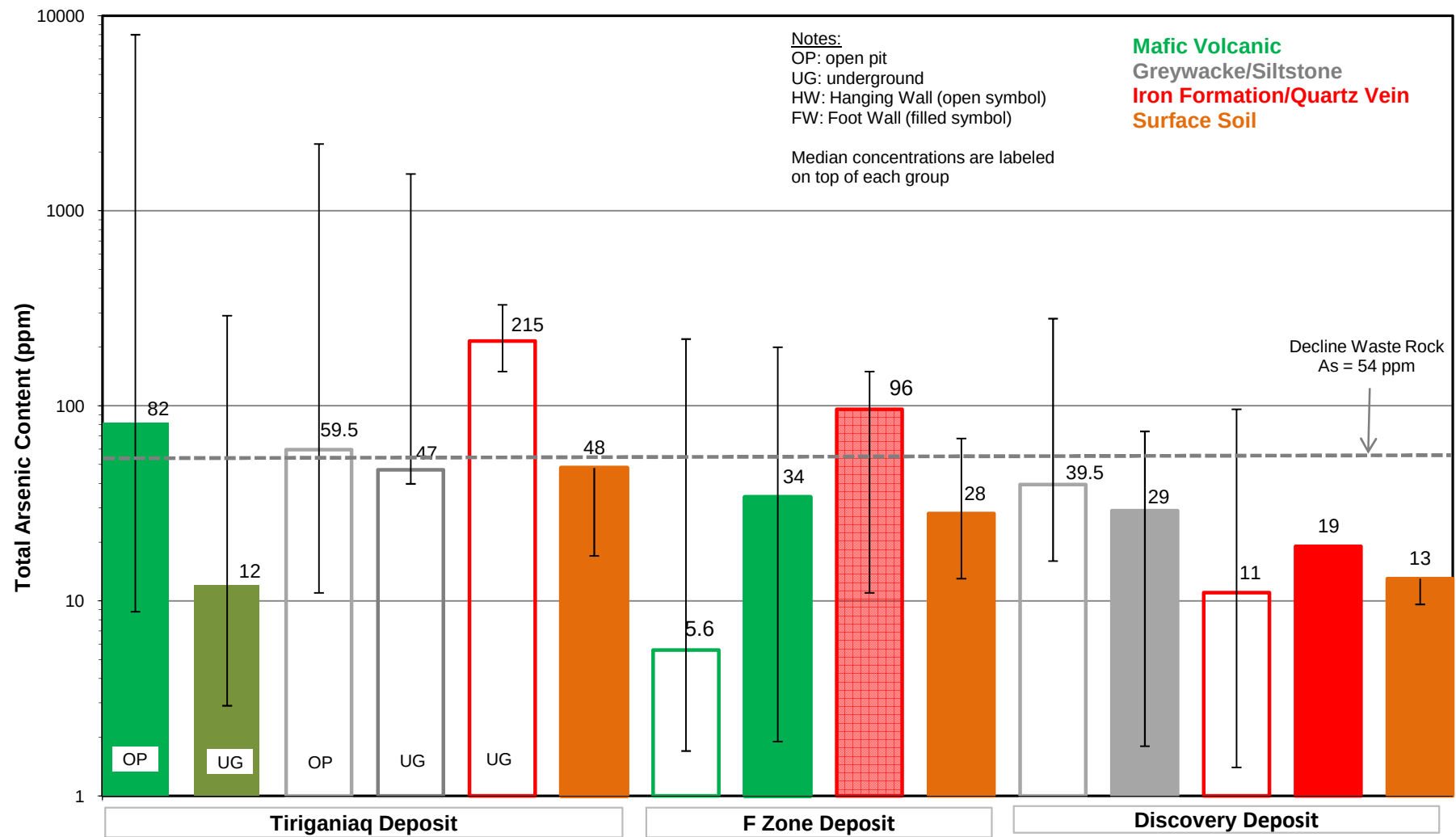


Waste Rock Static Testing

**Trace Metal Results Compared to CCME Soil Quality Guidelines (Industrial Land Use)
Surface Soil Samples**

**Meliadine Gold Project
Comaplex Minerals Corporation**

DRAWN	TG	DATE	Feb-10	JOB NO	09-1426-0015
CHECKED	JMC				
REVIEWED	VJB			FIGURE	B.1-8

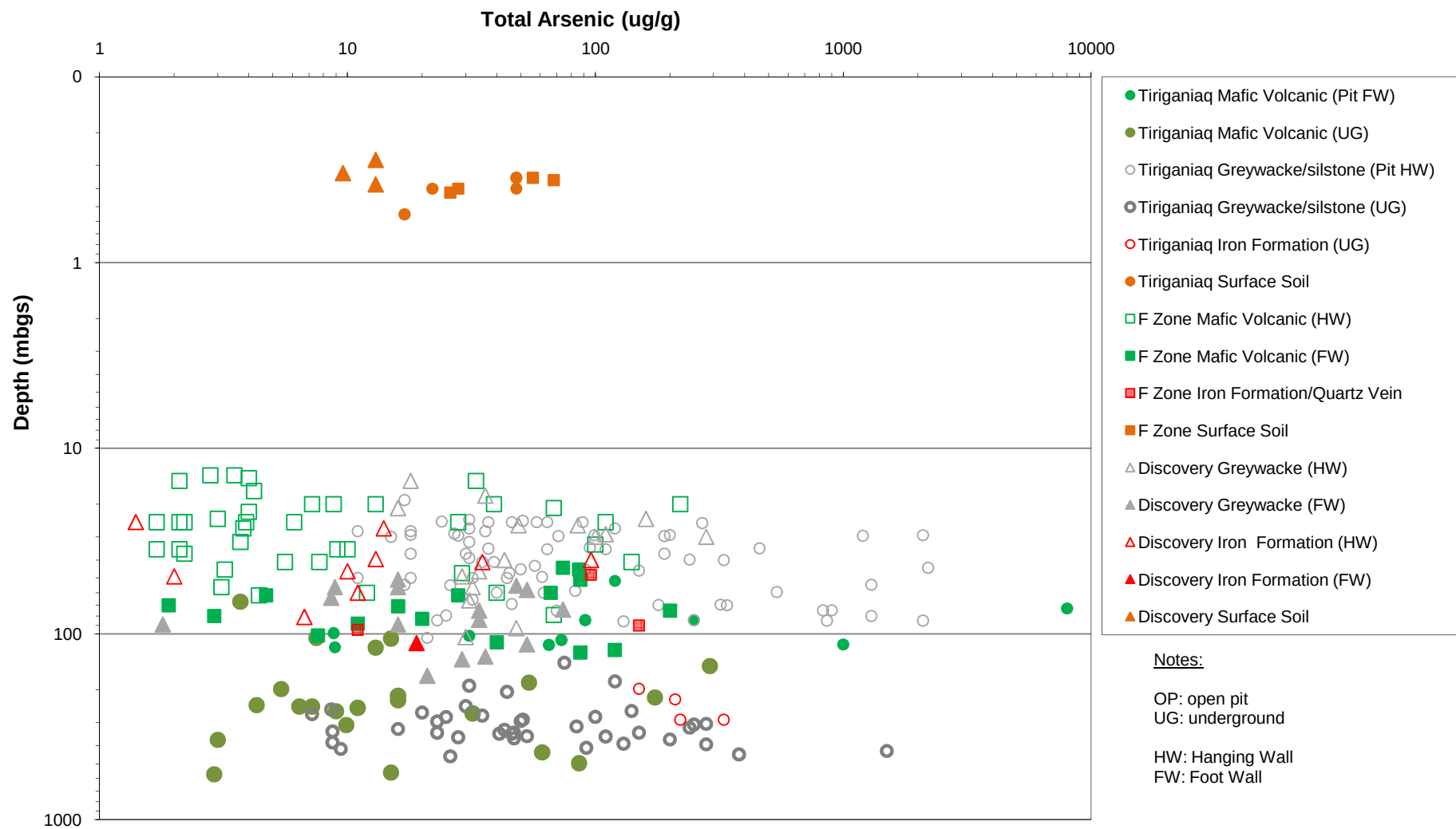


Waste Rock Static Testing

Total Arsenic Content

Meliadine Gold Project
 Comaplex Minerals Corporation

DRAWN	TG	DATE	Feb-10	JOB NO	09-1426-0015
CHECKED	JMC				
REVIEWED	VJB			FIGURE	B.1-9

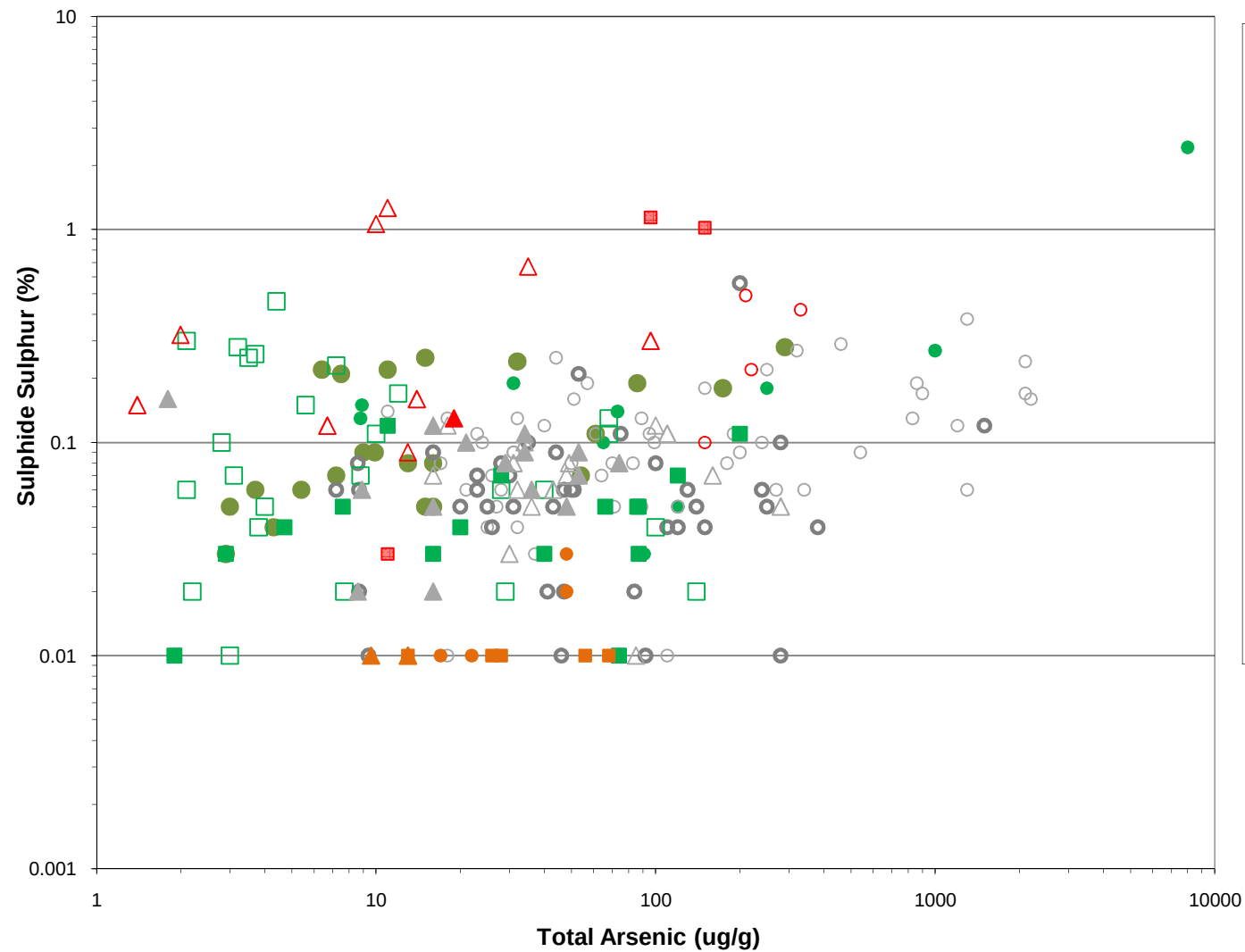


Waste Rock Static Testing

Total Arsenic versus Depth

Meliadine Gold Project
Complex Minerals Corporation

DRAWN	TG	DATE	Feb-10	JOB NO	09-1426-0015
CHECKED	JMC				
REVIEWED	VJB			FIGURE	B.1-10



- Tiriganiaq Mafic Volcanic (Pit FW)
- Tiriganiaq Mafic Volcanic (UG)
- Tiriganiaq Greywacke/siltstone (Pit HW)
- Tiriganiaq Greywacke/siltstone (UG)
- Tiriganiaq Iron Formation (UG)
- Tiriganiaq Surface Soil
- F Zone Mafic Volcanic (HW)
- F Zone Mafic Volcanic (FW)
- F Zone Iron Formation/Quartz Vein
- F Zone Surface Soil
- △ Discovery Greywacke (HW)
- △ Discovery Greywacke (FW)
- △ Discovery Iron Formation (HW)
- △ Discovery Iron Formation (FW)
- △ Discovery Surface Soil

Notes:

OP: open pit
UG: underground

HW: Hanging Wall
FW: Foot Wall



Waste Rock Static Testing

Total Arsenic versus Sulphide Sulphur

**Meliadine Gold Project
Comaplex Minerals Corporation**

DRAWN	TG	DATE	Feb-10	JOB NO	09-1426-0015
CHECKED	JMC				
REVIEWED	VJB			FIGURE	B.1-11



B.2 ARD Potential Analytical Results: Tables and Figures

Appendix B Table B.2-1
Waste Rock Acid Base Accounting - Tiriganiaq Deposit
Meliadine Gold Project, Nunavut
Comaplex Minerals Corporation

Sample Number	Borehole Interval (m)		Lithology	Location	Paste pH	NAG Final pH	NAG Acidity ²		S(T)	S(SO4)	S(S2-)	TC	CO3	TIC	CaNP	NP	AP	Net NP	NPR	ARD POTENTIAL ³				
	from	to					pH 4.5	pH 7.0													%	%	%	%
GT08-01-01	50	54	greywacke/siltstone	Pit hanging wall	9.3	-	-	-	0.15	0.06	0.08	0.6	2.3	0.5	39	42	2.6	40	16	non PAG				
GT08-01-02	25	29	greywacke/siltstone	Pit hanging wall	9.1	-	-	-	0.20	0.11	0.09	0.6	2.3	0.5	38	38	2.9	35	13	non PAG				
GT08-02-01	65	70	greywacke/siltstone	Pit hanging wall	9.1	-	-	-	0.17	0.09	0.08	1.0	4	0.767	64	65	2.6	62	25	non PAG				
M00-474-02	80	85	greywacke/siltstone	Pit hanging wall	9.0	-	-	-	0.40	0.16	0.24	3.9	18.4	3.7	307	392	7.4	384	53	non PAG				
M00-474-04	45	50	greywacke/siltstone	Pit hanging wall	9.2	-	-	-	0.09	0.04	0.05	1.0	4.4	0.9	74	75	1.5	73	49	non PAG				
M00-474-05	21	25	greywacke/siltstone	Pit hanging wall	9.0	-	-	-	0.26	0.09	0.16	0.6	2.1	0.4	35	42	5.1	37	8	non PAG				
M00-479-01	30	35	greywacke/siltstone	Pit hanging wall	-	-	-	-	0.03	0.02	0.01	-	-	-	-	-	-	-	-	-				
M03-513-01	20	25	greywacke/siltstone	Pit hanging wall	9.4	-	-	-	0.19	0.09	0.10	0.9	3.4	0.7	57	55	3.1	52	18	non PAG				
M06-628-01	38	43	greywacke/siltstone	Pit hanging wall	-	-	-	-	0.27	0.08	0.19	-	-	-	-	-	-	-	-	-				
M07-660-01	36	41	greywacke/siltstone	Pit hanging wall	8.9	-	-	-	0.24	0.13	0.11	1.1	4.7	0.9	78	75	3.5	72	22	non PAG				
M07-660-02	22	27	greywacke/siltstone	Pit hanging wall	9.1	-	-	-	0.18	0.06	0.12	0.5	2.1	0.4	35	41	3.9	37	11	non PAG				
M07-678-02	36	40	greywacke/siltstone	Pit hanging wall	9.0	-	-	-	0.17	0.07	0.10	1.3	5.7	1.1	95	87	3.0	84	29	non PAG				
M07-678-03	25	30	greywacke/siltstone	Pit hanging wall	9.0	-	-	-	0.20	0.08	0.12	0.7	3.2	0.6	54	46	3.8	42	12	non PAG				
M07-704-01	41	46	greywacke/siltstone	Pit hanging wall	9.2	-	-	-	0.22	0.04	0.18	1.0	4.2	0.8	70	65	5.8	59	11	non PAG				
M07-704-02	25	25	greywacke/siltstone	Pit hanging wall	9.4	-	-	-	0.18	0.12	0.06	0.6	2.5	0.5	42	41	1.8	39	22	non PAG				
M07-705-01	46	50	greywacke/siltstone	Pit hanging wall	9.6	-	-	-	0.32	0.18	0.14	0.7	2.9	0.6	49	50	4.4	45	11	non PAG				
M07-710-02	26	30	greywacke/siltstone	Pit hanging wall	9.2	-	-	-	0.06	0.01	0.05	1.1	4.8	1.0	80	82	1.6	80	52	non PAG				
M07-711-01	25	30	greywacke/siltstone	Pit hanging wall	8.8	-	-	-	0.20	0.08	0.11	1.0	4.4	0.9	73	74	3.6	70	21	non PAG				
M07-713-01	80	86	greywacke/siltstone	Pit hanging wall	9.0	-	-	-	0.15	0.09	0.06	1.0	4.1	0.8	69	62	1.9	60	32	non PAG				
M07-713-02	45	49	greywacke/siltstone	Pit hanging wall	9.1	-	-	-	0.31	0.19	0.11	0.5	1.9	0.4	32	36	3.5	32	10	non PAG				
M95-17-01	61	66	greywacke/siltstone	Pit hanging wall	9.5	-	-	-	0.20	0.16	0.04	0.5	1.9	0.4	31	30	1.2	29	26	non PAG				
M95-17-02	30	35	greywacke/siltstone	Pit hanging wall	9.6	-	-	-	0.20	0.16	0.03	0.5	1.7	0.3	29	32	1.0	31	33	non PAG				
M98-194-01	70	75	greywacke/siltstone	Pit hanging wall	8.9	10.5	0.0	0.0	0.23	0.11	0.13	1.2	5.0	1.0	84	75	3.9	72	19	non PAG				
M98-194-02	55	59	greywacke/siltstone	Pit hanging wall	8.9	-	-	-	0.15	0.07	0.08	1.0	4.1	0.8	69	66	2.6	63	25	non PAG				
M98-194-03	26	29	greywacke/siltstone	Pit hanging wall	9.2	-	-	-	0.21	0.11	0.10	0.5	1.9	0.4	32	35	3.2	32	11	non PAG				
M98-194-04	34	39	greywacke/siltstone	Pit hanging wall	-	-	-	-	0.18	0.09	0.09	-	-	-	-	-	-	-	-	-				
M98-269-01	66	70	greywacke/siltstone	Pit hanging wall	8.9	-	-	-	0.10	0.04	0.06	0.9	3.9	0.8	66	62	1.9	60	33	non PAG				
M98-269-02	46	50	greywacke/siltstone	Pit hanging wall	9.1	-	-	-	0.07	0.06	<0.01	0.7	3.3	0.7	56	56	0.3	55	179	non PAG				
M98-269-03	20	24	greywacke/siltstone	Pit hanging wall	9.2	-	-	-	0.25	0.16	0.09	0.6	2.7	0.5	45	48	2.7	45	18	non PAG				
M98-297-02	76	80	greywacke/siltstone	Pit hanging wall	9.2	-	-	-	0.05	<0.01	0.04	0.6	2.8	0.6	47	48	1.3	47	37	non PAG				
M98-297-04	25	29	greywacke/siltstone	Pit hanging wall	9.1	-	-	-	0.23	0.18	0.05	0.4	1.6	0.3	27	30	1.6	29	20	non PAG				
M98-298-01	45	50	greywacke/siltstone	Pit hanging wall	-	-	-	-	0.18	0.05	0.13	-	-	-	-	-	-	-	-	-				
M98-316-01	25	29	greywacke/siltstone	Pit hanging wall	9.5	-	-	-	0.39	0.22	0.17	1.0	4.4	0.9	74	68	5.5	62	12	non PAG				
M99-339-01	55	59	greywacke/siltstone	Pit hanging wall	9.2	-	-	-	0.19	0.10	0.09	0.9	3.3	0.7	55	104	2.9	101	36	non PAG				
M99-340-03	26	30	greywacke/siltstone	Pit hanging wall	9.5	-	-	-	0.21	0.15	0.06	0.5	1.7	0.3	29	33	1.9	31	17	non PAG				
M99-341-02	30	35	greywacke/siltstone	Pit hanging wall	9.3	-	-	-	0.39	0.10	0.29	1.1	4.6	0.9	77	75	9.0	66	8	non PAG				
M99-341-03	20	25	greywacke/siltstone	Pit hanging wall	-	-	-	-	0.15	0.08	0.07	-	-	-	-	-	-	-	-	-				
M99-345-01_Dec2009	45	50	greywacke/siltstone	Pit hanging wall	-	-	-	-	0.27	0.03	0.25	-	-	-	-	-	-	-	-	-				
M99-345-01	81	85	greywacke/siltstone	Pit hanging wall	9.0	-	-	-	0.34	0.15	0.19	1.1	4.7	0.9	78	71	5.9	66	12	non PAG				
M99-346-02	70	75	greywacke/siltstone	Pit hanging wall	9.6	-	-	-	0.23	0.15	0.08	0.5	1.9	0.4	31	32	2.6	29	12	non PAG				
M99-349-01	65	70	greywacke/siltstone	Pit hanging wall	9.2	-	-	-	0.66	0.38	0.27	0.9	3.2	0.6	54	58	8.5	50	7	non PAG				
M99-349-02	40	45	greywacke/siltstone	Pit hanging wall	9.1	-	-	-	0.11	0.03	0.08	1.4	6	1.1	93	86	2.4	84	36	non PAG				
M99-350-02	50	55	greywacke/siltstone	Pit hanging wall	9.5	-	-	-	0.19	0.12	0.07	0.5	2.1	0.4	35	31	2.1	29	15	non PAG				
M99-386-01	39	44	greywacke/siltstone	Pit hanging wall	-	-	-	-	0.27	0.11	0.16	-	-	-	-	-	-	-	-	-				
M99-403-01	75	80	greywacke/siltstone	Pit hanging wall	9.0	-	-	-	0.55	0.18	0.38	3.3	15.7	3.2	263	242	11.7	231	21	non PAG				
M99-403-02	70	75	greywacke/siltstone	Pit hanging wall	9.2	-	-	-	0.21	0.04	0.17	1.0	4.2	0.8	71	64	5.3	58	12	non PAG				
M99-403-03	51	54	greywacke/siltstone	Pit hanging wall	9.3	10.8	0.0	0.0	0.13	0.06	0.06	0.8	3.6	0.7	60	49	1.9	47	26	non PAG				
M99-403-04	25	29	greywacke/siltstone	Pit hanging wall	9.5	-	-	-	0.23	0.10	0.13	0.7	2.8	0.6	47	49	4.1	45	12	non PAG				
M99-403-05	20	25	greywacke/siltstone	Pit hanging wall	-	-	-	-	0.20	0.07	0.13	-	-	-	-	-	-	-	-	-				
M99-404-01	101	105	greywacke/siltstone	Pit hanging wall	9.4	-	-	-	0.10	0.04	0.06	0.9	3.8	0.8	63	60	1.8	58	34	non PAG				
M99-404-02	80	84	greywacke/siltstone	Pit hanging wall	9.5	-	-	-	0.29	0.07	0.22	0.7	2.9	0.6	48	49	6.9	42	7	non PAG				
M99-404-04	30	34	greywacke/siltstone	Pit hanging wall	9.5	10.7	0.0	0.0	0.20	0.08	0.11	0.5	2.1	0.4	36	37	3.5	33	11	non PAG				
M99-404-06	23	27	greywacke/siltstone	Pit hanging wall	-	-	-	-	0.10	0.05	0.05	-	-	-	-	-	-	-	-	-				
BULK ARD (Open Pit: Greywacke/siltstone)																				2955	158	2797	19	non PAG
					minimum	8.8	10.5	0.0	0.0	0.03	0.01	0.01	0.4	1.6	0.3	27	30	0.3	29	6.8				
					maximum	9.6	10.8	0.0	0.0	0.66	0.38	0.38	3.9	18	3.7	307	392	12	384	179				
					median	9.2	nc	nc	nc	0.20	0.09	0.10	0.8	3.3	0.7	55	55	3.0	51	19				
					average	9.2	nc	nc	nc	0.22	0.10	0.12	0.9	3.9	0.8	66	67	3.6	64	25				
					standard deviation	9.5	nc	nc	nc	0.11	0.06	0.07	0.6	3.1	0.6	52	60	2.3	59	27				
					75th percentile	9.0	nc	nc	nc	0.25	0.14	0.15	1.0	4.4	0.9	73	72	4.2	66	30				
GT08-02-01_Aug2009	65	70	mafic volcanic	Pit footwall	8.7	-	-	-	0.19	0.05	0.15	2.2	10.3	-	172	180	4.7	176	38	non PAG				
GT08-04-01	97	102	mafic volcanic	Pit footwall	8.9	-	-	-	0.36	0.17	0.19	2.5	12	2.4	203	202	6.0	196	34	non PAG				
GT08-04-02	80	84	mafic volcanic	Pit footwall	9.0	11.1	0.0	0.0	0.05	0.02	0.03	3.9	19	3.9	322	289	0.9	288	306	non PAG				
GT08-04-03	69	73	mafic volcanic	Pit footwall	8.4	-	-	-	0.32	0.80	2.43	4.1	18	3.6	299	281	7.6	205	3.7	non PAG				
M00-474-01	110	114	mafic volcanic	Pit footwall	9.0	-	-	-	0.12	0.02	0.10	3.1	15	3.0	253	251	3.2	248	78	non PAG				
M07-678-01	47	52	mafic volcanic	Pit footwall	8.8	-	-	-	0.10	0.05	0.05	3.5	17	3.3	275	245	1.5	244	161	non PAG				
M98-297-01	111	114	mafic volcanic	Pit footwall	8.8	-	-	-	0.46															

Appendix B Table B.2-1
Waste Rock Acid Base Accounting - Tiriganiaq Deposit
Meliadine Gold Project, Nunavut
Comaplex Minerals Corporation

Sample Number	Borehole Interval (m)		Lithology	Location	Paste pH	NAG Final pH	NAG Acidity ²		S(T)	S(SO4)	S(S2-)	TC	CO3	TIC	CaNP	NP	AP	Net NP	NPR	ARD POTENTIAL ¹				
	from	to					pH 4.5	pH 7.0													%	%	%	%
M03-496-01	360	370	greywacke/siltstone	UG development	8.7	-	-	-	0.82	0.25	0.55	1.8	3.9	0.8	65	66	17.6	49	4	non PAG				
M03-498-01	315	320	greywacke/siltstone	UG development	9.0	-	-	-	0.20	0.14	0.06	1.1	4.6	-	77	78	1.8	76	43	non PAG				
M03-499-02	270	275	greywacke/siltstone	UG development	8.7	-	-	-	0.21	0.11	0.10	0.9	3.6	-	59	61	3.1	58	20	non PAG				
M04-520-01	405	410	greywacke/siltstone	UG development	8.6	-	-	-	0.03	0.02	<0.01	0.6	2.6	-	43	44	0	44	143	non PAG				
M04-520-02	411	416	greywacke/siltstone	UG development	9.4	-	-	-	0.06	0.05	<0.01	1.5	6.9	-	115	133	0.3	133	430	non PAG				
M04-527-01	270	280	greywacke/siltstone	UG development	9.2	-	-	-	0.24	0.16	0.08	0.6	2.2	0.4	37	45	2.5	42	18	non PAG				
M04-533-01	380	390	greywacke/siltstone	UG development	9.4	10.5	0.0	0.0	0.18	0.11	0.06	1.1	4.8	1.0	81	76	2.0	74	38	non PAG				
M04-533-02	297	307	greywacke/siltstone	UG development	9.0	-	-	-	0.17	0.12	0.05	0.5	2.3	0.5	38	43	1.7	41	26	non PAG				
M05-559A-02	180	190	greywacke/siltstone	UG development	9.4	-	-	-	0.14	0.09	0.05	0.4	1.7	0.3	28	37	1.5	35	25	non PAG				
M05-571A-01	435	445	greywacke/siltstone	UG development	9.3	-	-	-	0.09	0.05	0.04	0.8	3.1	0.6	52	54	1.3	52	42	non PAG				
M05-571A-02	335	344	greywacke/siltstone	UG development	9.3	-	-	-	0.03	0.03	<0.01	0.5	2.2	0.4	37	30	0.3	30	97	non PAG				
M06-601A-01	266	270	greywacke/siltstone	UG development	8.8	-	-	-	0.11	0.05	0.06	1.6	7.8	-	129	142	1.9	140	75	non PAG				
M06-604-01	336	344	greywacke/siltstone	UG development	9.2	-	-	-	0.07	0.05	0.02	0.4	1.5	0.3	24	20	0.7	19	31	non PAG				
M06-604-02	286	295	greywacke/siltstone	UG development	9.1	-	-	-	0.17	0.11	0.06	0.9	3.9	0.8	65	60	1.9	58	31	non PAG				
M06-604-03	245	255	greywacke/siltstone	UG development	9.3	-	-	-	0.32	0.24	0.08	0.8	3.1	0.6	52	56	2.5	53	22	non PAG				
M06-607-01	175	180	greywacke/siltstone	UG development	8.6	-	-	-	0.08	0.03	0.04	0.5	2.0	-	34	35	1.4	33	25	non PAG				
M06-621-01	240	245	greywacke/siltstone	UG development	8.7	-	-	-	0.15	0.08	0.07	0.6	2.2	-	37	40	2.3	37	17	non PAG				
M07-645-01	250	260	greywacke/siltstone	UG development	9.2	-	-	-	0.16	0.12	0.05	0.5	2.1	0.4	35	36	1.5	35	24	non PAG				
M07-649-01_Dec2009	300	305	greywacke/siltstone	UG development	8.6	-	-	-	0.18	0.08	0.10	0.9	3.7	-	62	60	3.1	56	19	non PAG				
	417	427	greywacke/siltstone	UG development	9.2	-	-	-	0.31	0.19	0.12	0.6	2.3	0.5	38	36	3.9	32	9	non PAG				
M07-663-02	351	357	greywacke/siltstone	UG development	9.1	-	-	-	0.11	0.07	0.04	0.7	2.9	0.6	48	44	1.3	42	34	non PAG				
M07-663-03	280	289	greywacke/siltstone	UG development	9.1	-	-	-	0.21	0.14	0.06	0.9	3.5	0.7	59	60	1.9	58	31	non PAG				
M07-672B-01	323	328	greywacke/siltstone	UG development	8.6	-	-	-	0.09	0.04	0.05	0.4	1.7	-	28	29	1.6	28	18	non PAG				
M07-685-01	260	265	greywacke/siltstone	UG development	9.2	-	-	-	0.21	0.16	0.05	0.5	2.0	-	34	41	1.6	40	26	non PAG				
M07-685-02	335	340	greywacke/siltstone	UG development	8.7	-	-	-	0.17	0.13	0.04	0.5	2.1	-	35	37	1.3	36	29	non PAG				
M07-691-01	335	340	greywacke/siltstone	UG development	8.7	-	-	-	0.14	0.08	0.06	0.4	1.5	-	24	30	2.0	28	15	non PAG				
M07-719-01	351	360	greywacke/siltstone	UG development	9.2	-	-	-	0.23	0.14	0.08	1.0	4.4	0.9	73	70	2.6	68	27	non PAG				
M08-721-01	381	384	greywacke/siltstone	UG development	8.6	-	-	-	0.06	0.04	0.02	3.3	16.0	-	267	247	0.6	247	402	non PAG				
M08-721-02	388	393	greywacke/siltstone	UG development	8.6	-	-	-	0.10	0.09	<0.01	0.8	3.3	-	55	56	0.3	56	182	non PAG				
M08-731W1-01	330	335	greywacke/siltstone	UG development	8.6	-	-	-	0.12	0.05	0.06	0.8	3.8	-	63	72	1.9	70	37	non PAG				
M08-731W1-02	350	355	greywacke/siltstone	UG development	9.1	-	-	-	0.25	<0.01	0.21	1.0	4.3	-	72	74	6.6	68	11	non PAG				
M08-754-01	360	365	greywacke/siltstone	UG development	8.6	-	-	-	0.06	0.04	0.02	0.5	2.1	-	35	41	0.6	41	75	non PAG				
M08-769-01	451	456	greywacke/siltstone	UG development	8.2	-	-	-	0.11	0.07	0.04	1.2	5.3	-	88	89	1.2	88	77	non PAG				
M09-823-01	320	325	greywacke/siltstone	UG development	9.3	-	-	-	0.14	0.05	0.09	0.1	0.5	-	9	22	2.7	19	8	non PAG				
M09-823-02	335	340	greywacke/siltstone	UG development	8.8	-	-	-	0.15	0.09	0.06	0.4	1.6	-	27	35	2.0	33	18	non PAG				
M98-257-01	291	296	greywacke/siltstone	UG development	8.6	-	-	-	0.18	0.11	0.07	0.6	2.3	-	39	45	2.1	43	22	non PAG				
M98-266-01	138	143	greywacke/siltstone	UG development	8.6	-	-	-	0.16	0.05	0.11	0.8	3.1	-	52	55	3.5	51	15.5	non PAG				
M98-313-01	305	315	greywacke/siltstone	UG development	9.1	-	-	-	0.10	0.07	0.02	0.7	3.1	0.6	52	47	0.8	46	62	non PAG				
M98-313-02	272	280	greywacke/siltstone	UG development	9.4	-	-	-	0.17	0.12	0.05	0.4	1.3	0.3	22	26	1.5	25	18	non PAG				
M99-327-01	195	205	greywacke/siltstone	UG development	9.2	-	-	-	0.31	0.22	0.09	0.9	3.5	0.7	58	56	3.0	53	19	non PAG				
BULK ARD (Open Pit: Greywacke/siltstone)																				2327	90	2236	26	non PAG
					minimum	8.2	10.5	0.0	0.0	0.03	0.02	<0.01	0.1	0.5	0.3	9.1	20	0.3	19	3.8				
					maximum	9.4	10.5	0.0	0.0	0.82	0.25	0.56	3.3	16	1.0	267	247	18	247	430				
					median	9.0	nc	nc	nc	0.16	0.09	0.06	0.7	3.0	0.6	50	46	1.9	45	26				
					average	8.8	nc	nc	nc	0.17	0.10	0.08	0.8	3.4	0.6	56	58	2.3	56	57				
					standard deviation	9.0	nc	nc	nc	0.13	0.06	0.09	0.5	2.5	0.2	42	40	2.8	40	91				
					75th percentile	8.6	nc	nc	nc	0.20	0.13	0.08	0.9	3.8	0.7	63	63	2.5	58	42				
M99-280-01	189	197	iron formation	UG development	8.8	-	-	-	0.21	0.11	0.10	1.0	3.8	0.8	63	49	3.2	46	15	non PAG				
M03-496-02	281	290	iron formation	UG development	8.6	-	-	-	0.34	0.12	0.22	1.5	5.3	1.1	89	86	7.0	79	12	non PAG				
M04-526-01	216	225	iron formation	UG development	8.4	11.1	0.0	0.0	0.78	0.29	0.49	1.8	7.4	1.5	123	115	15	99	7.5	non PAG				
M07-649-01	280	290	iron formation	UG development	8.3	-	-	-	0.85	0.42	0.42	3.2	4.8	1.0	81	80	13	67	6.1	non PAG				
BULK ARD (Underground: Iron Formation)																				329	39	291	8.5	non PAG
					minimum	8.3	11.1	nc	nc	0.21	0.11	0.10	1.0	3.8	0.8	63	49	3.2	46	6.1				
					maximum	8.8	11.1	nc	nc	0.85	0.42	0.49	3.2	7.4	1.5	123	115	15	99	15				
					median	8.5	nc	nc	nc	0.56	0.21	0.32	1.6	5.1	1.0	85	83	10	73	10				
					average	8.5	nc	nc	nc	0.55	0.24	0.31	1.9	5.3	1.1	89	82	10	73	10				
					standard deviation	8.9	nc	nc	nc	0.32	0.15	0.18	0.9	1.5	0.3	25	27	5.6	22	4.2				
					75th percentile	8.4	nc	nc	nc	0.80	0.32	0.44	2.2	5.8	1.2	98	93	14	84	13				
SS-1	0	0.4	soil sample	Pit surface	8.5	-	-	-	0.03	0.01	0.02	0.3	0.21	-	3.5	10	0.53	9.5	19	non PAG				
SS-2	0	0.35	soil sample	Pit surface	6.7	-	-	-	0.06	0.03	0.03	6.1	0.45	-	7.6	8.8	0.99	7.8	8.9	non PAG				
SS-3	0	0.55	soil sample	Pit surface	8.3	-	-	-	0.03	0.02	<0.01	0.3	0.36	-	6.0	12	0.31	11	37	non PAG				
SS-4	0	0.4	soil sample	Pit surface	7.0	-	-	-	0.08	0.08	<0.01	7.9	0.26	-	4.3	7.1	0.31	6.8	23	non PAG				
SS-5	0	0.35	soil sample	Pit surface	8.2	-	-	-	0.04	0.02	0.02	0.3	0.13	-	2.2	6.9	0.64	6.3	11	non PAG				
BULK ARD (Surface Soil)																				44	2.8	42	16	non PAG
					minimum	6.7	nc	nc	nc	0.03	0.01	<0.01	0.3	0.13	nc	2.2	6.9	0.31	6.3	8.9				
					maximum	8.5	nc	nc	nc	0.08	0.08	0.03	7.9	0.45	nc	7.6	12	0.99	11	37				
					median	8.2	nc	nc	nc	0.04	0.02	0.02	0.3	0.26	nc	4.3	8.8	0.53	7.8	19				
					average	7.2	nc	nc	nc	0.05	0.03	0.02	3.0	0.28	nc	4.7	8.9	0.56	8.3	20				
					standard deviation	7.0	nc	nc	nc	0.02	0.03	0.01	3.7	0.13	nc	2.1	2.0	0.28	2.1	11				
					75th percentile	7.0	nc	nc	nc	0.06	0.03	0.03	6.1	0.36	nc	6.0	10	0.64	9.5	23				

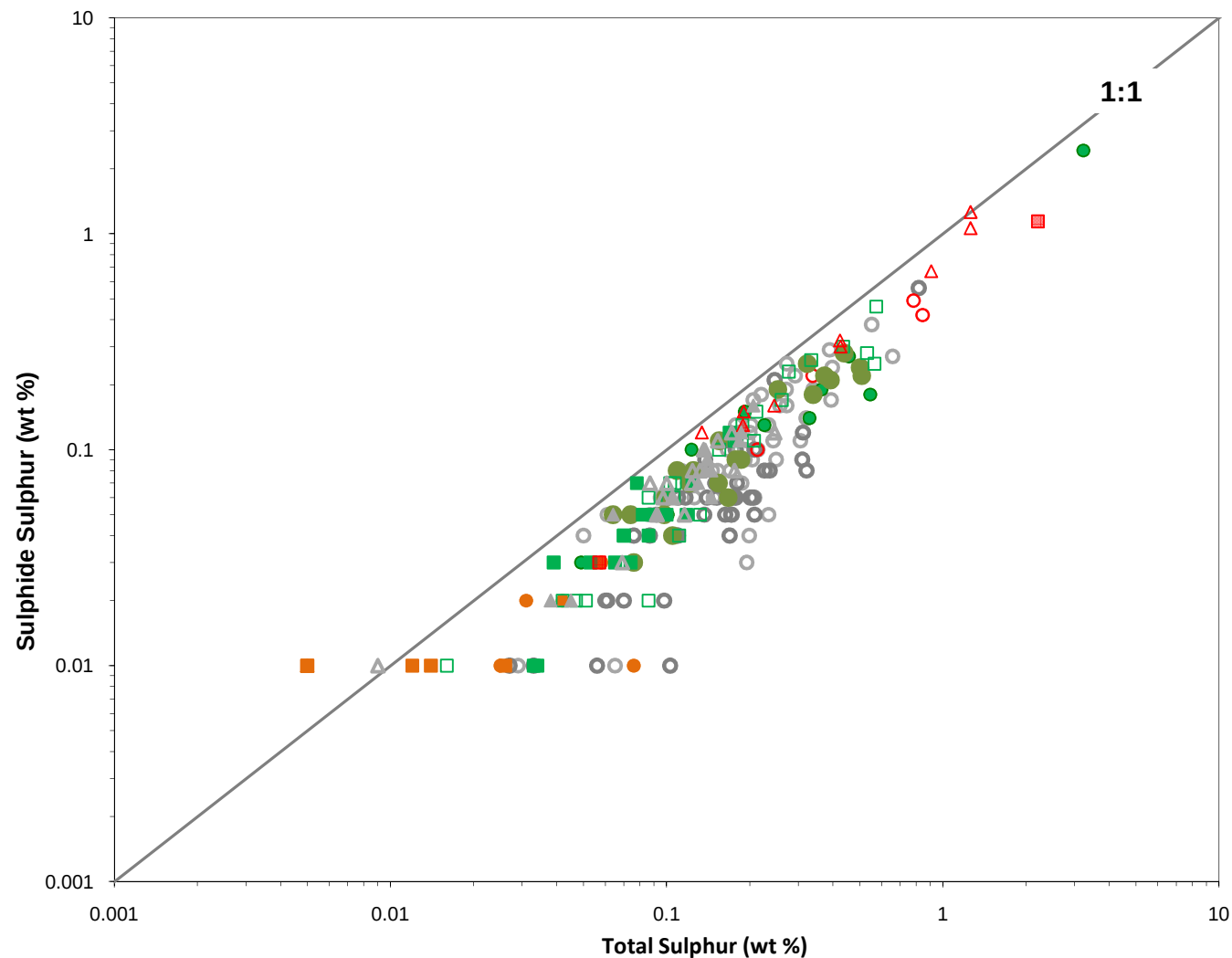
Appendix B Table B.2-2
Waste Rock Acid Base Accounting - F Zone Deposit
Meliadine Gold Project, Nunavut
Comaplex Minerals Corporation

Sample Number	Borehole Interval (m)		Lithology	Location	Paste pH	NAG Final pH	NAG Acidity ²		S(T)	S(SO ₄)	S(S ₂ -)	TC	CO ₃	CaNP	NP	AP	Net NP	NPR	ARD POTENTIAL				
	from	to					pH 4.5	pH 7.0												%	%	%	%
M08-729-01	15	20	mafic volcanic	Pit hanging wall	9.1	-	-	-	0.28	0.05	0.23	1.8	8.0	133	154	7.2	146	21	non PAG				
M08-729-02	36	41	mafic volcanic	Pit hanging wall	8.9	-	-	-	0.05	0.02	0.02	1.9	8.6	143	159	0.7	158	218	non PAG				
M08-729-03	55	60	mafic volcanic	Pit hanging wall	9.2	-	-	-	0.09	0.02	0.06	2.2	10	170	186	2.0	184	93	non PAG				
M08-729-04	74	79	mafic volcanic	Pit hanging wall	9.3	-	-	-	0.19	0.06	0.13	1.6	7.1	118	128	3.9	124	33	non PAG				
M08-734-01	15	20	mafic volcanic	Pit hanging wall	9.3	-	-	-	0.11	0.04	0.07	1.5	7.3	122	130	2.2	128	59	non PAG				
M08-734-02	28	32	mafic volcanic	Pit hanging wall	8.9	-	-	-	0.33	0.08	0.26	2.1	9.5	159	176	8.1	167	22	non PAG				
M08-734-03	54	60	mafic volcanic	Pit hanging wall	9.1	11.6	-	-	0.26	0.09	0.17	2.1	9.6	160	176	5.3	171	33	non PAG				
M08-735-01	20	25	mafic volcanic	Pit hanging wall	9.4	-	-	-	0.11	0.05	0.06	1.5	6.9	114	124	1.90	122	65	non PAG				
M08-740-01	16	21	mafic volcanic	Pit hanging wall	9.0	-	-	-	0.2	0.06	0.1	2.2	9.5	159	180	3.5	176	51	non PAG				
M08-740-02	36	41	mafic volcanic	Pit hanging wall	9.2	-	-	-	0.09	0.07	0.02	2.4	11	180	180	0.6	180	323	non PAG				
M08-740-03	52	56	mafic volcanic	Pit hanging wall	9.4	-	-	-	0.10	0.03	0.07	1.0	4.4	73	86	2.3	84	38	non PAG				
M08-742-01	9	15	mafic volcanic	Pit hanging wall	9.5	-	-	-	0.13	0.08	0.05	1.04	4.7	79	93	1.6	92	58	non PAG				
M08-742-02	29	35	mafic volcanic	Pit hanging wall	9.1	-	-	-	0.21	0.10	0.11	1.5	6.9	115	130	3.4	126	38	non PAG				
M08-742-03	43	47	mafic volcanic	Pit hwl ore zone	8.9	-	-	-	0.05	0.03	0.02	2.3	10.9	182	181	0.6	180	292	non PAG				
M08-743-01	10	15	mafic volcanic	Pit hanging wall	9.6	-	-	-	0.10	0.04	0.06	0.62	2.8	47	57	1.9	56	29.9	non PAG				
M08-747-01	20	25	mafic volcanic	Pit hanging wall	9.0	-	-	-	0.44	0.13	0.30	2.27	10	173	185	9.5	176	20	non PAG				
M08-747-02	39	45	mafic volcanic	Pit hanging wall	9.5	-	-	-	0.53	0.26	0.28	0.7	2.9	49	62	8.6	54	7.2	non PAG				
M08-748-01	36	41	mafic volcanic	Pit hanging wall	9.6	-	-	-	0.21	0.06	0.15	0.7	2.9	49	68	4.7	63	15	non PAG				
M08-748-02	57	62	mafic volcanic	Pit hanging wall	9.3	-	-	-	0.57	0.12	0.46	2.3	9.9	166	195	14.3	181	14	non PAG				
M08-750-01	8	14	mafic volcanic	Pit hanging wall	9.4	-	-	-	0.16	0.06	0.10	2.5	13	208	226	3.1	223	73	non PAG				
M08-750-02	28	33	mafic volcanic	Pit hanging wall	8.9	-	-	-	0.07	0.03	0.04	2.3	11	185	168	1.2	167	140	non PAG				
M08-752-01	9	14	mafic volcanic	Pit hanging wall	9.3	-	-	-	0.57	0.31	0.25	1.8	7.8	129	147	7.9	140	19	non PAG				
M08-752-02	23	27	mafic volcanic	Pit hanging wall	10.0	-	-	-	0.11	0.07	0.04	0.1	0.5	8.2	20	1.3	18	15	non PAG				
M08-755-01	19	24	mafic volcanic	Pit hanging wall	9.2	-	-	-	0.02	0.02	< 0.01	1.3	5.7	94	113	0.3	113	364	non PAG				
M08-755-02	30	37	mafic volcanic	Pit hanging wall	9.4	-	-	-	0.04	0.03	0.02	1.4	6.5	108	123	0.5	123	263	non PAG				
BULK ARD (hanging wall: mafic volcanic)																			3448	97	3351	36	non PAG
					minimum	8.9	11.6	nc	nc	0.02	0.02	<0.01	0.14	0.5	nc	20	0.31	18	7.2				
					maximum	10.0	11.6	nc	nc	0.57	0.31	0.46	2.50	13	nc	226	14	223	364				
					median	9.3	nc	nc	nc	0.13	0.06	0.09	1.75	7.8	nc	147	2.3	140	38				
					average	9.2	nc	nc	nc	0.20	0.08	0.13	1.64	7.5	nc	138	3.9	134	92				
					standard deviation	9.5	nc	nc	nc	0.17	0.07	0.11	0.65	3.1	nc	51	3.6	50	108				
					75th percentile	9.1	nc	nc	nc	0.26	0.08	0.19	2.21	9.9	nc	180	5.3	176	93				
M08-729-06	117	122	mafic volcanic	Pit foot wall	9.1	-	-	-	0.08	0.01	0.07	2.4	11	182	188	2.1	185	89	non PAG				
M08-734-04	41	45	mafic volcanic	Pit foot wall	9.1	-	-	-	0.09	0.04	0.05	3.2	15	247	226	1.6	225	139	non PAG				
M08-735-02	70	75	mafic volcanic	Pit foot wall	9.2	-	-	-	0.18	0.07	0.11	2.7	13	213	212	3.4	209	62	non PAG				
M08-735-03	56	62	mafic volcanic	Pit foot wall	9.1	-	-	-	0.12	0.05	0.07	2.2	11	178	189	2.2	187	88	non PAG				
M08-740-04	106	111	mafic volcanic	Pit foot wall	9.4	-	-	-	0.1	0.04	0.0	2.8	13	218	221	0.9	220	259	non PAG				
M08-740-05	122	126	mafic volcanic	Pit foot wall	9.3	11.5	-	-	0.10	0.05	0.05	2.5	12	192	222	1.5	221	153	non PAG				
M08-742-04	77	83	mafic volcanic	Pit foot wall	9.0	-	-	-	0.09	0.04	0.04	2.4	12	192	198	1.2	196	165	non PAG				
M08-742-06	96	102	mafic volcanic	Pit foot wall	9.4	-	-	-	0.08	0.03	0.05	1.1	5.1	84	92	1.6	91	58	non PAG				
M08-743-02	39	44	mafic volcanic	Pit foot wall	9.2	-	-	-	0.03	0.02	< 0.01	1.9	9	150	152	0.3	152	491	non PAG				
M08-743-04	56	62	mafic volcanic	Pit foot wall	9.7	-	-	-	0.07	0.03	0.04	0.28	1.2	20	30	1.2	29	25	non PAG				
M08-747-03	65	70	mafic volcanic	Pit foot wall	8.9	-	-	-	0.03	0.02	0.01	2.3	10	168	188	0.5	187	417	non PAG				
M08-747-04	83	88	mafic volcanic	Pit foot wall	9.3	-	-	-	0.17	0.05	0.12	0.85	3.7	62	73	3.8	69	19	non PAG				
M08-750-03	55	60	mafic volcanic	Pit foot wall	9.1	11.5	-	-	0.12	0.06	0.05	1.5	7.2	120	134	1.6	132	83	non PAG				
M08-752-03	45	51	mafic volcanic	Pit foot wall	9.4	-	-	-	0.07	0.04	0.03	2.1	9	158	163	1.0	162	164	non PAG				
M08-752-04	75	80	mafic volcanic	Pit foot wall	9.2	-	-	-	0.05	0.02	0.03	2.0	8.9	149	172	1.1	171	161	non PAG				
M08-755-03	66	71	mafic volcanic	Pit foot wall	9.1	-	-	-	0.04	0.01	0.03	1.6	7.1	118	127	0.9	126	145	non PAG				
BULK ARD (foot wall: mafic volcanic)																			2587	25	2563	104	non PAG
					minimum	8.9	11.5	nc	nc	0.03	0.01	< 0.01	0.28	1.2	nc	30	0.31	29	19				
					maximum	9.7	11.5	nc	nc	0.18	0.07	0.12	3.15	15	nc	226	3.8	225	491				
					median	9.2	nc	nc	nc	0.08	0.04	0.05	2.17	9.8	nc	180	1.3	178	142				
					average	9.2	nc	nc	nc	0.09	0.04	0.05	1.99	9.2	nc	162	1.5	160	157				
					standard deviation	9.6	nc	nc	nc	0.04	0.02	0.03	0.77	3.6	nc	57	1.0	58	132				
					75th percentile	9.1	nc	nc	nc	0.10	0.05	0.06	2.47	12	nc	202	1.7	199	164				
M08-742-05	86	90	quartz vein	Pit fwl/ore zone	8.6	-	-	-	2.2	1.2	1.0	1.0	2.1	35	58	32	26	1.8	uncertain				
M08-743-03	46	48	iron formation	Pit fwl ore zone	8.6	-	-	-	2.2	1.1	1.1	1.2	3.0	50	75	36	40	2.1	uncertain				
M08-748-03	85	95	iron formation	ore zone	9.0	-	-	-	0.1	0.0	0.0	2.1	9.3	155	171	0.9	170	188	non PAG				
BULK ARD (ore zone)																			246	37	210	6.7	non PAG
					minimum	8.6	nc	nc	nc	0.06	0.03	0.03	0.97	2.1	35	58	0.91	26	2				
					maximum	9.0	nc	nc	nc	2.21	1.2	1.1	2.1	9.3	155	171	36	170	188				
					median	8.6	nc	nc	nc	2.17	1.1	1.02	1.2	3.0	50	75	32	40	2				
					average	8.7	nc	nc	nc	1.48	0.75	0.73	1.4	4.8	80	101	23	79	64				
					standard deviation	9.0	nc	nc	nc	1.23	0.62	0.61	0.58	3.9	65	61	19	80	107				
					75th percentile	8.6	nc	nc	nc	2.19	1.1	1.1	1.6	6.2	103	123	34	105	95				
FZ-SS-6	0	0.35	soil sample	Pit surface	8.2	-	-	-	0.01	0.01	< 0.01	0.85	0.3	4.5	8.8	0.31	8.5	28	non PAG				
FZ-SS-7	0	0.36	soil sample	Pit surface	8.7	-	-	-	0.03	0.03	< 0.01	1.0	3.1	52	64	0.31	64	206	non PAG				
FZ-SS-8	0	0.42	soil sample	Pit surface	8.5	-	-	-	0.01	0.01	< 0.01	0.80	1.9	31	36	0.31	36	115	non PAG				
FZ-SS-9	0	0.4	soil sample	Pit surface	8.4	-	-	-	< 0.005	< 0.005	< 0.01	0.26	0.6	10	16	0.31	15	50	non PAG				
FZ-SS-10	0	>0.2	soil sample	Pit surface	8.8	-	-	-	< 0.005	< 0.005	< 0.01	0.21	0.02	0.4	5.6	0.31	5.3	18	non PAG				
BULK ARD (Surface Soil)																			130	1.55	128	84	non PAG
					minimum	8.2	nc	nc	nc	< 0.005	< 0.005	< 0.01	0.21	0.02	0.4	5.6	0.31	5.3	18				
					maximum	8.8	nc	nc	nc	0.03	0.03	< 0.01	0.97	3.1	52	64	0.31	64	206				
					median	8.5	nc	nc	nc	0.01	0.01	nc	0.80	0.6	9.8	16	0.31	15	50				
					average	8.5	nc	nc	nc	0.02	0.02	nc	0.62	1.2	20	26	0.31	26	84				
					standard deviation	8.8	nc	nc	nc	0.01	0.01	nc	0.36	1.3	22	24	0.00	24	78				
					75th percentile	8.4	nc	nc	nc	0.02	0.02	nc	0.85	1.9	31	36	0.31	36	115				

Appendix B Table B.2-3
Waste Rock Acid Base Accounting - Discovery Deposit
Meliadine Gold Project, Nunavut
Comaplex Minerals Corporation

Sample Number	Borehole Interval (m)		Lithology	Location	Paste pH	NAG Final pH	NAG Acidity ²		S(T)	S(SO ₄)	S(S ₂ -)	TC	CO ₃	CaNP	NP	AP	Net NP	NPR	ARD POTENTIAL ¹
	from	to					pH 4.5	pH 7.0	%	%	%	%	%						
ML08-236-1	23	27	Iron formation	hanging wall	9.7	10	0.0	0.0	0.25	0.09	0.16	0.43	1.74	29	33	5	28	6.6	non PAG
ML90-09-1	33	40	Iron formation	hanging wall	8.8	9.8	0.0	0.0	0.43	0.12	0.30	0.30	0.97	16	29	9.4	20	3.1	non PAG
ML90-10-2	33	41	Iron formation	hanging wall	9.0	10	0.0	0.0	0.91	0.23	0.67	0.59	1.81	30	48	21	27	2.3	uncertain
ML92-060-1	42	49	Iron formation	hanging wall	9.0	9.3	0.0	0.0	0.42	0.11	0.32	0.24	0.81	14	27	10	17	2.7	uncertain
ML92-061-03	75	81	Iron formation	hanging wall	9.6	-	-	-	0.13	0.02	0.12	0.37	1.48	31	40	3.6	36	11	non PAG
ML92-062-01	20	25	Iron formation	hanging wall	9.3	-	-	-	0.19	0.04	0.15	0.21	0.78	18	22	4.8	18	4.7	non PAG
ML92-062-02	35	40	Iron formation	hanging wall	9.9	-	-	-	0.12	0.02	0.09	0.11	0.43	9	-1.7	2.9	-4.6	-0.6	PAG
ML95-82-2	43	46	Iron formation	hanging wall	8.7	2.9	8.4	12	1.26	0.20	1.06	0.33	1.10	18	27	33	-6.1	0.8	PAG
ML95-93-03	55	60	Iron formation	hanging wall	8.7	10	0.0	0.0	1.26	< 0.01	1.26	0.74	2.14	62	53	39	13	1.3	uncertain
BULK ARD (hanging wall: iron formation)															277	129	148	2.1	uncertain
				minimum	8.7	2.9	0.0	0.0	0.12	0.02	0.09	0.11	0.43	9.2	-1.7	2.9	-6.1	-0.6	
				maximum	9.9	10	8.4	12	1.26	0.23	1.26	0.74	2.14	62	53	39	36	11	
				median	9.0	9.9	0.0	0.0	0.42	0.10	0.30	0.33	1.10	18	29	9.4	18	2.7	
				average	9.0	8.7	1.4	2.0	0.55	0.10	0.46	0.37	1.25	25	31	14	16	3.5	
				standard deviation	9.1	2.9	3.4	4.9	0.47	0.08	0.44	0.20	0.57	16	16	14	14	3.5	
				75th percentile	8.8	10	0.0	0.0	0.91	0.14	0.67	0.43	1.74	30	40	21	27	4.7	
ML08-236-2	41	49	Greywacke	inter ore	9.7	7.8	0.0	0.0	0.18	0.09	0.08	0.10	0.38	6.3	13	2.5	11	5.3	non PAG
ML08-238-03	99	104	Greywacke	inter ore	10	-	-	-	0.07	0.04	0.03	0.07	0.23	5.9	14	0.9	13	15	non PAG
ML00-221-01	25	30	Greywacke	hanging wall	9.9	-	-	-	0.09	0.04	0.05	0.04	0.10	3.6	9.2	1.6	7.6	5.9	non PAG
ML00-221-02	61	66	Greywacke	hanging wall	9.9	-	-	-	0.13	0.05	0.08	0.05	0.14	4.0	10	2.5	8.0	4.2	non PAG
ML00-221-03	88	93	Greywacke	hanging wall	9.8	-	-	-	0.10	0.03	0.07	0.07	0.21	5.9	8.0	2.1	6.0	3.9	non PAG
ML90-03-01	17	24	Greywacke	hanging wall	9.8	-	-	-	0.09	0.02	0.07	0.05	0.13	3.8	9.3	2.0	7.3	4.6	non PAG
ML90-04-01	10	15	Greywacke	hanging wall	9.8	6.5	0.0	0.3	0.17	0.06	0.12	0.07	0.22	6.2	12	3.6	8.2	3.2	non PAG
ML90-04-02	35	40	Greywacke	hanging wall	9.7	-	-	-	0.11	0.04	0.06	0.04	0.13	3.4	9.0	2.0	7.0	4.5	non PAG
ML90-08-01	16	21	Greywacke	hanging wall	10	-	-	-	0.12	0.05	0.07	0.16	0.40	14	9.4	2.3	7.1	4.0	non PAG
ML90-10-1	11	18	Greywacke	hanging wall	9.9	7.3	0.0	0.0	0.12	0.06	0.05	0.08	0.25	4.1	11	1.6	9.2	6.8	non PAG
ML90-12-01	24	29	Greywacke	hanging wall	9.9	6.4	0.0	0.5	0.15	0.05	0.11	0.06	0.16	5.3	9.2	3.4	5.8	2.7	uncertain
ML92-061-01	21	26	Greywacke	hanging wall	9.7	4.5	0.3	1.0	0.12	0.05	0.08	0.06	0.19	4.6	7.3	2.5	4.8	3.0	uncertain
ML92-061-02	50	56	Greywacke	hanging wall	9.6	-	-	-	0.10	0.03	0.06	0.05	0.15	4.2	8.5	2.0	6.5	4.3	non PAG
ML95-82-1	20	30	Greywacke	hanging wall	9.3	3.3	2.6	4.3	0.25	0.12	0.12	0.03	0.09	1.5	7.4	3.8	3.6	1.9	uncertain
ML95-93-01	22	26	Greywacke	hanging wall	9.8	-	-	-	0.01	< 0.01	< 0.01	0.11	0.28	9.4	8.8	0.3	8.5	28	non PAG
ML95-93-02	41	46	Greywacke	hanging wall	9.9	4.1	0.3	1.6	0.14	0.03	0.10	0.07	0.23	5.7	8.4	3.3	5.1	2.6	uncertain
BULK ARD (hanging wall: greywacke)															79	21	58	3.8	non PAG
				minimum	9.3	3.3	0.0	0.0	0.01	0.02	0.03	0.03	0.09	1.5	7.3	0.3	3.6	1.9	
				maximum	10	7.8	2.6	4.3	0.25	0.12	0.12	0.16	0.40	14	14	3.8	13.2	28	
				median	9.8	6.4	0.0	0.5	0.12	0.05	0.07	0.07	0.20	5.0	9.2	2.2	7.2	4.3	
				average	9.8	5.7	0.5	1.1	0.12	0.05	0.08	0.07	0.21	5.5	9.7	2.3	7.4	6.3	
				standard deviation	10	1.7	1.0	1.5	0.05	0.03	0.03	0.03	0.09	2.9	1.9	0.9	2.3	6.6	
				75th percentile	9.7	6.9	0.3	1.3	0.14	0.06	0.09	0.08	0.24	6.0	10.3	2.7	8.3	5.5	
ML92-053-1	105	112	Iron formation	foot wall	8.9	11	0.0	0.0	0.19	0.06	0.13	0.39	1.56	26	37	4.1	33	9.0	non PAG
ML00-221-04	162	168	Greywacke	foot wall	9.5	4.9	0.0	1.0	0.14	0.04	0.10	0.10	0.28	8.2	9.7	3.14	6.6	3.1	non PAG
ML08-236-3	65	75	Greywacke	foot wall	9.5	7.5	0.0	0.0	0.18	0.07	0.11	0.12	0.43	7.2	14	3.4	10	4.0	non PAG
ML08-238-04	126	133	Greywacke	foot wall	9.6	-	-	-	0.11	0.05	0.06	0.05	0.14	4.0	9.7	1.73	8.0	5.6	non PAG
ML90-03-02	51	56	Greywacke	foot wall	9.8	-	-	-	0.06	0.02	0.05	0.12	0.45	9.9	13	1.56	11	8.1	non PAG
ML90-04-03	84	89	Greywacke	foot wall	9.8	-	-	-	0.19	0.07	0.12	0.12	0.41	9.7	17	3.7	13	4.6	non PAG
ML90-07-01	46	51	Greywacke	foot wall	10	-	-	-	0.05	0.03	0.02	0.04	0.15	3.7	14	0.62	13	22	non PAG
ML90-08-02	53	58	Greywacke	foot wall	10	-	-	-	0.13	0.06	0.07	0.18	0.67	15	22	2.24	20	9.7	non PAG
ML90-09-2	51	56	Greywacke	foot wall	9.9	9.9	0.0	0.0	0.15	0.09	0.06	0.21	0.88	15	24	1.9	22	13	non PAG
ML90-10-3	56	64	Greywacke	foot wall	10	7.5	0.0	0.0	0.04	0.01	0.02	0.04	0.11	1.8	9.8	0.62	9.2	16	non PAG
ML90-12-02	80	84	Greywacke	foot wall	9.7	-	-	-	0.14	0.05	0.09	0.14	0.49	12	17	2.93	14	5.8	non PAG
ML90-14-2	129	137	Greywacke	foot wall	9.6	7.1	0.0	0.0	0.15	0.06	0.08	0.11	0.40	6.6	12	2.5	9.6	4.8	non PAG
ML92-061-04	109	114	Greywacke	foot wall	9.8	-	-	-	0.14	0.05	0.09	0.14	0.47	11	16	2.94	14	5.6	non PAG
ML92-062-03	50	55	Greywacke	foot wall	10	-	-	-	0.09	0.04	0.05	0.12	0.47	10	15	1.58	14	9.5	non PAG
ML95-82-3	65	74	Greywacke	foot wall	9.8	10.0	0.0	0.0	0.14	0.06	0.08	0.21	0.88	15	23	2.5	21	9.3	non PAG
ML95-93-04	84	89	Greywacke	foot wall	10	-	-	-	0.21	0.05	0.16	0.20	0.81	17	29	5	24	5.7	non PAG
BULK ARD (foot wall: greywacke)															168	22	146	7.6	non PAG
				minimum	9.5	4.9	0.0	0.0	0.04	0.01	0.02	0.04	0.11	1.8	10	0.6	6.6	3.1	
				maximum	10	10	0.0	1.0	0.21	0.09	0.16	0.21	0.88	17	29	5.0	24	22	
				median	9.8	7.5	0.0	0.0	0.14	0.05	0.08	0.12	0.45	10	15	2.5	13	5.8	
				average	9.8	7.8	0.0	0.2	0.13	0.05	0.08	0.13	0.47	10	16	2.4	14	8.4	
				standard deviation	10	1.9	0.0	0.4	0.05	0.02	0.04	0.06	0.25	4.5	5.8	1.2	5.3	5.1	
				75th percentile	9.7	9.3	0.0	0.0	0.15	0.06	0.10	0.16	0.58	13	20	3.0	17	10	
Disc SS1	0	0.38	soil sample	Pit surface	9.1	-	-	-	< 0.005	< 0.01	< 0.01	0.09	0.10	7.5	8.2	0.31	7.9	27	non PAG
Disc SS2	0	0.33	soil sample	Pit surface	8.3	-	-	-	< 0.005	< 0.01	< 0.01	0.14	0.05	12	6.0	0.31	5.7	19	non PAG
Disc SS3	0	0.28	soil sample	Pit surface	8.7	-	-	-	< 0.005	< 0.01	< 0.01	0.06	0.05	5	2.7	0.31	2.4	8.7	non PAG
BULK ARD (Surface Soil)															17	0.93	16	18	non PAG
				minimum	8.3	nc			< 0.005	< 0.005	< 0.01	0.06	0.05	5.3	2.7	0.31	2.4	8.7	
				maximum	9.1	nc			0.005	0.00	< 0.01	0.14	0.10	12	8.2	0.31	7.9	27	
				median	8.7	nc			nc	nc	nc	0.09	0.05	7.5	6.0	0.31	5.7	19	
				average	8.6	nc			nc	nc	nc	0.10	0.06	8.3	5.6	0.31	5.3	18	
				standard deviation	8.7	nc			nc	nc	nc	0.04	0.03	3.4	2.8	0.00	2.8	9.0	
				75th percentile	8.5	nc			nc	nc	nc	0.11	0.07	10	7.1	0.31	6.8	23	

Notes:carbonate neutralization potential (CaNP), neutralization potential (NP) acid potential (AP), and Net NP reported in t CaCO₃ per 1000 tS(T)=total sulphur; S(SO₄)=sulphate sulphur; S(S₂-)=sulphide sulphur;



- Tiriganiaq Greywacke/siltstone (Pit HW)
- Tiriganiaq Mafic Volcanic (Pit FW)
- Tiriganiaq Greywacke/siltstone (UG)
- Tiriganiaq Iron Formation (UG)
- Tiriganiaq Mafic Volcanic (UG)
- Tiriganiaq Surface Soil
- F-Zone Mafic Volcanic (HW)
- F-Zone Mafic Volcanic (FW)
- F Zone Iron Formation/Quartz Vein
- F Zone Surface Soil
- △ Discovery Iron Formation (HW)
- △ Discovery Greywacke (HW)
- △ Discovery Iron Formation (FW)
- △ Discovery Greywacke (FW)
- △ Discovery Surface Soil

Notes:
 OP: open pit
 UG: underground
 HW= Hanging Wall
 FW= Foot wall

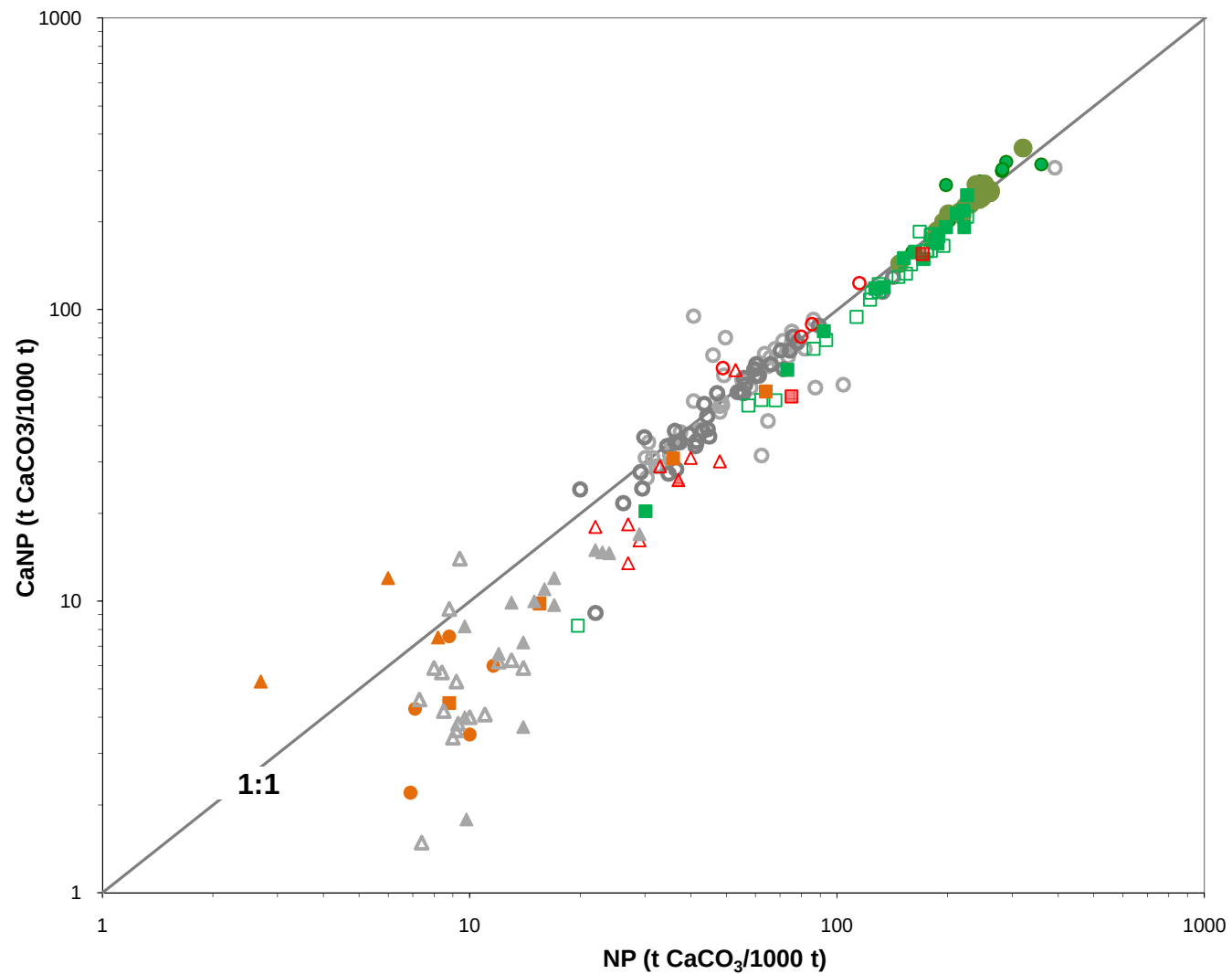


Waste Rock Static Testing

Total Sulphur versus Sulphide Sulphur

Meliadine Gold Project
 Comaplex Minerals Corporation

DRAWN	TG	DATE	Feb-10	JOB NO	09-1426-0015
CHECKED	JMC				
REVIEWED	VJB			FIGURE	B.2-1



- Tiriganiaq Greywacke/siltstone (Pit HW)
- Tiriganiaq Mafic Volcanic (Pit FW)
- Tiriganiaq Greywacke/siltstone (UG)
- Tiriganiaq Iron Formation (UG)
- Tiriganiaq Mafic Volcanic (UG)
- Tiriganiaq Surface Soil
- F-Zone Mafic Volcanic (HW)
- F-Zone Mafic Volcanic (FW)
- F Zone Iron Formation/Quartz Vein
- F Zone Surface Soil
- △ Discovery Iron Formation (HW)
- △ Discovery Greywacke (HW)
- △ Discovery Iron Formation (FW)
- △ Discovery Greywacke (FW)
- △ Discovery Surface Soil

Notes:
 OP: open pit
 UG: underground
 HW= Hanging Wall
 FW= Foot wall

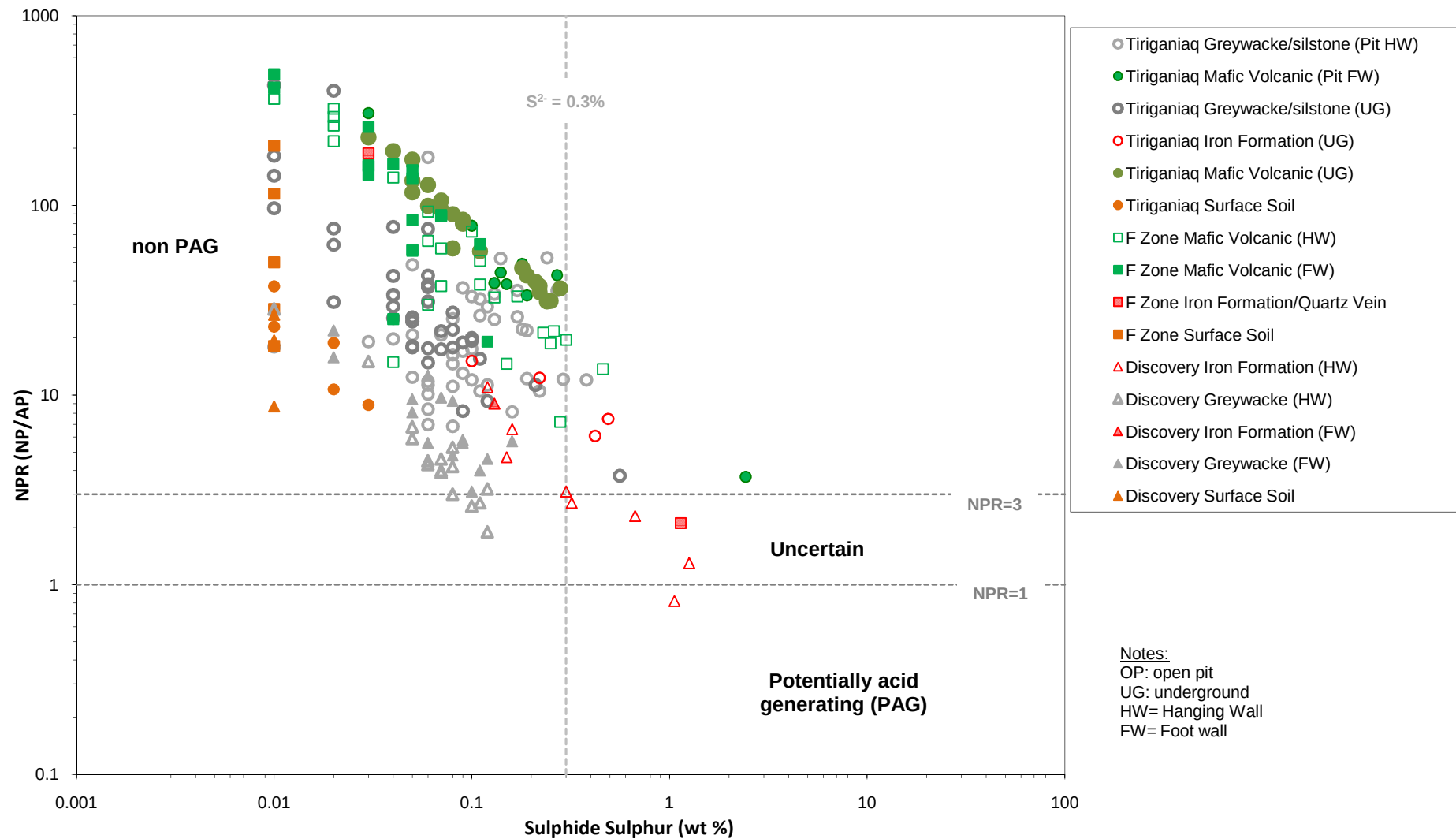


Waste Rock Static Testing

Neutralization Potential (NP) versus Carbonate NP (CaNP)

Meliadine Gold Project
 Comaplex Minerals Corporation

DRAWN	TG	DATE	Feb-10	JOB NO	09-1426-0015
CHECKED	JMC				
REVIEWED	VJB			FIGURE	B.2-2

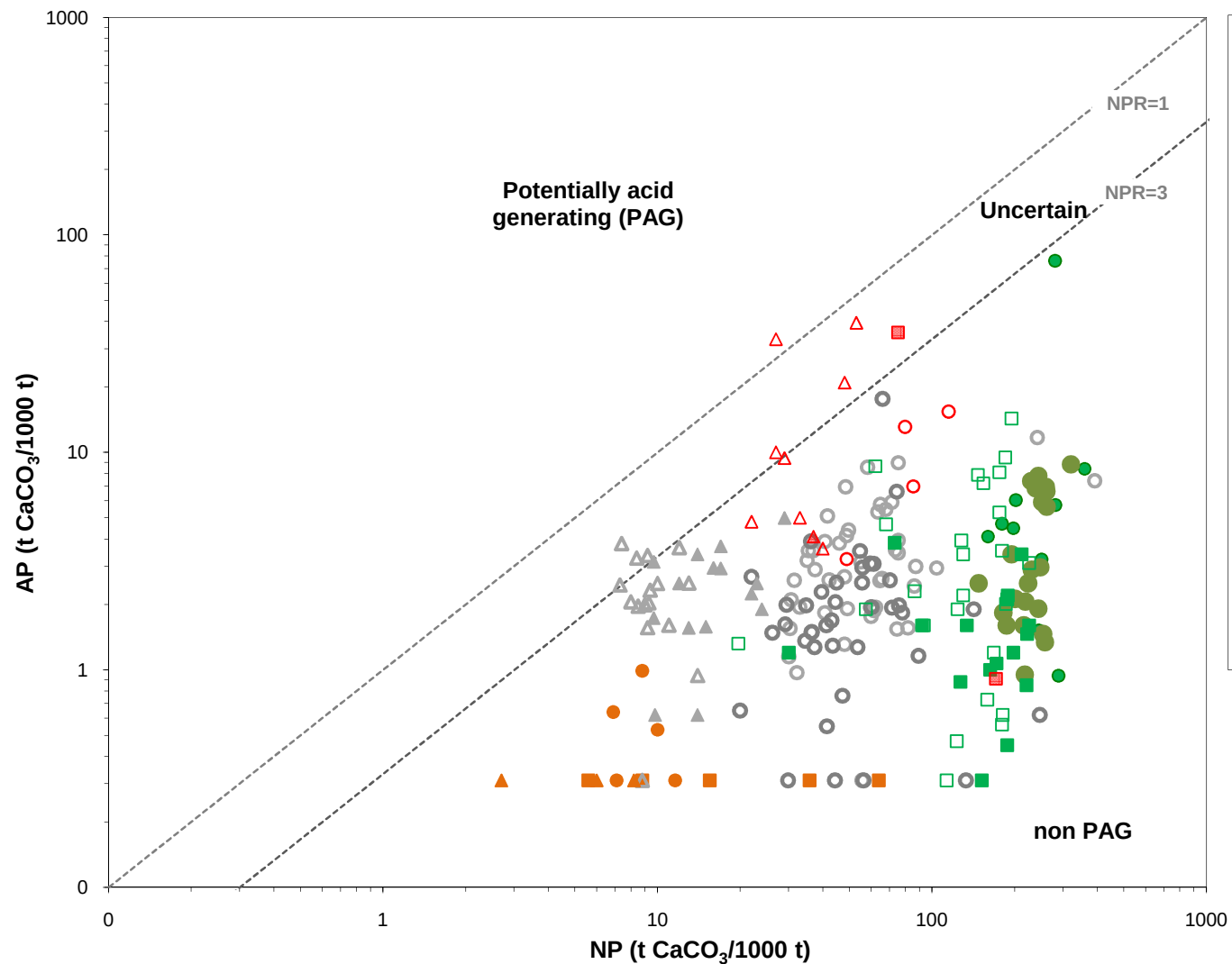


Waste Rock Static Testing

Sulphide Sulphur versus Net Potential Ratio (NPR)

Meliadine Gold Project
Comaplex Minerals Corporation

DRAWN	TG	DATE	Feb-10	JOB NO	09-1426-0015
CHECKED	JMC				
REVIEWED	VJB			FIGURE	B.2-3



- Tiriganiaq Greywacke/siltstone (Pit HW)
- Tiriganiaq Mafic Volcanic (Pit FW)
- Tiriganiaq Greywacke/siltstone (UG)
- Tiriganiaq Iron Formation (UG)
- Tiriganiaq Mafic Volcanic (UG)
- Tiriganiaq Surface Soil
- F-Zone Mafic Volcanic (HW)
- F-Zone Mafic Volcanic (FW)
- F Zone Iron Formation/Quartz Vein
- F Zone Surface Soil
- △ Discovery Iron Formation (HW)
- △ Discovery Greywacke (HW)
- △ Discovery Iron Formation (FW)
- △ Discovery Greywacke (FW)
- △ Discovery Surface Soil

Notes:

OP: open pit
UG: underground
HW= Hanging Wall
FW= Foot wall

S²⁻ values less than method detection
plotted as detection limit, resulting in AP
values equal to 0.31

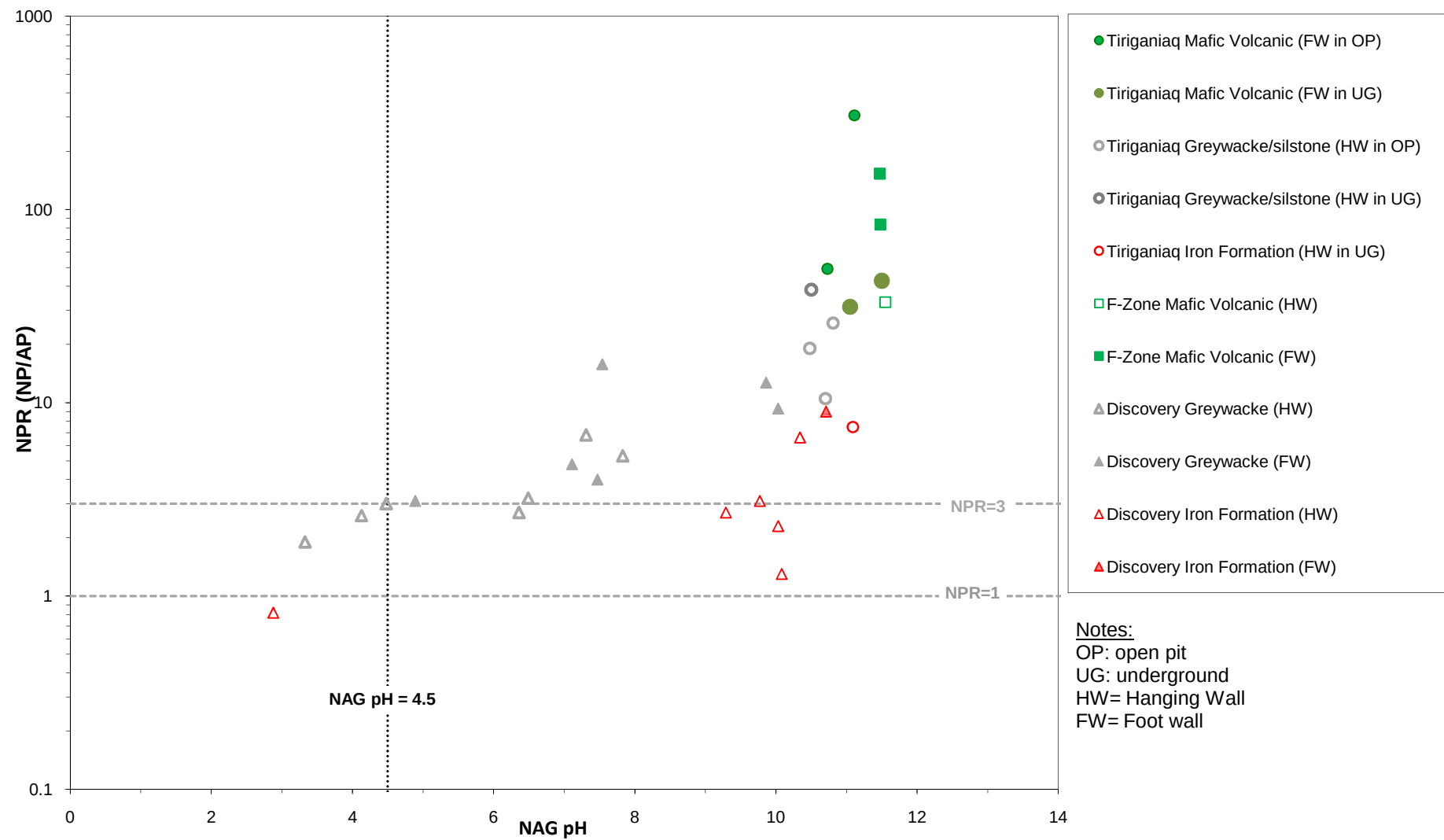


Waste Rock Static Testing

Neutralization Potential (NP) versus Acid Potential (AP)

Meliadine Gold Project
Comaplex Minerals Corporation

DRAWN	TG	DATE	Feb-10	JOB NO	09-1426-0015
CHECKED	JMC				
REVIEWED	VJB			FIGURE	B.2-4



	Waste Rock Static Testing		NAG pH versus Net Potential Ratio (NPR)	
	DRAWN	TG	DATE	Feb-10
	CHECKED			
	REVIEWED		FIGURE	B.2-5
Meliadine Gold Project Comaplex Minerals Corporation		JOB NO 09-1426-0015		



B.3 Metal Leaching Potential Analytical Results: Tables and Figures

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**Appendix B Table B.3-1
Waste Rock Short Term Leach Tests (SFE) - Tiriganiaq Deposit
Meliadine Gold Project, Nunavut
Complex Minerals Corporation**

CCME (CEQO) (freshwater aquatic life) ¹ (mg/L)				0.3	0.000028				0.073			0.025 - 0.156	0.001 - 0.0076		0.001				0.0008						0.03
Metal Mine Effluent Regulation (MMER) ² (mg/L)													0.2												
Sample Number	Borehole Interval (m) from to	Lithology	Location	Fe	Hg	K	Li	Mg	Mn	Mo	Na	Ni ⁴	Pb ⁵	Sb	Se	Sn	Sr	Ti	Ti	U	V	W	Y	Zn	
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
G108-01-02	25 29	greywacke/siltstone	Pit hanging wall	< 0.01	< 0.0001	11	0.003	3.2	0.0020	0.0006	19	0.0012	0.00009	0.0029	< 0.001	0.00006	0.0071	0.0006	0.00007	0.00023	0.0024	0.00756	0.00077	0.007	
G108-02-01	65 70	greywacke/siltstone	Pit hanging wall	< 0.01	< 0.0001	11	0.002	2.7	0.0020	0.0007	17	0.0006	0.00011	0.0009	< 0.001	0.00011	0.053	0.0004	0.00005	0.00012	0.0006	0.00090	0.00056	0.008	
M00-474-04	45 50	greywacke/siltstone	Pit hanging wall	0.01	< 0.0001	6.2	< 0.001	1.2	0.0015	0.0004	5.9	0.0003	0.00003	0.0014	< 0.001	0.00006	0.103	0.0003	< 0.00002	0.0006	0.0003	0.00059	0.00014	0.009	
M00-474-05	21 25	greywacke/siltstone	Pit hanging wall	0.01	< 0.0001	10.7	< 0.001	1.2	0.0010	0.0006	3.6	0.0005	0.00004	0.0035	< 0.001	< 0.00001	0.042	0.0004	< 0.00002	0.0019	0.0024	0.00052	0.00010	< 0.001	
M00-476-01	32 37	greywacke/siltstone	Pit hanging wall	0.04	< 0.0001	9.0	0.001	1.1	0.0007	0.0009	5.7	0.0002	0.00008	0.0053	< 0.001	0.00001	0.027	0.0015	< 0.00002	0.0007	0.0035	0.00034	0.00038	0.001	
M00-476-02	23 28	greywacke/siltstone	Pit hanging wall	0.03	< 0.0001	9.1	< 0.001	1.5	0.0006	0.0007	5.9	0.0002	0.00006	0.0043	< 0.001	< 0.00001	0.027	0.0009	< 0.00002	0.0010	0.0036	0.00044	0.00054	0.001	
M00-479-01	30 35	greywacke/siltstone	Pit hanging wall	0.07	< 0.0001	6.2	< 0.001	1.7	0.0023	0.0010	4.5	0.0003	0.00016	0.0012	< 0.001	< 0.00001	0.037	0.0021	< 0.00002	0.0005	0.0011	0.00126	0.00043	0.001	
M00-479-02	20 25	greywacke/siltstone	Pit hanging wall	0.02	< 0.0001	10.1	< 0.001	1.7	0.0010	0.0011	4.7	0.0003	0.00007	0.0045	< 0.001	< 0.00001	0.037	0.0006	< 0.00002	0.0013	0.0021	0.00051	0.00031	0.001	
M06-629-01	38 43	greywacke/siltstone	Pit hanging wall	0.01	< 0.0001	10.1	0.001	1.3	0.0008	0.0009	6.6	< 0.0001	0.00005	0.0057	< 0.001	< 0.00001	0.042	0.0009	< 0.00002	0.0006	0.0021	0.00095	0.00020	< 0.001	
M06-629-02	20 25	greywacke/siltstone	Pit hanging wall	< 0.01	< 0.0001	10.0	0.001	1.9	0.0014	0.0005	5.8	< 0.0001	0.00002	0.0044	< 0.001	< 0.00001	0.067	0.0004	< 0.00002	0.0006	0.0015	0.00067	0.00012	0.001	
M07-660-01 Dec2009	35 41	greywacke/siltstone	Pit hanging wall	0.03	< 0.0001	9.6	< 0.001	1.2	0.0007	0.0005	8.1	< 0.0001	0.00004	0.0040	< 0.001	< 0.00001	0.034	0.0014	< 0.00002	0.0012	0.0033	0.00025	0.00040	0.001	
M07-660-02 Dec2009	22 27	greywacke/siltstone	Pit hanging wall	0.03	< 0.0001	9.1	< 0.001	1.3	0.0009	0.0005	8.1	0.0001	0.00005	0.0050	< 0.001	< 0.00001	0.034	0.0008	< 0.00002	0.0007	0.0027	0.00033	0.00035	< 0.001	
M07-660-03	56 60	greywacke/siltstone	Pit hanging wall	< 0.01	< 0.0001	9.4	< 0.001	0.8	0.0005	0.0005	3.4	< 0.0003	< 0.00002	0.0046	< 0.001	0.00003	0.039	0.0002	< 0.00002	0.0013	0.0017	0.00066	0.00007	< 0.001	
M07-704-01	41 46	greywacke/siltstone	Pit hanging wall	< 0.01	< 0.0001	11.0	0.002	1.5	0.0020	0.0029	10	0.0008	0.00005	0.0042	< 0.001	0.00007	0.049	0.0004	< 0.00002	0.0016	0.0022	0.00064	0.00023	0.006	
M07-704-02	25 25	greywacke/siltstone	Pit hanging wall	< 0.01	< 0.0001	10.7	0.002	2.1	0.0011	0.0010	11	0.0006	0.00003	0.0044	< 0.001	0.00003	0.041	0.0007	< 0.00002	0.0015	0.0026	0.00069	0.00022	0.006	
M07-712-02	26 30	greywacke/siltstone	Pit hanging wall	< 0.01	< 0.0001	7.3	< 0.001	1.3	0.0017	0.0004	5.9	0.0003	0.00009	0.0017	< 0.001	0.00013	0.160	0.0001	< 0.00002	0.0007	0.0002	0.00007	0.00028	0.010	
M07-713-01	80 86	greywacke/siltstone	Pit hanging wall	< 0.01	< 0.0001	10.6	0.001	2.4	0.0011	0.0004	5.3	0.0004	0.00004	0.0019	< 0.001	0.00003	0.044	0.0002	< 0.00002	0.0024	0.0005	0.00080	0.00007	< 0.001	
M07-713-02	45 49	greywacke/siltstone	Pit hanging wall	0.01	< 0.0001	10.5	< 0.001	1.4	0.0005	0.0005	4.7	0.0002	0.00016	0.0044	< 0.001	0.00003	0.029	0.0005	< 0.00002	0.0011	0.0017	0.00059	0.00009	0.001	
M07-713-03	15 19	greywacke/siltstone	Pit hanging wall	0.02	< 0.0001	9.1	0.001	1.0	0.0007	0.0005	7.6	< 0.0001	0.00005	0.0020	< 0.001	< 0.00001	0.038	0.0009	< 0.00002	0.0013	0.0034	0.00047	0.00036	< 0.001	
M99-17-01	61 66	greywacke/siltstone	Pit hanging wall	< 0.01	< 0.0001	7.1	0.001	1.0	0.0010	0.0006	6.6	0.0004	0.00002	0.0034	< 0.001	0.00009	0.052	0.0005	< 0.00002	0.0010	0.0018	0.00114	0.00014	0.007	
M99-17-02	30 35	greywacke/siltstone	Pit hanging wall	< 0.01	< 0.0001	6.6	0.002	1.2	0.0012	0.0006	7.4	0.0004	0.00004	0.0040	< 0.001	0.00004	0.050	0.0002	< 0.00002	0.0017	0.0036	0.00082	0.00020	0.007	
M99-194-01	70 75	greywacke/siltstone	Pit hanging wall	< 0.01	< 0.0001	9.7	0.002	2.4	0.0019	0.0006	3.8	0.0005	0.00004	0.0013	< 0.001	0.00004	0.057	0.0001	< 0.00002	0.0040	0.0009	0.00112	0.00007	< 0.001	
M99-194-02	55 59	greywacke/siltstone	Pit hanging wall	0.01	< 0.0001	8.2	0.001	1.9	0.0018	0.0004	3.5	0.0003	0.00006	0.0012	< 0.001	0.00003	0.080	0.0001	< 0.00002	0.0024	0.0003	0.00073	0.00005	< 0.001	
M99-194-03	26 29	greywacke/siltstone	Pit hanging wall	< 0.01	< 0.0001	10.6	< 0.001	1.5	0.0007	0.0014	3.2	0.0013	0.00004	0.0063	< 0.001	0.00030	0.052	< 0.0001	< 0.00002	0.0029	0.0026	0.00097	0.00007	< 0.001	
M99-194-04	34 39	greywacke/siltstone	Pit hanging wall	0.02	< 0.0001	9.9	0.001	2.6	0.0013	0.0005	6.5	0.0002	0.00005	0.0045	< 0.001	0.00001	0.059	0.0002	< 0.00002	0.0005	0.0024	0.00059	0.00017	0.001	
M99-299-03	20 24	greywacke/siltstone	Pit hanging wall	0.02	< 0.0001	9.3	< 0.001	1.0	0.0005	0.0005	3.8	0.0004	0.00002	0.0030	< 0.001	0.00001	0.049	0.0006	< 0.00002	0.0007	0.0026	0.00048	0.00006	< 0.001	
M99-299-03	55 60	greywacke/siltstone	Pit hanging wall	0.02	< 0.0001	11.0	0.001	1.2	0.0006	0.0005	4.6	< 0.0001	0.00003	0.0045	< 0.001	< 0.00001	0.035	0.0011	< 0.00002	0.0007	0.0022	0.00039	0.00027	< 0.001	
M99-299-04	25 29	greywacke/siltstone	Pit hanging wall	< 0.01	< 0.0001	9.9	0.001	1.1	0.0006	0.0009	3.8	0.0004	0.00003	0.0027	< 0.001	< 0.00001	0.039	0.0004	< 0.00002	0.0004	0.0025	0.00037	0.00006	< 0.001	
M99-299-05	45 50	greywacke/siltstone	Pit hanging wall	0.05	< 0.0001	8.7	< 0.001	0.8	0.0006	0.0003	5.3	0.0002	0.00006	0.0039	< 0.001	< 0.00001	0.025	0.0022	< 0.00002	0.0007	0.0038	0.00039	0.00046	< 0.001	
M99-299-02	35 40	greywacke/siltstone	Pit hanging wall	< 0.01	< 0.0001	9.2	0.001	1.6	0.0010	0.0004	4.5	0.0002	0.00002	0.0039	< 0.001	< 0.00001	0.043	0.0004	< 0.00002	0.0009	0.0021	0.00044	0.00012	0.001	
M99-299-03	25 30	greywacke/siltstone	Pit hanging wall	0.03	< 0.0001	7.1	0.001	0.8	0.0013	0.0003	5.8	0.0002	0.00006	0.0034	< 0.001	< 0.00001	0.031	0.0009	< 0.00002	0.0018	0.0045	0.00033	0.00045	< 0.001	
M99-333-01	39 43	greywacke/siltstone	Pit hanging wall	< 0.01	< 0.0001	7.4	0.002	2.9	0.0007	0.0005	4.9	0.0005	0.00005	0.0040	< 0.001	< 0.00001	0.058	0.0002	< 0.00002	0.0005	0.0024	0.00059	0.00017	0.001	
M99-340-03	25 30	greywacke/siltstone	Pit hanging wall	0.01	< 0.0001	7.6	0.002	1.1	0.0011	0.0009	5.4	0.0008	0.00003	0.0049	< 0.001	0.00004	0.042	0.0005	< 0.00002	0.0050	0.0015	0.00046	0.00025	0.005	
M99-341-02	30 35	greywacke/siltstone	Pit hanging wall	< 0.01	< 0.0001	7.7	0.002	2.5	0.0019	0.0005	6.0	0.0008	0.00004	0.0041	< 0.001	0.00004	0.048	0.0001	< 0.00002	0.0008	0.0033	0.00068	0.00009	0.006	
M99-341-03	20 25	greywacke/siltstone	Pit hanging wall	0.03	< 0.0001	9.1	< 0.001	0.7	0.0005	0.0016	4.5	0.0006	0.00006	0.0060	< 0.001	< 0.00001	0.031	0.0014	< 0.00002	0.0012	0.0029	0.00075	0.00042	0.001	
M99-341-01 Dec2009	45 50	greywacke/siltstone	Pit hanging wall	0.02	< 0.0001	7.1	< 0.001	0.9	0.0025	0.0007	5.3	0.0003	0.00004	0.0031	< 0.001	< 0.00001	0.037	0.0010	< 0.00002	0.0014	0.0037	0.00039	0.00024	< 0.001	
M99-345-01	81 85	greywacke/siltstone	Pit hanging wall	0.02	< 0.0001	7.1	< 0.001	0.9	0.0025	0.0007	5.3	0.0003	0.00004	0.0031	< 0.001	< 0.00001	0.037	0.0010	< 0.00002	0.0014	0.0037	0.00039	0.00024	< 0.001	
M99-345-02	33 37	greywacke/siltstone	Pit hanging wall	0.02	< 0.0001	8.5	< 0.001	0.9	0.0009	0.0006	5.5	0.0001	0.00005	0.0022	< 0.001	< 0.00001	0.031	0.0008	< 0.00002	0.0012	0.0036	0.00055	0.00060	< 0.001	
M99-345-03	30 35	greywacke/siltstone	Pit hanging wall	< 0.01	< 0.0001	7.9	0.001	1.4	0.0017	0.0005	4.9	0.0005	0.00005	0.0040	< 0.001	< 0.00001	0.058	0.0002	< 0.00002	0.0005	0.0024	0.00059	0.00017	0.001	
M99-346-01	40 45	greywacke/siltstone	Pit hanging wall	0.02	< 0.0001	10.1	0.001	2.1	0.0017	0.0008	5.1	0.0005	0.00003	0.0051	< 0.001	< 0.00001	0.039	0.0015	< 0.00002	0.0006	0.0019	0.00046	0.00034	0.001	

nc: not calculated

1. CEQO (2002) freshwater guidelines and MMER criteria are based on total metal concentrations. Exceedances to freshwater CEQO's shown in bold type.

2. MMER 2006 update. Maximum authorized monthly mean concentration.

3. Freshwater aquatic life criteria for chromium depends on the valence of chromium ion. In the above table, the Cr(VI) criterion of 0.001 mg/L is shown.

4. Freshwater aquatic life criterion for guideline is hardness dependent.

5. Freshwater aquatic life criterion for aluminum depends on pH, $[Ca^{2+}]$ and DOC. In this table, only the pH criterion has been applied to Nilotripic exceedances.

**Appendix B Table B.3-1
Waste Rock Short Term Leach Tests (SFE) - Tiriganiaq Deposit
Meladine Gold Project, Nunavut
Comaplex Minerals Corporation**

CCME (CEQG) (freshwater aquatic life) ¹ (mg/L)				0.3	0.000026				0.073				0.025- 0.156	0.001- 0.0076		0.001			0.0008					0.03		
Metal Mine Effluent Regulation (MMER) ² (mg/L)													0.5	0.2										0.5		
Sample Number	Borehole Interval (m) from to	Lithology	Location	Fe	Hg	K	Li	Mg	Mn	Mo	Na	Ni ⁴	Pb ⁴	Sb	Se	Sn	Sr	Ti	Ti	U	V	W	Y	Zn		
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		
GT-08-04-01_Aug2009	113 119	Mafic volcanic	UG development	< 0.01	< 0.0001	3.0	< 0.001	0.8	0.001	0.00006	5.4	< 0.0001	0.00000	0.020	< 0.001	0.00002	0.03	< 0.0001	< 0.00002	0.000013	0.0016	0.0052	0.000002	< 0.001		
M05-536A-01	491 497	Mafic volcanic	UG development	< 0.01	< 0.0001	7.4	0.002	7.0	0.004	0.00011	4.1	0.0004	0.00003	0.0031	< 0.001	< 0.00001	0.05	< 0.0001	< 0.00002	0.000002	0.0005	0.0020	0.000001	< 0.001		
M05-561-01	61 67	Mafic volcanic	UG development	< 0.01	< 0.0001	4.5	0.002	2.2	0.002	0.00006	4.7	0.0001	< 0.00002	0.0006	< 0.001	< 0.00001	0.05	< 0.0001	< 0.00002	0.000001	0.0006	0.0009	0.000001	< 0.001		
M05-561-02	101 106	Mafic volcanic	UG development	< 0.01	< 0.0001	6.2	0.001	4.8	0.002	0.00014	6.3	0.0002	0.00004	0.0015	< 0.001	< 0.00001	0.02	< 0.0001	< 0.00002	0.000022	0.0005	0.0008	0.000003	< 0.001		
M05-561-03	178 183	Mafic volcanic	UG development	< 0.01	< 0.0001	3.0	0.001	6.0	0.002	0.00008	7.3	0.0002	< 0.00002	0.0012	< 0.001	< 0.00001	0.06	< 0.0001	< 0.00002	0.000006	0.0005	0.0007	0.000001	< 0.001		
M05-564-01	366 372	Mafic volcanic	UG development	< 0.01	< 0.0001	1.1	0.002	1.1	0.002	0.00004	5.1	< 0.0001	0.00003	0.0007	< 0.001	< 0.00001	0.02	< 0.0001	< 0.00002	0.000003	0.0020	0.0004	0.000002	< 0.001		
M07-110-01	262 268	Mafic volcanic	UG development	< 0.01	< 0.0001	8.8	0.002	4.4	0.004	0.00019	4.3	0.0003	0.00003	0.0016	< 0.001	0.00002	0.14	< 0.0001	< 0.00002	0.000008	0.0006	0.0011	0.000003	< 0.001		
M07-130-01	242 246	Mafic volcanic	UG development	< 0.01	< 0.0001	1.4	0.001	0.8	0.002	0.00003	6.3	0.0001	< 0.00002	0.0009	< 0.001	< 0.00001	0.01	< 0.0001	< 0.00002	< 0.000001	0.0026	0.0005	0.000001	< 0.001		
M07-130-02	242 246	Mafic volcanic	UG development	< 0.01	< 0.0001	2.1	0.002	7.2	0.002	0.00005	5.2	0.0002	< 0.00002	0.0006	< 0.001	< 0.00001	0.02	< 0.0001	< 0.00002	< 0.000001	0.0005	0.0004	0.000001	< 0.001		
M07-133-01	255 261	Mafic volcanic	UG development	< 0.01	< 0.0001	1.6	0.001	3.1	0.003	0.00005	4.1	0.0002	< 0.00002	0.0007	< 0.001	< 0.00001	0.09	< 0.0001	< 0.00002	0.000019	0.0006	0.0004	0.000014	< 0.001		
M07-134-01	305 310	Mafic volcanic	UG development	< 0.01	< 0.0001	1.9	0.002	2.4	0.005	0.00004	3.2	0.0002	< 0.00002	0.0004	< 0.001	< 0.00001	0.07	< 0.0001	< 0.00002	< 0.000001	0.0006	0.0003	0.000002	< 0.001		
M07-135-01	245 250	Mafic volcanic	UG development	0.03	< 0.0001	1.3	0.004	4.9	0.008	0.00013	8.8	0.0004	0.00002	0.0010	< 0.001	0.00002	0.02	0.0004	0.00005	0.000179	0.0006	0.0013	0.000054	0.003		
M07-136-01	215 220	Mafic volcanic	UG development	< 0.01	< 0.0001	4.0	0.002	5.2	0.004	0.00005	5.3	0.0006	< 0.00002	0.0026	< 0.001	< 0.00001	0.03	< 0.0001	< 0.00002	< 0.000001	0.0005	0.0005	0.000001	< 0.001		
M07-137-01	237 242	Mafic volcanic	UG development	< 0.01	< 0.0001	2.9	0.002	2.1	0.003	0.00004	4.9	0.0002	< 0.00002	0.0012	< 0.001	< 0.00001	0.02	< 0.0001	< 0.00002	0.000004	0.0009	0.0006	0.000002	< 0.001		
M07-138-01	222 228	Mafic volcanic	UG development	< 0.01	< 0.0001	2.9	< 0.001	2.4	0.003	0.00006	3.9	< 0.0001	0.00003	0.0012	< 0.001	< 0.00001	0.03	< 0.0001	< 0.00002	0.000004	0.0006	0.0006	0.000002	< 0.001		
M07-139-01	142 149	Mafic volcanic	UG development	< 0.01	< 0.0001	13	0.001	12	0.007	0.00013	5.5	0.0028	0.00017	0.0129	< 0.001	< 0.00001	0.03	< 0.0001	< 0.00002	0.000035	0.0007	0.0018	0.000006	< 0.001		
M07-141-01	552 558	Mafic volcanic	UG development	< 0.01	< 0.0001	5.3	< 0.001	8.6	0.002	0.00009	4.2	0.0002	0.00016	0.0036	< 0.001	0.00009	0.02	0.0002	< 0.00002	0.000000	0.0005	0.0009	0.000005	0.002		
M07-143-01	564 570	Mafic volcanic	UG development	< 0.01	< 0.0001	1.4	0.002	2.9	0.003	0.00005	3.0	< 0.0001	0.00002	0.0011	< 0.001	< 0.00001	1.2	< 0.0001	< 0.00002	0.000019	0.0006	0.0009	< 0.000001	< 0.001		
M07-192-01	209 215	Mafic volcanic	UG development	< 0.01	< 0.0001	3.5	< 0.001	3.7	0.002	0.00008	4.2	< 0.0001	0.00003	0.0007	< 0.001	0.00001	0.04	< 0.0001	< 0.00002	0.000009	0.0007	0.0014	0.000002	< 0.001		
M07-193-01	429 435	Mafic volcanic	UG development	< 0.01	< 0.0001	3.1	0.003	5.7	0.005	0.00004	5.6	0.0002	0.00002	0.0025	< 0.001	< 0.00001	0.03	< 0.0001	< 0.00002	0.000003	0.0006	0.0017	0.000002	< 0.001		
M08-318-01	100 105	Mafic volcanic	UG development	< 0.01	< 0.0001	2.7	0.003	4.8	0.004	0.00009	6.8	0.0002	0.00003	0.0009	< 0.001	< 0.00001	0.03	< 0.0001	< 0.00002	0.000005	0.0004	0.0005	0.000002	< 0.001		
M09-348-01	193 198	Mafic volcanic	UG development	< 0.01	< 0.0001	1.9	0.002	3	0.002	0.00003	5.7	0.0002	< 0.00002	0.0006	< 0.001	< 0.00001	0.02	< 0.0001	< 0.00002	0.000001	0.0008	0.0002	0.000001	< 0.001		
				minimum	< 0.01	< 0.0001	1.1	< 0.001	0.8	0.0008	0.0000	3.0	< 0.0001	< 0.00002	0.0004	< 0.001	< 0.00001	0.01	< 0.0001	< 0.00002	0.000001	0.0004	0.000015	< 0.001		
				maximum	0.03	< 0.0001	13	0.004	12	0.0081	0.0002	8.8	0.0028	0.00017	0.0129	< 0.001	0.00009	1.2	0.0004	0.00005	0.00018	0.0026	0.00524	0.000064	0.003	
				median	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	
				average	nc	nc	nc	3.7	0.0019	4.3	0.0033	0.0001	5.2	0.0004	0.0001	0.0019	nc	0.00009	0.09	nc	nc	0.00002	0.0008	0.00107	0.00006	nc
				standard deviation	nc	nc	nc	2.8	0.0008	2.7	0.0018	0.0000	1.4	0.0006	0.0001	0.0026	nc	0.00003	0.26	nc	nc	0.00004	0.0005	0.00106	0.00003	nc
				75th percentile	nc	nc	nc	4.4	0.0020	5.6	0.0044	0.0001	5.7	0.0003	0.0001	0.0019	nc	0.00004	0.05	nc	nc	0.00002	0.0007	0.00122	0.000003	nc
M03-498-01	315 320	greywacke/siltstone	UG development	< 0.01	< 0.0001	9.6	0.001	1.6	0.010	0.0001	5.6	< 0.0001	< 0.00002	0.0030	< 0.001	< 0.00001	0.055	0.0002	< 0.00002	0.00011	0.0016	0.00067	0.000008	0.001		
M03-499-02	270 275	greywacke/siltstone	UG development	0.01	< 0.0001	11	0.001	2.0	0.009	0.0003	4.4	< 0.0001	0.00006	0.0047	< 0.001	< 0.00001	0.041	0.0009	< 0.00002	0.00007	0.0019	0.00153	0.000015	0.001		
M04-520-01	405 410	greywacke/siltstone	UG development	0.02	< 0.0001	10	0.001	1.6	0.0007	0.0005	4.9	< 0.0001	0.00002	0.0041	< 0.001	< 0.00001	0.030	0.0013	< 0.00002	0.00004	0.0039	0.00111	0.000013	< 0.001		
M04-523-02	411 415	greywacke/siltstone	UG development	< 0.01	< 0.0001	16	< 0.001	2.2	0.0006	0.0001	4.3	< 0.0001	0.00002	0.0014	< 0.001	< 0.00001	0.010	< 0.00001	< 0.00002	0.00001	0.0052	0.00067	0.000003	< 0.001		
M04-527-01	270 280	greywacke/siltstone	UG development	< 0.01	< 0.0001	5.0	0.001	1.8	0.0024	0.0005	10	0.0003	0.00003	0.0023	< 0.001	0.00005	0.052	0.0003	< 0.00002	0.00016	0.0025	0.00056	0.000015	0.003		
M04-533-01	380 390	greywacke/siltstone	UG development	< 0.01	< 0.0001	14	0.002	2.0	0.010	0.0004	7.2	0.0003	0.00008	0.0027	< 0.001	0.00007	0.128	0.0002	< 0.00002	0.00007	0.0023	0.00193	0.000015	0.006		
M04-533-02	297 307	greywacke/siltstone	UG development	< 0.01	< 0.0001	8.6	< 0.001	0.6	0.0008	0.0006	8.4	0.0002	0.00002	0.0054	< 0.001	0.00004	0.037	0.0006	< 0.00002	0.00013	0.0067	0.00078	0.000018	0.004		
M05-559A-02	180 190	greywacke/siltstone	UG development	< 0.01	< 0.0001	7.9	0.001	1.0	0.010	0.0004	8.0	0.0002	0.00004	0.0041	< 0.001	0.00008	0.047	0.0002	< 0.00002	0.00007	0.0039	0.00071	0.000012	0.005		
M05-571A-02	335 344	greywacke/siltstone	UG development	< 0.01	< 0.0001	7.4	0.001	1.9	0.006	0.0009	8.9	0.0004	0.00002	0.0037	< 0.001	0.00004	0.050	0.0004	< 0.00002	0.00005	0.0014	0.00054	0.0000024	0.006		
M06-601A-01	266 270	greywacke/siltstone	UG development	< 0.01	< 0.0001	6.9	< 0.001	0.8	0.0006	0.0001	6.1	< 0.0001	0.00002	0.0027	< 0.001	< 0.00001	0.076	< 0.0001	< 0.00002	0.00000	0.0024	0.00052	0.000004	0.001		
M06-604-01	335 344	greywacke/siltstone	UG development	< 0.01	< 0.0001	6.1	0.001	1.3	0.0005	0.0005	12	< 0.0001	0.00002	0.0036	< 0.001	0.00006	0.054	0.0007	< 0.00002	0.00001	0.0052	0.00067	0.000014	0.008		
M06-604-02	286 295	greywacke/siltstone	UG development	< 0.01	< 0.0001	7.2	< 0.001	1.6	0.0008	0.0001	8.0	0.0001	0.00003	0.0035	< 0.001	0.00002	0.069	0.0001	< 0.00002	0.00002	0.0004	0.00010	0.000012	0.019		
M06-607-01	175 180	greywacke/siltstone	UG development	0.02	< 0.0001	9.9	0.001	1.4	0.0005	0.0005	5.1	< 0.0001	0.00006	0.0041	< 0.001	< 0.00001	0.									

Appendix B Table B.3-2
Waste Rock Short Term Leach Tests (SFE) - F Zone Deposit
Meliadine Gold Project, Nunavut
Complex Minerals Corporation

CCME (CEQG) (freshwater aquatic life) ³ (mg/L)				6.5 - 9.0							0.0001	0.005 - 0.14	0.005						0.000017	0.001 / 0.00095	0.002 - 0.0046	0.3	0.000026
Metal Mine Effluent Regulation (MMER) ² (mg/L)				6.0 - 9.5									0.5								0.3		
Sample Number	Borehole Interval (m)		Lithology	Location	Final pH	Alkalinity	Conductivity	Cl	SO4	Ag	Al ³	As	B	Be	Bi	Ca	Cd ⁴	Co	Cr ²	Cu ⁴	Fe	Hg	
	from	to																					
						mg/L (CaCO3)	uS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
GTO9-07-01	20	25	mafic volcanic	Pit hanging wall	9.5	32	105	12	1.8	< 0.00001	0.89	0.001	0.04	< 0.00002	< 0.00001	5.5	< 0.00003	0.00001	< 0.0005	< 0.0005	< 0.01	< 0.0001	
GTO9-07-02	30	35	mafic volcanic	Pit hanging wall	9.5	38	106	8.0	1.2	< 0.00001	0.87	0.002	0.01	< 0.00002	< 0.00001	6.3	< 0.00003	0.00001	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-729-01	15	20	mafic volcanic	Pit hanging wall	9.5	37	99	6.0	2.3	0.00001	0.87	0.002	0.02	< 0.00002	0.00001	4.5	< 0.00003	0.00002	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-729-02	36	41	mafic volcanic	Pit hanging wall	9.5	32	90	7.7	1.5	< 0.00001	0.83	0.003	0.02	< 0.00002	< 0.00001	5.0	< 0.00003	0.00002	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-729-03	55	60	mafic volcanic	Pit hanging wall	9.4	43	111	6.0	3.4	< 0.00001	1.11	0.010	0.02	< 0.00002	< 0.00001	4.5	< 0.00003	0.00002	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-729-04	74	79	mafic volcanic	Pit hanging wall	9.3	47	100	2.5	1.3	0.00004	0.75	0.062	0.02	< 0.00002	< 0.00001	5.9	< 0.00003	0.00004	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-734-01	15	20	mafic volcanic	Pit hanging wall	9.5	45	100	4.5	2.0	0.00007	1.10	0.012	0.02	< 0.00002	0.00004	3.9	< 0.00003	0.00003	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-734-02	28	32	mafic volcanic	Pit hanging wall	9.2	45	109	6.3	1.8	0.00002	1.01	0.001	0.01	< 0.00002	0.00003	6.7	< 0.00003	0.00003	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-734-03	54	60	mafic volcanic	Pit hanging wall	9.2	46	133	5	8.6	0.0000	0.75	0.013	0.01	< 0.00002	0.00001	7.1	< 0.00003	0.00003	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-735-01	20	25	mafic volcanic	Pit hanging wall	9.6	60	138	6.4	3.2	0.00001	1.51	0.019	0.04	< 0.00002	< 0.00001	3.0	< 0.00003	0.00002	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-740-01	16	21	mafic volcanic	Pit hanging wall	9.3	40	115	10	1.8	0.00014	1.11	0.022	0.02	< 0.00002	< 0.00001	6.2	< 0.00003	0.00003	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-740-02	36	41	mafic volcanic	Pit hanging wall	9.1	54	119	5.9	0.9	0.00002	0.93	0.022	0.02	< 0.00002	< 0.00001	6.6	< 0.00003	0.00005	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-740-03	52	56	mafic volcanic	Pit hanging wall	9.8	32	80	5.2	1.7	< 0.00001	0.72	0.003	0.01	< 0.00002	< 0.00001	3.8	< 0.00003	0.00002	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-742-01	9	14.5	mafic volcanic	Pit hanging wall	9.5	41	109	7.4	3.4	< 0.00001	1.05	0.002	0.02	< 0.00002	< 0.00001	4.4	< 0.00003	0.00002	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-742-02	29	35	mafic volcanic	Pit hanging wall	9.3	44	112	7.4	1.5	< 0.00001	0.99	0.001	0.01	< 0.00002	< 0.00001	5.6	< 0.00003	0.00002	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-742-03	43	47	mafic volcanic	Pit hanging wall	9.0	65	138	5.0	1.6	0.00001	0.51	0.005	0.01	< 0.00002	< 0.00001	7.6	< 0.00003	0.00003	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-743-01	10	15	mafic volcanic	Pit hanging wall	9.8	43	108	6.5	2.6	< 0.00001	0.87	0.004	0.02	< 0.00002	< 0.00001	3.2	< 0.00003	0.00002	< 0.0005	< 0.0005	0.01	< 0.0001	
M08-747-01	20	25	mafic volcanic	Pit hanging wall	9.2	34	110	7.1	3.3	< 0.00001	0.79	0.001	0.01	< 0.00002	< 0.00001	7.9	< 0.00003	0.00006	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-747-02	39	45	mafic volcanic	Pit hanging wall	9.7	30	93	3.8	2.8	0.00007	0.44	0.002	0.01	< 0.00002	0.00001	5.6	0.00000	0.00003	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-748-01	36	41	mafic volcanic	Pit hanging wall	9.8	40	104	5.6	2.0	< 0.00001	0.99	0.003	0.02	< 0.00002	< 0.00001	3.0	< 0.00003	0.00002	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-748-02	57	62	mafic volcanic	Pit hanging wall	9.2	38	124	5.7	3.7	< 0.00001	0.73	0.001	0.01	< 0.00002	< 0.00001	6.5	< 0.00003	0.00002	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-750-01	9	14	mafic volcanic	Pit hanging wall	9.4	46	100	4.0	1.6	< 0.00001	0.96	0.001	0.01	< 0.00002	< 0.00001	5.0	< 0.00003	0.00002	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-750-02	28	33	mafic volcanic	Pit hanging wall	8.8	82	177	7.5	1.0	0.00009	0.48	0.016	0.02	0.00004	0.00004	11	0.00003	0.00007	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-752-01	9	14	mafic volcanic	Pit hanging wall	9.5	33	134	12	5.2	< 0.00001	0.55	0.007	0.01	< 0.00002	< 0.00001	5.3	< 0.00003	0.00002	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-752-02	23	27	mafic volcanic	Pit hanging wall	10.0	41	100	2.5	5.7	0.00001	0.64	0.005	0.25	< 0.00002	< 0.00001	3.3	< 0.00003	0.00002	0.001	0.001	0.70	< 0.0001	
M08-755-01	19	24	mafic volcanic	Pit hanging wall	9.8	32	77	4.1	1.2	0.00002	0.83	0.004	0.01	< 0.00002	< 0.00001	3.9	0.00000	0.00004	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M08-755-02	30	37	mafic volcanic	Pit hanging wall	9.7	36	88	4.6	1.8	< 0.00001	0.87	0.002	0.01	< 0.00002	< 0.00001	3.6	< 0.00003	0.00002	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M09-798-01	12	17	mafic volcanic	Pit hanging wall	10.0	37	118	9.0	1.8	< 0.00001	1.20	0.008	0.02	< 0.00002	< 0.00001	3.6	< 0.00003	0.00014	< 0.0005	< 0.0005	0.25	< 0.0001	
M09-798-02	17	22	mafic volcanic	Pit hanging wall	10.0	38	96	4.5	1.3	< 0.00001	1.01	0.008	0.03	< 0.00002	< 0.00001	3.4	< 0.00003	0.00011	< 0.0005	< 0.0005	0.16	< 0.0001	
M09-816-01	20	25	mafic volcanic	Pit hanging wall	9.6	29	84	8.2	1.8	< 0.00001	0.71	0.001	0.01	< 0.00002	< 0.00001	5.7	0.00001	0.00003	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M09-816-02	30	35	mafic volcanic	Pit hanging wall	9.8	29	85	5.3	2.8	< 0.00001	0.62	0.001	0.02	< 0.00002	< 0.00001	4.8	< 0.00003	0.00002	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M09-855-01	15	20	mafic volcanic	Pit hanging wall	8.7	59	288	23	10	0.00005	0.40	0.005	0.02	< 0.00002	0.00003	18	0.00001	0.00008	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M09-855-02	20	25	mafic volcanic	Pit hanging wall	8.9	77	194	13	2.5	< 0.00001	0.37	0.019	0.01	< 0.00002	< 0.00001	12	0.00001	0.00006	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M09-857-01	20	25	mafic volcanic	Pit hanging wall	9.5	42	174	20	4.6	< 0.00001	0.80	0.010	0.02	< 0.00002	< 0.00001	4.5	0.00001	0.00003	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M09-858-01	20	25	mafic volcanic	Pit hanging wall	9.8	34	85	4.4	1.5	< 0.00001	0.65	0.001	0.09	< 0.00002	< 0.00001	3.9	< 0.00003	0.00004	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M09-858-02	30	35	mafic volcanic	Pit hanging wall	9.8	32	87	7	1.4	< 0.00001	0.70	0.001	0.01	< 0.00002	< 0.00001	4.2	0.00000	0.00003	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M09-862-01	15	20	mafic volcanic	Pit hanging wall	9.3	40	112	8.6	1.0	< 0.00001	0.67	0.001	0.01	< 0.00002	< 0.00001	7.3	< 0.00003	0.00000	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M09-866-01	10	15	mafic volcanic	Pit hanging wall	8.9	61	159	17	3.1	< 0.00001	0.65	0.001	0.02	< 0.00002	< 0.00001	9.5	< 0.00003	0.00001	< 0.0005	< 0.0005	< 0.01	< 0.0001	
M09-866-02	15	20	mafic volcanic	Pit hanging wall	9.0	66	158	10	1.3	< 0.00001	0.53	0.007	0.02	< 0.00002	< 0.00001	9.9	< 0.00003	0.00002	< 0.0005	< 0.0005	< 0.01	< 0.0001	
						minimum	8.7	29	77	2.5	0.9	< 0.00001	0.37	< 0.00002	< 0.00001	3.0	< 0.00003	0.00001	< 0.0005	< 0.0005	< 0.01	< 0.0001	
						maximum	10.0	82	268	10	0.00014	1.51	0.072	0.25	0.00004	0.00004	18	0.00003	0.00002	0.001	0.001	0.7	< 0.0001
						median	9.5	40	109	6.4	1.8	nc	0.79	0.003	0.02	nc	5.3	nc	0.000				

Appendix B Table B.3-2
Waste Rock Short Term Leach Tests (SFE) - F Zone Deposit
Meliadine Gold Project, Nunavut
Complex Minerals Corporation

CCME (CEQO) (freshwater aquatic life) ¹ (mg/L)									0.073				0.025 - 0.156	0.001 - 0.0075					0.0008							0.03
Metal Mine Effluent Regulation (MMER) ² (mg/L)													0.5	0.2												0.5
Sample Number	Borehole Interval (m) from to	Lithology	Location	K	Li	Mg	Mn	Mo	Na	Ni ⁴	Pb ⁴	Sb	Se	Sn	Sr	Ti	Ti	U	V	W	Y	Zn				
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
G109-07-01	20 25	mafic volcanic	Pit hanging wall	3.9	< 0.001	0.8	0.0005	0.00013	13	< 0.0001	< 0.00002	0.001	< 0.0001	< 0.00001	0.02	0.0002	< 0.00002	0.00000	0.0039	0.001	< 0.00001	< 0.001				
G109-07-02	30 35	mafic volcanic	Pit hanging wall	9.1	< 0.001	1.0	0.0011	0.00015	10	0.0002	< 0.00002	0.002	< 0.0001	< 0.00001	0.02	< 0.0001	< 0.00002	0.00000	0.0015	0.001	0.000001	< 0.001				
M08-729-01	15 20	mafic volcanic	Pit hanging wall	8.5	< 0.001	0.5	0.0004	0.00032	10	< 0.0001	< 0.00002	0.003	< 0.0001	< 0.00001	0.02	0.0002	< 0.00002	0.00000	0.0054	0.001	0.000001	< 0.001				
M08-729-02	36 41	mafic volcanic	Pit hanging wall	4.9	< 0.001	0.5	0.0004	0.00007	10	< 0.0001	< 0.00002	0.002	< 0.0001	< 0.00001	0.01	0.0001	< 0.00002	< 0.00001	0.0040	0.002	< 0.00001	< 0.001				
M08-729-03	55 60	mafic volcanic	Pit hanging wall	8.7	< 0.001	0.5	0.0007	0.00032	13	< 0.0001	< 0.00002	0.002	< 0.0001	0.00002	0.01	< 0.0001	< 0.00002	< 0.00001	0.0034	0.001	< 0.00001	< 0.001				
M08-729-04	74 79	mafic volcanic	Pit hanging wall	6.3	0.002	1.4	0.0015	0.00009	10	0.0012	< 0.00002	0.003	< 0.0001	0.002	0.0002	< 0.00002	0.00001	0.0063	0.001	0.000001	< 0.001					
M08-734-01	15 20	mafic volcanic	Pit hanging wall	4.6	< 0.001	0.5	0.0003	0.00028	14	< 0.0001	0.0001	0.003	< 0.0001	0.00003	0.01	0.0001	0.00002	0.00002	0.0074	0.001	0.000003	< 0.001				
M08-734-02	28 32	mafic volcanic	Pit hanging wall	7.5	< 0.001	1.0	0.0008	0.00018	10	< 0.0001	0.0001	0.002	< 0.0001	0.00003	0.02	< 0.0001	< 0.00002	0.00002	0.0011	0.001	0.000003	< 0.001				
M08-734-03	54 60	mafic volcanic	Pit hanging wall	7.7	< 0.001	1.1	0.0008	0.00046	14	0.0001	0.0001	0.005	< 0.0001	< 0.00001	0.03	< 0.0001	< 0.00002	0.00001	0.0019	0.003	0.000001	< 0.001				
M08-735-01	20 25	mafic volcanic	Pit hanging wall	8.9	< 0.001	0.4	0.0004	0.00030	20	< 0.0001	0.0001	0.003	< 0.0001	< 0.00001	0.01	0.0001	< 0.00002	0.00001	0.0105	0.001	0.000004	< 0.001				
M08-740-01	16 21	mafic volcanic	Pit hanging wall	5.2	< 0.001	0.7	0.0013	0.00007	13	0.0002	< 0.00002	0.001	< 0.0001	< 0.00001	0.02	< 0.0001	< 0.00002	0.00001	0.0019	0.002	0.000005	< 0.001				
M08-740-02	36 41	mafic volcanic	Pit hanging wall	3.7	< 0.001	2.7	0.0005	0.00006	12	0.0003	< 0.00002	0.002	< 0.0001	< 0.00001	0.02	< 0.0001	< 0.00002	< 0.00001	0.0017	0.001	< 0.00001	< 0.001				
M08-740-03	52 56	mafic volcanic	Pit hanging wall	3.1	< 0.001	0.4	0.0003	0.00005	10	< 0.0001	< 0.00002	0.002	< 0.0001	< 0.00001	0.01	0.0003	< 0.00002	0.00001	0.0174	0.001	< 0.00001	< 0.001				
M08-742-01	9 14.5	mafic volcanic	Pit hanging wall	7.4	< 0.001	0.5	0.0004	0.00013	13	< 0.0001	0.0002	0.002	< 0.0001	< 0.00001	0.02	0.0004	< 0.00002	0.00005	0.0106	0.002	0.000002	< 0.001				
M08-742-02	29 35	mafic volcanic	Pit hanging wall	9.3	< 0.001	0.8	0.0005	0.00009	12	< 0.0001	0.0001	0.003	< 0.0001	< 0.00001	0.01	0.0002	< 0.00002	0.00000	0.0025	0.001	0.000002	< 0.001				
M08-742-03	43 47	mafic volcanic	Pit hanging wall	8.0	0.001	3.1	0.0009	0.00013	12	< 0.0001	0.0001	0.008	< 0.0001	0.00001	0.03	< 0.0001	< 0.00002	0.00000	0.0011	0.001	0.000002	< 0.001				
M08-743-01	10 15	mafic volcanic	Pit hanging wall	4.9	< 0.001	0.3	0.0004	0.00017	15	< 0.0001	0.0001	0.003	< 0.0001	0.00038	0.01	0.0005	< 0.00002	0.00002	0.0212	0.002	0.000003	< 0.001				
M08-747-01	20 25	mafic volcanic	Pit hanging wall	4.9	< 0.001	1.0	0.0028	0.00007	10	0.0002	< 0.00002	0.001	< 0.0001	< 0.00001	0.02	< 0.0001	< 0.00002	0.00000	0.0020	0.001	< 0.00001	< 0.001				
M08-747-02	39 45	mafic volcanic	Pit hanging wall	4.3	< 0.001	0.8	0.0006	0.00005	9	< 0.0001	< 0.00002	0.002	< 0.0001	< 0.00001	0.02	0.0003	< 0.00002	0.00001	0.0111	0.001	0.000007	< 0.001				
M08-748-01	36 41	mafic volcanic	Pit hanging wall	8.2	< 0.001	0.3	0.0003	0.00012	13	< 0.0001	< 0.00002	0.003	< 0.0001	0.00003	0.02	0.0003	< 0.00002	0.00001	0.0137	0.001	0.000001	< 0.001				
M08-748-02	57 62	mafic volcanic	Pit hanging wall	11	< 0.001	0.9	0.0010	0.00006	10	0.0001	< 0.00002	0.002	< 0.0001	< 0.00001	0.03	< 0.0001	< 0.00002	< 0.00001	0.0011	0.001	< 0.00001	< 0.001				
M08-750-01	8 14	mafic volcanic	Pit hanging wall	12	< 0.001	0.7	0.0007	0.00009	8	< 0.0001	0.0001	0.002	< 0.0001	0.00003	0.04	< 0.0001	< 0.00002	0.00000	0.0036	0.002	0.000002	< 0.001				
M08-750-02	28 33	mafic volcanic	Pit hanging wall	13	0.001	4.8	0.0019	0.00039	12	0.0002	0.0001	0.003	< 0.0001	0.00002	0.04	< 0.0001	0.00006	0.00004	0.0009	0.001	0.000026	< 0.001				
M08-752-01	9 14	mafic volcanic	Pit hanging wall	4.6	< 0.001	0.8	0.0007	0.00020	17	0.0001	0.0000	0.003	< 0.0001	< 0.00001	0.02	< 0.0001	< 0.00002	0.00001	0.0072	0.001	< 0.00001	< 0.001				
M08-752-02	23 27	mafic volcanic	Pit hanging wall	5.4	0.004	0.4	0.0061	0.00016	15	0.0005	0.0001	0.004	< 0.0001	0.00003	0.03	0.0224	< 0.00002	0.00020	0.0287	0.001	0.000013	0.005				
M08-755-01	19 24	mafic volcanic	Pit hanging wall	5.9	< 0.001	0.3	0.0004	0.00010	9	< 0.0001	< 0.00002	0.002	< 0.0001	< 0.00001	0.01	0.0004	< 0.00002	0.00001	0.0166	0.002	< 0.00001	< 0.001				
M08-755-02	30 37	mafic volcanic	Pit hanging wall	8.2	< 0.001	0.4	0.0005	0.00014	10	< 0.0001	0.0000	0.002	< 0.0001	< 0.00001	0.01	0.0003	< 0.00002	0.00000	0.0084	0.001	< 0.00001	< 0.001				
M08-798-01	12 17	mafic volcanic	Pit hanging wall	10	0.008	0.4	0.0033	0.00033	14	0.0004	0.0001	0.003	< 0.0001	< 0.00001	0.02	0.0107	< 0.00002	0.00014	0.0199	0.001	0.000038	< 0.001				
M08-798-02	17 22	mafic volcanic	Pit hanging wall	8.3	0.002	0.3	0.0024	0.00018	12	0.0003	0.0001	0.004	< 0.0001	0.00008	0.01	0.0061	< 0.00002	0.00005	0.0187	0.001	0.000020	< 0.001				
M08-816-01	20 25	mafic volcanic	Pit hanging wall	1.3	< 0.001	0.9	0.0008	0.00013	10	0.0002	0.0001	0.001	< 0.0001	< 0.00001	0.02	0.0002	< 0.00002	0.00002	0.0064	0.004	0.000017	< 0.001				
M08-816-02	30 35	mafic volcanic	Pit hanging wall	4.5	< 0.001	0.6	0.0009	0.00030	9	0.0001	0.0001	0.001	< 0.0001	< 0.00001	0.07	0.0003	< 0.00002	0.00001	0.0123	0.001	0.000008	< 0.001				
M08-855-01	15 20	mafic volcanic	Pit hanging wall	13	0.002	5.1	0.0120	0.00028	20	0.0006	0.0001	0.001	< 0.0001	< 0.00001	0.07	< 0.0001	< 0.00002	0.00002	0.0001	0.001	0.000019	< 0.001				
M08-855-02	20 25	mafic volcanic	Pit hanging wall	5.5	0.002	8.3	0.0029	0.00022	13	0.0006	0.0000	0.002	< 0.0001	< 0.00001	0.03	< 0.0001	< 0.00002	0.00003	0.0005	0.002	0.000011	< 0.001				
M08-857-01	20 25	mafic volcanic	Pit hanging wall	11	< 0.001	0.7	0.0005	0.00041	23	0.0003	0.0001	0.001	< 0.0001	< 0.00001	0.02	0.0002	< 0.00002	0.00002	0.0036	0.002	0.000017	< 0.001				
M08-858-01	20 25	mafic volcanic	Pit hanging wall	1.5	< 0.001	0.6	0.0005	0.00001	12	0.0001	0.0000	0.001	< 0.0001	< 0.00001	0.01	0.0004	< 0.00002	0.00001	0.0195	0.001	0.000010	< 0.001				
M08-858-02	30 35	mafic volcanic	Pit hanging wall	1.6	< 0.001	0.6	0.0003	0.00008	13	0.0002	0.0000	0.001	< 0.0001	< 0.00001	0.02	0.0003	< 0.00002	0.00001	0.0156	0.001	0.000015	< 0.001				
M08-858-03	15 20	mafic volcanic	Pit hanging wall	6.3	< 0.001	1.7	0.001	0.00013	10	0.0001	0.0000	0.001	< 0.0001	< 0.00001	0.03	< 0.0001	< 0.00002	0.00001	0.0009	0.001	0.0000	< 0.001				
M08-866-01	10 15	mafic volcanic	Pit hanging wall	13	< 0.001	2.6	0.0038	0.00050	19	0.0002	< 0.00002	0.001	< 0.0001	0.00002	0.02	< 0.0001	< 0.00002	0.00001	0.0002	0.001	< 0.00001	< 0.001				
M08-866-02	15 20	mafic volcanic	Pit hanging wall	7.7	0.001	5.2	0.0028	0.00019	13	0.0003	< 0.00002	0.003	< 0.0001	< 0.00001	0.02	< 0.0001	< 0.00002	< 0.00001	0.0005	0.001	< 0.00001	< 0.001				
				minimum	1.3	< 0.001	0.3	0.00025	0.00006	7.6	< 0.0001	< 0.00002	0.001	< 0.0001	< 0.00001	0.01	< 0.0001	< 0.00002	< 0.00001	0.0001	0.0006	< 0.00001	< 0.001			
				maximum	13	0.008	8.3	0.01200	0.0005	25	0.0012	0.0018	0.008	< 0.0001	0.00038	0.07	0.0224	0.00006	0.0002	0.0387	0.004	0.000113	< 0.001			
				median	7.4	nc	0.7	0.00071	0.0002	12	nc	nc	0.002	nc	nc	0.02	nc	nc	nc	0.0040	0.001	nc	nc			
				average	7.0																					

Appendix B Table B.3-3
Waste Rock Short Term Leach Tests (SFE) - Discovery Deposit
Meliadine Gold Project, Nunavut
Complex Minerals Corporation

CCME (CEQG) (freshwater aquatic life) ¹ (mg/L)										6.5 - 9.0						0.0001		0.005 - 0.14		0.005						0.000017		0.0011 0.00895		0.002 - 0.0046		0.3		0.000026	
Metal Mine Effluent Regulation (MMER) ² (mg/L)										6.0 - 9.5												0.5										0.3			
Sample Number	Borehole Interval (m)	Lithology	Location	Final pH	Alkalinity	Conductivity	Cl	SO4	Ag	As	Al ³	B	Be	Ba	Bi	Ca	Cd ⁴	Co	Cr ³	Cu ⁴	Fe	Hg	K												
					mg/L CaCO3	uS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L										
ML08-236-1	23	27	Iron formation	hanging wall	9.7	44	101	1.9	0.6	0.00004	1.02	0.012	0.021	0.00004	0.00005	3.8	0.000033	0.00006	< 0.0005	< 0.0005	0.17	< 0.0001	16												
ML90-09-1	33	40	Iron formation	hanging wall	9.2	41	98	0.7	1.0	0.00004	0.43	0.021	0.019	0.00003	0.00003	8.4	0.000021	0.00006	< 0.0005	< 0.0005	0.10	< 0.0001	12												
ML90-10-2	33	41	Iron formation	hanging wall	9.1	45	122	1.0	3.4	0.00025	0.56	0.006	0.023	0.00022	0.00025	9.6	0.000228	0.00024	< 0.0005	< 0.0005	0.01	< 0.0001	14												
ML92-060-1	42	49	Iron formation	hanging wall	9.0	47	155	1.6	4.6	0.00003	0.14	0.001	0.016	< 0.00002	< 0.00001	9.2	< 0.000003	0.00003	< 0.0005	< 0.0005	0.36	< 0.0001	21												
ML92-061-03	75	81	Iron formation	hanging wall	9.6	43	89	0.5	0.6	0.00003	0.38	0.004	0.021	< 0.00002	0.00002	4.5	0.000003	0.00004	< 0.0005	< 0.0005	0.23	< 0.0001	13												
ML92-062-01	20	25	Iron formation	hanging wall	9.3	36	86	1.7	2.2	0.00003	0.16	0.001	0.040	< 0.00002	< 0.00001	7.2	< 0.000003	0.00004	< 0.0005	< 0.0005	0.41	< 0.0001	6.0												
ML92-062-02	35	40	Iron formation	hanging wall	9.7	41	85	1.2	0.8	0.00002	1.87	0.009	0.025	< 0.00002	0.00001	2.5	< 0.000003	0.00013	< 0.0005	< 0.0005	1.06	< 0.0001	17												
ML95-82-2	43	46	Iron formation	hanging wall	8.9	46	140	0.6	3.5	0.00003	0.06	0.003	0.016	0.00003	0.00003	11.7	0.000028	0.00007	< 0.0005	< 0.0005	0.13	< 0.0001	18												
ML95-93-03	55	60	Iron formation	hanging wall	9.0	43	115	1.2	2.1	0.00003	0.22	0.001	0.021	< 0.00002	< 0.00001	12.5	0.000003	0.00006	< 0.0005	< 0.0005	0.02	< 0.0001	11												
			minimum		8.9	36	85	0.5	0.6	0.00002	0.06	0.001	0.016	< 0.00002	< 0.00001	2.5	< 0.000003	0.00003	< 0.0005	< 0.0005	0.01	< 0.0001	6.0												
			maximum		9.7	47	155	1.9	4.6	0.00025	1.87	0.021	0.040	0.00022	0.00025	12.5	0.000229	0.00024	< 0.0005	< 0.0005	1.06	< 0.0001	21												
			median		9.2	41	98	0.7	1.0	0.00004	0.43	0.021	0.019	0.00003	0.00003	8.4	0.000021	0.00006	< 0.0005	< 0.0005	0.10	< 0.0001	12												
			average		9.3	43	110	1.2	2.1	0.00006	0.54	0.007	0.022	0.00008	0.00007	7.7	0.000053	0.00008	nc	nc	0.37	nc	14												
			standard deviation		0.3	3.3	25	0.5	1.5	0.00007	0.58	0.007	0.007	0.00009	0.00009	3.5	0.000087	0.00007	nc	nc	0.32	nc	4.3												
			75th percentile		9.6	45	122	1.6	3.4	0.00004	0.56	0.009	0.023	0.00009	0.00005	9.6	0.000032	0.00007	nc	nc	0.36	nc	17												
ML08-236-2	41	49	Greywacke	inter ore	9.7	39	102	4.1	2.5	0.00002	1.60	0.049	0.024	< 0.00002	0.00002	2.9	0.000004	0.00012	0.0006	< 0.0005	0.29	< 0.0001	13												
ML08-238-03	99	104	Greywacke	inter ore	9.8	38	81	3.2	0.8	0.00002	1.92	0.136	0.021	< 0.00002	0.00001	2.7	< 0.000003	0.00027	0.0014	< 0.0005	0.78	< 0.0001	13												
ML00-221-01	25	30	Greywacke	hanging wall	9.6	43	88	2.2	1.9	0.00002	2.03	0.347	0.034	< 0.00002	0.00001	2.4	< 0.000003	0.00028	0.0018	< 0.0005	0.48	< 0.0001	11												
ML00-221-02	61	66	Greywacke	hanging wall	9.6	34	79	1.6	3.1	0.00002	1.47	0.060	0.026	< 0.00002	0.00002	3.4	< 0.000003	0.00026	0.0017	0.0006	0.34	< 0.0001	8.7												
ML00-221-03	88	93	Greywacke	hanging wall	9.5	38	86	2.0	3.6	0.00002	1.93	0.060	0.032	< 0.00002	0.00002	3.1	< 0.000003	0.00032	0.0022	< 0.0005	0.44	< 0.0001	11												
ML90-03-01	17	24	Greywacke	hanging wall	9.5	41	84	0.9	2.5	0.00003	2.06	0.123	0.046	< 0.00002	0.00003	2.8	0.000003	0.00034	0.0023	0.0008	0.60	< 0.0001	14												
ML90-04-01	10	15	Greywacke	hanging wall	9.5	35	85	0.8	6.2	0.00003	1.73	0.047	0.030	< 0.00002	0.00003	4.4	0.000006	0.00038	0.0020	< 0.0005	0.47	< 0.0001	11												
ML90-04-02	35	40	Greywacke	hanging wall	9.6	34	70	0.8	3.0	0.00004	1.72	0.057	0.028	0.00008	0.00005	3.4	0.000013	0.00032	0.0021	< 0.0005	0.38	< 0.0001	7.0												
ML90-08-01	16	21	Greywacke	hanging wall	9.7	31	70	1.2	2.8	0.00001	1.15	0.019	0.027	< 0.00002	< 0.00001	3.2	< 0.000003	0.00011	0.0007	< 0.0005	0.15	< 0.0001	6.7												
ML90-10-1	11	18	Greywacke	hanging wall	9.5	40	95	0.7	3.5	0.00002	0.97	0.159	0.032	< 0.00002	0.00017	4.2	0.000005	0.00015	0.0005	< 0.0005	0.16	< 0.0001	10												
ML90-12-01	24	29	Greywacke	hanging wall	9.6	37	76	0.9	1.8	0.00002	1.78	0.242	0.028	< 0.00002	< 0.00001	3.3	< 0.000003	0.00020	0.0012	< 0.0005	0.33	< 0.0001	10												
ML92-061-01	21	26	Greywacke	hanging wall	9.5	36	79	0.7	3.1	0.00002	1.77	0.076	0.028	< 0.00002	0.00002	3.4	0.000005	0.00039	0.0023	0.0007	0.55	< 0.0001	11												
ML92-061-02	50	56	Greywacke	hanging wall	9.5	33	80	0.9	5.5	0.00002	1.54	0.029	0.027	< 0.00002	0.00002	4.0	< 0.000003	0.00025	0.0018	< 0.0005	0.35	< 0.0001	10												
ML95-82-1	20	30	Greywacke	hanging wall	9.5	36	86	0.5	4.6	0.00002	1.42	0.116	0.023	< 0.00002	0.00001	3.5	0.000003	0.00017	0.0010	< 0.0005	0.23	< 0.0001	12												
ML95-93-01	22	26	Greywacke	hanging wall	9.6	41	84	2.8	1.3	0.00004	1.92	0.178	0.132	< 0.00002	0.00002	2.5	< 0.000006	0.00065	0.0030	0.0008	0.78	< 0.0001	10												
ML95-93-02	41	46	Greywacke	hanging wall	9.6	37	77	0.9	1.3	0.00002	1.68	0.070	0.048	< 0.00002	0.00002	2.9	< 0.000003	0.00019	0.0012	< 0.0005	0.31	< 0.0001	11												
			minimum		9.5	31	70	0.5	0.8	0.00001	0.97	0.019	0.021	< 0.00002	< 0.00001	2.4	< 0.000003	0.00011	0.0005	< 0.0005	0.15	< 0.0001	6.7												
			maximum		9.8	43	102	4.1	6.2	0.00004	2.06	0.347	0.132	0.00008	0.00017	4.4	0.000013	0.00065	0.0030	< 0.0005	0.78	< 0.0001	14												
			median		9.6	37	83	0.9	2.9	0.00002	1.73	0.073	0.028	nc	0.00002	3.2	0.000005	0.00027	0.0018	0.0008	0.37	nc	10												
			average		9.6	37	83	1.5	3.0	0.00002	1.68	0.110	0.036	nc	0.00003	3.2	0.000005	0.00028	0.0016	0.0007	0.42	nc	10												
			standard deviation		0.1	3.3	82	1.1	1.5	0.00001	0.31	0.087	0.027	nc	0.00004	0.6	0.000003	0.00013	0.0007	0.0001	0.19	nc	11												
			75th percentile		9.6	39	86	2.1	3.5	0.00002	1.92	0.142	0.033	nc	0.00003	3.4	0.000006	0.00033	0.0021	0.0009	0.50	nc	17												
ML92-053-1	105	112	Iron formation	foot wall	9.2	39	87	0.9	0.9	< 0.00001	0.46	0.005	0.017	< 0.00002	< 0.00001	8.1	< 0.000003	0.00004	< 0.0005	< 0.0005	0.04	< 0.0001	10												
ML00-221-04	162	168	Greywacke	foot wall	9.5	37	84	2.2	1.8	0.00001	1.94	0.027	0.032	< 0.00002	0.00001	3.9	< 0.000003	0.00022	0.0015	< 0.0005	0.42	< 0.0001	10												
ML08-236-3	65	75	Greywacke	foot wall	9.6	43	119	6.9	2.9	0.00002	1.35	0.033	0.029	< 0.00002	< 0.00001	3.9	< 0.000003	0.00006	0.0005	< 0.0005	0.16	< 0.0001	10												
ML08-238-04	126	133	Greywacke	foot wall	9.6	41	111	8.4	2.7	0.00002	2.02	0.064	0.044	< 0.00002	0.00001	2.8	< 0.000003	0.00030	0.0019	< 0.0005	0.63	< 0.0001	10												
ML90-03-02	51	56	Greywacke	foot wall	9.5	42	84	1.3	1.3	0.00001	1.71	0.058	0.032	< 0.00002	< 0.00001	3.7	< 0.000003	0.00016	0.0008	< 0.0005	0.53	< 0.0001	11												
ML90-04-03	84	89	Greywacke	foot wall	9.6	45	94	1.4	4.1	0.00002	1.32	0.025	0.038	< 0.00002	0.00001	3.7	< 0.000003	0.00019	0.0010	< 0.0005	0.48	< 0.0001	11												
ML90-07-01</																																			

Appendix B Table B.3-3
Waste Rock Short Term Leach Tests (SFE) - Discovery Deposit
Meliadine Gold Project, Nunavut
Comaplex Minerals Corporation

CCME (CEQG) (freshwater aquatic life)* (mg/L)								0.073	0.025 - 0.156		0.001 - 0.0076					0.001	0.0008								0.03
Metal Mine Effluent Regulation (MMER) ² (mg/L)									0.5		0.2														0.5
Sample Number	Borehole Interval (m)		Lithology	Location	Li	Mg	Mn	Mo	Na	Ni ⁴	Pb ⁴	Sb	Se	Sn	Sr	Ti	Ti	U	V	W	Y	Zn			
	from	to			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		
ML08-236-1	23	27	Iron formation	hanging wall	0.003	0.29	0.0010	0.0004	6.7	< 0.0001	0.00009	0.0008	< 0.001	0.00004	0.033	0.003	0.00004	0.0010	0.0021	0.0016	0.00007	0.003			
ML90-09-1	33	40	Iron formation	hanging wall	< 0.001	0.64	0.0006	0.0003	1.8	< 0.0001	0.00003	0.0006	< 0.001	0.00002	0.126	0.001	0.00002	0.0001	0.0003	0.0007	0.00003	0.001			
ML90-10-2	33	41	Iron formation	hanging wall	0.003	0.79	0.0010	0.0005	4.2	0.0003	0.00021	0.0005	< 0.001	0.00002	0.090	0.000	0.00022	0.0005	0.0008	0.0012	0.00021	0.001			
ML92-060-1	42	49	Iron formation	hanging wall	0.002	1.19	0.0014	0.0002	5.4	< 0.0001	0.00003	0.0007	< 0.001	0.00005	0.110	0.001	< 0.00002	0.0001	0.0002	0.0007	0.00002	0.002			
ML92-061-03	75	81	Iron formation	hanging wall	0.004	0.45	0.0008	0.0001	5.7	< 0.0001	0.00004	0.0006	< 0.001	0.00005	0.064	0.001	0.00003	0.0002	0.0006	0.0007	0.00002	0.001			
ML92-062-01	20	25	Iron formation	hanging wall	0.002	1.05	0.0017	0.0002	5.3	0.0001	0.00003	0.0006	< 0.001	0.00001	0.092	0.001	< 0.00002	0.0001	0.0004	0.0007	0.00003	0.001			
ML92-062-02	35	40	Iron formation	hanging wall	0.007	0.35	0.0023	0.0002	4.6	0.0003	0.00064	0.0006	< 0.001	0.00007	0.032	0.020	< 0.00002	0.0002	0.0029	0.0005	0.00013	0.001			
ML95-82-2	43	46	Iron formation	hanging wall	0.010	0.97	0.0011	0.0002	1.5	0.0001	0.00005	0.0006	< 0.001	0.00003	0.142	0.001	0.00003	0.0003	0.0002	0.0007	0.00004	< 0.001			
ML95-93-03	55	60	Iron formation	hanging wall	0.003	0.85	0.0007	0.0001	1.8	0.0002	< 0.00002	0.0007	< 0.001	0.00003	0.106	0.000	< 0.00002	0.0001	0.0001	0.0011	0.00000	0.002			
					minimum	0.002	0.29	0.0006	0.0001	1.5	< 0.0001	< 0.00002	0.0005	< 0.001	0.00001	0.032	0.000	< 0.00002	0.0001	0.0001	0.0005	0.00000	< 0.001		
					maximum	0.010	1.19	0.0023	0.0005	6.7	0.0003	0.0006	0.0008	< 0.001	0.00007	0.142	0.020	0.00002	0.0010	0.0029	0.0016	0.00021	0.003		
					median	0.003	0.79	0.0010	0.0002	4.6	0.0002	0.0000	0.0006	nc	0.00003	0.092	0.001	0.00003	0.0002	0.0004	0.0007	0.00003			
					average	0.004	0.73	0.0012	0.0002	4.1	0.0002	0.0001	0.0006	nc	0.00004	0.088	0.003	0.00007	0.0003	0.0008	0.0009	0.00006	0.001		
					standard deviation	0.003	0.32	0.0005	0.0001	1.9	0.0001	0.0002	0.0001	nc	0.00002	0.039	0.006	0.00009	0.0003	0.0010	0.0003	0.00007	0.001		
					75th percentile	0.005	0.97	0.0014	0.0003	5.4	0.0003	0.0001	0.0007	nc	0.00005	0.110	0.001	0.00004	0.0003	0.0008	0.0011	0.00007	0.002		
ML08-236-2	41	49	Greywacke	inter ore	0.002	0.30	0.0024	0.0003	9.8	0.0004	0.0001	0.0006	< 0.001	0.00007	0.012	0.016	< 0.00002	0.0005	0.0110	0.0013	0.00016	0.002			
ML08-238-03	99	104	Greywacke	inter ore	0.005	0.38	0.0069	0.0002	8.6	0.0008	0.0002	0.0008	< 0.001	0.00003	0.016	0.038	< 0.00002	0.0006	0.0111	0.0010	0.00027	0.002			
ML00-221-01	25	30	Greywacke	hanging wall	0.001	0.44	0.0046	0.0004	10.6	0.0010	0.0002	0.0008	< 0.001	0.00007	0.012	0.023	< 0.00002	0.0002	0.0146	0.0009	0.00018	0.002			
ML00-221-02	61	66	Greywacke	hanging wall	0.002	0.49	0.0037	0.0005	8.0	0.0015	0.0003	0.0008	< 0.001	0.00009	0.017	0.019	< 0.00002	0.0004	0.0115	0.0008	0.00019	0.002			
ML00-221-03	88	93	Greywacke	hanging wall	0.002	0.54	0.0037	0.0007	8.2	0.0013	0.0003	0.0008	< 0.001	0.00011	0.015	0.029	< 0.00002	0.0003	0.0138	0.0014	0.00026	0.002			
ML90-03-01	17	24	Greywacke	hanging wall	0.002	0.59	0.0046	0.0009	7.0	0.0015	0.0003	0.0012	< 0.001	0.00009	0.013	0.029	< 0.00002	0.0003	0.0143	0.0008	0.00031	0.002			
ML90-04-01	10	15	Greywacke	hanging wall	0.003	0.64	0.0048	0.0004	6.7	0.0015	0.0004	0.0009	< 0.001	0.00006	0.017	0.021	< 0.00002	0.0004	0.0122	0.0005	0.00020	0.002			
ML90-04-02	35	40	Greywacke	hanging wall	0.001	0.50	0.0038	0.0002	7.3	0.0011	0.0002	0.0008	< 0.001	0.00006	0.014	0.026	< 0.00002	0.0004	0.0130	0.0005	0.00019	0.002			
ML90-08-01	16	21	Greywacke	hanging wall	0.003	0.36	0.0015	0.0002	7.7	0.0004	0.0001	0.0006	< 0.001	0.00004	0.016	0.009	< 0.00002	0.0003	0.0105	0.0005	0.00006	< 0.001			
ML90-10-1	11	18	Greywacke	hanging wall	0.002	0.58	0.0015	0.0008	8.0	0.0007	0.0001	0.0008	< 0.001	0.00006	0.021	0.010	< 0.00002	0.0012	0.0087	0.0015	0.00025	< 0.001			
ML90-12-01	24	29	Greywacke	hanging wall	0.003	0.41	0.0026	0.0014	7.3	0.0008	0.0001	0.0007	< 0.001	0.00006	0.015	0.015	< 0.00002	0.0007	0.0133	0.0006	0.00024	0.001			
ML92-061-01	21	26	Greywacke	hanging wall	0.002	0.63	0.0049	0.0005	6.6	0.0015	0.0002	0.0006	< 0.001	0.00005	0.016	0.029	< 0.00002	0.0003	0.0113	0.0013	0.00034	0.003			
ML92-061-02	50	56	Greywacke	hanging wall	0.001	0.61	0.0033	0.0004	5.9	0.0012	0.0002	0.0008	< 0.001	0.00005	0.017	0.021	< 0.00002	0.0002	0.0108	0.0009	0.00015	0.002			
ML95-82-1	20	30	Greywacke	hanging wall	< 0.001	0.52	0.0020	0.0007	6.6	0.0007	0.0003	0.0009	< 0.001	0.00004	0.015	0.015	< 0.00002	0.0005	0.0005	0.0008	0.00018	0.002			
ML95-93-01	22	26	Greywacke	hanging wall	0.002	0.59	0.0053	0.0006	10.3	0.0019	0.0005	0.0012	< 0.001	0.00011	0.013	0.027	< 0.00002	0.0002	0.0115	0.0178	0.00040	0.005			
ML95-93-02	41	46	Greywacke	hanging wall	0.001	0.38	0.0023	0.0004	6.7	0.0005	0.0002	0.0009	< 0.001	0.00006	0.014	0.014	< 0.00002	0.0002	0.0122	0.0017	0.00014	0.002			
					minimum	< 0.001	0.30	0.0015	0.0002	5.9	0.0004	0.0001	0.0006	< 0.001	0.00003	0.012	0.009	< 0.00002	0.0002	0.0087	0.0005	0.00006	< 0.001		
					maximum	0.005	0.64	0.0069	0.0008	10.6	0.0019	0.0005	0.0012	< 0.001	0.00011	0.021	0.038	< 0.00002	0.0012	0.0146	0.0178	0.00040	0.005		
					median	0.002	0.51	0.0037	0.0005	7.5	0.0011	0.0002	0.0008	nc	0.00006	0.015	0.021	nc	0.0003	0.0115	0.0009	0.00019	0.002		
					average	0.002	0.50	0.0036	0.0008	7.8	0.0011	0.0002	0.0008	nc	0.00007	0.015	0.021	nc	0.0004	0.0119	0.0020	0.00022	0.002		
					standard deviation	0.001	0.11	0.0015	0.0011	1.4	0.0005	0.0001	0.0002	nc	0.00002	0.002	0.008	nc	0.0002	0.0016	0.0042	0.00008	0.001		
					75th percentile	0.003	0.59	0.0047	0.0007	8.3	0.0015	0.0003	0.0009	nc	0.00006	0.016	0.027	nc	0.0005	0.0131	0.0014	0.00026	0.002		
ML92-053-1	105	112	Iron formation	foot wall	< 0.001	0.77	0.0003	0.0002	1.7	< 0.0001	0.0001	0.0007	< 0.001	0.00002	0.134	0.000	< 0.00002	0.0000	0.0003	0.0008	0.00001	0.003			
ML00-221-04	162	168	Greywacke	foot wall	< 0.001	0.52	0.0025	0.0005	7.9	0.0008	0.0002	0.0009	< 0.001	0.00010	0.017	0.020	< 0.00002	0.0001	0.0089	0.0008	0.00015	0.002			
ML08-236-3	65	75	Greywacke	foot wall	< 0.001	0.40	0.0012	0.0006	13.3	0.0002	0.0001	0.0007	< 0.001	< 0.00001	0.016	0.009	< 0.00002	0.0001	0.0084	0.0045	0.00007	< 0.001			
ML08-238-04	126	133	Greywacke	foot wall	0.001	0.49	0.0040	0.0007	14.0	0.0010	0.0003	0.0007	< 0.001	0.00005	0.017	0.026	< 0.00002	0.0002	0.0136	0.0008	0.00019	0.002			
ML90-03-02	51	56	Greywacke	foot wall	0.001	0.47	0.0039	0.0010	8.1	0.0006	0.0001	0.0010	< 0.001	0.00003	0.015	0.017	< 0.00002	0.0002	0.0094	0.0005	0.00012	0.001			
ML90-04-03	84	89	Greywacke	foot wall	0.001	0.51	0.0032	0.0003	10.2	0.0008	0.0001	0.0008	< 0.001	0.00004	0.020	0.021	< 0.00002	0.0002	0.0153	0.0006	0.00013	0.001			
ML90-07-01	46	51	Greywacke	foot wall	0.003	0.24	0.0022	0.0001	6.5	0.0004	0.0001	0.0005	< 0.001	0.00002	0.014	0.012	< 0.00002	0.0004	0.0109	0.0011	0.00015	< 0.001			
ML90-08-02	53	58	Greywacke	foot wall	0.002	0.28	0.0022	0.0002	6.8	0.0006	0.0001	0.0006	< 0.001	0.00004	0.014	0.012	< 0.00002	0.0004	0.0115	0.0007	0.00009	< 0.001			
ML90-09-2	51	56	Greywacke	foot wall	0.003	0.28	0.0016	0.0013	8.7	0.0003	0.0001	0.0007	< 0.001	0.00007	0.018	0.010	< 0.00002	0.0013	0.0145	0.0008	0.00025	0.001			
ML90-10-3	56	64	Greywacke	foot wall	0.001																				

Sample Number	Interval		Lithology	Location	Final pH	pH 4.5	pH 7.0	Alkalinity	Conductivity	Cl	SO4	Ag	Al ³	As	B	Be	Bi	Ca	Cd ¹	Co	Cr ³	Cu ⁴	Fe	Hg
	from	to						mg/L (CaCO3)	uS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
TIRIGANIAQ ROCK SAMPLES																								
GT08-04-02	80	84	mafic volcanic	Pit foot wall	11.1	0	0	142	429	< 2	4.8	< 0.00001	1.7	0.0003	0.50	< 0.00002	0.00001	60	< 0.000003	0.00004	0.014	< 0.0005	< 0.01	< 0.0001
	M99-341-01	81	84	mafic volcanic	Pit foot wall	10.7	0	0	124	467	< 2	64	< 0.00001	1.7	0.0007	1.04	< 0.00002	0.00004	80	< 0.000003	0.00005	0.016	0.0007	< 0.01
M98-194-01	70	75	greywacke/siltstone	Pit hanging wall	10.5	0	0	77	221	< 2	32	< 0.00001	2.0	0.0148	0.73	< 0.00002	0.00002	46	< 0.000003	0.00003	0.012	< 0.0005	< 0.01	< 0.0001
M99-403-03	51	54	greywacke/siltstone	Pit hanging wall	10.8	0	0	80	205	0.2	24	< 0.00001	1.7	0.0330	0.68	< 0.00002	< 0.00001	39	< 0.000003	0.00006	0.017	0.0006	< 0.01	< 0.0001
M99-404-04	30	34	greywacke/siltstone	Pit hanging wall	10.7	0	0	83	249	< 0.2	44	< 0.00001	1.1	0.0074	0.58	< 0.00002	< 0.00001	49	0.000005	0.00007	0.018	< 0.0005	< 0.01	< 0.0001
			minimum		11	0	0	77	205	<0.2	24	<0.00001	1.1	0.0074	0.58	<0.00002	<0.00001	39	<0.000003	0.00003	0.012	<0.0005	<0.01	<0.0001
			maximum		10	0	0	83	249	<2	44	<0.00001	2.0	0.0330	0.73	<0.00002	0.00002	49	0.000005	0.00007	0.018	0.0006	<0.01	<0.0001
			median		11	0	0	80	221	nc	32	nc	1.7	0.0148	0.68	nc	nc	46	nc	0.00006	0.017	nc	nc	nc
			average		11	0	0	80	225	nc	33	nc	1.6	0.0184	0.66	nc	nc	44	nc	0.00005	0.016	nc	nc	nc
			standard deviation		0.2	0.0	0.0	3.0	22.3	nc	10	nc	0.5	0.0132	0.08	nc	nc	5.2	nc	0.00002	0.003	nc	nc	nc
			75th percentile		11	0	0	82	235	nc	38	nc	1.9	0.0239	0.70	nc	nc	47	nc	0.00006	0.017	nc	nc	nc
M04-533-01	380	390	greywacke/siltstone	UG development	10.5	0	0	76	205	< 2	21	< 0.00001	1.3	0.0044	0.82	< 0.00002	0.00001	36	0.000003	0.00002	0.027	< 0.0005	< 0.01	< 0.0001
M04-526-01	216	225	iron formation	UG development	11.1	0	0	125	489	< 2	120	< 0.00001	4.6	0.0047	0.90	< 0.00002	0.00002	107	< 0.000003	0.00006	0.002	0.0008	< 0.01	< 0.0001
M05-536A-01	491	497	Mafic volcanic	UG development	11.5	0	0	95	236	0.3	19	< 0.00001	1.7	0.0008	0.91	< 0.00002	< 0.00001	57	< 0.000003	0.00008	0.018	0.0017	< 0.01	< 0.0001
M97-141-01	552	558	Mafic volcanic	UG development	11.1	0	0	93	235	0.2	31	< 0.00001	1.2	0.0004	0.89	< 0.00002	< 0.00001	54	0.000003	0.00007	0.018	0.0008	< 0.01	< 0.0001
F ZONE ROCK SAMPLES																								
M08-734-03	54	60	mafic volcanic	Pit foot wall	11.6	-	-	120	396	0.3	42	< 0.00001	3.8	0.0011	0.48	< 0.00002	< 0.00001	66	< 0.000003	0.00009	0.025	< 0.0005	0.01	< 0.0001
M08-750-03	55	60	mafic volcanic	Pit hanging wall	11.5	-	-	127	347	0.7	17	0.00003	4.0	0.0008	0.19	0.00003	0.00002	62	0.000017	0.00010	0.011	0.0016	< 0.01	< 0.0001
M08-740-05	122	126	mafic volcanic	Pit hanging wall	11.5	-	-	132	388	0.6	21	0.00001	4.2	0.0021	0.73	< 0.00002	< 0.00001	47	0.000003	0.00007	0.031	0.0015	0.01	< 0.0001

Notes:
nc: not calculated

1. CEQG (2002) freshwater guidelines and MMER criteria are based on total metal concentrations. Exceedances to freshwater CEQG's shown in bold type.

2. MMER 2006 update. Maximum authorized monthly mean concentration.

3. Freshwater aquatic life criteria for chromium depends on the valence of chromium ion. In the above table, the Cr(VI) criterion of 0.001 mg/L is shown.

4. Freshwater aquatic life criterion or guideline is hardness dependant.

only the pH criterion has been applied to highlight exceedances.

Sample Number	Interval		Lithology	Location	K	Li	Mg	Mn	Mo	Na	Ni ¹	Pb ⁴	Sb	Se	Sn	Sr	Ti	Ti	U	V	W	Y	Zn	
	from	to			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
TRIGANIAQ ROCK SAMPLES																								
G108-04-02	80	84	mafic volcanic	Pit foot wall	2.6	< 0.002	0.004	0.0001	0.00160	4.2	0.0006	< 0.00002	0.0004	< 0.001	0.00006	0.07	< 0.0001	< 0.0002	0.000002	0.0019	0.0004	0.000001	< 0.001	
M99-341-01	81	84	mafic volcanic	Pit foot wall	3.2	< 0.002	0.010	0.0002	0.0060	3.7	0.0008	0.00004	0.0004	0.003	0.00009	0.12	0.0002	< 0.0002	0.000004	0.0008	0.0003	0.000001	< 0.001	
M98-194-01	70	75	greywacke/siltstone	Pit hanging wall	6.6	< 0.002	0.004	0.0000	0.0057	5.0	0.0004	< 0.00002	0.0007	< 0.001	0.00002	0.47	< 0.0001	< 0.0002	0.000003	0.0025	0.0006	0.000002	< 0.001	
M99-403-03	51	54	greywacke/siltstone	Pit hanging wall	5.7	0.002	< 0.003	0.0001	0.0063	3.6	0.0006	< 0.00002	0.0009	< 0.001	0.00006	0.37	0.0002	< 0.0002	0.000004	0.0043	0.0006	0.000002	< 0.001	
M99-404-04	30	34	greywacke/siltstone	Pit hanging wall	4.7	< 0.001	< 0.003	0.0001	0.0135	2.6	0.0009	0.00003	0.0009	< 0.001	0.00007	0.28	0.0003	< 0.0002	0.000016	0.0087	0.0005	0.000005	< 0.001	
					minimum	4.7	< 0.002	< 0.003	0.0000	0.0057	2.6	0.0004	< 0.00002	0.0007	< 0.001	0.00002	0.28	< 0.0001	< 0.0002	0.000003	0.0025	0.0005	0.000002	< 0.001
					maximum	6.6	0.002	0.004	0.0001	0.0135	5.0	0.0009	0.00003	0.0009	< 0.001	0.00007	0.47	0.0003	< 0.0002	0.000016	0.0087	0.0006	0.000005	< 0.001
					median	5.7	nc	nc	0.0001	0.0063	3.6	0.0006	nc	0.0009	nc	0.00006	0.37	nc	nc	0.000004	0.0043	0.0006	0.000002	nc
					average	5.6	nc	nc	0.0001	0.0085	3.7	0.0006	nc	0.0008	nc	0.00005	0.37	nc	nc	0.000008	0.0052	0.0006	0.000003	nc
					standard deviation	0.9	nc	nc	0.0000	0.0044	1.2	0.0003	nc	0.0001	nc	0.00003	0.10	nc	nc	0.000007	0.0032	0.0001	0.000002	nc
					75th percentile	6.1	nc	nc	0.0001	0.0099	4.3	0.0008	nc	0.0009	nc	0.00007	0.42	nc	nc	0.000010	0.0065	0.0006	0.000004	nc
M04-533-01	380	390	greywacke/siltstone	UG development	13	< 0.002	0.006	0.0001	0.0116	2.6	0.0003	0.00008	0.0010	< 0.001	0.00008	0.84	0.0001	< 0.0002	0.000003	0.0095	0.0010	0.000007	< 0.001	
M04-526-01	216	225	iron formation	UG development	1.0	< 0.002	< 0.003	0.0001	0.0040	1.0	0.0010	0.00003	0.0003	0.002	0.00004	0.91	0.0003	< 0.0002	0.000003	0.0003	0.0003	0.000003	< 0.001	
M05-536A-01	491	497	Mafic volcanic	UG development	2.8	0.001	0.003	0.0002	0.0016	3.2	0.0011	< 0.00002	0.0007	0.001	0.00018	0.06	0.0001	< 0.0002	0.000028	0.0017	0.0014	0.000003	< 0.001	
M97-141-01	552	558	Mafic volcanic	UG development	1.9	0.001	0.004	0.0000	0.0010	3.8	0.0010	0.00009	0.0005	0.002	0.00005	0.06	0.0002	< 0.0002	0.000003	0.0025	0.0007	0.000002	< 0.001	
F ZONE ROCK SAMPLES																								
M08-734-03	54	60	mafic volcanic	Pit foot wall	16	0.001	< 0.003	0.0004	0.00208	4.2	0.0012	0.00004	0.0010	0.002	0.00021	0.07	0.0002	0.0003	0.000016	0.0048	0.0010	0.000003	< 0.001	
M08-750-03	55	60	mafic volcanic	Pit hanging wall	23	0.002	< 0.003	0.0001	0.00559	3.6	0.0010	0.00003	0.0007	< 0.001	0.00010	0.11	0.0001	0.0002	0.000061	0.0142	0.0021	0.000018	< 0.001	
M08-740-05	122	126	mafic volcanic	Pit hanging wall	27	< 0.001	< 0.003	0.0004	0.00162	5.1	0.0008	0.00003	0.0005	0.001	0.00017	0.07	0.0001	0.0003	0.000011	0.0096	0.0008	0.000006	< 0.001	

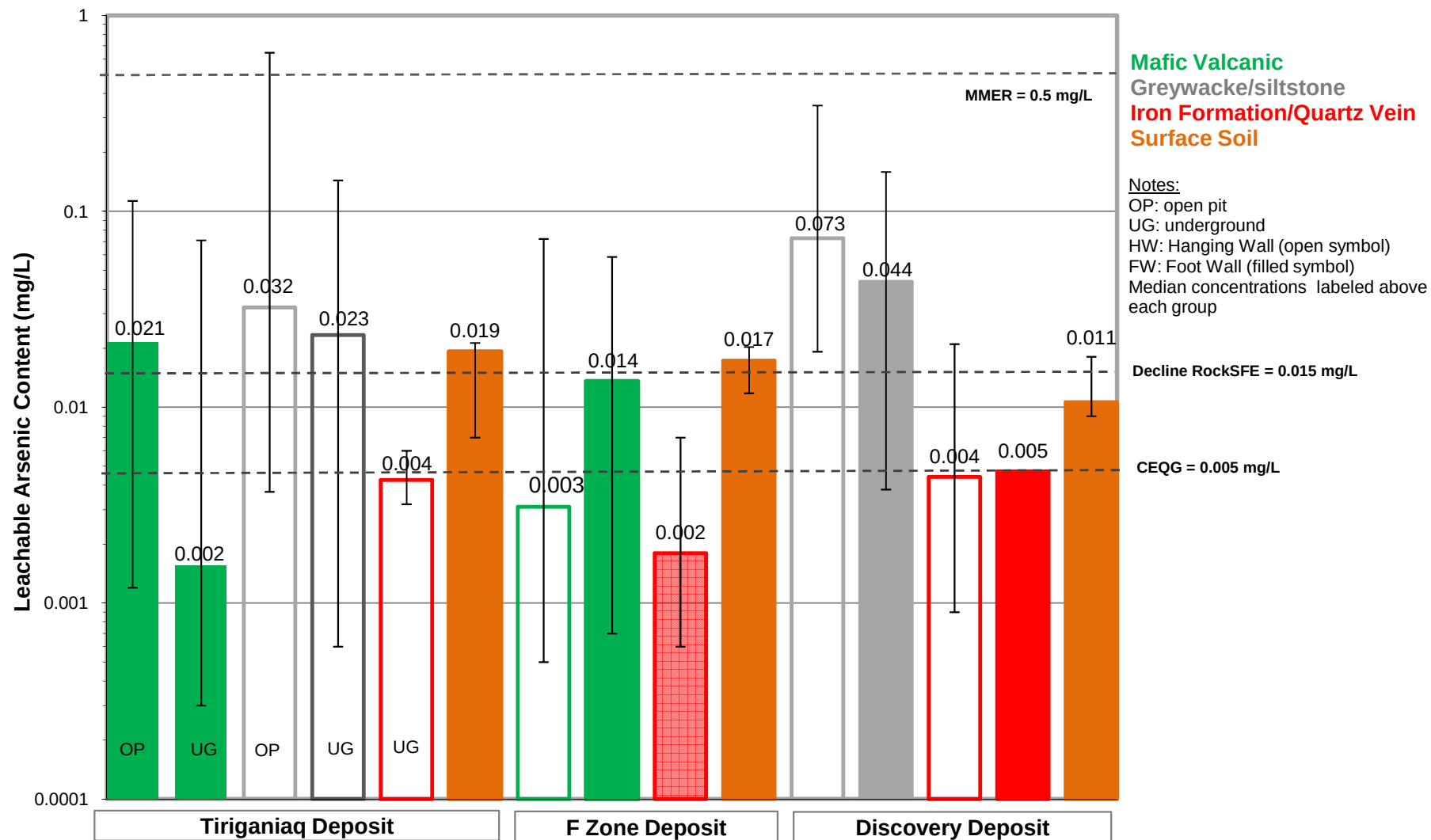
Notes:
nc: not calculated

1. CEQG (2002) freshwater guidelines and MMER criteria are based on total metal concentrations. Exceedances to freshwater CEQG's shown in bold type.

2. MMER 2006 update. Maximum authorized monthly mean concentration.

3. Freshwater aquatic life criteria for chromium depends on the valence of chromium ion. In the above table, the Cr(VI) criterion of 0.001 mg/L is shown.

4. Freshwater aquatic life criterion or guideline is hardness dependant. , only the pH criterion has been applied to highlight exceedances.



Waste Rock Static Testing

Leachable Arsenic Content

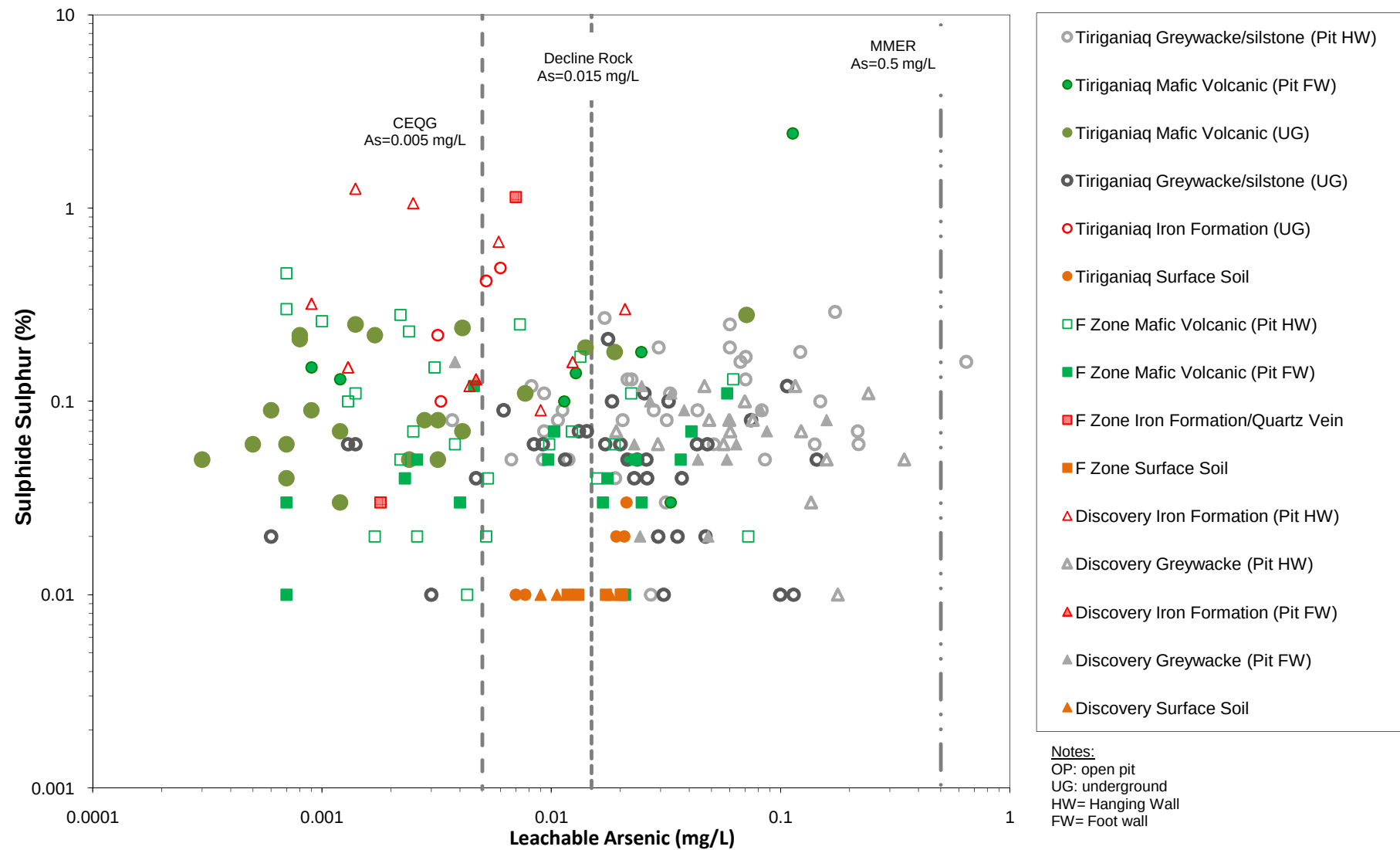
Meliadine Gold Project
Comaplex Minerals Corporation

DRAWN TG
CHECKED JMC
REVIEWED VJB

DATE Feb-10

JOB NO 09-1426-0015

FIGURE B.3-1

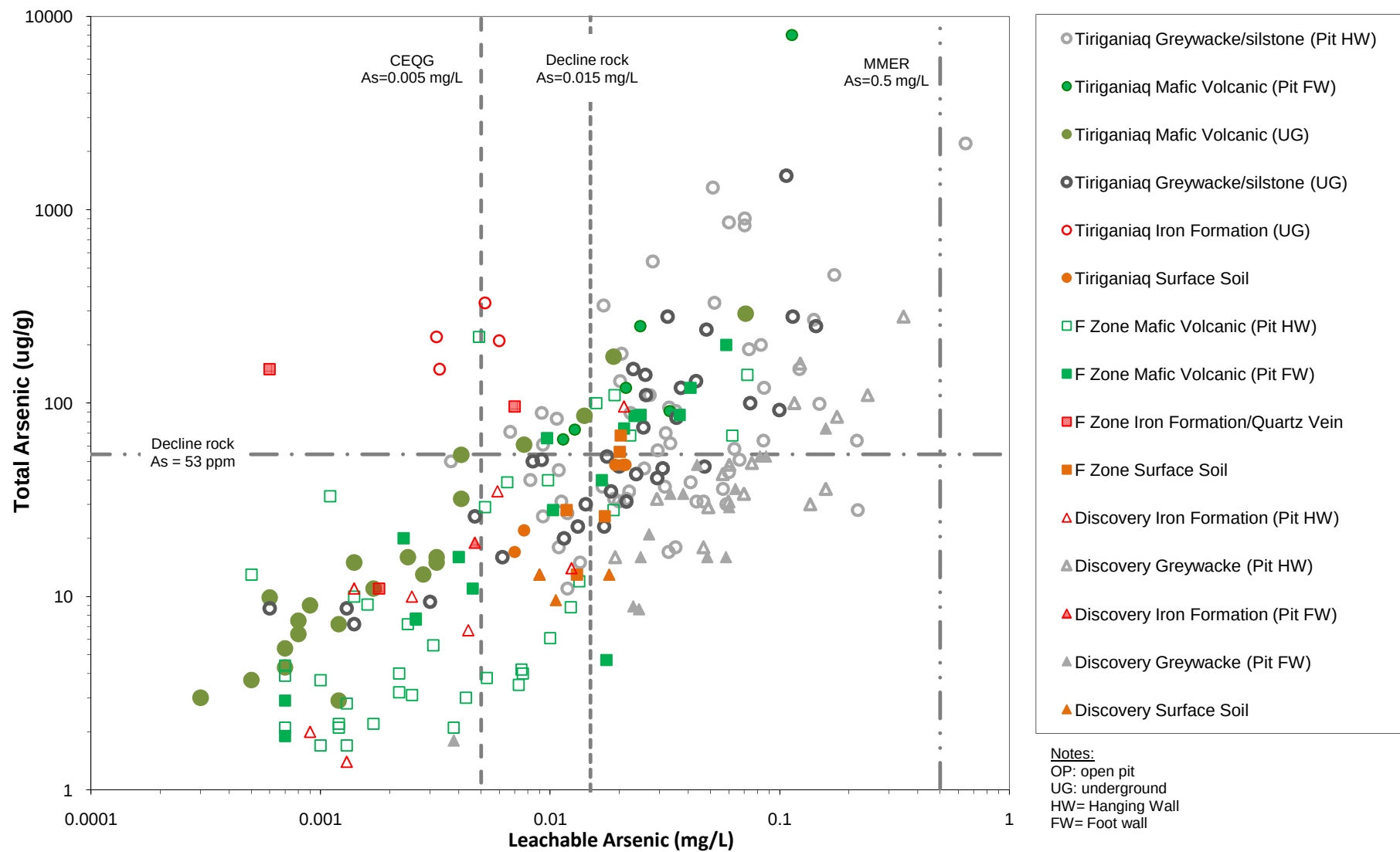


Rock Static Testing

Leachable Arsenic versus Sulphide Sulphur

Meliadine
Comaple

DRAWN	TG	DATE	Feb-10	JOB NO	09-1426-0015
CHECKED	JMC				
REVIEWED	VJB			FIGURE	B.3-2

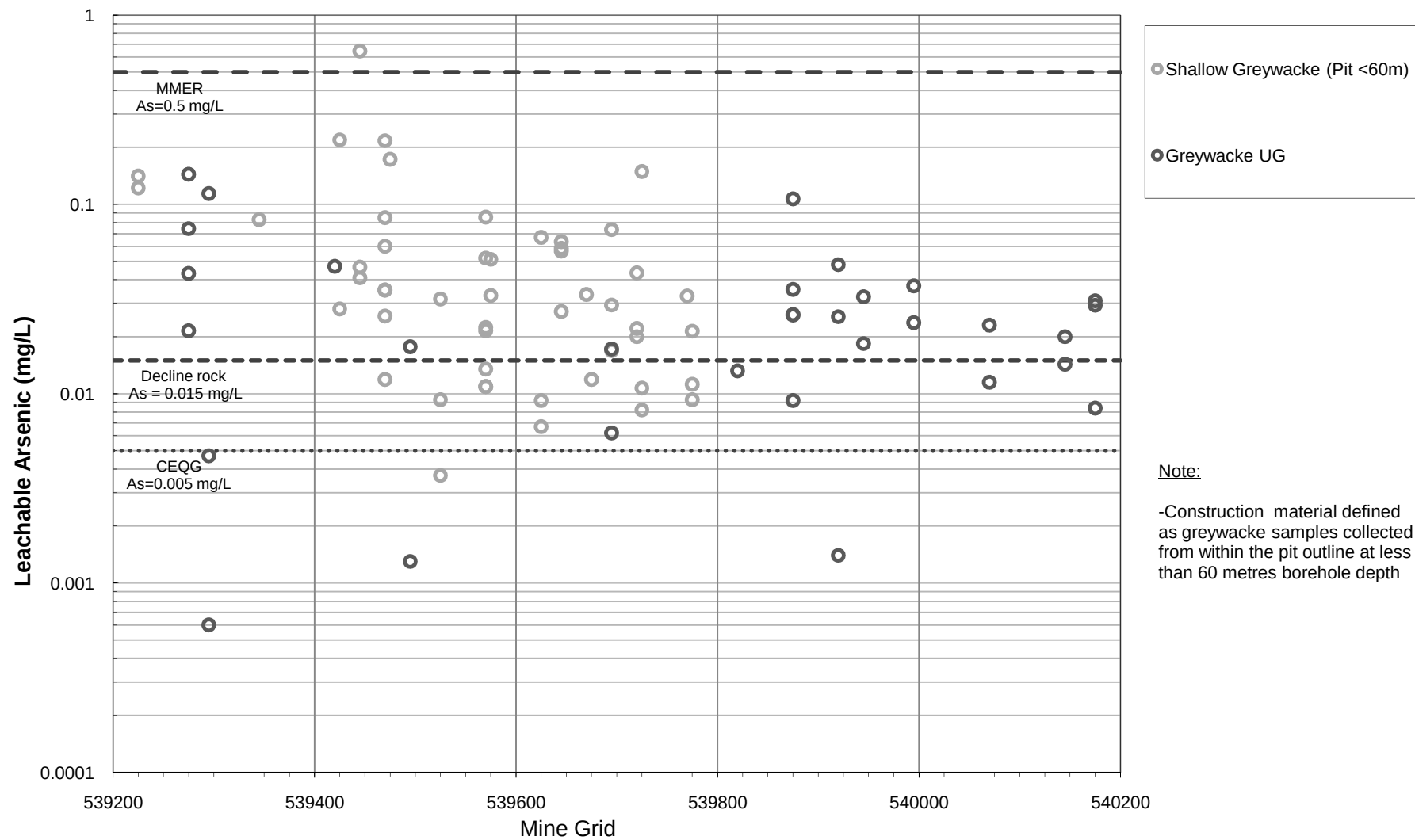


Waste Rock Static Testing

Leachable Arsenic versus Total Arsenic

Meliadine Gold Project
Comaplex Minerals Corporation

DRAWN	TG	DATE	Feb-10	JOB NO	09-1426-0015
CHECKED	JMC				
REVIEWED	VJB			FIGURE	B.3-3

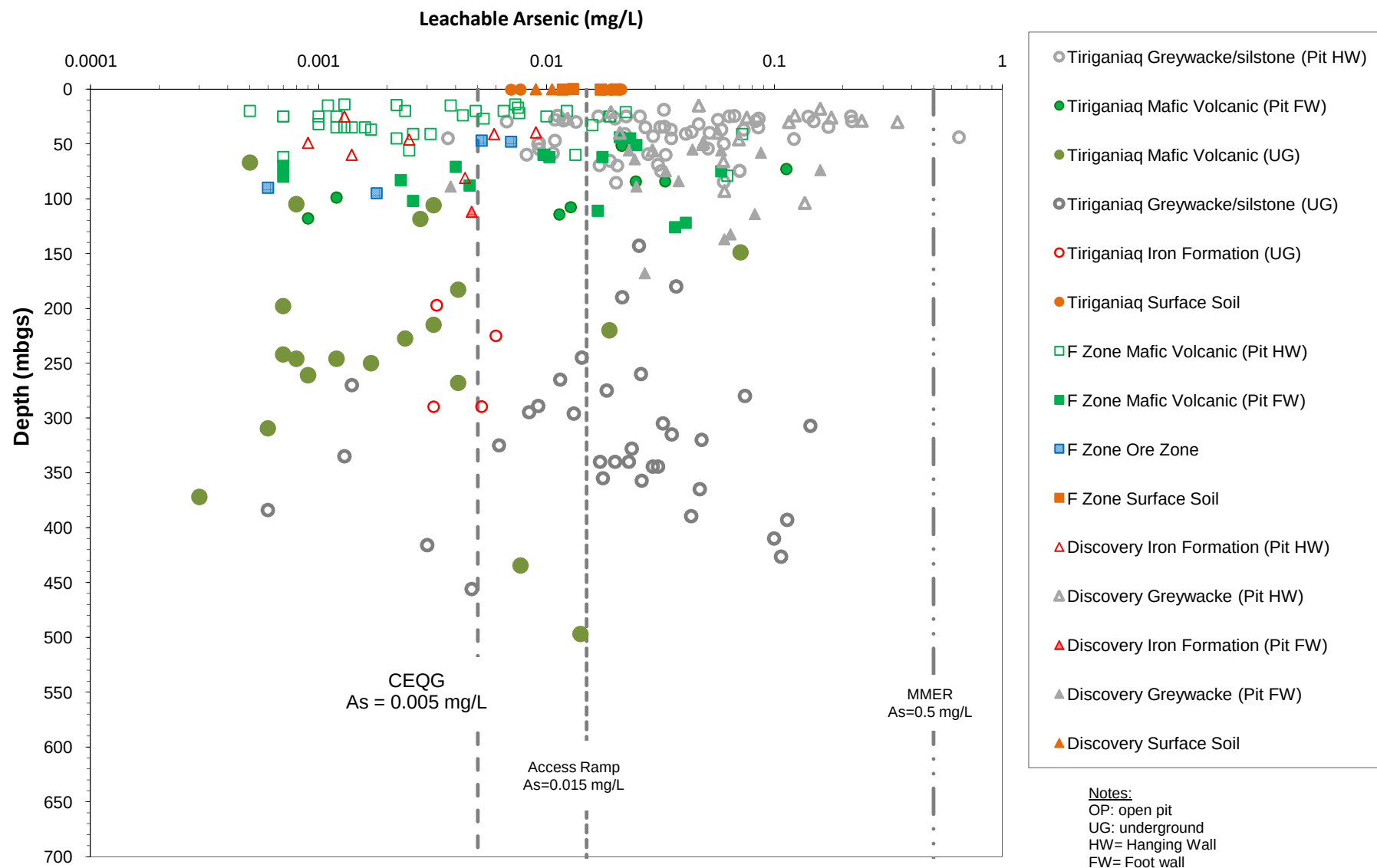


Waste Rock Static Testing

**Leachable Arsenic versus Mine Grid (E)
Tiriganiaq Deposit**

**Meliadine Gold Project
Comaplex Minerals Corporation**

DRAWN	TG	DATE	Feb-10	JOB NO	09-1426-0015
CHECKED	JMC				
REVIEWED	VJB			FIGURE	B.3-4



Waste Rock Static Testing

Leachable Arsenic versus Depth

Meliadine Gold Project
Comaplex Minerals Corporation

DRAWN	TG	DATE	Feb-10	JOB NO	09-1426-0015
CHECKED	JMC				
REVIEWED	VJB			FIGURE	B.3-5



APPENDIX C

Tabulated Results of Geochemical Analyses on Tailings



C.1 Chemical Composition Analytical Results: Tables and Figures

Appendix C Table C-1
Tailings Sample List and Geochemical Analyses
Meliadine Gold Project
Comaplex Minerals Corporation

Deposit	Lode	Tailings Type	Sample Number	Mass Split (%)	Whole Rock	Trace Metals	ABA ¹	TIC ²	SFE ³	NAG ⁴
Tiriganiaq	1000	Flotation	F-1 Ro Tls	14%	x	x	x	x	x	x
		Concentrate	F-1 Ro Conc	86%	x	x	x	x	x	x
	1150	Flotation	F-2 Ro Tls	22%	x	x	x	x	x	x
		Concentrate	F-2 Ro Conc	78%	x	x	x	x	x	x
F Zone	-	Flotation	F-4 Ro Tls	21%	x	x	x	x	x	x
		Concentrate	F-4 Ro Conc	79%	x	x	x	x	x	x
Discovery	-	Flotation	F-3 Ro Tls	12%	x	x	x	x	x	x
		Concentrate	F-3 Ro Conc	88%	x	x	x	x	x	x

Notes:

- 1 - Acid Base Accounting
- 2 - Total Inorganic Carbon
- 3 - Shake Flask Extraction Leaching test
- 4 - Net Acid Generation test, includes pH and leachate analyses

Deposit		Typical Crustal Abundance (ug/g)	5 x Typical Crustal Abundance (ug/g)	Tiriganag				F Zone		Discovery	
Sample Name				F-1 Ro Conc	F-1 Ro Tls	F-2 Ro Conc	F-2 Ro Tls	F-4 Ro Conc	F-4 Ro Tls	F-3R Ro Conc	F-3R Ro Tls
Tailing Type				Concentrate	Flotation	Concentrate	Flotation	Concentrate	Flotation	Concentrate	Flotation
Lode				1000	1000	1150	1150	-	-	-	-
Mass Split* (%)				14%	86%	22%	78%	21%	79%	12%	88%
SiO ₂	%	-	-	na	59	na	59	28	68	31	56
Al ₂ O ₃	%	-	-	na	14	na	6.3	2.3	3.3	4.6	6.3
Fe ₂ O ₃	%	-	-	na	7	na	20	40	12	48	31
MgO	%	-	-	na	2.5	na	1.4	3.1	2.6	1.8	1.8
CaO	%	-	-	na	4.5	na	4.2	5.4	5.0	2.0	2.7
Na ₂ O	%	-	-	na	2.5	na	0.47	0.18	0.46	0.19	0.32
K ₂ O	%	-	-	na	2.4	na	1.1	0.15	0.19	0.49	0.67
TiO ₂	%	-	-	na	0.53	na	0.17	0.07	0.11	0.11	0.15
P ₂ O ₅	%	-	-	na	0.10	na	0.20	0.03	0.03	0.22	0.21
MnO	%	-	-	na	0.07	na	0.06	0.41	0.35	0.05	0.05
Cr ₂ O ₃	%	-	-	na	0.03	na	0.02	0.1	0.03	0.08	0.01
V ₂ O ₅	%	-	-	na	0.02	na	0.01	< 0.01	0.01	< 0.01	< 0.01
LOI	%	-	-	na	6.3	na	6.3	16	7	7	0.12
Sum	%	-	-	na	99	na	99	96	99	95	100
Ag	µg/g	0.075	0.375	4.6	0.2	8.8	0.1	2.4	0.1	6.2	0.3
Al	µg/g	82300	411500	77000	74000	17000	33000	13000	17000	23000	33000
As	µg/g	1.8	9.0	41000	150	130000	670	68000	220	19000	25
B	µg/g	10	50	110.0	78.0	7.0	11.0	8.0	9.0	4.0	3.0
Ba	µg/g	425	2125	660	560	190	340	21	28	200	220
Be	µg/g	3	15	1.6	1.4	0.5	0.9	0.2	0.3	0.4	0.5
Bi	µg/g	0.009	0.043	6.5	5.9	5.0	2.0	3.0	< 0.09	6.4	0.2
Ca	µg/g	41500	207500	30000	31000	20000	29000	39000	36000	14000	19000
Cd	µg/g	0.15	0.75	1.0	0.2	0.4	0.2	1.8	0.3	0.3	0.3
Co	µg/g	25	125	89.0	5.6	30.0	3.4	72.0	3.2	18.0	2.8
Cr	µg/g	102	510	510	170	370	140	570	240	570	97
Cu	µg/g	60	300	380	28	370	16	960	16	440	370
Fe	µg/g	56300	281500	150000	53000	310000	140000	270000	82000	300000	210000
Hg	µg/g	0.085	0.425	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1
K	µg/g	20850	104250	28000	23000	5700	10000	1500	1900	4900	6500
Li	µg/g	20	100	21.0	19.0	5.0	13.0	5.0	8.0	9.0	12.0
Mg	µg/g	23300	116500	15000	15000	5000	8300	15000	16000	7300	10000
Mn	µg/g	950	4750	510	500	380	450	3100	2900	380	400
Mo	µg/g	1.2	6.0	60	4.4	70	7.1	14	5.8	25	6.1
Na	µg/g	23550	117750	13000	18000	1100	3100	2100	3500	1700	2300
Ni	µg/g	84	420	380	72	200	53	290	57	260	40
Pb	µg/g	14	70	1200	15	720	23	35	4	17	4.7
Sb	µg/g	0.2	1.0	14	< 0.8	42	4.2	31	< 0.8	6.7	< 0.8
Se	µg/g	0.05	0.25	4.0	< 1	< 1	< 1	4.6	< 0.7	3.0	< 1
Si	µg/g	281500	1407500	18	28	9	29	13	32	15	26
Sn	µg/g	2.3	11.5	1.7	1.1	0.6	0.6	1.4	1.2	22	1.4
Sr	µg/g	370	1850	200	210	140	190	81	80	170	180
Ti	µg/g	5650	28250	3500	3100	640	1000	400	650	690	940
Tl	µg/g	0.85	4.25	0.6	0.4	0.2	0.3	0.1	0.1	0.2	0.2
U	µg/g	2.7	13.5	2.4	1.2	1.1	0.8	0.4	0.3	27	5.7
V	µg/g	120	600	110	100	18	36	40	47	17	26
Y	µg/g	33	165	9.5	6.7	5.5	5.6	3.7	3.2	7.0	7.0
Zn	µg/g	70	350	140	61	69	60	530	110	84	96

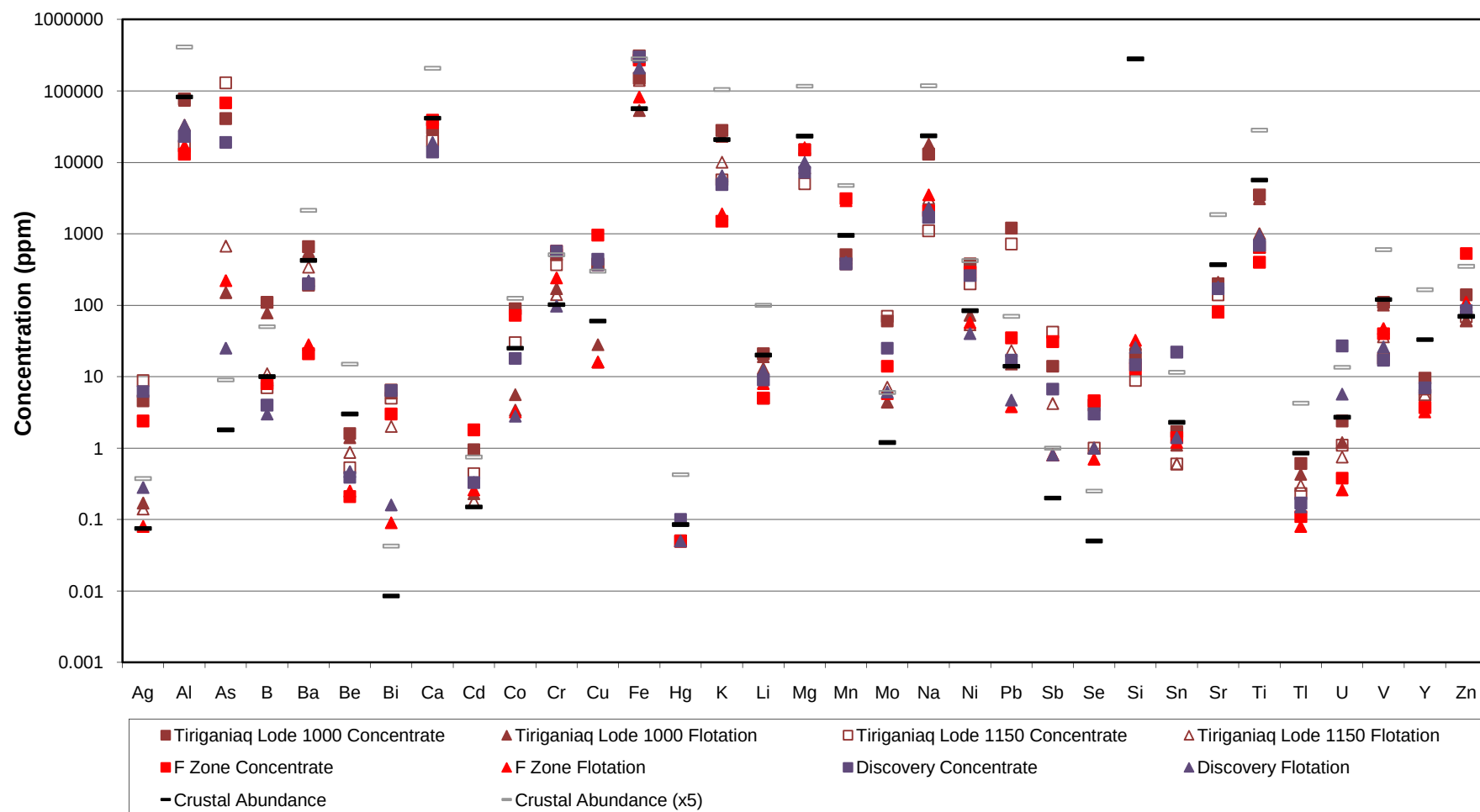
Notes:

na: not analyzed; analysis not possible at laboratory due to sample matrix interference.

Typical Crustal Abundance based on Price (1997)

Bolded values indicate values above typical crustal abundance

Shaded bolded values indicate values above five times typical crustal abundance



Notes: Non-detect values are plotted as half the detection limit (for some Bi, Hg, Sb, Se values).



Tailings Static Testing

Meliadine Gold Project
Comaplex Minerals Corporation

Trace Metal Results Compared to Price Typical Crustal Abundance

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CHECKED	VJB				
REVIEWED	VJB			FIGURE	C.1-1



C.2 ARD Potential Analytical Results: Tables and Figures

Appendix C Table C.2-1
Tailings Sample List and Geochemical Analyses
Meliadine Gold Project
Comaplex Minerals Corporation

Sample Name	Tailing Type	Lode	Mass Split	Paste pH	NAG Final pH	NAG Acidity		S(T) %	S(SO ₄) %	S(S ²⁻) %	TC %	TIC %	CaNP	CaNPR	NP	AP	Net NP	NPR	ARD POTENTIAL ¹
						pH 4.5	pH 7.0												
Tiriganaq																			
F-1 Ro Conc	Concentrate	1000	14%	8.1	2.5	35	58	6.5	0.07	6.4	1.51	5.9	98	0.5	102	201	-99	0.5	PAG
F-1 Ro Tls	Flotation	1000	86%	8.7	9.7	0.0	0.0	0.04	0.02	0.03	1.61	7.0	116	137	110	0.9	110	129	non PAG
Lode 1000 Combined ARD Potential															109	28	81	3.9	non PAG
F-2 Ro Conc	Concentrate	1150	22%	7.4	2.2	45	192	17	0.25	17	1.57	4.1	68	0.1	61	521	-461	0.1	PAG
F-2 Ro Tls	Flotation	1150	78%	8.2	9.3	0.0	0.0	0.25	0.10	0.15	1.98	5.3	88	19	89	4.6	84	19	non PAG
Lode 1150 Combined ARD Potential															83	118	-36	0.7	PAG
F Zone																			
F-4 Ro Conc	Concentrate	-	21%	7.9	4.1	1.7	62	14	1.48	13	2.33	6.5	109	0.3	140	390	-250	0.4	PAG
F-4 Ro Tls	Flotation	-	79%	8.5	11	0.0	0.0	0.13	0.06	0.07	2.03	8.0	132	58	124	2.3	122	55	non PAG
F Zone Combined ARD Potential															127	84	44	1.5	non PAG
Discovery																			
F-3R Ro Conc	Concentrate	-	12%	9.5	3.0	6.8	156	14	1.96	12	0.21	0.2	3.0	0.0	17.3	363	-345	0.1	PAG
F-3R Ro Tls	Flotation	-	88%	9.6	8.0	0.0	0.0	2.1	2.0	0.02	0.10	0.1	2.4	4.1	13.2	0.6	13	23	non PAG
Discovery Combined ARD Potential															14	43	-30	0.3	PAG

Notes:

NAG= net acid generation test

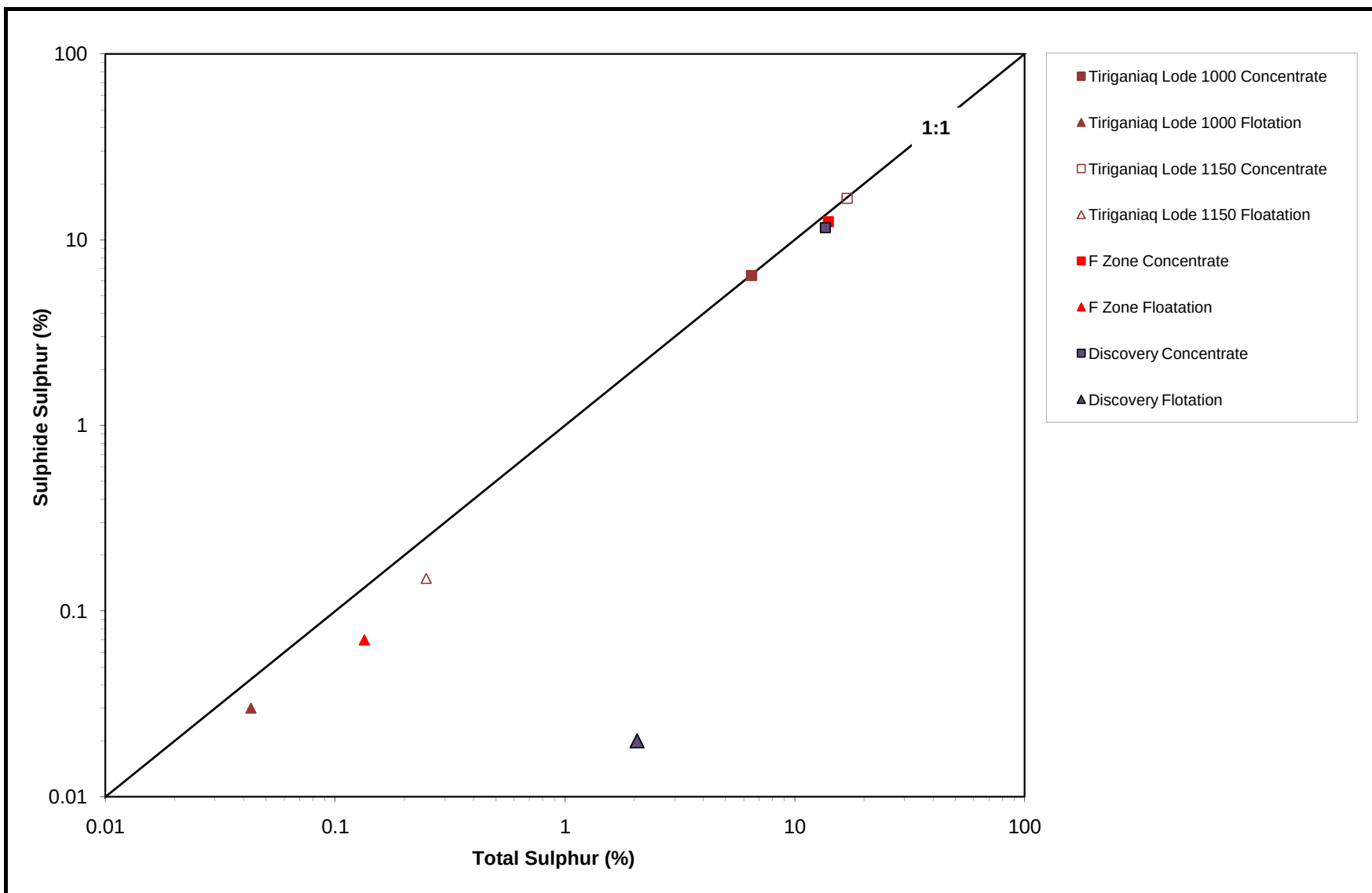
S(T)=total sulphur; S(SO₄)=sulphate sulphur; S(S²⁻)=sulphide sulphur

TC=total carbon; TIC=total inorganic carbon

CaNP=carbonate neutralization potential, reported as t CaCO₃ per 1000 t; CaNPR=carbonate neutralization potential ratio (CaNP/AP)NP=neutralization potential; AP=acid potential, reported as t CaCO₃ per 1000 t

Net NP=NP-AP; NPR=net potential ratio (NP/AP)

1- ARD potential based on INAC (1992)



Tailings Static Testing

Total Sulphur versus Sulphide Sulphur

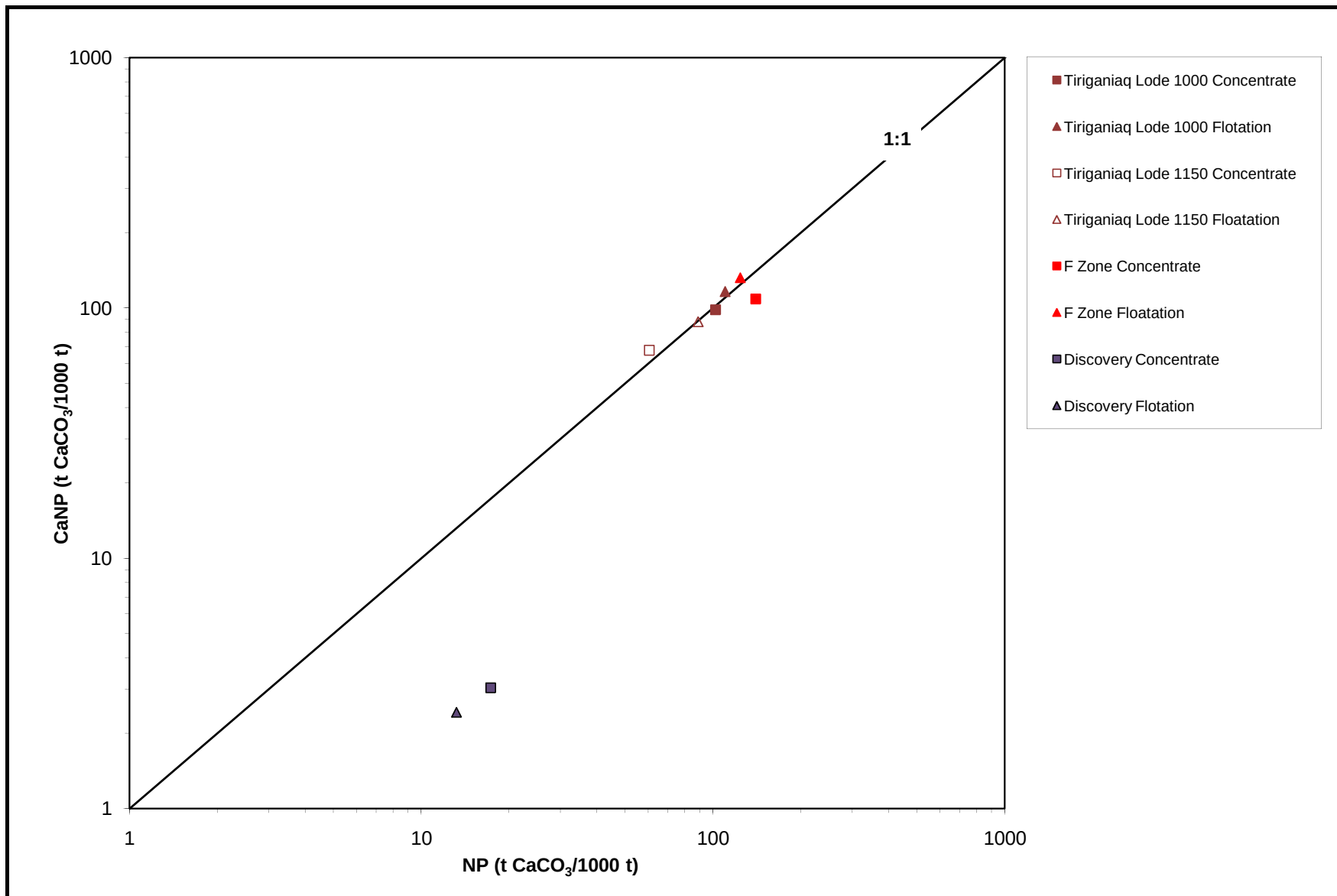
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JOB NO	09-1426-0015

FIGURE	C.2-1



**Golder
Associates**

Tailings Static Testing

Neutralization Potential (NP) versus Carbonate NP (CaNP)

**Meliadine Gold Project
Comaplex Minerals Corporation**

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09-1426-0015

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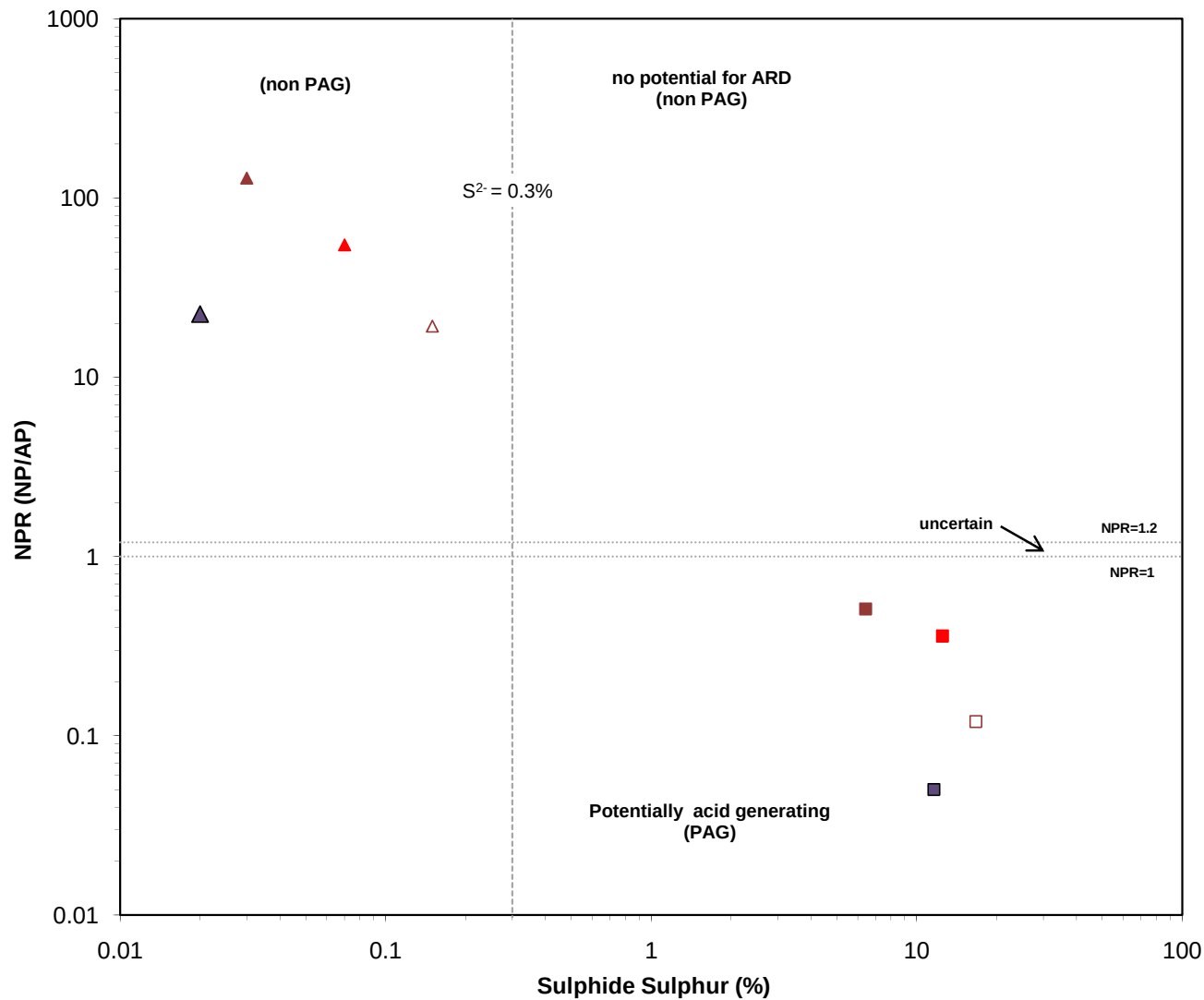
JMC

REVIEWED

VJB

FIGURE

C.2-2



- Tiriganiaq Lode 1000 Concentrate
- ▲ Tiriganiaq Lode 1000 Flotation
- Tiriganiaq Lode 1150 Concentrate
- △ Tiriganiaq Lode 1150 Flotation
- F Zone Concentrate
- ▲ F Zone Flotation
- Discovery Concentrate
- ▲ Discovery Flotation

Note:
ARD classification according to
INAC, 1992
Sulphide content according to
Price, 1997

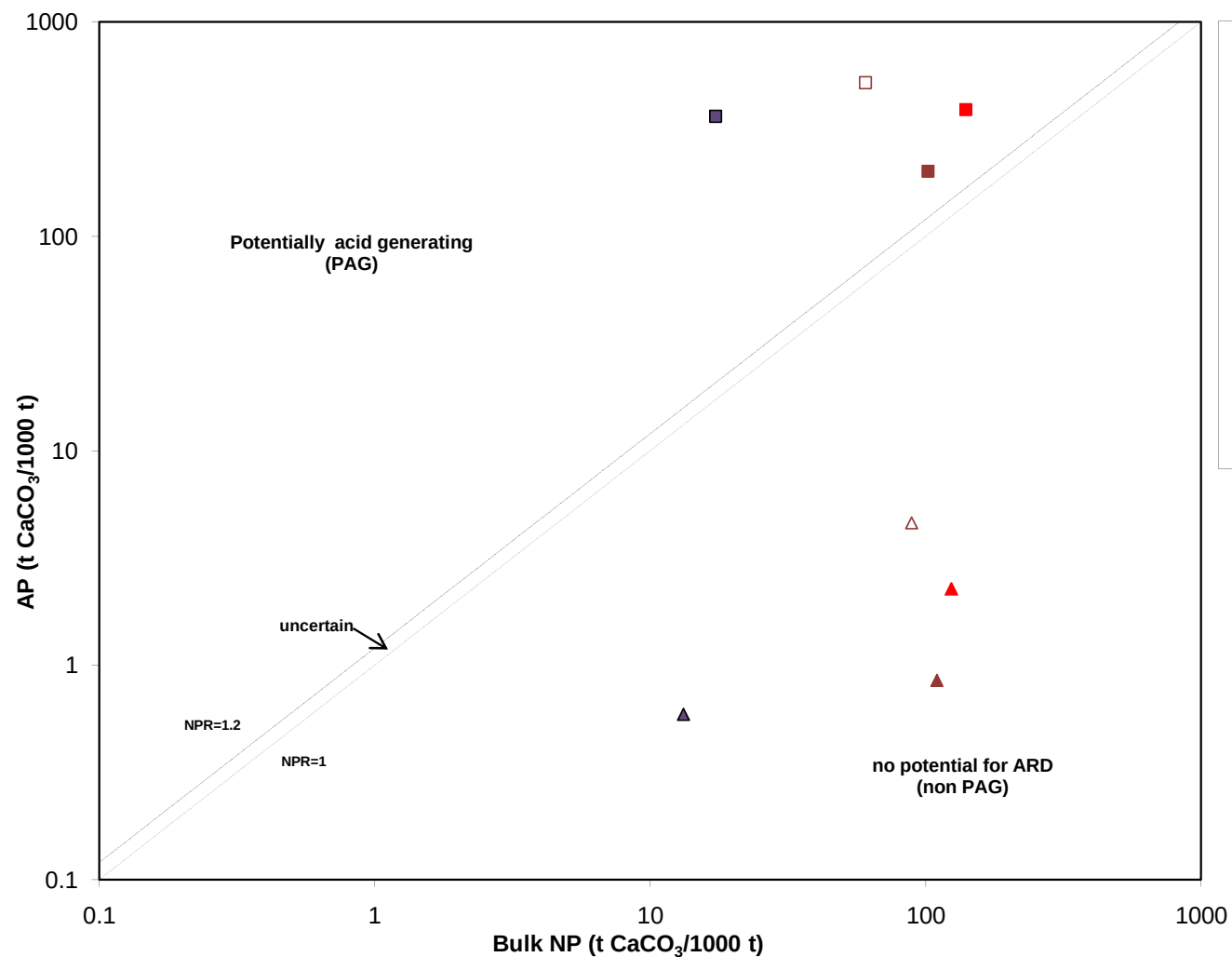


Tailings Static Testing

Sulphide Sulphur versus Net Potential Ratio (NPR)

Meliadine Gold Project
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REVIEWED	VJB			FIGURE	C.2-3



- Tiriganiaq Lode 1000 Concentrate
- ▲ Tiriganiaq Lode 1000 Flotation
- Tiriganiaq Lode 1150 Concentrate
- △ Tiriganiaq Lode 1150 Flotation
- F Zone Concentrate
- ▲ F Zone Flotation
- Discovery Concentrate
- ▲ Discovery Flotation

Note:
ARD classification according to
INAC, 1992

Notes: Median concentrations plotted; error bars show data range (i.e., maximum and minimum measured values).

Non-detect values are plotted as half the detection limit.

INAC (1992) Guidelines: NPR >3



**Golder
Associates**

Tailings Static Testing

Neutralization Potential (NP) versus Acid Potential (AP)

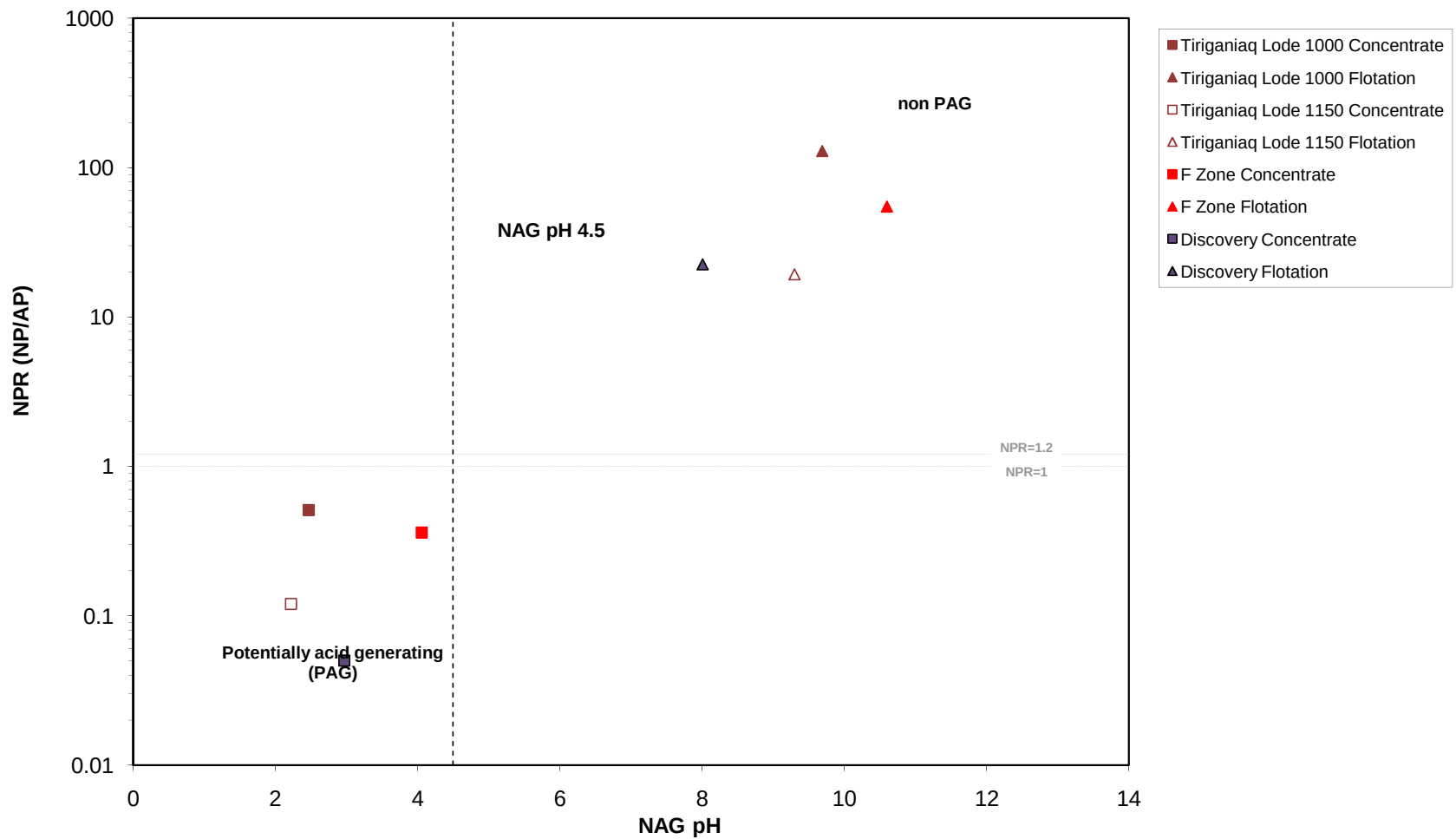
**Meliadine Gold Project
Comaplex Minerals Corporation**

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DATE Feb-10

JOB NO 09-1426-0015

FIGURE **C.2-4**



Tailings Static Testing

Net Acid Generation pH (NAG pH) versus Net Potential Ratio (NPR) - Tailings

Meliadine Gold Project
Comaplex Minerals Corporation

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DATE Feb-10

JOB NO 09-1426-0015

FIGURE C.2-5



C.3 Metal Leaching Potential Analytical Results: Tables and Figures

Deposit		CCME (CEQG) (freshwater aquatic life) ¹ (mg/L)	Metal Mine Effluent Regulation (MMER) ² (mg/L)	Tiriganaq				F Zone		Discovery	
Sample Name				F-1 Ro Conc	F-1 Ro Tls	F-2 Ro Conc	F-2 Ro Tls	F-4 Ro Conc	F-4 Ro Tls	F-3R Ro Conc	F-3R Ro Tls
Tailing Type				Concentrate	Flotation	Concentrate	Flotation	Concentrate	Flotation	Concentrate	Flotation
Lode				1000	1000	1150	1150	-	-	-	-
Mass Split* (%)				14%	86%	22%	78%	21%	79%	12%	88%
Final pH	units	6.5 - 9.0	6.0 - 9.5	7.9	9.0	7.5	8.2	7.7	8.7	7.8	9.0
Ag	mg/L	0.0001		0.00005	0.00001	0.00002	0.00002	< 0.00001	< 0.00001	0.00001	< 0.00001
Al ³	mg/L	0.005 - 0.14		0.03	0.28	< 0.01	0.06	< 0.01	0.09	0.03	0.13
As	mg/L	0.005	0.50	0.315	0.090	1.530	0.596	0.615	0.058	0.046	0.006
As+3	mg/L			0.252	0.020	1.270	0.480	0.504	0.018	0.040	0.002
As+5	mg/L			0.012	0.063	0.035	0.050	0.111	0.040	< 0.001	0.005
B	mg/L			0.02	0.01	0.01	0.01	0.021	0.0083	0.0267	0.0425
Be	mg/L			< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bi	mg/L			0.00004	0.00003	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00009	0.00001
Ca	mg/L			46	12	102	47	62	21	44	7.5
Cd	mg/L	0.000017		0.000007	0.000004	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000006	< 0.000003
Co	mg/L			0.0001	0.00005	0.0004	0.00006	0.00014	0.000032	0.000066	0.00003
Cr ⁴	mg/L	0.001 - 0.00895		< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cu ⁵	mg/L	0.002 - 0.0046	0.3	< 0.0005	< 0.0005	0.0007	< 0.0005	0.0006	< 0.0005	0.0005	0.001
Fe	mg/L	0.3		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.27
Hg	mg/L	0.000026		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
K	mg/L			9.6	4.1	18	21	14	11	30	14
Li	mg/L			0.004	0.002	0.005	0.005	0.003	0.003	0.012	0.006
Mg	mg/L			11	3.9	13	7.6	20	8.6	5.0	0.7
Mn	mg/L			0.05	0.005	0.09	0.04	0.23	0.039	0.064	0.004
Mo	mg/L	0.073		0.012	0.003	0.003	0.004	0.004	0.002	0.015	0.005
Na	mg/L			4.5	1.9	1.9	1.3	4.0	1.8	4.1	3.7
Ni ⁵	mg/L	0.025 - 0.156	0.5	0.002	0.0001	0.003	0.0004	0.0018	0.0003	0.0014	0.0002
P	mg/L			< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pb ⁵	mg/L	0.001 - 0.0076	0.2	0.0001	0.00005	0.0001	0.00006	0.00002	< 0.00002	0.00015	0.00007
Sb	mg/L			0.005	0.002	0.005	0.003	0.0018	0.0012	0.0005	0.0006
Se	mg/L	0.001		0.002	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Si	mg/L			1.9	1.2	1.2	0.97	2.1	0.90	2.65	1.60
Sn	mg/L			0.00006	0.00004	0.00009	0.00005	0.00004	< 0.00001	0.00014	0.00018
Sr	mg/L			0.23	0.06	0.50	0.30	0.2	0.057	0.270	0.052
Ti	mg/L			0.0001	0.0001	< 0.0001	< 0.0001	0.0002	0.0001	0.0008	0.0018
Tl	mg/L	0.0008		< 0.00002	< 0.00002	< 0.00002	0.00002	< 0.00002	0.00002	< 0.00002	< 0.00002
U	mg/L			0.0006	0.000138	0.0005	0.000467	0.0002	0.00014	0.111	0.0171
V	mg/L			0.0002	0.000300	0.0001	0.000110	0.0001	0.00008	0.00013	0.00012
Y	mg/L			0.000006	0.000002	0.000007	0.000004	0.000004	0.000001	0.000006	0.000023
Zn	mg/L	0.03	0.5	0.001	< 0.001	0.002	< 0.001	0.002	< 0.001	< 0.001	0.002

Notes:

- CEQG (2002) freshwater guidelines and MMER criteria are based on total metal concentrations.
- MMER 2006 update. Maximum authorized monthly mean effluent concentration.
- Freshwater aquatic life criterion for aluminum depends on pH, [Ca²⁺] and DOC. In this table, only the pH criterion has been applied to highlight exceedances.
- Freshwater aquatic life criterion for chromium depends on the valence of chromium ion. In the above table, the Cr(VI) criterion of 0.001 mg/L is shown.
- Freshwater aquatic life criterion or guideline is hardness dependant.

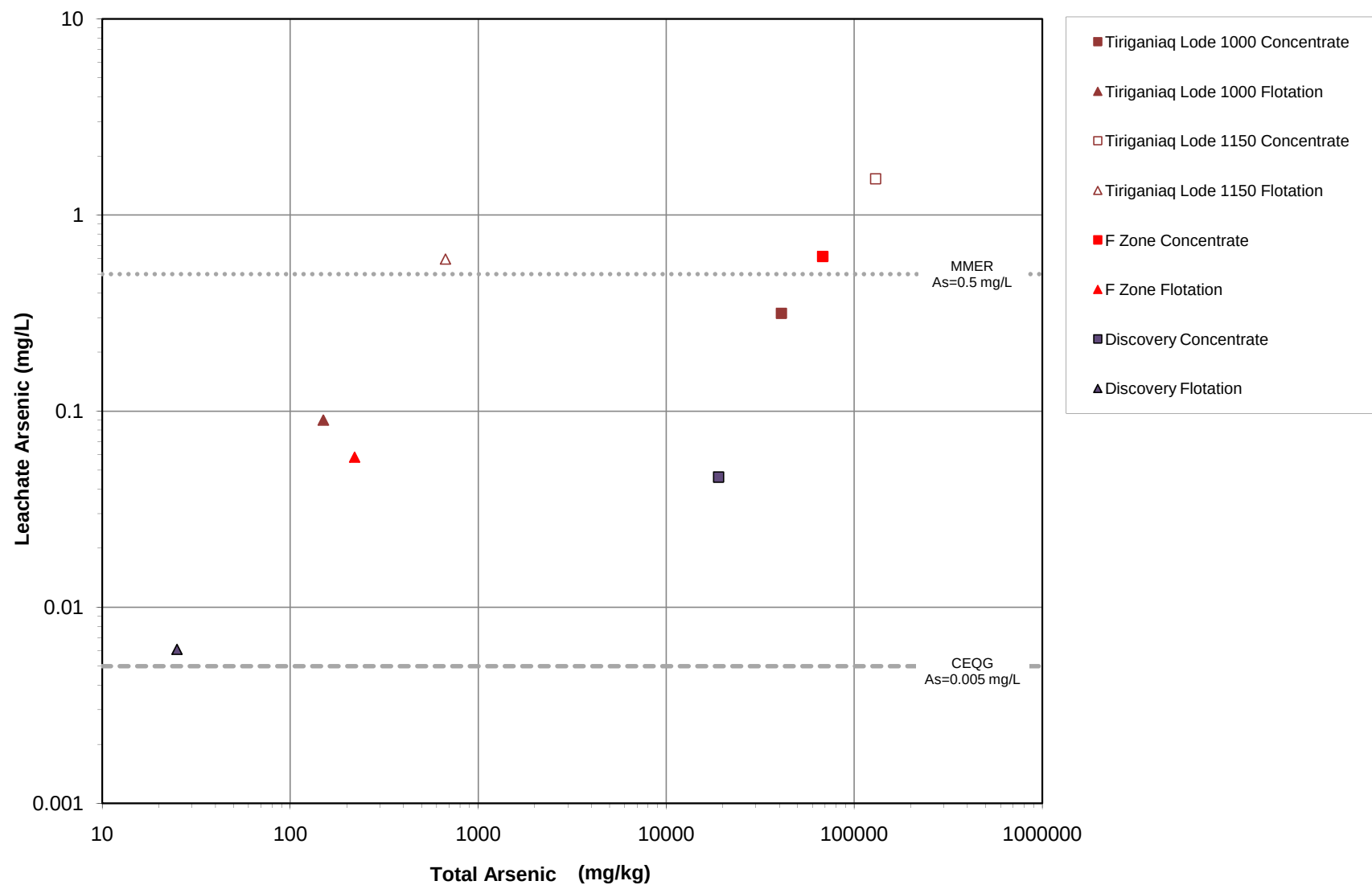
Boded values indicate values above freshwater CEQG's.

Shaded boded values indicate values above MMER Mining Regulations.

Deposit		CCME (CEQG) (freshwater aquatic life) ¹ (mg/L)	Metal Mine Effluent Regulation (MMER) ² (mg/L)	Tiriganaq				F Zone		Discovery	
Sample Name				F-1 Ro Conc	F-1 Ro Tls	F-2 Ro Conc	F-2 Ro Tls	F-4 Ro Conc	F-4 Ro Tls	F-3R Ro Conc	F-3R Ro Tls
Tailing Type				Concentrate	Flotation	Concentrate	Flotation	Concentrate	Flotation	Concentrate	Flotation
Lode				1000	1000	1150	1150	-	-	-	-
Mass Split* (%)				14%	86%	22%	78%	21%	79%	12%	88%
Ag	mg/L	0.0001		0.00005	< 0.00001	< 0.00001	0.00003	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al ³	mg/L	0.005 - 0.14		8.7	0.57	0.19	0.34	0.31	0.43	3.81	1.32
As	mg/L	0.005	0.5	5.0	0.02	13	0.12	1.0	0.012	3.67	0.039
Ba	mg/L			0.04	0.004	0.12	0.004	0.044	0.004	0.182	0.008
Be	mg/L			0.00097	< 0.00002	0.00008	0.00003	0.00016	< 0.00002	0.00038	< 0.00002
B	mg/L			0.16	1.1	0.04	1.0	0.33	1.1	0.5	0.0
Bi	mg/L			< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	0.0001	< 0.00001
Ca	mg/L			273	18	177	19	310	32	41	7
Cd	mg/L	0.000017		0.007	0.000011	0.001	0.00003	0.007	< 0.000003	0.000371	0.000012
Co	mg/L			0.62	0.00003	0.0307	0.00008	0.054	0.00002	0.00616	0.00004
Cr ⁴	mg/L	0.001 - 0.00895		0.024	0.031	< 0.0005	< 0.0005	< 0.0005	0.019	0.004	0.019
Cu ³	mg/L	0.002 - 0.0046	0.3	2.2	0.002	0.005	0.001	0.070	< 0.0005	0.024	0.004
Fe	mg/L	0.3		132	< 0.01	569	0.04	283	< 0.01	881	0.19
Hg	mg/L	0.000026		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
K	mg/L			12	6.4	16	13	6.3	5.3	22.5	13.5
Li	mg/L			< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Mg	mg/L			67	0.005	23	0.01	82	0.01	8.04	0.07
Mn	mg/L			5.0	0.00027	2.8	0.00069	27	0.00015	1.21	0.00071
Mo	mg/L	0.073		0.002	0.019	0.004	0.034	0.0003	0.003	0.003	0.028
Na	mg/L			2.81	3.8	0.57	1.5	1.4	2.2	3.6	1.9
Ni ⁵	mg/L	0.025 - 0.156	0.5	1.71	0.0003	0.12	0.0003	0.17	0.0002	0.0493	0.0002
Pb ⁵	mg/L	0.001 - 0.0076	0.2	0.994	0.00003	0.005	0.00010	0.0013	0.00004	0.00025	0.0001
Sb	mg/L			0.0007	0.0006	0.002	0.0005	< 0.0002	0.0003	0.0009	0.0012
Se	mg/L	0.001		0.06	< 0.001	0.08	< 0.001	0.03	< 0.001	0.013	0.002
Sn	mg/L			0.00006	0.00010	< 0.00001	0.00013	0.00002	< 0.00001	0.00003	0.00029
Sr	mg/L			1.1	0.19	0.93	0.19	0.66	0.10	0.30	0.03
Ti	mg/L			0.001	< 0.0001	0.0003	0.0002	0.0005	< 0.0001	0.0015	0.0013
Tl	mg/L	0.0008		0.0004	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
U	mg/L			0.004	0.00002	0.00004	0.00002	0.00007	0.00000	0.14700	0.00054
V	mg/L			0.001	0.00139	0.00025	0.00103	0.00027	0.00153	0.00348	0.00569
W	mg/L			< 0.00003	0.00120	< 0.00003	0.00104	0.00006	0.00055	0.00027	0.00232
Y	mg/L			0.021	0.000008	0.004	0.00003	0.007480	< 0.000001	0.0143	0.000011
Zn	mg/L	0.03	0.5	0.76	0.002	0.23	< 0.001	2.79	< 0.001	0.24	0.003

Notes:

- CEQG (2002) freshwater guidelines and MMER criteria are based on total metal concentrations.
 - MMER 2006 update. Maximum authorized monthly mean effluent concentration.
 - Freshwater aquatic life criterion for aluminum depends on pH, [Ca²⁺] and DOC. In this table, only the pH criterion has been applied to highlight exceedances.
 - Freshwater aquatic life criterion for chromium depends on the valence of chromium ion. In the above table, the Cr(VI) criterion of 0.001 mg/L is shown.
 - Freshwater aquatic life criterion or guideline is hardness dependant.
- Boded values indicate values above freshwater CEQG's.
- Shaded boded values indicate values above MMER Mining Regulations.



Notes: INAC (1992) Guidelines: NPR >3



Tailings Static Testing

Total Arsenic versus Leachate Arsenic

Meliadine Gold Project
Comaplex Minerals Corporation

DRAWN	TG	DATE	Feb-10	JOB NO	09-1426-0015
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REVIEWED	VJB			FIGURE	C.3-1



APPENDIX D

Laboratory Certificates of Analysis



SGS Lakefield Research Limited
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Comaplex Minerals Corp

Attn : Mark Balog mbalog@comaplex.com; Valerie_Bertrand@golder.com

Suite 901, 1015-4 St. SW, Calgary
, T2R 1J4
Phone: 403-265-2846, Fax:403-232-1421

Modified ABA (Price 1997)

Project : Fzone deposit

Friday, September 11, 2009

Date Rec. : 21 August 2009
LR Report: CA10221-AUG09
Reference: 09-1426-0015

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M98-316-01	6: GT-08-04-01	7: M05-536A-01	8: GT08-02-01	9: M97-138-01	10: M05-564-01	11: M97-139-01	12: M97-141-01	13: M97-93-01	14: M97-92-01
Sample Date & Time			Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a
Paste pH [units]	11-Sep-09	11:10	8.69	8.89	8.73	8.66	8.71	8.85	8.88	8.78	8.63	8.78
Fizz Rate [---]	11-Sep-09	11:10	4	4	4	4	4	4	4	4	4	4
Sample [weight(g)]	11-Sep-09	11:10	2.04	1.99	2.02	1.95	1.97	1.96	1.96	1.99	2.01	2.00
HCl added [mL]	11-Sep-09	11:10	85.50	75.20	165.40	90.10	113.90	99.80	193.00	137.10	103.50	127.00
HCl [Normality]	11-Sep-09	11:10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	11-Sep-09	11:10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	11-Sep-09	11:10	20.10	16.20	63.50	19.70	28.60	26.40	67.10	39.90	25.20	37.20
Final pH [units]	11-Sep-09	11:10	1.84	1.99	1.61	1.88	1.86	1.80	1.73	1.86	1.99	1.74
NP [t CaCO3/1000t]	11-Sep-09	11:10	160	148	252	180	216	187	321	244	195	224
AP [t CaCO3/1000 t]	11-Sep-09	11:10	4.1	2.5	5.9	4.7	1.6	1.6	8.8	7.8	3.4	2.5
Net NP [t CaCO3/1000 t]	11-Sep-09	11:10	156	146	246	176	215	186	312	236	191	222
NP/AP [ratio]	11-Sep-09	11:10	38.9	59.3	42.7	38.4	135	117	36.5	31.3	57.3	89.8
Total Sulphur [%]	04-Sep-09	14:41	0.226	0.109	0.253	0.192	0.098	0.064	0.439	0.323	0.155	0.125
Acid Leachable SO4-S [%]	11-Sep-09	10:28	0.09	0.03	0.07	0.05	0.05	0.01	0.16	0.08	0.05	0.05
Sulphide-S [%]	11-Sep-09	10:28	0.13	0.08	0.19	0.15	0.05	0.05	0.28	0.25	0.11	0.08
Total Carbon [%]	04-Sep-09	14:41	1.93	1.77	3.41	2.19	2.70	2.32	4.66	3.35	2.57	2.84
Carbonate (CO3) [%]	04-Sep-09	14:42	9.43	8.62	16.2	10.3	13.0	11.2	21.5	15.8	12.0	13.6



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Project : Fzone deposit

Friday, September 11, 2009

Date Rec. : 21 August 2009
LR Report: CA10219-AUG09
Reference: 09-1426-0015

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	5: M98-316-01	6: GT-08-04-01	7: M05-536A-01	8: GT08-02-01	9: M97-138-01	10: M05-564-01	11: M97-139-01	12: M97-141-01	13: M97-93-01	14: M97-92-01
Sample Date & Time	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a
SiO2 [%]	43.2	43.6	39.4	43.5	42.8	44.2	37.2	42.0	43.3	44.1
Al2O3 [%]	14.2	13.9	13.2	13.9	13.4	14.9	12.5	12.3	14.1	13.0
Fe2O3 [%]	11.1	11.8	11.2	12.1	10.9	10.0	9.80	11.4	12.5	9.43
MgO [%]	5.26	6.72	4.76	3.96	4.19	4.03	4.77	6.81	4.08	4.66
CaO [%]	13.6	10.4	12.1	11.9	13.1	12.3	12.1	9.27	10.3	11.2
Na2O [%]	0.99	1.81	1.66	2.47	1.89	2.50	1.75	2.16	2.52	3.16
K2O [%]	0.07	0.19	1.21	0.06	0.48	0.29	2.41	0.73	0.53	0.55
TiO2 [%]	0.89	0.77	0.82	0.96	0.77	0.91	0.69	0.72	0.97	0.68
P2O5 [%]	0.07	0.05	0.06	0.07	0.05	0.06	0.05	0.06	0.08	0.08
MnO [%]	0.22	0.20	0.24	0.23	0.26	0.23	0.25	0.18	0.29	0.22
Cr2O3 [%]	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.04	0.03	0.03
V2O5 [%]	0.05	0.05	0.05	0.06	0.05	0.05	0.05	0.05	0.06	0.04
LOI [%]	10.0	10.1	14.2	10.4	12.4	10.9	17.4	13.7	11.3	12.6
Sum [%]	99.7	99.7	99.0	99.7	100.3	100.5	99.0	99.4	100.1	99.7



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Project : Fzone deposit
LR Report : CA10219-AUG09

*Brian Graham B.Sc.
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Modified ABA (Price 1997)

Project : Fzone deposit
LR Report : CA10221-AUG09

*NP (Neutralization Potential)
= $50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})$

Weight of Sample

*AP (Acid Potential) = % Sulphide Sulphur $\times$ 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.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)

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Project : Fzone deposit

Friday, September 11, 2009

Date Rec. : 21 August 2009
LR Report: CA10220-AUG09
Reference: 09-1426-0015

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M98-316-01	6: GT-08-04-01	7: M05-536A-01	8: GT08-02-01	9: M97-138-01	10: M05-564-01	11: M97-139-01	12: M97-141-01	13: M97-93-01	14: M97-92-01
Sample Date & Time			Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a
Silver [µg/g]	11-Sep-09	11:09	0.14	0.78	0.21	0.07	0.19	0.09	0.64	0.32	0.17	0.11
Aluminum [µg/g]	11-Sep-09	07:48	75000	77000	72000	76000	72000	81000	68000	68000	75000	68000
Arsenic [µg/g]	11-Sep-09	11:09	8.8	13	86	8.9	16	3.0	290	15	61	16
Barium [µg/g]	11-Sep-09	11:09	6.9	87	140	8.4	53	55	290	150	72	140
Beryllium [µg/g]	11-Sep-09	11:09	0.22	0.25	0.43	0.25	0.25	0.31	0.77	0.30	0.26	0.30
Bismuth [µg/g]	11-Sep-09	11:09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	0.29	< 0.09	< 0.09	< 0.09
Calcium [µg/g]	11-Sep-09	07:48	89000	73000	83000	80000	87000	82000	83000	63000	68000	73000
Cadmium [µg/g]	11-Sep-09	11:09	0.33	0.56	0.27	0.72	0.23	0.19	0.69	0.26	0.18	0.24
Cobalt [µg/g]	11-Sep-09	11:09	46	43	42	45	47	41	46	37	42	38
Chromium [µg/g]	11-Sep-09	11:09	170	160	150	140	170	180	140	150	140	150
Copper [µg/g]	11-Sep-09	07:48	110	120	110	97	120	83	170	130	100	110
Iron [µg/g]	11-Sep-09	07:48	75000	85000	78000	84000	74000	69000	69000	80000	86000	64000
Potassium [µg/g]	11-Sep-09	07:48	620	1800	11000	640	4400	2600	21000	6800	4800	5000
Lithium [µg/g]	11-Sep-09	11:09	60	37	32	40	40	52	9	32	35	37
Magnesium [µg/g]	11-Sep-09	07:48	31000	41000	29000	24000	25000	24000	29000	41000	24000	27000
Manganese [µg/g]	11-Sep-09	11:09	1300	1100	1300	1300	1500	1400	1500	1100	1700	1400
Molybdenum [µg/g]	11-Sep-09	11:09	0.5	0.5	0.5	0.5	0.6	0.5	0.7	0.8	0.8	0.6
Sodium [µg/g]	11-Sep-09	07:48	7000	14000	12000	18000	14000	18000	13000	16000	18000	21000
Nickel [µg/g]	11-Sep-09	11:09	110	150	120	110	150	110	120	120	110	110

Online LIMS



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Project : Fzone deposit
LR Report : CA10220-AUG09

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M98-316-01	6: GT-08-04-01	7: M05-536A-01	8: GT08-02-01	9: M97-138-01	10: M05-564-01	11: M97-139-01	12: M97-141-01	13: M97-93-01	14: M97-92-01
Lead [µg/g]	11-Sep-09	11:09	7.5	2.7	9.9	2.6	3.2	4.2	410	12	6.2	2.8
Antimony [µg/g]	11-Sep-09	11:09	0.9	0.9	< 0.8	1.0	< 0.8	< 0.8	0.9	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	11-Sep-09	11:09	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	0.9
Tin [µg/g]	11-Sep-09	11:09	1.2	1.0	0.8	0.7	1.0	0.8	0.9	0.9	1.1	1.2
Strontium [µg/g]	11-Sep-09	11:09	190	140	110	130	120	140	150	100	89	140
Titanium [µg/g]	11-Sep-09	07:48	1500	5000	4600	5200	4100	4600	3700	4000	5600	2600
Thallium [µg/g]	11-Sep-09	11:09	0.03	0.09	0.31	0.07	0.14	0.10	0.66	0.19	0.17	0.13
Uranium [µg/g]	11-Sep-09	11:09	0.074	0.056	0.056	0.11	0.053	0.063	0.26	0.051	0.060	0.31
Vanadium [µg/g]	11-Sep-09	11:09	200	200	210	220	200	210	190	180	220	170
Yttrium [µg/g]	11-Sep-09	11:09	15	14	6.4	16	12	15	3.1	3.4	6.3	7.7
Zinc [µg/g]	11-Sep-09	07:48	88	88	110	100	87	91	67	110	120	78

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Friday, January 15, 2010

Date Rec. : 18 December 2009
LR Report: CA10174-DEC09
Reference: Tiriganiaq

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Sample Date & Time	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	V2O5 %	LOI %	Sum %
5: M99-386-01	Dec 2009	64.4	15.1	5.44	2.22	1.86	3.07	2.28	0.54	0.10	0.05	0.03	0.01	4.05	99.2
6: M99-386-02	Dec 2009	64.8	16.2	5.63	2.32	1.24	3.18	2.28	0.61	0.12	0.04	0.03	0.02	3.48	100.0
7: M99-385-01	Dec 2009	63.3	16.5	5.86	2.51	1.49	2.80	2.42	0.63	0.11	0.06	0.03	0.02	3.92	99.6
8: M99-341-03	Dec 2009	62.7	16.5	7.84	2.60	1.42	2.52	2.27	0.65	0.14	0.05	0.03	0.02	3.56	100.3
9: M99-345-01	Dec 2009	64.4	15.3	5.05	2.11	1.97	3.47	1.93	0.58	0.11	0.04	0.03	0.02	3.61	98.6
10: M99-345-02	Dec 2009	65.1	16.0	5.06	2.18	1.88	3.33	2.17	0.57	0.12	0.04	0.02	0.02	3.66	100.1
11: M99-345-03	Dec 2009	62.3	14.4	5.94	2.22	4.15	2.57	1.95	0.54	0.12	0.08	0.02	0.02	5.37	99.7
12: M99-346-01	Dec 2009	63.1	17.2	6.01	2.58	1.33	2.75	2.60	0.67	0.11	0.04	0.02	0.02	3.95	100.4
13: M99-346-02	Dec 2009	66.0	14.6	4.61	1.89	2.26	3.60	1.86	0.54	0.10	0.05	0.03	0.02	3.89	99.5
14: M99-346-03	Dec 2009	65.1	15.1	4.59	1.90	1.99	3.52	2.03	0.54	0.11	0.04	0.03	0.02	3.72	98.6
15: M99-403-05	Dec 2009	61.3	15.7	7.00	2.52	2.55	2.73	2.18	0.60	0.15	0.06	0.03	0.02	4.27	99.1
16: M98-298-01	Dec 2009	63.4	16.7	6.08	2.61	1.52	2.88	2.38	0.62	0.11	0.05	0.03	0.02	3.53	100.0
17: M98-298-02	Dec 2009	63.0	15.3	5.58	2.36	3.04	2.90	2.22	0.56	0.11	0.07	0.02	0.02	4.98	100.2
18: M98-298-03	Dec 2009	66.7	15.4	4.85	2.05	1.71	3.48	1.99	0.56	0.11	0.04	0.03	0.01	3.32	100.3
19: M99-404-05	Dec 2009	63.9	16.2	6.24	2.44	1.66	2.91	2.19	0.58	0.13	0.04	0.02	0.01	3.60	99.9
20: M99-404-06	Dec 2009	64.4	16.5	5.48	2.45	1.24	2.86	2.40	0.61	0.12	0.03	0.02	0.02	3.89	100.0
21: M00-476-01	Dec 2009	65.2	16.1	5.72	2.49	1.25	2.82	2.23	0.60	0.11	0.04	0.03	0.02	3.47	100.1
22: M00-476-02	Dec 2009	63.4	16.6	5.79	2.52	1.40	2.99	2.35	0.63	0.13	0.05	0.03	0.02	3.65	99.5
23: M00-479-01	Dec 2009	64.9	15.1	6.85	2.29	1.46	2.90	1.89	0.55	0.12	0.05	0.03	0.01	3.99	100.2



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LR Report : CA10174-DEC09

Sample ID	Sample Date & Time	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	V2O5 %	LOI %	Sum %
24: M00-479-02	Dec 2009	61.3	17.1	6.27	2.73	1.87	2.54	2.79	0.69	0.12	0.06	0.03	0.02	4.37	99.9
25: M06-628-01	Dec 2009	63.5	16.3	6.10	2.34	1.79	2.85	2.44	0.59	0.12	0.05	0.02	0.02	3.65	99.8
26: M06-628-02	Dec 2009	60.7	16.2	6.41	2.63	2.65	2.38	2.56	0.67	0.31	0.06	0.02	0.02	4.68	99.3
27: M99-418-01	Dec 2009	62.9	16.8	5.79	2.54	1.40	2.69	2.65	0.63	0.12	0.05	0.03	0.02	3.75	99.3
28: M98-194-04	Dec 2009	64.4	15.2	5.45	2.06	1.78	3.37	2.23	0.55	0.11	0.04	0.03	0.01	3.75	99.0
29: M07-660-01	Dec 2009	63.6	16.5	5.28	2.21	1.70	3.27	2.34	0.61	0.11	0.05	0.03	0.02	3.56	99.3
30: M07-660-02	Dec 2009	64.6	16.5	5.81	2.57	1.29	3.05	2.25	0.62	0.12	0.05	0.02	0.02	3.39	100.2
31: M99-404-03	2008	66.7	15.4	4.71	2.03	1.61	4.08	1.72	0.55	0.11	0.04	0.02	0.01	3.20	100.2
32: M99-350-03	2008	64.0	16.3	5.55	2.40	1.75	3.15	2.23	0.60	0.11	0.04	0.02	0.02	3.71	99.9
33: M98-297-03	2008	61.8	16.8	6.93	2.54	1.57	2.53	2.62	0.61	0.12	0.04	0.02	0.02	3.70	99.3
34: M07-713-03	2008	66.5	15.3	4.70	2.00	1.89	3.53	1.99	0.54	0.11	0.04	0.02	0.02	3.33	99.9

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SFE (4:1)

Project : Tiriganiaq deposit

Thursday, September 10, 2009

Date Rec. : 21 August 2009
LR Report: CA11184-AUG09
Reference: Meliadine Gold Project

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M08-734-01	6: M08-734-02	7: M08-734-03	8: M08-734-04	9: M08-735-01	10: M08-735-02	11: M08-735-03	12: M08-742-01	13: M08-742-02
Sample Date & Time											
Sample [weight(g)]	03-Sep-09	14:29	200	200	200	200	200	200	200	200	200
Volume mL [D.I. H2O]	03-Sep-09	14:29	800	800	800	800	800	800	800	800	800
Initial pH [units]	03-Sep-09	14:29	9.95	9.82	9.87	9.83	9.96	9.94	9.90	9.87	9.89
Final pH [units]	03-Sep-09	14:29	9.53	9.20	9.16	8.93	9.55	9.02	9.28	9.53	9.32
pH [no unit]	08-Sep-09	14:04	8.26	8.00	8.10	8.26	8.73	8.29	8.17	8.26	8.10
Conductivity [uS/cm]	08-Sep-09	14:04	100	109	133	166	138	154	120	109	112
Alkalinity [mg/L as CaCO3]	08-Sep-09	14:04	45	45	46	84	60	77	44	41	44
Sulphate [mg/L]	09-Sep-09	15:09	2.0	1.8	8.6	1.0	3.2	0.9	2.3	3.4	1.5
Chloride [mg/L]	09-Sep-09	15:09	4.5	6.3	5.0	4.0	6.4	2.9	9.7	7.4	7.4
Mercury [mg/L]	10-Sep-09	08:50	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	09-Sep-09	13:50	0.00007	0.00002	0.00003	0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	08-Sep-09	14:43	1.10	1.01	0.75	0.41	1.51	0.55	0.97	1.05	0.99
Arsenic [mg/L]	09-Sep-09	13:50	0.0123	0.0010	0.0134	0.0233	0.0189	0.0585	0.0103	0.0022	0.0014
Boron [mg/L]	09-Sep-09	13:50	0.0194	0.0129	0.0148	0.0196	0.0369	0.0167	0.0161	0.0184	0.0142
Beryllium [mg/L]	09-Sep-09	13:50	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	09-Sep-09	13:50	0.00004	0.00003	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	08-Sep-09	14:43	3.93	6.73	7.11	10.4	3.03	7.04	5.89	4.38	5.59
Cadmium [mg/L]	09-Sep-09	13:50	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Cobalt [mg/L]	09-Sep-09	13:50	0.000033	0.000033	0.000026	0.000045	0.000022	0.000047	0.000021	0.000022	0.000019
Chromium [mg/L]	09-Sep-09	13:50	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	09-Sep-09	13:50	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	08-Sep-09	14:43	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	08-Sep-09	14:43	4.56	7.49	7.72	7.89	8.94	17.2	6.56	7.36	9.25



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SFE (4:1)

Project : Tiriganiaq deposit

LR Report : CA11184-AUG09

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M08-734-01	6: M08-734-02	7: M08-734-03	8: M08-734-04	9: M08-735-01	10: M08-735-02	11: M08-735-03	12: M08-742-01	13: M08-742-02
Lithium [mg/L]	09-Sep-09	13:50	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001
Magnesium [mg/L]	08-Sep-09	14:43	0.476	0.992	1.12	5.94	0.370	3.04	0.813	0.476	0.812
Manganese [mg/L]	09-Sep-09	13:50	0.00031	0.00075	0.00079	0.00069	0.00039	0.00118	0.00066	0.00035	0.00046
Molybdenum [mg/L]	09-Sep-09	13:50	0.00028	0.00018	0.00046	0.00023	0.00030	0.00011	0.00022	0.00013	0.00009
Sodium [mg/L]	08-Sep-09	14:44	14.0	10.2	13.6	11.9	20.1	11.5	13.4	12.8	11.6
Nickel [mg/L]	09-Sep-09	13:50	< 0.0001	< 0.0001	0.0001	0.0002	< 0.0001	0.0003	< 0.0001	< 0.0001	< 0.0001
Lead [mg/L]	09-Sep-09	13:50	0.00006	0.00008	0.00005	0.00008	0.00014	0.00023	0.00022	0.00018	0.00014
Antimony [mg/L]	09-Sep-09	13:50	0.0027	0.0017	0.0045	0.0018	0.0033	0.0032	0.0024	0.0024	0.0026
Selenium [mg/L]	09-Sep-09	13:50	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	09-Sep-09	13:50	0.00003	0.00003	< 0.00001	< 0.00001	< 0.00001	0.00001	0.00003	< 0.00001	< 0.00001
Strontium [mg/L]	08-Sep-09	14:44	0.0115	0.0157	0.0268	0.0185	0.0132	0.0227	0.0220	0.0156	0.0140
Titanium [mg/L]	09-Sep-09	13:50	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0002	0.0004	0.0002
Thallium [mg/L]	09-Sep-09	13:50	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	09-Sep-09	13:50	0.000023	0.000017	0.000013	0.000084	0.000014	0.000005	0.000006	0.000050	0.000002
Vanadium [mg/L]	09-Sep-09	13:50	0.00742	0.00110	0.00189	0.00074	0.0105	0.00148	0.00264	0.0106	0.00248
Tungsten [mg/L]	09-Sep-09	13:50	0.00092	0.00104	0.00268	0.00205	0.00142	0.00207	0.00146	0.00201	0.00065
Yttrium [mg/L]	09-Sep-09	13:50	0.000003	0.000003	0.000002	0.000001	0.000004	0.000002	0.000003	0.000002	0.000002
Zinc [mg/L]	09-Sep-09	13:50	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

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Project : Tiriganiaq deposit

Thursday, September 10, 2009

Date Rec. : 21 August 2009
LR Report: CA11184-AUG09
Reference: Meliadine Gold Project

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	14: M08-742-03	15: M08-742-04	16: M08-742-05	17: M08-742-06	18: M08-743-01	19: M08-743-02	20: M08-743-03	21: M08-743-04	22: M08-750-01	23: M08-750-02	24: M08-750-03
Sample Date & Time											
Sample [weight(g)]	200	200	200	200	200	200	200	200	200	200	200
Volume mL [D.I. H ₂ O]	800	800	800	800	800	800	800	800	800	800	800
Initial pH [units]	9.84	9.88	9.53	9.90	9.92	9.85	9.60	9.96	9.94	9.82	9.91
Final pH [units]	9.02	9.14	8.29	9.71	9.82	9.26	8.40	9.94	9.39	8.84	9.26
pH [no unit]	8.13	8.23	8.07	8.74	9.12	8.21	8.12	9.15	8.27	8.27	8.12
Conductivity [uS/cm]	138	136	219	85	108	115	237	106	100	177	107
Alkalinity [mg/L as CaCO ₃]	65	61	81	40	43	50	85	49	46	82	48
Sulphate [mg/L]	1.6	1.2	5.8	1.1	2.6	1.1	4.5	1.1	1.6	1.0	1.2
Chloride [mg/L]	5.0	7.1	3.7	3.7	6.5	5.6	8.7	3.9	4.0	7.5	3.8
Mercury [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	0.00008	< 0.00001	< 0.00001	0.00009	0.00008
Aluminum [mg/L]	0.51	0.61	0.07	0.67	0.87	0.67	0.15	0.90	0.86	0.49	1.12
Arsenic [mg/L]	0.0052	0.0023	0.0006	0.0026	0.0038	0.0210	0.0070	0.0176	0.0013	0.0159	0.0097
Boron [mg/L]	0.0130	0.0182	0.0150	0.0164	0.0175	0.0176	0.0185	0.0315	0.0085	0.0211	0.0311
Beryllium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00004	0.00009
Bismuth [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00004	0.00011
Calcium [mg/L]	7.63	6.02	25.5	3.29	3.17	5.92	24.4	2.68	4.99	10.5	5.91
Cadmium [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000152	< 0.000003	< 0.000003	0.000026	0.000043
Cobalt [mg/L]	0.000026	0.000029	0.000093	0.000022	0.000023	0.000021	0.000213	0.000055	0.000018	0.000070	0.000082
Chromium [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	0.08	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	7.98	9.71	3.18	0.98	4.90	8.14	8.92	3.77	12.1	13.1	11.8



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Project : Tiriganiaq deposit

LR Report : CA11184-AUG09

Analysis	14: M08-742-03	15: M08-742-04	16: M08-742-05	17: M08-742-06	18: M08-743-01	19: M08-743-02	20: M08-743-03	21: M08-743-04	22: M08-750-01	23: M08-750-02	24: M08-750-03
Lithium [mg/L]	0.001	0.001	0.003	< 0.001	< 0.001	0.001	0.004	< 0.001	< 0.001	0.001	0.001
Magnesium [mg/L]	3.12	2.03	7.93	0.448	0.330	1.54	7.30	0.279	0.707	4.77	0.792
Manganese [mg/L]	0.00085	0.00059	0.121	0.00090	0.00038	0.00070	0.0985	0.00165	0.00068	0.00192	0.00075
Molybdenum [mg/L]	0.00013	0.00014	0.00012	0.00006	0.00017	0.00007	0.00059	0.00018	0.00009	0.00039	0.00032
Sodium [mg/L]	11.9	13.9	4.53	12.8	15.3	11.7	7.02	17.2	7.63	12.0	8.60
Nickel [mg/L]	< 0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001	< 0.0001	0.0009	0.0002	< 0.0001	0.0002	< 0.0001
Lead [mg/L]	0.00012	0.00010	0.00009	0.00008	0.00008	0.00008	0.00008	0.00009	0.00008	0.00007	0.00014
Antimony [mg/L]	0.0075	0.0024	0.0015	0.0039	0.0032	0.0039	0.0032	0.0058	0.0015	0.0025	0.0021
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	0.00001	0.00001	< 0.00001	0.00001	0.00038	< 0.00001	0.00003	0.00002	0.00003	0.00002	< 0.00001
Strontium [mg/L]	0.0261	0.0228	0.0410	0.0101	0.0093	0.0149	0.0404	0.0068	0.0404	0.0441	0.0360
Titanium [mg/L]	< 0.0001	< 0.0001	0.0002	0.0001	0.0005	< 0.0001	0.0002	0.0021	< 0.0001	< 0.0001	< 0.0001
Thallium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00006	0.00008
Uranium [mg/L]	0.000003	0.000002	0.000165	0.000005	0.000023	0.000002	0.000085	0.000033	0.000002	0.000035	0.000103
Vanadium [mg/L]	0.00109	0.00109	0.00006	0.0128	0.0212	0.00354	0.00011	0.0359	0.00355	0.00058	0.00218
Tungsten [mg/L]	0.00122	0.00265	0.00045	0.00154	0.00179	0.00111	0.00037	0.00129	0.00193	0.00142	0.00405
Yttrium [mg/L]	0.000002	0.000002	0.000002	0.000003	0.000003	0.000002	0.000002	0.000010	0.000002	0.000026	0.000043
Zinc [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

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Thursday, January 14, 2010

Date Rec. : 18 December 2009
LR Report: CA10175-DEC09
Reference: Tiriganiaq

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M99-386-01	6: M99-386-02	7: M99-385-01	8: M99-341-03	9: M99-345-01	10: M99-345-02	11: M99-345-03	12: M99-346-01	13: M99-346-02	14: M99-346-03
Sample Date & Time			Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009
Silver [µg/g]	14-Jan-10	09:45	0.39	0.43	0.34	0.31	0.37	0.43	0.30	0.31	0.37	0.36
Aluminum [µg/g]	14-Jan-10	08:40	75000	78000	76000	78000	74000	75000	71000	81000	71000	74000
Arsenic [µg/g]	14-Jan-10	09:45	2200	31	39	64	44	18	46	91	64	11
Barium [µg/g]	14-Jan-10	09:45	780	870	600	560	730	730	600	610	690	720
Beryllium [µg/g]	14-Jan-10	09:45	1.2	1.0	0.99	1.0	0.89	0.95	0.86	1.0	0.91	0.95
Bismuth [µg/g]	14-Jan-10	09:45	0.16	0.13	0.09	< 0.09	0.11	0.11	0.12	< 0.09	0.13	0.13
Calcium [µg/g]	14-Jan-10	08:40	12000	7900	7200	9000	13000	12000	26000	8400	14000	13000
Cadmium [µg/g]	14-Jan-10	09:45	0.27	0.28	0.27	0.22	0.27	0.61	0.29	0.23	0.31	0.26
Cobalt [µg/g]	14-Jan-10	09:45	18	20	20	18	19	19	18	20	18	17
Chromium [µg/g]	14-Jan-10	09:45	160	170	150	150	170	150	150	140	170	160
Copper [µg/g]	14-Jan-10	08:39	73	72	39	37	48	130	43	42	45	43
Iron [µg/g]	14-Jan-10	08:39	37000	38000	38000	52000	35000	35000	41000	40000	31000	31000
Potassium [µg/g]	14-Jan-10	08:39	22000	22000	22000	21000	19000	21000	19000	24000	18000	20000
Lithium [µg/g]	14-Jan-10	09:45	28	36	35	38	32	34	32	35	23	25
Magnesium [µg/g]	14-Jan-10	08:35	13000	14000	14000	15000	12000	12000	13000	14000	10000	11000
Manganese [µg/g]	14-Jan-10	09:46	300	290	330	320	310	280	530	290	310	280
Molybdenum [µg/g]	14-Jan-10	09:46	2.2	1.3	1.4	1.3	1.3	1.8	1.3	1.5	1.4	1.2
Sodium [µg/g]	14-Jan-10	08:35	20000	20000	17000	16000	20000	19000	16000	17000	21000	20000
Nickel [µg/g]	14-Jan-10	09:46	59	61	66	71	59	58	61	69	58	54



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LR Report : CA10175-DEC09

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M99-386-01	6: M99-386-02	7: M99-385-01	8: M99-341-03	9: M99-345-01	10: M99-345-02	11: M99-345-03	12: M99-346-01	13: M99-346-02	14: M99-346-03
Lead [µg/g]	14-Jan-10	09:46	27	12	12	6.7	10	17	12	11	17	14
Antimony [µg/g]	14-Jan-10	09:46	1.0	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	1.2	< 0.8	< 0.8
Selenium [µg/g]	14-Jan-10	09:46	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Tin [µg/g]	14-Jan-10	09:46	1.0	0.9	0.7	1.0	0.8	1.1	0.7	1.5	1.2	0.8
Strontium [µg/g]	14-Jan-10	09:46	290	300	250	240	340	300	310	270	360	330
Titanium [µg/g]	14-Jan-10	08:32	2500	1200	1200	3700	1100	990	1100	1500	1300	1300
Thallium [µg/g]	14-Jan-10	09:46	0.45	0.40	0.42	0.35	0.32	0.35	0.33	0.46	0.31	0.37
Uranium [µg/g]	14-Jan-10	09:46	1.5	1.7	1.7	1.6	1.7	1.6	1.5	1.6	1.7	1.6
Vanadium [µg/g]	14-Jan-10	09:46	78	85	91	99	79	79	81	99	69	73
Yttrium [µg/g]	14-Jan-10	09:46	6.7	7.8	6.4	6.9	6.9	7.9	6.3	6.6	7.1	8.0
Zinc [µg/g]	14-Jan-10	08:31	87	97	80	80	72	150	79	92	89	74

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Thursday, January 14, 2010

Date Rec. : 18 December 2009
LR Report: CA10175-DEC09
Reference: Tiriganiaq

Copy: #1

CERTIFICATE OF ANALYSIS **Final Report**

Analysis	15: M99-403-05	16: M98-298-01	17: M98-298-02	18: M98-298-03	19: M99-404-05	20: M99-404-06	21: M00-476-01	22: M00-476-02	23: M00-479-01	24: M00-479-02	25: M06-628-01
Sample Date & Time	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009
Silver [µg/g]	0.43	0.39	0.32	0.36	0.40	0.33	0.35	0.34	0.38	0.43	0.39
Aluminum [µg/g]	75000	80000	80000	77000	79000	80000	79000	81000	74000	81000	78000
Arsenic [µg/g]	89	32	330	15	45	120	30	36	110	58	57
Barium [µg/g]	620	830	610	800	830	730	670	550	750	740	970
Beryllium [µg/g]	1.1	0.94	1.00	0.89	1.1	1.0	0.96	0.98	0.92	1.2	1.1
Bismuth [µg/g]	0.34	0.38	0.12	< 0.09	0.09	< 0.09	0.13	< 0.09	0.21	0.21	< 0.09
Calcium [µg/g]	17000	10000	21000	11000	11000	7900	8100	9000	9300	12000	12000
Cadmium [µg/g]	0.25	0.23	0.27	0.25	0.28	0.27	0.26	0.25	0.24	0.27	0.24
Cobalt [µg/g]	18	21	18	17	22	19	19	21	15	19	18
Chromium [µg/g]	160	150	140	150	150	130	170	160	150	150	140
Copper [µg/g]	37	43	40	42	54	41	48	45	29	52	77
Iron [µg/g]	47000	41000	39000	33000	42000	37000	39000	39000	45000	41000	41000
Potassium [µg/g]	21000	23000	22000	20000	22000	23000	22000	23000	19000	26000	23000
Lithium [µg/g]	36	36	31	32	38	35	37	35	34	36	31
Magnesium [µg/g]	14000	14000	14000	12000	14000	14000	14000	14000	13000	15000	14000
Manganese [µg/g]	410	300	460	270	290	250	280	300	320	360	310
Molybdenum [µg/g]	1.7	1.5	1.5	1.1	1.4	1.5	1.4	1.4	1.2	2.4	1.5
Sodium [µg/g]	17000	18000	20000	21000	19000	19000	19000	20000	19000	16000	19000
Nickel [µg/g]	71	65	64	56	64	65	67	68	56	72	66



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LR Report : CA10175-DEC09

Analysis	15: M99-403-05	16: M98-298-01	17: M98-298-02	18: M98-298-03	19: M99-404-05	20: M99-404-06	21: M00-476-01	22: M00-476-02	23: M00-479-01	24: M00-479-02	25: M06-628-01
Lead [µg/g]	32	13	15	13	13	9.4	12	11	19	17	22
Antimony [µg/g]	< 0.8	< 0.8	1.1	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Tin [µg/g]	1.1	< 0.5	1.2	1.3	0.7	1.4	0.7	0.8	0.6	1.1	0.6
Strontium [µg/g]	290	280	330	350	300	260	250	240	280	260	340
Titanium [µg/g]	3500	1400	1700	930	1100	1100	1300	1100	2200	1400	2500
Thallium [µg/g]	0.37	0.39	0.39	0.33	0.39	0.40	0.39	0.39	0.33	0.49	0.40
Uranium [µg/g]	1.6	1.5	1.5	1.7	1.7	1.7	1.6	1.7	1.4	2.1	1.7
Vanadium [µg/g]	97	91	86	74	85	90	89	92	78	99	89
Yttrium [µg/g]	8.6	7.4	7.0	7.4	7.0	6.4	6.7	7.0	6.1	7.3	6.6
Zinc [µg/g]	77	87	76	74	93	84	84	83	74	82	79

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Thursday, January 14, 2010

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	26: M06-628-02	27: M99-418-01	28: M98-194-04	29: M07-660-01	30: M07-660-02	31: M04-520-01	32: M04-520-02	33: M08-769-01	34: M08-721-01	35: M08-721-02	36: M08-754-01
Sample Date & Time	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009
Silver [µg/g]	0.83	1.2	0.48	0.45	0.38	0.35	0.17	0.22	0.14	1.4	0.36
Aluminum [µg/g]	80000	80000	76000	81000	79000	78000	71000	62000	22000	77000	81000
Arsenic [µg/g]	37	190	31	35	31	92	9.4	26	8.7	280	47
Barium [µg/g]	2100	880	830	770	730	750	230	400	53	920	750
Beryllium [µg/g]	1.6	1.2	1.0	1.1	1.1	1.2	0.62	0.89	0.37	1.2	1.0
Bismuth [µg/g]	0.60	0.33	0.15	0.16	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	2.4	< 0.09
Calcium [µg/g]	17000	8900	12000	11000	8300	11000	49000	28000	52000	15000	11000
Cadmium [µg/g]	0.55	0.38	0.35	0.33	0.28	0.24	0.13	0.17	0.13	0.34	0.23
Cobalt [µg/g]	19	20	16	17	18	20	43	8.2	44	17	18
Chromium [µg/g]	150	150	140	140	140	170	720	79	690	160	140
Copper [µg/g]	39	56	41	44	40	14	54	22	59	40	30
Iron [µg/g]	44000	39000	37000	37000	40000	42000	71000	62000	65000	36000	42000
Potassium [µg/g]	25000	25000	21000	21000	21000	26000	11000	12000	610	25000	26000
Lithium [µg/g]	38	35	23	32	38	27	52	19	54	23	29
Magnesium [µg/g]	15000	14000	12000	13000	15000	13000	35000	7400	40000	13000	14000
Manganese [µg/g]	410	330	270	290	270	360	1100	350	1200	300	190
Molybdenum [µg/g]	1.3	1.4	1.1	1.3	1.7	1.6	0.4	0.4	0.3	1.2	1.5
Sodium [µg/g]	16000	17000	19000	19000	19000	14000	9600	19000	12000	17000	16000
Nickel [µg/g]	73	67	59	57	65	73	250	23	230	67	75



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LR Report : CA10175-DEC09

Analysis	26: M06-628-02	27: M99-418-01	28: M98-194-04	29: M07-660-01	30: M07-660-02	31: M04-520-01	32: M04-520-02	33: M08-769-01	34: M08-721-01	35: M08-721-02	36: M08-754-01
Lead [µg/g]	42	14	8.3	15	10	10	14	11	7.4	340	17
Antimony [µg/g]	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	1.0	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	0.7	< 0.7	< 0.7	< 0.7	< 0.7
Tin [µg/g]	0.8	0.6	0.7	0.8	0.8	1.3	0.7	0.9	< 0.5	1.1	0.9
Strontium [µg/g]	430	280	270	310	270	220	270	420	280	230	230
Titanium [µg/g]	2600	1200	3300	1300	1000	3700	4400	2100	620	3400	3500
Thallium [µg/g]	0.71	0.59	0.43	0.46	0.39	0.48	0.51	0.19	< 0.02	0.47	0.47
Uranium [µg/g]	1.8	1.7	1.6	1.9	1.6	1.6	0.28	0.73	0.11	1.6	1.7
Vanadium [µg/g]	95	95	79	88	90	96	200	37	180	90	100
Yttrium [µg/g]	10	6.7	6.4	6.4	6.2	7.0	6.5	5.5	2.4	7.4	7.4
Zinc [µg/g]	90	88	77	75	94	65	94	46	89	65	69

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	37: M08-731W1-01	38: M08-731W1-02	39: M09-823-01	40: M09-823-02	41: M98-257-01	42: M98-266-01	43: M06-601A-01	45: M03-498-01	47: M03-499-02	48: M07-649-01
Sample Date & Time	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009
Silver [µg/g]	0.21	0.37	0.19	0.33	0.33	0.66	0.19	0.28	0.46	0.31
Aluminum [µg/g]	62000	80000	64000	77000	78000	84000	64000	77000	77000	77000
Arsenic [µg/g]	8.7	53	16	23	23	75	7.2	240	35	280
Barium [µg/g]	130	670	170	530	470	700	130	620	1200	620
Beryllium [µg/g]	0.39	0.98	0.47	0.90	0.97	1.1	0.42	0.89	1.4	1.1
Bismuth [µg/g]	< 0.09	0.25	< 0.09	< 0.09	0.10	0.18	< 0.09	< 0.09	0.29	< 0.09
Calcium [µg/g]	58000	21000	57000	11000	13000	15000	50000	23000	17000	15000
Cadmium [µg/g]	0.26	0.23	0.28	0.24	0.26	0.24	0.25	0.18	0.26	0.26
Cobalt [µg/g]	46	20	47	21	17	22	39	12	19	18
Chromium [µg/g]	60	97	34	120	110	130	39	44	120	92
Copper [µg/g]	99	61	110	47	40	51	57	24	45	44
Iron [µg/g]	96000	41000	99000	35000	43000	44000	82000	36000	41000	53000
Potassium [µg/g]	2200	26000	7400	21000	21000	29000	6500	21000	25000	24000
Lithium [µg/g]	22	26	24	29	27	34	39	18	26	26
Magnesium [µg/g]	27000	14000	28000	13000	13000	16000	27000	7600	13000	14000
Manganese [µg/g]	1300	370	1300	270	370	360	990	280	400	290
Molybdenum [µg/g]	0.4	1.0	0.5	1.2	1.4	1.4	0.3	0.4	1.2	0.9
Sodium [µg/g]	15000	18000	17000	20000	19000	14000	20000	25000	16000	17000
Nickel [µg/g]	68	63	70	64	64	77	63	34	71	63



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LR Report : CA10175-DEC09

Analysis	37: M08-731W1-01	38: M08-731W1-02	39: M09-823-01	40: M09-823-02	41: M98-257-01	42: M98-266-01	43: M06-601A-01	45: M03-498-01	47: M03-499-02	48: M07-649-01
Lead [µg/g]	14	12	14	10	11	18	8.5	9.2	46	8.3
Antimony [µg/g]	0.9	< 0.8	1.2	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	< 0.7	< 0.7	0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Tin [µg/g]	0.5	1.3	1.2	0.7	1.4	1.1	0.5	< 0.5	1.2	0.7
Strontium [µg/g]	320	290	250	260	250	260	270	460	280	230
Titanium [µg/g]	7900	3400	8200	2600	3500	2400	7100	2800	3800	3600
Thallium [µg/g]	0.04	0.47	0.27	0.33	0.30	0.50	0.40	0.30	0.38	0.39
Uranium [µg/g]	0.23	1.7	0.75	1.6	1.6	1.7	0.21	1.0	1.5	1.4
Vanadium [µg/g]	260	110	280	84	89	110	220	54	96	94
Yttrium [µg/g]	21	8.2	21	7.4	7.1	7.3	11	5.7	7.5	6.7
Zinc [µg/g]	120	73	120	73	72	90	110	55	62	73

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Thursday, January 14, 2010

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	50: M06-607-01	51: M07-672B-01	52: M07-685-01	53: M07-685-02	54: M07-691-01	55: M06-621-01	57: M99-404-03	58: M99-350-03	59: M98-297-03	60: M07-713-03
Sample Date & Time	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	2008	2008	2008	2008
Silver [µg/g]	0.38	0.37	0.35	0.43	0.37	0.38	0.36	0.38	0.38	0.36
Aluminum [µg/g]	72000	73000	64000	80000	74000	79000	72000	73000	79000	69000
Arsenic [µg/g]	120	43	20	150	47	30	46	18	62	17
Barium [µg/g]	510	490	350	490	450	560	580	620	750	760
Beryllium [µg/g]	1.0	1.0	0.76	1.0	0.94	0.98	0.87	0.90	1.1	0.88
Bismuth [µg/g]	< 0.09	< 0.09	0.10	0.16	0.11	0.13	< 0.09	0.14	0.10	< 0.09
Calcium [µg/g]	8900	6700	9400	9000	6100	11000	9700	10000	9800	11000
Cadmium [µg/g]	0.24	0.24	0.22	0.30	0.24	0.24	0.24	0.24	0.22	0.23
Cobalt [µg/g]	19	21	20	22	18	17	16	17	16	17
Chromium [µg/g]	120	120	99	130	99	110	110	110	110	100
Copper [µg/g]	22	27	40	47	43	46	39	36	42	38
Iron [µg/g]	45000	48000	29000	45000	38000	35000	30000	34000	45000	29000
Potassium [µg/g]	20000	22000	17000	23000	21000	22000	16000	20000	24000	18000
Lithium [µg/g]	37	31	22	31	28	29	29	35	35	29
Magnesium [µg/g]	13000	13000	9700	15000	13000	13000	11000	12000	14000	10000
Manganese [µg/g]	300	260	250	350	250	290	270	260	270	220
Molybdenum [µg/g]	1.2	1.2	1.2	1.4	1.1	1.3	1.4	1.2	1.3	1.0
Sodium [µg/g]	16000	14000	18000	18000	18000	20000	21000	18000	16000	19000
Nickel [µg/g]	73	73	57	79	65	57	53	57	66	52



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Lead [µg/g]	11	11	8.9	12	10	12	9.0	9.4	9.2	12
Antimony [µg/g]	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Tin [µg/g]	1.0	0.8	< 0.5	1.1	0.6	1.0	0.9	0.6	1.1	0.7
Strontium [µg/g]	220	150	240	190	190	290	300	260	260	320
Titanium [µg/g]	3100	3800	2200	3800	3100	1500	1000	820	2500	960
Thallium [µg/g]	0.38	0.41	0.29	0.44	0.39	0.41	0.31	0.38	0.48	0.37
Uranium [µg/g]	1.6	1.5	1.5	1.7	1.6	1.6	1.6	1.6	1.7	1.6
Vanadium [µg/g]	94	110	66	110	91	86	69	81	92	68
Yttrium [µg/g]	6.3	6.1	5.7	6.7	5.5	6.2	6.2	7.0	6.3	6.4
Zinc [µg/g]	82	77	62	84	75	74	78	68	76	67

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SFE (4:1) 0.45µm, 24hr

Wednesday, January 13, 2010

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M99-386-01	6: M99-386-02	7: M99-385-01	8: M99-341-03	9: M99-345-01	10: M99-345-02	11: M99-345-03	12: M99-346-01	13: M99-346-02
Sample Date & Time			Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009
Sample [weight(g)]	07-Jan-10	10:51	200	200	200	200	200	200	200	200	200
Volume mL [D.I. H2O]	07-Jan-10	10:51	800	800	800	800	800	800	800	800	800
Initial pH [units]	07-Jan-10	10:51	9.8	9.9	9.8	9.8	9.8	9.8	9.8	9.6	9.8
Final pH [units]	07-Jan-10	10:51	9.27	9.44	9.41	9.39	9.44	9.46	9.24	9.30	9.46
pH [no unit]	11-Jan-10	14:55	8.06	8.09	8.00	7.96	8.07	8.00	8.03	8.12	8.16
Conductivity [uS/cm]	11-Jan-10	14:55	105	80	96	88	86	87	108	107	98
Alkalinity [mg/L as CaCO3]	11-Jan-10	14:55	47	41	44	39	38	39	46	48	47
Sulphate [mg/L]	12-Jan-10	16:35	3.5	1.4	2.8	3.2	4.8	1.4	6.0	3.5	1.3
Chloride [mg/L]	12-Jan-10	16:35	2.8	1.5	1.4	1.4	1.3	1.8	1.6	1.1	1.1
Mercury [mg/L]	08-Jan-10	15:40	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	11-Jan-10	07:31	0.00006	0.00004	0.00001	0.00002	0.00003	0.00003	0.00002	0.00001	0.00002
Aluminum [mg/L]	11-Jan-10	07:31	0.64	0.93	0.85	0.96	0.88	0.92	0.80	0.76	0.93
Arsenic [mg/L]	11-Jan-10	07:31	0.646	0.0466	0.0409	0.217	0.0601	0.0352	0.0257	0.0353	0.0850
Boron [mg/L]	11-Jan-10	07:31	0.0255	0.0221	0.0225	0.0206	0.0214	0.0217	0.0257	0.0254	0.0176
Beryllium [mg/L]	11-Jan-10	07:31	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	11-Jan-10	07:31	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	11-Jan-10	07:31	8.58	6.79	7.14	7.47	7.80	6.67	10.4	7.73	7.97
Cadmium [mg/L]	11-Jan-10	07:31	0.000052	0.000003	< 0.000003	< 0.000003	< 0.000003	0.000030	0.000003	< 0.000003	< 0.000003
Cobalt [mg/L]	11-Jan-10	07:31	0.000080	0.000045	0.000051	0.000330	0.000037	0.000039	0.000049	0.000060	0.000108



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SFE (4:1) 0.45µm, 24hr

LR Report : CA10176-DEC09

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M99-386-01	6: M99-386-02	7: M99-385-01	8: M99-341-03	9: M99-345-01	10: M99-345-02	11: M99-345-03	12: M99-346-01	13: M99-346-02
Chromium [mg/L]	11-Jan-10	07:31	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	11-Jan-10	07:31	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	11-Jan-10	07:31	0.04	0.06	0.02	0.03	0.02	0.02	< 0.01	0.02	0.02
Potassium [mg/L]	11-Jan-10	07:31	9.56	8.38	9.58	9.12	7.05	8.50	7.84	10.1	7.89
Lithium [mg/L]	11-Jan-10	07:31	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.001	< 0.001
Magnesium [mg/L]	11-Jan-10	07:31	2.24	1.03	1.27	0.746	0.851	0.889	1.41	2.11	1.52
Manganese [mg/L]	11-Jan-10	07:31	0.00213	0.00182	0.00234	0.00048	0.00248	0.00085	0.00165	0.00168	0.00082
Molybdenum [mg/L]	11-Jan-10	07:31	0.00121	0.00035	0.00074	0.00164	0.00071	0.00062	0.00087	0.00084	0.00054
Sodium [mg/L]	11-Jan-10	07:31	6.00	5.21	5.20	4.46	5.30	5.50	4.90	5.09	5.68
Nickel [mg/L]	11-Jan-10	07:31	0.0007	0.0002	0.0003	0.0006	0.0003	0.0001	0.0005	0.0005	0.0006
Lead [mg/L]	11-Jan-10	07:31	0.00018	0.00013	0.00007	0.00006	0.00004	0.00005	0.00003	0.00005	0.00006
Antimony [mg/L]	11-Jan-10	07:31	0.0032	0.0024	0.0042	0.0060	0.0031	0.0022	0.0040	0.0051	0.0035
Selenium [mg/L]	11-Jan-10	07:31	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	11-Jan-10	07:31	0.00002	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Strontium [mg/L]	11-Jan-10	07:31	0.0368	0.0296	0.0270	0.0310	0.0367	0.0308	0.0577	0.0297	0.0350
Titanium [mg/L]	11-Jan-10	07:31	0.0026	0.0024	0.0009	0.0014	0.0010	0.0008	0.0003	0.0016	0.0010
Thallium [mg/L]	11-Jan-10	07:31	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	11-Jan-10	07:31	0.000182	0.000140	0.000070	0.000117	0.000142	0.000121	0.000081	0.000059	0.000300
Vanadium [mg/L]	11-Jan-10	07:31	0.00256	0.00313	0.00236	0.00293	0.00372	0.00362	0.00127	0.00190	0.00392
Tungsten [mg/L]	11-Jan-10	07:31	0.00086	0.00035	0.00041	0.00075	0.00039	0.00055	0.00044	0.00046	0.00049
Yttrium [mg/L]	11-Jan-10	07:31	0.000036	0.000073	0.000030	0.000042	0.000024	0.000060	0.000008	0.000034	0.000048
Zinc [mg/L]	11-Jan-10	07:31	0.001	0.001	0.001	0.001	< 0.001	< 0.001	0.002	0.001	0.001

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SFE (4:1) 0.45µm, 24hr

Wednesday, January 13, 2010

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	14: M99-346-03	15: M99-403-05	16: M98-298-01	17: M98-298-02	18: M98-298-03	19: M99-404-05	20: M99-404-06	21: M00-476-01	22: M00-476-02	23: M00-479-01	24: M00-479-02
Sample Date & Time	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009
Sample [weight(g)]	200	200	200	200	200	200	200	200	200	200	200
Volume mL [D.I. H ₂ O]	800	800	800	800	800	800	800	800	800	800	800
Initial pH [units]	9.8	9.8	9.8	9.8	9.8	9.8	9.7	9.8	9.7	9.7	9.7
Final pH [units]	9.48	9.32	9.51	9.31	9.52	9.37	9.32	9.44	9.37	9.25	9.33
pH [no unit]	8.31	8.10	8.19	8.30	8.28	8.02	8.22	8.05	8.31	8.00	8.10
Conductivity [uS/cm]	88	99	84	99	85	99	96	90	93	97	99
Alkalinity [mg/L as CaCO ₃]	45	43	42	47	40	44	46	44	46	43	46
Sulphate [mg/L]	0.9	4.6	1.0	2.0	1.4	3.5	1.7	2.1	3.2	4.8	4.3
Chloride [mg/L]	0.8	1.4	0.8	1.2	1.1	1.2	0.9	1.4	1.8	0.8	1.0
Mercury [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	0.00002	0.00001	0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	0.00005	0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	0.88	0.76	1.28	1.00	1.07	1.06	0.80	1.04	0.91	0.69	0.84
Arsenic [mg/L]	0.0119	0.0224	0.0215	0.0520	0.0135	0.0109	0.0855	0.0586	0.0566	0.0272	0.0635
Boron [mg/L]	0.0191	0.0178	0.0216	0.0176	0.0191	0.0239	0.0227	0.0285	0.0278	0.0230	0.0274
Beryllium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	6.92	7.68	6.08	8.27	6.71	8.23	7.29	6.64	7.41	9.24	8.79
Cadmium [mg/L]	< 0.000003	0.000012	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000014	< 0.000003	< 0.000003	0.000012
Cobalt [mg/L]	0.000035	0.000031	0.000044	0.000060	0.000037	0.000046	0.000047	0.000044	0.000078	0.000099	0.000046



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LR Report : CA10176-DEC09

Analysis	14: M99-346-03	15: M99-403-05	16: M98-298-01	17: M98-298-02	18: M98-298-03	19: M99-404-05	20: M99-404-06	21: M00-476-01	22: M00-476-02	23: M00-479-01	24: M00-479-02
Chromium [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0005	< 0.0005
Iron [mg/L]	0.02	0.01	0.05	< 0.01	0.03	0.02	< 0.01	0.04	0.03	0.07	0.02
Potassium [mg/L]	7.38	8.85	8.72	9.23	7.11	8.72	8.43	9.01	9.14	6.18	10.1
Lithium [mg/L]	0.001	< 0.001	< 0.001	0.001	0.001	< 0.001	0.001	0.001	< 0.001	< 0.001	< 0.001
Magnesium [mg/L]	1.20	1.25	0.801	1.64	0.805	1.19	1.66	1.10	1.49	1.68	1.74
Manganese [mg/L]	0.00197	0.00072	0.00062	0.00100	0.00127	0.00054	0.00100	0.00073	0.00064	0.00230	0.00096
Molybdenum [mg/L]	0.00022	0.00047	0.00031	0.00040	0.00031	0.00041	0.00054	0.00085	0.00070	0.00101	0.00109
Sodium [mg/L]	5.81	5.74	5.28	4.48	5.78	5.15	5.20	5.74	5.91	4.52	4.70
Nickel [mg/L]	< 0.0001	0.0002	0.0002	0.0002	0.0002	0.0003	0.0003	0.0002	0.0002	0.0003	0.0003
Lead [mg/L]	0.00005	0.00004	0.00006	0.00002	0.00006	0.00004	< 0.00002	0.00008	0.00006	0.00016	0.00007
Antimony [mg/L]	0.0024	0.0032	0.0039	0.0039	0.0034	0.0036	0.0036	0.0053	0.0043	0.0012	0.0045
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Strontium [mg/L]	0.0285	0.0373	0.0250	0.0428	0.0311	0.0358	0.0285	0.0270	0.0270	0.0373	0.0367
Titanium [mg/L]	0.0008	0.0005	0.0022	0.0004	0.0009	0.0006	0.0004	0.0015	0.0009	0.0021	0.0006
Thallium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	0.000210	0.000059	0.000067	0.000092	0.000183	0.000063	0.000095	0.000071	0.000100	0.000053	0.000127
Vanadium [mg/L]	0.00386	0.00194	0.00384	0.00211	0.00454	0.00203	0.00267	0.00346	0.00261	0.00113	0.00210
Tungsten [mg/L]	0.00029	0.00043	0.00019	0.00044	0.00033	0.00033	0.00133	0.00034	0.00044	0.00126	0.00051
Yttrium [mg/L]	0.000030	0.000013	0.000046	0.000012	0.000045	0.000022	0.000012	0.000038	0.000054	0.000043	0.000031
Zinc [mg/L]	0.001	0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	0.001	0.001	0.001	0.001

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CERTIFICATE OF ANALYSIS Final Report

Analysis	25: M06-628-01	26: M06-628-02	27: M99-418-01	28: M98-194-04	29: M07-660-01	30: M07-660-02	31: M04-520-01	32: M04-520-02	33: M08-769-01	34: M08-721-01
Sample Date & Time	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009
Sample [weight(g)]	200	200	200	200	200	200	200	200	200	200
Volume mL [D.I. H2O]	800	800	800	800	800	800	800	800	800	800
Initial pH [units]	9.7	9.7	9.8	9.7	9.8	9.7	9.7	10.0	9.8	9.8
Final pH [units]	9.36	9.34	9.40	9.39	9.41	9.43	9.37	9.85	9.05	9.15
pH [no unit]	8.26	8.31	8.37	8.39	8.13	8.08	8.24	9.13	8.18	8.27
Conductivity [µS/cm]	100	114	104	104	103	104	98	85	112	131
Alkalinity [mg/L as CaCO3]	46	50	48	52	45	45	50	39	59	68
Sulphate [mg/L]	2.9	3.0	2.9	2.5	2.1	2.0	0.5	0.5	1.2	0.5
Chloride [mg/L]	3.4	3.5	1.0	1.6	3.7	3.7	0.8	0.7	1.1	2.8
Mercury [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	0.99	0.89	0.94	0.88	1.03	0.99	1.15	0.43	0.89	0.19
Arsenic [mg/L]	0.0294	0.0169	0.0735	0.0434	0.0221	0.0200	0.0998	0.0030	0.0047	0.0006
Boron [mg/L]	0.0229	0.0296	0.0242	0.0384	0.0262	0.0287	0.0431	0.0162	0.0159	0.0159
Beryllium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	7.62	9.41	7.69	8.75	7.04	7.29	8.17	3.49	11.6	11.9
Cadmium [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000009	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Cobalt [mg/L]	0.000041	0.000032	0.000052	0.000052	0.000039	0.000037	0.000063	0.000020	0.000049	0.000026



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LR Report : CA10176-DEC09

Analysis	25: M06-628-01	26: M06-628-02	27: M99-418-01	28: M98-194-04	29: M07-660-01	30: M07-660-02	31: M04-520-01	32: M04-520-02	33: M08-769-01	34: M08-721-01
Chromium [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	< 0.0005	< 0.0005	< 0.0005	0.0006	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	0.01	< 0.01	0.02	0.02	0.03	0.03	0.02	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	10.1	9.95	10.8	9.85	9.58	9.14	10.3	15.8	8.95	1.00
Lithium [mg/L]	0.001	0.001	< 0.001	0.001	< 0.001	< 0.001	0.001	< 0.001	0.001	< 0.001
Magnesium [mg/L]	1.30	1.89	1.55	2.02	1.19	1.26	1.58	0.461	1.98	8.32
Manganese [mg/L]	0.00076	0.00139	0.00064	0.00110	0.00069	0.00087	0.00074	0.00017	0.00110	0.00083
Molybdenum [mg/L]	0.00092	0.00046	0.00073	0.00045	0.00049	0.00046	0.00050	0.00013	0.00012	0.00010
Sodium [mg/L]	6.63	5.78	5.42	6.45	8.06	8.06	4.90	4.33	6.20	4.41
Nickel [mg/L]	< 0.0001	< 0.0001	0.0001	0.0002	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lead [mg/L]	0.00005	0.00002	0.00005	0.00004	0.00004	0.00005	0.00002	0.00002	0.00002	0.00002
Antimony [mg/L]	0.0057	0.0044	0.0043	0.0045	0.0040	0.0050	0.0041	0.0036	0.0016	0.0026
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Strontium [mg/L]	0.0418	0.0673	0.0362	0.0387	0.0335	0.0336	0.0299	0.0697	0.197	0.115
Titanium [mg/L]	0.0009	0.0004	0.0015	0.0013	0.0014	0.0008	0.0013	< 0.0001	< 0.0001	< 0.0001
Thallium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	0.000062	0.000058	0.000085	0.000163	0.000115	0.000071	0.000043	0.000007	0.000014	< 0.000001
Vanadium [mg/L]	0.00209	0.00154	0.00255	0.00278	0.00333	0.00274	0.00297	0.00616	0.00026	0.00065
Tungsten [mg/L]	0.00095	0.00067	0.00025	0.00058	0.00025	0.00033	0.00111	0.00107	0.00045	0.00038
Yttrium [mg/L]	0.000020	0.000012	0.000034	0.000031	0.000040	0.000035	0.000013	0.000003	0.000005	0.000004
Zinc [mg/L]	< 0.001	0.001	< 0.001	0.001	0.001	< 0.001	< 0.001	< 0.001	0.002	0.001

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	35: M08-721-02	36: M08-754-01	37: M08-731W1-01	38: M08-731W1-02	39: M09-823-01	40: M09-823-02	41: M98-257-01	42: M98-266-01	43: M06-601A-01
Sample Date & Time	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009
Sample [weight(g)]	200	200	200	200	200	200	200	200	200
Volume mL [D.I. H2O]	800	800	800	800	800	800	800	800	800
Initial pH [units]	9.7	9.7	9.9	9.8	10.0	9.8	9.7	9.7	9.9
Final pH [units]	9.34	9.38	9.67	9.34	10.02	9.50	9.36	9.29	9.49
pH [no unit]	8.30	8.13	8.22	8.20	8.27	8.16	8.40	8.20	8.25
Conductivity [uS/cm]	112	96	69	111	88	99	99	112	80
Alkalinity [mg/L as CaCO3]	55	49	31	54	8	45	51	55	37
Sulphate [mg/L]	0.4	0.5	0.7	0.9	0.6	0.7	0.6	1.4	0.6
Chloride [mg/L]	2.0	1.1	2.1	1.6	1.9	3.8	0.6	1.0	0.8
Mercury [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	0.00003
Aluminum [mg/L]	1.07	1.26	0.97	1.16	1.11	1.09	1.03	0.98	0.81
Arsenic [mg/L]	0.114	0.0471	0.0013	0.0177	0.0062	0.0172	0.0132	0.0255	0.0014
Boron [mg/L]	0.0265	0.0338	0.0346	0.0234	0.0247	0.0209	0.0155	0.0276	0.0226
Beryllium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	8.87	7.83	5.97	8.71	3.47	5.99	7.83	7.98	5.60
Cadmium [mg/L]	0.000007	< 0.000003	< 0.000003	0.000003	< 0.000003	< 0.000003	< 0.000003	0.000009	< 0.000003
Cobalt [mg/L]	0.000043	0.000035	0.000035	0.000030	0.000159	0.000035	0.000031	0.000047	0.000019



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LR Report : CA10176-DEC09

Analysis	35: M08-721-02	36: M08-754-01	37: M08-731W1-01	38: M08-731W1-02	39: M09-823-01	40: M09-823-02	41: M98-257-01	42: M98-266-01	43: M06-601A-01
Chromium [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	< 0.01	0.02	0.04	< 0.01	0.47	0.03	< 0.01	0.01	< 0.01
Potassium [mg/L]	11.2	10.1	3.89	11.1	10.3	9.71	9.56	12.1	6.93
Lithium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	0.003	< 0.001	< 0.001	< 0.001	< 0.001
Magnesium [mg/L]	2.19	1.48	0.746	2.40	0.443	1.01	1.77	1.87	0.769
Manganese [mg/L]	0.00062	0.00030	0.00084	0.00073	0.00458	0.00051	0.00097	0.00072	0.00062
Molybdenum [mg/L]	0.00042	0.00033	0.00015	0.00024	0.00018	0.00042	0.00036	0.00037	0.00007
Sodium [mg/L]	6.23	6.44	6.50	6.79	11.1	7.23	5.09	4.36	6.05
Nickel [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lead [mg/L]	0.00046	0.00005	0.00003	0.00002	0.00010	0.00004	0.00004	0.00008	0.00002
Antimony [mg/L]	0.0074	0.0079	0.0029	0.0061	0.0044	0.0051	0.0043	0.0044	0.0027
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001
Strontium [mg/L]	0.0375	0.0363	0.0605	0.0403	0.0173	0.0250	0.0311	0.0326	0.0757
Titanium [mg/L]	0.0005	0.0007	0.0012	0.0005	0.0167	0.0013	0.0003	0.0006	< 0.0001
Thallium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	0.000060	0.000037	0.000001	0.000063	0.000020	0.000118	0.000057	0.000054	0.000001
Vanadium [mg/L]	0.00250	0.00294	0.00621	0.00216	0.0278	0.00427	0.00202	0.00196	0.00235
Tungsten [mg/L]	0.00468	0.00100	0.00302	0.00091	0.00255	0.00099	0.00056	0.00036	0.00152
Yttrium [mg/L]	0.000016	0.000021	0.000005	0.000020	0.000037	0.000027	0.000009	0.000027	0.000004
Zinc [mg/L]	0.001	< 0.001	0.001	0.001	< 0.001	< 0.001	0.001	0.001	0.001

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SFE (4:1) 0.45µm, 24hr

Wednesday, January 13, 2010

Date Rec. : 18 December 2009
LR Report: CA10176-DEC09
Reference: Tiriganiaq

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	45: M03-498-01	47: M03-499-02	48: M07-649-01	50: M06-607-01	51: M07-672B-01	52: M07-685-01	53: M07-685-02	54: M07-691-01
Sample Date & Time	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009
Sample [weight(g)]	200	200	200	200	200	200	200	200
Volume mL [D.I. H2O]	800	800	800	800	800	800	800	800
Initial pH [units]	9.8	9.8	9.5	9.7	9.7	9.7	9.6	9.5
Final pH [units]	9.34	9.29	9.27	9.36	9.26	9.40	9.27	9.34
pH [no unit]	8.56	8.18	8.37	8.35	8.15	8.18	8.10	8.15
Conductivity [uS/cm]	95	99	101	89	103	99	106	94
Alkalinity [mg/L as CaCO3]	54	54	55	47	50	49	49	48
Sulphate [mg/L]	0.5	0.6	0.6	0.7	1.0	1.7	3.5	0.8
Chloride [mg/L]	0.6	1.4	1.1	1.8	2.3	1.2	1.8	1.6
Mercury [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	0.98	0.94	0.81	1.08	1.00	0.91	0.89	0.94
Arsenic [mg/L]	0.0480	0.0184	0.0325	0.0371	0.0237	0.0115	0.0230	0.0200
Boron [mg/L]	0.0189	0.0220	0.0245	0.0288	0.0254	0.0252	0.0282	0.0274
Beryllium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	7.77	8.24	8.51	7.78	6.78	7.18	7.14	5.89
Cadmium [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000017	< 0.000003
Cobalt [mg/L]	0.000039	0.000057	0.000028	0.000041	0.000042	0.000046	0.000117	0.000041



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LR Report : CA10176-DEC09

Analysis	45: M03-498-01	47: M03-499-02	48: M07-649-01	50: M06-607-01	51: M07-672B-01	52: M07-685-01	53: M07-685-02	54: M07-691-01
Chromium [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	< 0.01	0.01	< 0.01	0.02	0.03	0.01	0.02	0.04
Potassium [mg/L]	9.56	10.7	10.7	9.88	11.6	8.79	10.6	10.2
Lithium [mg/L]	0.001	0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	< 0.001
Magnesium [mg/L]	1.64	1.99	2.03	1.35	1.36	1.62	1.73	1.61
Manganese [mg/L]	0.00100	0.00094	0.00060	0.00049	0.00064	0.00060	0.00066	0.00075
Molybdenum [mg/L]	0.00010	0.00032	0.00030	0.00052	0.00085	0.00027	0.00060	0.00047
Sodium [mg/L]	5.59	4.43	4.55	5.05	5.82	6.98	6.19	6.37
Nickel [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0005	< 0.0001
Lead [mg/L]	< 0.00002	0.00006	< 0.00002	0.00006	0.00004	0.00003	0.00007	0.00009
Antimony [mg/L]	0.0030	0.0047	0.0025	0.0041	0.0048	0.0047	0.0055	0.0048
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Strontium [mg/L]	0.0547	0.0409	0.0319	0.0282	0.0224	0.0278	0.0255	0.0227
Titanium [mg/L]	0.0002	0.0009	0.0006	0.0013	0.0020	0.0008	0.0015	0.0031
Thallium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	0.000113	0.000071	0.000019	0.000036	0.000030	0.000169	0.000045	0.000042
Vanadium [mg/L]	0.00158	0.00191	0.00125	0.00186	0.00189	0.00318	0.00211	0.00237
Tungsten [mg/L]	0.00067	0.00153	0.00090	0.00084	0.00106	0.00061	0.00094	0.00072
Yttrium [mg/L]	0.000008	0.000015	0.000011	0.000034	0.000027	0.000023	0.000035	0.000064
Zinc [mg/L]	0.001	0.001	0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001

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Wednesday, January 13, 2010

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CERTIFICATE OF ANALYSIS **Final Report**

Analysis	55: M06-621-01	57: M99-404-03	58: M99-350-03	59: M98-297-03	60: M07-713-03	61: M99-404-06 Dup	62: M09-823-02 Dup	63: M07-713-03 Dup
Sample Date & Time	Dec 2009	2008	2008	2008	2008			
Sample [weight(g)]	200	200	200	200	200	200	200	200
Volume mL [D.I. H2O]	800	800	800	800	800	800	800	800
InitialpH [units]	9.7	9.7	9.8	9.7	9.8	9.7	9.7	9.8
Final pH [units]	9.36	9.43	9.38	9.32	9.41	9.32	9.50	9.42
pH [no unit]	8.23	8.20	8.33	8.00	8.12	8.16	8.40	8.20
Conductivity [µS/cm]	104	85	88	98	99	87	88	94
Alkalinity [mg/L as CaCO3]	51	53	47	45	44	46	45	44
Sulphate [mg/L]	1.2	1.8	1.7	3.2	2.5	1.6	0.6	2.4
Chloride [mg/L]	1.2	0.6	1.0	0.8	3.4	0.8	3.3	3.5
Mercury [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	1.03	1.20	2.28	1.12	1.55	0.89	1.13	1.49
Arsenic [mg/L]	0.0143	0.0309	0.0109	0.0334	0.0328	0.0930	0.0170	0.0362
Boron [mg/L]	0.0258	0.0197	0.0263	0.0194	0.0257	0.0220	0.0249	0.0298
Beryllium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	7.05	7.08	7.79	7.72	6.81	7.33	6.56	7.20
Cadmium [mg/L]	0.000004	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000013	< 0.000003	< 0.000003
Cobalt [mg/L]	0.000028	0.000044	0.000037	0.000036	0.000032	0.000094	0.000035	0.000033



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LR Report : CA10176-DEC09

Analysis	55: M06-621-01	57: M99-404-03	58: M99-350-03	59: M98-297-03	60: M07-713-03	61: M99-404-06 Dup	62: M09-823-02 Dup	63: M07-713-03 Dup
Chromium [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	0.01	0.02	< 0.01	0.02	0.02	0.05	0.03	0.02
Potassium [mg/L]	10.3	8.03	9.66	11.0	9.06	8.91	8.58	7.99
Lithium [mg/L]	0.001	0.001	0.001	0.001	0.001	0.001	< 0.001	0.001
Magnesium [mg/L]	1.62	1.22	0.926	1.23	0.972	1.69	1.09	0.999
Manganese [mg/L]	0.00059	0.00078	0.00054	0.00064	0.00072	0.00093	0.00053	0.00070
Molybdenum [mg/L]	0.00043	0.00029	0.00042	0.00052	0.00059	0.00054	0.00043	0.00063
Sodium [mg/L]	6.31	6.10	5.13	4.63	7.62	5.20	7.99	8.59
Nickel [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0004	< 0.0001	< 0.0001
Lead [mg/L]	0.00003	0.00004	< 0.00002	0.00003	0.00005	0.00008	0.00005	0.00004
Antimony [mg/L]	0.0059	0.0036	0.0038	0.0048	0.0020	0.0036	0.0051	0.0021
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Strontium [mg/L]	0.0299	0.0314	0.0340	0.0350	0.0381	0.0286	0.0259	0.0386
Titanium [mg/L]	0.0010	0.0014	0.0004	0.0011	0.0009	0.0020	0.0016	0.0011
Thallium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	0.000080	0.000128	0.000090	0.000066	0.000134	0.000123	0.000114	0.000139
Vanadium [mg/L]	0.00284	0.00371	0.00287	0.00224	0.00339	0.00286	0.00403	0.00367
Tungsten [mg/L]	0.00076	0.00035	0.00042	0.00039	0.00047	0.00119	0.00090	0.00046
Yttrium [mg/L]	0.000017	0.000028	0.000020	0.000027	0.000036	0.000078	0.000032	0.000033
Zinc [mg/L]	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

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CERTIFICATE OF ANALYSIS Final Report

Sample ID	Sample Date & Time	Total Sulphur %	Acid Leachable SO ₄ -S %	Sulphide-S %
3: Analysis Approval Date	11-Jan-10	11:16	10:38	10:38
4: Analysis Approval Time	Dec 2009	0.272	0.11	0.16
5: M99-386-01	Dec 2009	0.150	0.08	0.07
6: M99-341-03	Dec 2009	0.272	0.03	0.25
7: M99-345-01	Dec 2009	0.202	0.07	0.13
8: M99-403-05	Dec 2009	0.178	0.05	0.13
9: M98-298-01	Dec 2009	0.097	0.05	0.05
10: M99-404-06	Dec 2009	0.029	0.02	0.01
11: M00-479-01	Dec 2009	0.271	0.08	0.19
12: M06-628-01	Dec 2009	0.183	0.09	0.09
13: M98-194-04	Dec 2009			

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Monday, January 25, 2010

Date Rec. : 18 December 2009
LR Report: CA10178-DEC09
Reference: Tiriganiaq

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M04-520-01	6: M04-520-02	7: M08-769-01	8: M08-721-01	9: M08-721-02	10: M08-754-01	11: M08-731W1-01	12: M08-731W1-02	13: M09-823-01	14: M09-823-02
Sample Date & Time			Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009
Paste pH [units]	20-Jan-10	07:37	8.61	9.41	8.24	8.56	8.62	8.63	8.64	9.08	9.31	8.79
Fizz Rate [—]	20-Jan-10	07:37	2	3	3	2	2	2	3	2	2	2
Sample [weight(g)]	20-Jan-10	07:37	2.00	2.00	2.00	1.99	1.97	2.01	1.96	2.04	1.97	2.03
HCl added [mL]	20-Jan-10	07:37	29.90	73.60	59.80	127.30	43.40	30.10	47.10	54.90	24.10	26.50
HCl [Normality]	20-Jan-10	07:37	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	20-Jan-10	07:37	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	20-Jan-10	07:37	12.17	20.30	24.09	28.90	21.23	13.44	19.08	24.56	15.42	12.39
Final pH [units]	20-Jan-10	07:37	1.87	1.91	1.74	2.00	1.56	1.89	1.50	1.54	1.52	1.70
NP [t CaCO3/1000t]	20-Jan-10	07:37	44.3	133	89.3	247	56.3	41.4	71.5	74.4	22.0	34.8
AP [t CaCO3/1000 t]	20-Jan-10	07:38	0.31	0.31	1.16	0.62	0.31	0.55	1.93	6.60	2.68	1.98
Net NP [t CaCO3/1000 t]	20-Jan-10	07:38	44.0	133	88.1	247	56.0	40.8	69.6	67.8	19.3	32.8
NP/AP [ratio]	20-Jan-10	07:38	143	430	76.8	402	182	75.3	37.0	11.3	8.22	17.6
Total Sulphur [%]	11-Jan-10	11:16	0.027	0.056	0.109	0.061	0.103	0.060	0.117	0.246	0.138	0.152
Acid Leachable SO4-S [%]	13-Jan-10	10:38	0.02	0.05	0.07	0.04	0.09	0.04	0.05	< 0.01	0.05	0.09
Sulphide-S [%]	13-Jan-10	10:38	< 0.01	< 0.01	0.04	0.02	< 0.01	0.02	0.06	0.21	0.09	0.06
Total Carbon [%]	11-Jan-10	11:16	0.628	1.49	1.20	3.31	0.759	0.536	0.830	1.02	0.144	0.407
Carbonate (CO3) [%]	13-Jan-10	10:41	2.58	6.90	5.29	16.0	3.31	2.12	3.75	4.34	0.546	1.64



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Modified ABA (Price 1997)

LR Report : CA10178-DEC09

*NP (Neutralization Potential)
= $50 \times \frac{(N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})}{\text{Weight of sample}}$

*AP (Acid Potential) = % Sulphide Sulphur $\times 31.25$

*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.

sulphur analysis performed following BC ARD Guidelines (Price 1997)

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	15: M98-257-01	16: M98-266-01	17: M06-601A-01	18: M03-498-01	19: M03-499-02	20: M07-649-01	21: M06-607-01	22: M07-672B-01	23: M07-685-01	24: M07-685-02	25: M07-691-01	26: M06-621-01
Sample Date & Time	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009	Dec 2009
Paste pH [units]	8.64	8.64	8.80	9.00	8.65	8.57	8.59	8.60	9.15	8.65	8.74	8.69
Fizz Rate [—]	2	2	3	3	2	2	2	1	1	1	1	1
Sample [weight(g)]	2.05	2.04	1.97	2.00	2.00	1.99	1.97	2.00	1.96	1.96	1.98	1.96
HCl added [mL]	30.30	41.80	92.50	48.10	40.20	43.30	25.80	26.60	28.30	27.50	25.80	30.10
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	12.06	19.50	36.47	16.90	15.69	19.63	12.21	14.92	12.16	12.88	14.13	14.57
Final pH [units]	1.84	1.62	1.54	1.89	1.89	1.79	1.89	1.90	1.70	1.73	1.75	2.04
NP [t CaCO3/1000t]	44.5	54.7	142	78.0	61.3	59.5	34.5	29.2	41.2	37.3	29.5	39.6
AP [t CaCO3/1000 t]	2.05	3.52	1.90	1.83	3.07	3.08	1.36	1.62	1.60	1.27	1.99	2.28
Net NP [t CaCO3/1000 t]	42.5	51.2	140	76.2	58.2	56.4	33.1	27.6	39.6	36.0	27.5	37.3
NP/AP [ratio]	21.7	15.5	75.0	42.6	20.0	19.3	25.4	18.1	25.7	29.3	14.8	17.4
Total Sulphur [%]	0.180	0.163	0.110	0.201	0.208	0.178	0.076	0.092	0.208	0.169	0.140	0.150
Acid Leachable SO4-S [%]	0.11	0.05	0.05	0.14	0.11	0.08	0.03	0.04	0.16	0.13	0.08	0.08
Sulphide-S [%]	0.07	0.11	0.06	0.06	0.10	0.10	0.04	0.05	0.05	0.04	0.06	0.07
Total Carbon [%]	0.590	0.756	1.64	1.08	0.877	0.889	0.492	0.437	0.526	0.538	0.374	0.558
Carbonate (CO3) [%]	2.33	3.14	7.76	4.62	3.56	3.74	2.04	1.66	2.04	2.10	1.46	2.24



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Modified ABA (Price 1997)

LR Report : CA10178-DEC09

*NP (Neutralization Potential)
= $50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})$

Weight of sample

*AP (Acid Potential) = % Sulphide Sulphur $\times 31.25$

*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.

sulphur analysis performed following BC ARD Guidelines (Price 1997)

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Monday, January 25, 2010

Date Rec. : 14 January 2010
LR Report: CA10966-JAN10
Reference: Tiriganiaq

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	5:	6:	7:	8:	9:	10:	11:	12:	13:	14:	15:
	M04-520-01	M04-520-02	M08-769-01	M08-721-01	M08-721-02	M08-754-01	M08-731W1-01	M08-731W1-02	M09-823-01	M09-823-02	M98-257-01
Sample Date & Time											
SiO ₂ [%]	62.5	46.8	59.2	42.4	62.8	61.5	49.7	59.0	50.9	65.0	63.0
Al ₂ O ₃ [%]	16.5	11.9	13.4	10.6	16.0	17.2	12.4	16.6	12.8	15.6	15.6
Fe ₂ O ₃ [%]	6.17	10.5	9.88	9.86	5.36	6.28	14.9	6.23	15.4	5.20	6.47
MgO [%]	2.43	10.1	1.40	10.2	2.37	2.63	4.89	2.64	5.12	2.31	2.37
CaO [%]	1.77	7.94	4.64	8.48	2.24	1.75	9.21	3.26	9.00	1.63	2.07
Na ₂ O [%]	2.31	1.57	3.72	1.99	2.61	2.49	2.32	2.72	2.63	3.24	3.08
K ₂ O [%]	2.81	1.12	1.26	0.06	2.67	2.77	0.20	2.67	0.71	2.15	2.10
TiO ₂ [%]	0.60	0.68	0.34	0.65	0.58	0.63	1.22	0.65	1.26	0.56	0.56
P ₂ O ₅ [%]	0.11	0.06	0.10	0.05	0.11	0.12	0.15	0.15	0.14	0.11	0.11
MnO [%]	0.05	0.16	0.05	0.17	0.04	0.03	0.22	0.06	0.22	0.04	0.05
Cr ₂ O ₃ [%]	0.03	0.12	0.01	0.12	0.03	0.02	0.02	0.02	< 0.01	0.02	0.02
V ₂ O ₅ [%]	0.02	0.04	< 0.01	0.04	0.02	0.02	0.06	0.02	0.07	0.02	0.02
LOI [%]	4.23	8.70	5.51	14.8	4.42	4.13	4.58	5.35	1.42	3.03	3.57
Sum [%]	99.5	99.7	99.6	99.5	99.2	99.5	99.9	99.4	99.7	98.9	99.0



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Analysis	16: M98-266-01	17: M06-601A-01	18: M03-498-01	19: M03-499-02	20: M07-649-01	21: M06-607-01	22: M07-672B-01	23: M07-685-01	24: M07-685-02	25: M07-691-01	26: M06-621-01
Sample Date & Time											
SiO2 [%]	60.0	48.9	61.0	62.4	59.8	61.7	59.5	66.0	60.4	62.0	64.1
Al2O3 [%]	17.1	12.6	15.9	15.4	16.0	16.2	18.0	15.0	17.4	17.1	16.6
Fe2O3 [%]	6.57	12.4	5.47	6.11	7.86	7.47	8.43	4.81	7.00	6.53	5.17
MgO [%]	2.91	4.85	1.45	2.29	2.51	2.61	2.87	1.98	2.87	2.70	2.37
CaO [%]	2.25	7.73	3.61	2.53	2.30	1.52	1.24	1.68	1.47	1.10	1.78
Na2O [%]	2.12	3.00	4.56	2.46	2.56	2.77	2.50	3.38	3.01	3.34	3.18
K2O [%]	2.95	0.61	2.17	2.66	2.59	2.23	2.84	1.98	2.58	2.39	2.38
TiO2 [%]	0.66	1.06	0.46	0.59	0.56	0.60	0.73	0.52	0.71	0.63	0.58
P2O5 [%]	0.13	0.11	0.09	0.12	0.12	0.12	0.13	0.10	0.12	0.12	0.11
MnO [%]	0.06	0.17	0.04	0.06	0.04	0.05	0.04	0.04	0.06	0.04	0.04
Cr2O3 [%]	0.02	< 0.01	< 0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
V2O5 [%]	0.02	0.05	< 0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
LOI [%]	4.69	7.71	4.26	4.48	4.67	3.47	3.57	3.03	3.65	3.20	3.47
Sum [%]	99.5	99.2	99.0	99.0	99.0	98.8	99.9	98.6	99.3	99.2	99.9



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August 14, 2009

Date Rec. : 23 July 2009
LR Report: CA10282-JUL09
Reference: Tiriganiaq Footwall Rock

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Approval Date	4: Analysis Approval Time
Paste pH [units]	05-Aug-09	10:00	10-Aug-09	14:30
Fizz Rate [---]	05-Aug-09	10:00	10-Aug-09	14:30
Sample [weight(g)]	05-Aug-09	10:00	10-Aug-09	14:30
HCl added [mL]	05-Aug-09	10:00	10-Aug-09	14:30
HCl [Normality]	05-Aug-09	10:00	10-Aug-09	14:30
NaOH [Normality]	05-Aug-09	10:00	10-Aug-09	14:30
NaOH to [pH=8.3 mL]	05-Aug-09	10:00	10-Aug-09	14:30
Final pH [units]	05-Aug-09	10:00	10-Aug-09	14:30
NP [t CaCO3/1000t]	05-Aug-09	10:00	10-Aug-09	14:30
AP [t CaCO3/1000 t]	05-Aug-09	10:00	13-Aug-09	14:40
Net NP [t CaCO3/1000 t]	05-Aug-09	10:00	13-Aug-09	14:40
NP/AP [ratio]	05-Aug-09	10:00	13-Aug-09	14:40
Total Sulphur [%]	06-Aug-09	19:28	13-Aug-09	14:39
Acid Leachable SO4-S [%]	2.00	0.35	13-Aug-09	14:39
Sulphide-S [%]	04-Aug-09	11:00	13-Aug-09	14:39
Total Carbon [%]	06-Aug-09	19:28	13-Aug-09	14:39
Carbonate (CO3) [%]	04-Aug-09	08:30	05-Aug-09	09:48

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LR Report : CA10282-JUL09

*NP (Neutralization Potential)

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

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.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)



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CERTIFICATE OF ANALYSIS

Final Report

Analysis	5:	6:	7:	8:	9:	10:	11:
	M05-561-02	M97-135-01	M97-133-01	M97-137-01	M98-318-01	M97-143-01	M97-110-01
Paste pH [units]	8.89	9.02	8.78	8.84	8.85	8.71	8.86
Fizz Rate [---]	4	4	4	4	4	4	4
Sample [weight(g)]	2.0	2.0	2.0	2.0	2.0	2.0	2.0
HCl added [mL]	171.20	178.50	136.40	152.00	157.10	123.90	125.60
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	67.40	81.10	36.55	49.10	53.60	38.20	31.40
Final pH [units]	1.58	1.66	1.93	1.74	1.78	1.77	1.96
NP [t CaCO ₃ /1000t]	254	239	248	258	261	218	230
AP [t CaCO ₃ /1000 t]	1.46	6.84	2.96	1.34	6.62	0.95	7.38
Net NP [t CaCO ₃ /1000 t]	253	232	245	257	255	217	222
NP/AP [ratio]	174	34.9	84.0	193	39.5	228	31.1
Total Sulphur [%]	0.074	0.373	0.186	0.105	0.392	0.076	0.502
Acid Leachable SO ₄ -S [%]	0.03	0.15	0.09	0.06	0.18	0.04	0.27
Sulphide-S [%]	0.05	0.22	0.09	0.04	0.21	0.03	0.24
Total Carbon [%]	3.38	3.60	3.21	3.33	3.43	2.76	3.07
Carbonate (CO ₃) [%]	15.1	16.1	14.5	15.1	15.1	12.9	13.8



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August 14, 2009

Date Rec. : 23 July 2009
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Reference: Tiriganiaq Footwall Rock

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	12: M05-561-01	13: M99-348-01	14: M97-136-01	15: M97-130-02	16: M97-134-01	17: M97-130-01	18: M05-561-03
Paste pH [units]	8.69	8.94	8.79	8.79	8.66	8.92	8.59
Fizz Rate [---]	4	4	4	4	4	4	4
Sample [weight(g)]	2.0	2.0	2.0	2.0	2.0	2.0	2.0
HCl added [mL]	110.40	137.40	149.90	175.80	142.50	136.40	142.10
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	38.30	40.80	46.20	70.20	48.70	46.90	61.80
Final pH [units]	1.68	1.79	1.85	1.62	1.76	1.69	1.64
NP [t CaCO ₃ /1000t]	182	244	262	260	231	219	201
AP [t CaCO ₃ /1000 t]	1.83	1.91	5.62	6.94	2.89	2.06	2.12
Net NP [t CaCO ₃ /1000 t]	180	242	256	253	228	217	199
NP/AP [ratio]	99.3	128	46.6	37.5	79.9	106	94.9
Total Sulphur [%]	0.099	0.167	0.339	0.509	0.178	0.154	0.121
Acid Leachable SO ₄ -S [%]	0.04	0.11	0.16	0.29	0.09	0.09	0.05
Sulphide-S [%]	0.06	0.06	0.18	0.22	0.09	0.07	0.07
Total Carbon [%]	2.33	3.16	3.46	3.58	2.86	2.68	2.82
Carbonate (CO ₃) [%]	10.5	14.3	15.3	15.5	13.8	12.6	12.8



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CERTIFICATE OF ANALYSIS

Final Report

Analysis	19: SS-1	20: SS-2	21: SS-3	22: SS-4	23: SS-5
Paste pH [units]	8.50	6.68	8.27	6.96	8.21
Fizz Rate [---]	1	1	3	3	1
Sample [weight(g)]	2.0	2.0	2.0	2.0	2.0
HCl added [mL]	20.00	20.00	20.00	20.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	15.90	16.45	15.40	17.20	17.30
Final pH [units]	1.58	1.74	1.59	1.53	1.35
NP [t CaCO3/1000t]	10.0	8.8	11.6	7.1	6.9
AP [t CaCO3/1000 t]	0.53	0.99	0.31	0.31	0.64
Net NP [t CaCO3/1000 t]	9.47	7.81	11.3	6.79	6.26
NP/AP [ratio]	18.8	8.86	37.4	22.9	10.7
Total Sulphur [%]	0.031	0.058	0.025	0.076	0.042
Acid Leachable SO4-S [%]	0.01	0.03	0.02	0.08	0.02
Sulphide-S [%]	0.02	0.03	< 0.01	< 0.01	0.02
Total Carbon [%]	0.321	6.14	0.336	7.91	0.299
Carbonate (CO3) [%]	0.209	0.454	0.360	0.256	0.132



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August 14, 2009

Date Rec. : 23 July 2009
LR Report: CA10280-JUL09
Reference: Tiriganiaq Footwall Rock

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	5:	6:	7:	8:	9:	10:	11:
	M05-561-02	M97-135-01	M97-133-01	M97-137-01	M98-318-01	M97-143-01	M97-110-01
SiO2 [%]	41.8	40.4	41.6	40.9	40.8	42.7	41.4
Al2O3 [%]	12.7	13.8	12.4	13.3	12.9	12.6	14.0
Fe2O3 [%]	10.2	10.2	10.4	9.10	10.3	10.0	11.0
MgO [%]	5.14	3.50	4.47	3.66	4.22	6.19	3.78
CaO [%]	12.0	13.5	13.1	14.5	13.1	12.4	11.1
Na2O [%]	2.29	1.91	2.51	2.29	1.78	1.76	1.96
K2O [%]	0.92	0.68	0.30	0.71	0.66	0.23	1.73
TiO2 [%]	0.64	0.93	0.72	0.81	0.83	0.61	0.89
P2O5 [%]	0.04	0.08	0.05	0.06	0.07	0.05	0.07
MnO [%]	0.24	0.31	0.25	0.24	0.28	0.22	0.27
Cr2O3 [%]	0.04	0.03	0.03	0.03	0.04	0.04	0.03
V2O5 [%]	0.05	0.05	0.05	0.05	0.05	0.05	0.05
LOI [%]	14.4	14.3	13.7	14.2	14.2	13.0	12.5
Sum [%]	100.5	99.7	99.5	99.8	99.3	99.8	98.9

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LR Report: CA10280-JUL09
Reference: Tiriganiaq Footwall Rock

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	12:	13:	14:	15:	16:	17:	18:
	M05-561-01	M99-348-01	M97-136-01	M97-130-02	M97-134-01	M97-130-01	M05-561-03
SiO ₂ [%]	43.7	43.5	40.3	41.6	42.8	43.3	42.8
Al ₂ O ₃ [%]	14.3	13.4	13.0	12.2	13.2	13.6	11.7
Fe ₂ O ₃ [%]	11.0	8.58	11.0	10.1	10.0	9.67	15.5
MgO [%]	6.05	3.93	3.86	5.49	4.41	3.50	5.35
CaO [%]	9.89	13.3	13.0	11.9	13.7	12.8	8.27
Na ₂ O [%]	1.68	1.94	2.16	2.08	1.83	3.27	2.96
K ₂ O [%]	0.86	0.58	0.76	0.46	0.37	0.29	0.18
TiO ₂ [%]	0.73	0.83	0.85	0.68	0.78	0.85	1.22
P ₂ O ₅ [%]	0.05	0.06	0.06	0.07	0.06	0.06	0.08
MnO [%]	0.20	0.23	0.24	0.21	0.26	0.26	0.20
Cr ₂ O ₃ [%]	0.03	0.03	0.03	0.03	0.03	0.03	< 0.01
V ₂ O ₅ [%]	0.05	0.05	0.05	0.04	0.05	0.05	0.06
LOI [%]	11.6	13.6	14.1	14.1	12.8	11.8	11.9
Sum [%]	100.2	99.9	99.4	98.8	100.3	99.5	100.1

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August 14, 2009

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	19: SS-1	20: SS-2	21: SS-3	22: SS-4	23: SS-5
SiO ₂ [%]	69.0	57.4	66.2	57.6	67.6
Al ₂ O ₃ [%]	13.9	13.5	15.3	11.5	14.2
Fe ₂ O ₃ [%]	4.60	4.56	4.57	3.53	5.05
MgO [%]	1.72	1.94	1.88	1.34	1.89
CaO [%]	2.20	1.60	1.71	2.09	2.12
Na ₂ O [%]	3.18	3.03	3.75	2.86	3.58
K ₂ O [%]	2.08	1.80	2.46	1.66	1.90
TiO ₂ [%]	0.51	0.48	0.46	0.38	0.56
P ₂ O ₅ [%]	0.14	0.13	0.12	0.12	0.18
MnO [%]	0.06	0.05	0.05	0.03	0.07
Cr ₂ O ₃ [%]	0.03	0.02	0.04	0.03	0.05
V ₂ O ₅ [%]	0.02	0.02	0.02	0.01	0.01
LOI [%]	2.63	15.1	2.74	18.7	2.56
Sum [%]	100.1	99.5	99.3	99.9	99.8

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Approval Date	4: Analysis Approval Time
Aluminum [µg/g]	10-Aug-09	08:00	10-Aug-09	14:53
Arsenic [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Barium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Beryllium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Bismuth [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Calcium [µg/g]	10-Aug-09	08:00	10-Aug-09	14:53
Cadmium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Cobalt [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Chromium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Copper [µg/g]	10-Aug-09	08:00	10-Aug-09	14:53
Iron [µg/g]	10-Aug-09	08:00	10-Aug-09	14:53
Potassium [µg/g]	10-Aug-09	08:00	10-Aug-09	14:53
Lithium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Magnesium [µg/g]	10-Aug-09	08:00	10-Aug-09	14:53
Manganese [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Molybdenum [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Sodium [µg/g]	10-Aug-09	08:00	10-Aug-09	14:53
Nickel [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Lead [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Antimony [g/t]	10-Aug-09	10:41	10-Aug-09	15:29
Selenium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Tin [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Strontium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Titanium [µg/g]	10-Aug-09	08:00	10-Aug-09	14:53
Thallium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Uranium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Vanadium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Yttrium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Zinc [µg/g]	10-Aug-09	08:00	10-Aug-09	14:53



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CERTIFICATE OF ANALYSIS

Final Report

Analysis	5: M05-561-02	6: M97-135-01	7: M97-133-01	8: M97-137-01	9: M98-318-01	10: M97-143-01	11: M97-110-01
Aluminum [µg/g]	68000	73000	67000	71000	66000	64000	76000
Arsenic [µg/g]	15	11	9.0	4.3	7.5	2.9	32
Barium [µg/g]	120	81	57	170	86	26	1300
Beryllium [µg/g]	0.32	0.35	0.17	0.34	0.30	0.21	0.69
Bismuth [µg/g]	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09
Calcium [µg/g]	80000	89000	88000	98000	83000	79000	75000
Cadmium [µg/g]	0.15	0.30	0.13	0.10	0.20	0.08	0.21
Cobalt [µg/g]	44	36	42	39	41	38	45
Chromium [µg/g]	200	190	180	190	200	190	170
Copper [µg/g]	130	69	140	90	130	58	120
Iron [µg/g]	68000	68000	71000	62000	66000	65000	75000
Potassium [µg/g]	8400	6000	2700	6400	5700	2100	16000
Lithium [µg/g]	46	54	54	54	67	67	44
Magnesium [µg/g]	30000	20000	26000	21000	23000	34000	22000
Manganese [µg/g]	1600	2000	1600	1600	1800	1400	1800
Molybdenum [µg/g]	1.1	1.1	0.7	0.6	1.1	0.5	1.0
Sodium [µg/g]	16000	13000	18000	16000	12000	11000	14000
Nickel [µg/g]	110	100	120	94	98	110	100
Lead [µg/g]	5.1	7.1	2.7	4.4	5.1	3.0	42
Antimony [g/t]	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Tin [µg/g]	1.3	1.6	0.5	3.4	0.9	1.3	0.8
Strontium [µg/g]	100	130	95	110	130	110	240
Titanium [µg/g]	2500	4500	2000	3700	2100	1600	4400
Thallium [µg/g]	0.31	0.23	0.08	0.26	0.26	0.05	0.76
Uranium [µg/g]	0.071	0.080	0.031	0.052	0.076	0.035	0.36
Vanadium [µg/g]	230	280	250	240	250	210	280
Yttrium [µg/g]	6.2	5.4	6.6	9.3	5.9	8.0	8.8
Zinc [µg/g]	79	110	87	83	100	71	110



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CERTIFICATE OF ANALYSIS

Final Report

Analysis	12: M05-561-01	13: M99-348-01	14: M97-136-01	15: M97-130-02	16: M97-134-01	17: M97-130-01	18: M05-561-03
Aluminum [µg/g]	74000	73000	72000	70000	70000	75000	65000
Arsenic [µg/g]	3.7	5.4	174	6.4	9.9	7.2	54
Barium [µg/g]	93	85	130	87	90	49	33
Beryllium [µg/g]	0.33	0.26	0.27	0.23	0.23	0.21	0.31
Bismuth [µg/g]	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09
Calcium [µg/g]	64000	91000	90000	85000	91000	89000	58000
Cadmium [µg/g]	0.09	0.18	0.16	0.12	0.16	0.11	0.18
Cobalt [µg/g]	40	45	47	48	48	45	52
Chromium [µg/g]	150	200	160	170	170	170	23
Copper [µg/g]	64	130	110	120	140	120	250
Iron [µg/g]	72000	60000	77000	74000	67000	68000	110000
Potassium [µg/g]	7500	5400	7000	4500	3300	2800	1900
Lithium [µg/g]	70	65	44	53	65	44	31
Magnesium [µg/g]	34000	23000	23000	35000	26000	21000	33000
Manganese [µg/g]	1300	1500	1600	1400	1600	1700	1400
Molybdenum [µg/g]	0.6	0.7	0.6	0.9	0.6	0.5	0.6
Sodium [µg/g]	11000	14000	15000	16000	12000	24000	21000
Nickel [µg/g]	110	100	110	110	120	110	59
Lead [µg/g]	4.3	3.8	6.6	3.9	3.8	2.5	2.3
Antimony [g/t]	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Tin [µg/g]	1.6	0.8	2.1	1.3	2.1	1.4	2.1
Strontium [µg/g]	130	120	110	98	130	96	130
Titanium [µg/g]	1100	1700	4300	1100	1200	3700	7400
Thallium [µg/g]	0.20	0.23	0.29	0.13	0.10	0.08	0.03
Uranium [µg/g]	0.044	0.063	0.051	0.038	0.048	0.045	0.12
Vanadium [µg/g]	240	240	270	220	240	260	280
Yttrium [µg/g]	8.8	7.2	7.3	4.4	9.1	13	5.2
Zinc [µg/g]	80	85	96	81	95	92	120



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CERTIFICATE OF ANALYSIS

Final Report

Analysis	19: SS-1	20: SS-2	21: SS-3	22: SS-4	23: SS-5
Aluminum [µg/g]	71000	73000	70000	60000	79000
Arsenic [µg/g]	48	48	17	22	48
Barium [µg/g]	620	580	600	540	610
Beryllium [µg/g]	1.1	1.1	1.1	0.98	1.1
Bismuth [µg/g]	0.17	0.14	0.12	0.11	0.14
Calcium [µg/g]	15000	11000	10000	14000	15000
Cadmium [µg/g]	0.23	0.22	0.18	0.17	0.25
Cobalt [µg/g]	14	9.2	7.8	6.7	14
Chromium [µg/g]	210	200	230	220	270
Copper [µg/g]	29	23	9.2	46	24
Iron [µg/g]	31000	32000	28000	25000	36000
Potassium [µg/g]	18000	16000	18000	14000	17000
Lithium [µg/g]	18	22	21	14	20
Magnesium [µg/g]	9600	11000	9400	7700	12000
Manganese [µg/g]	450	370	360	270	490
Molybdenum [µg/g]	3.3	2.4	3.9	4.1	4.6
Sodium [µg/g]	21000	21000	22000	19000	25000
Nickel [µg/g]	37	33	30	28	35
Lead [µg/g]	15	12	12	11	15
Antimony [g/t]	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	1.0	1.4	1.6	1.9	0.9
Tin [µg/g]	1.3	2.0	< 0.5	1.7	1.3
Strontium [µg/g]	310	290	300	300	350
Titanium [µg/g]	1900	1700	1700	1600	2200
Thallium [µg/g]	0.41	0.38	0.42	0.33	0.38
Uranium [µg/g]	1.3	1.4	1.2	1.4	1.6
Vanadium [µg/g]	82	91	67	58	85
Yttrium [µg/g]	8.6	6.9	6.7	6.9	9.7
Zinc [µg/g]	55	67	51	38	61



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Monday, October 05, 2009

Date Rec. : 23 July 2009
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CERTIFICATE OF ANALYSIS

Final Report - Revised

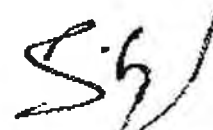
Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M05-561-02	6: M97-135-01	7: M97-133-01	8: M97-137-01	9: M98-318-01	10: M97-143-01	11: M97-110-01	12: M05-561-01
Silver [g/t]	02-Oct-09	15:28	0.17	0.18	0.14	0.11	0.20	0.08	0.21	0.10
Aluminum [µg/g]	10-Aug-09	14:53	68000	73000	67000	71000	66000	64000	76000	74000
Arsenic [µg/g]	10-Aug-09	15:29	15	11	9.0	4.3	7.5	2.9	32	3.7
Barium [µg/g]	10-Aug-09	15:29	120	81	57	170	86	26	1300	93
Beryllium [µg/g]	10-Aug-09	15:29	0.32	0.35	0.17	0.34	0.30	0.21	0.69	0.33
Bismuth [µg/g]	10-Aug-09	15:29	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09
Calcium [µg/g]	10-Aug-09	14:53	80000	89000	88000	98000	83000	79000	75000	64000
Cadmium [µg/g]	10-Aug-09	15:29	0.15	0.30	0.13	0.10	0.20	0.08	0.21	0.09
Cobalt [µg/g]	10-Aug-09	15:29	44	36	42	39	41	38	45	40
Chromium [µg/g]	10-Aug-09	15:29	200	190	180	190	200	190	170	150
Copper [µg/g]	10-Aug-09	14:53	130	69	140	90	130	58	120	64
Iron [µg/g]	10-Aug-09	14:53	68000	68000	71000	62000	66000	65000	75000	72000
Potassium [µg/g]	10-Aug-09	14:53	8400	6000	2700	6400	5700	2100	16000	7500
Lithium [µg/g]	10-Aug-09	15:29	46	54	54	54	67	67	44	70
Magnesium [µg/g]	10-Aug-09	14:53	30000	20000	26000	21000	23000	34000	22000	34000
Manganese [µg/g]	10-Aug-09	15:29	1600	2000	1600	1600	1800	1400	1800	1300
Molybdenum [µg/g]	10-Aug-09	15:29	1.1	1.1	0.7	0.6	1.1	0.5	1.0	0.6
Sodium [µg/g]	10-Aug-09	14:53	16000	13000	18000	16000	12000	11000	14000	11000
Nickel [µg/g]	10-Aug-09	15:29	110	100	120	94	98	110	100	110
Lead [µg/g]	10-Aug-09	15:29	5.1	7.1	2.7	4.4	5.1	3.0	42	4.3



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Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M05-561-02	6: M97-135-01	7: M97-133-01	8: M97-137-01	9: M98-318-01	10: M97-143-01	11: M97-110-01	12: M05-561-01
Antimony [g/t]	10-Aug-09	15:29	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	10-Aug-09	15:29	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Tin [µg/g]	10-Aug-09	15:29	1.3	1.6	0.5	3.4	0.9	1.3	0.8	1.6
Strontium [µg/g]	10-Aug-09	15:29	100	130	95	110	130	110	240	130
Titanium [µg/g]	10-Aug-09	14:53	2500	4500	2000	3700	2100	1600	4400	1100
Thallium [µg/g]	10-Aug-09	15:29	0.31	0.23	0.08	0.26	0.26	0.05	0.76	0.20
Uranium [µg/g]	10-Aug-09	15:29	0.071	0.080	0.031	0.052	0.076	0.035	0.36	0.044
Vanadium [µg/g]	10-Aug-09	15:29	230	280	250	240	250	210	280	240
Yttrium [µg/g]	10-Aug-09	15:29	6.2	5.4	6.6	9.3	5.9	8.0	8.8	8.8
Zinc [µg/g]	10-Aug-09	14:53	79	110	87	83	100	71	110	80



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Monday, October 05, 2009

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CERTIFICATE OF ANALYSIS

Final Report - Revised

Analysis	13: M99-348-01	14: M97-136-01	15: M97-130-02	16: M97-134-01	17: M97-130-01	18: M05-561-03	19: SS-1	20: SS-2	21: SS-3	22: SS-4	23: SS-5
Silver [g/t]	0.18	0.15	0.12	0.20	0.08	0.25	0.31	0.28	0.23	0.22	0.33
Aluminum [µg/g]	73000	72000	70000	70000	75000	65000	71000	73000	70000	60000	79000
Arsenic [µg/g]	5.4	174	6.4	9.9	7.2	54	48	48	17	22	48
Barium [µg/g]	85	130	87	90	49	33	620	580	600	540	610
Beryllium [µg/g]	0.26	0.27	0.23	0.23	0.21	0.31	1.1	1.1	1.1	0.98	1.1
Bismuth [µg/g]	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	0.17	0.14	0.12	0.11	0.14
Calcium [µg/g]	91000	90000	85000	91000	89000	58000	15000	11000	10000	14000	15000
Cadmium [µg/g]	0.18	0.16	0.12	0.16	0.11	0.18	0.23	0.22	0.18	0.17	0.25
Cobalt [µg/g]	45	47	48	48	45	52	14	9.2	7.8	6.7	14
Chromium [µg/g]	200	160	170	170	170	23	210	200	230	220	270
Copper [µg/g]	130	110	120	140	120	250	29	23	9.2	46	24
Iron [µg/g]	60000	77000	74000	67000	68000	110000	31000	32000	28000	25000	36000
Potassium [µg/g]	5400	7000	4500	3300	2800	1900	18000	16000	18000	14000	17000
Lithium [µg/g]	65	44	53	65	44	31	18	22	21	14	20
Magnesium [µg/g]	23000	23000	35000	26000	21000	33000	9600	11000	9400	7700	12000
Manganese [µg/g]	1500	1600	1400	1600	1700	1400	450	370	360	270	490
Molybdenum [µg/g]	0.7	0.6	0.9	0.6	0.5	0.6	3.3	2.4	3.9	4.1	4.6
Sodium [µg/g]	14000	15000	16000	12000	24000	21000	21000	21000	22000	19000	25000
Nickel [µg/g]	100	110	110	120	110	59	37	33	30	28	35
Lead [µg/g]	3.8	6.6	3.9	3.8	2.5	2.3	15	12	12	11	15



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LR Report : CA10281-JUL09

Analysis	13: M99-348-01	14: M97-136-01	15: M97-130-02	16: M97-134-01	17: M97-130-01	18: M05-561-03	19: SS-1	20: SS-2	21: SS-3	22: SS-4	23: SS-5
Antimony [g/t]	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	1.0	1.4	1.6	1.9	0.9
Tin [µg/g]	0.8	2.1	1.3	2.1	1.4	2.1	1.3	2.0	< 0.5	1.7	1.3
Strontium [µg/g]	120	110	98	130	96	130	310	290	300	300	350
Titanium [µg/g]	1700	4300	1100	1200	3700	7400	1900	1700	1700	1600	2200
Thallium [µg/g]	0.23	0.29	0.13	0.10	0.08	0.03	0.41	0.38	0.42	0.33	0.38
Uranium [µg/g]	0.063	0.051	0.038	0.048	0.045	0.12	1.3	1.4	1.2	1.4	1.6
Vanadium [µg/g]	240	270	220	240	260	280	82	91	67	58	85
Yttrium [µg/g]	7.2	7.3	4.4	9.1	13	5.2	8.6	6.9	6.7	6.9	9.7
Zinc [µg/g]	85	96	81	95	92	120	55	67	51	38	61

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



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**Shake Flask Leach @ 4:1 ratio filter=0.45µ,
24hr**

Comaplex Minerals Corp

Attn : Mark Balog mbalog@comaplex.com; Valerie_Bertrand@golder.com

Suite 901, 1015-4 St. SW, Calgary
, T2R 1J4
Phone: 403-265-2846, Fax:403-232-1421

August 14, 2009

Date Rec. : 23 July 2009
LR Report: CA10283-JUL09
Reference: Tiriganiaq Footwall Rock

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Approval Date	4: Analysis Approval Time
Sample [weight(g)]	08-Aug-09	07:00	07-Aug-09	08:56
Volume mL [D.I. H2O]	08-Aug-09	07:00	07-Aug-09	08:56
InitialpH [units]	08-Aug-09	07:00	07-Aug-09	08:56
Final pH [units]	08-Aug-09	07:00	07-Aug-09	08:56
pH [no unit]	10-Aug-09	10:34	11-Aug-09	11:38
Conductivity [uS/cm]	10-Aug-09	10:34	11-Aug-09	11:38
Alkalinity [mg/L as CaCO3]	10-Aug-09	10:34	11-Aug-09	11:38
Chloride [mg/L]	10-Aug-09	15:00	12-Aug-09	15:30
Sulphate [mg/L]	10-Aug-09	15:00	12-Aug-09	15:30
Mercury [mg/L]	11-Aug-09	14:00	12-Aug-09	11:09
Silver [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Aluminum [mg/L]	12-Aug-09	11:00	12-Aug-09	13:40
Arsenic [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Boron [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Beryllium [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Bismuth [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Calcium [mg/L]	12-Aug-09	11:00	12-Aug-09	13:40
Cadmium [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Cobalt [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Chromium [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Copper [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Iron [mg/L]	12-Aug-09	11:00	12-Aug-09	13:40
Potassium [mg/L]	12-Aug-09	11:00	12-Aug-09	13:40
Lithium [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Magnesium [mg/L]	12-Aug-09	11:00	12-Aug-09	13:40
Manganese [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Molybdenum [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Sodium [mg/L]	12-Aug-09	11:00	12-Aug-09	13:40
Nickel [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Lead [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33

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LR Report : CA10283-JUL09

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Approval Date	4: Analysis Approval Time
Antimony [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Selenium [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Tin [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Strontium [mg/L]	12-Aug-09	11:00	12-Aug-09	13:40
Titanium [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Thallium [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Uranium [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Vanadium [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Tungsten [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Yttrium [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33
Zinc [mg/L]	12-Aug-09	15:00	13-Aug-09	09:33



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Environmental Services, Analytical



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Reference: Tiriganiaq Footwall Rock

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	5: M05-561-02	6: M97-135-01	7: M97-133-01	8: M97-137-01	9: M98-318-01	10: M97-143-01	11: M97-110-01
Sample [weight(g)]	200	200	200	200	200	200	200
Volume mL [D.I. H ₂ O]	800	800	800	800	800	800	800
Initial pH [units]	9.86	9.86	9.88	9.90	9.86	9.84	9.85
Final pH [units]	8.87	8.75	8.93	9.00	8.75	8.97	8.80
pH [no unit]	8.01	7.95	7.80	7.93	8.06	7.38	7.71
Conductivity [uS/cm]	106	134	84	86	111	103	112
Alkalinity [mg/L as CaCO ₃]	60	72	47	47	61	36	57
Chloride [mg/L]	1.3	0.3	0.4	0.5	0.8	1.0	0.4
Sulphate [mg/L]	0.8	1.3	1.6	0.6	1.5	15	4.2
Mercury [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	0.00005	0.00010	0.00004	0.00003	0.00004	0.00002	0.00002
Aluminum [mg/L]	0.54	0.71	0.73	0.91	0.58	0.57	0.68
Arsenic [mg/L]	0.0032	0.0017	0.0009	0.0007	0.0008	0.0012	0.0041
Boron [mg/L]	0.0136	0.0092	0.0121	0.0139	0.0178	0.0064	0.0074
Beryllium [mg/L]	< 0.00002	0.00008	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	< 0.00001	0.00010	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	10.5	14.1	11.7	10.1	13.2	13.4	12.7
Cadmium [mg/L]	< 0.000003	0.000055	0.000012	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Cobalt [mg/L]	0.000032	0.000117	0.000043	0.000024	0.000028	0.000026	0.000041
Chromium [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	< 0.01	0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	6.22	1.29	1.63	2.93	2.70	1.38	8.76
Lithium [mg/L]	0.001	0.004	0.001	0.002	0.003	0.002	0.002
Magnesium [mg/L]	4.83	4.87	3.13	2.09	4.80	2.90	4.38
Manganese [mg/L]	0.00212	0.00807	0.00295	0.00258	0.00447	0.00261	0.00440
Molybdenum [mg/L]	0.00014	0.00013	0.00005	0.00004	0.00009	0.00005	0.00019
Sodium [mg/L]	6.28	8.81	4.10	4.89	6.75	3.00	4.31
Nickel [mg/L]	0.0002	0.0004	0.0002	0.0002	0.0002	0.0002	0.0003
Lead [mg/L]	0.00004	0.00012	< 0.00002	< 0.00002	0.00003	< 0.00002	0.00003

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LR Report : CA10283-JUL09

Analysis	5: M05-561-02	6: M97-135-01	7: M97-133-01	8: M97-137-01	9: M98-318-01	10: M97-143-01	11: M97-110-01
Antimony [mg/L]	0.0015	0.0010	0.0007	0.0012	0.0009	0.0011	0.0016
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	0.00004	0.00002
Strontium [mg/L]	0.0217	0.0169	0.0932	0.0168	0.0304	1.24	0.144
Titanium [mg/L]	< 0.0001	0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Thallium [mg/L]	< 0.00002	0.00005	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	0.000022	0.000179	0.000019	0.000004	0.000005	0.000019	0.000008
Vanadium [mg/L]	0.00051	0.00061	0.00063	0.00087	0.00038	0.00056	0.00060
Tungsten [mg/L]	0.00083	0.00127	0.00043	0.00064	0.00053	0.00094	0.00106
Yttrium [mg/L]	0.000003	0.000064	0.000014	0.000002	0.000002	0.000004	0.000003
Zinc [mg/L]	< 0.001	0.003	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001



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Environmental Services, Analytical



Shake Flask Leach @ 4:1 ratio filter=0.45µ,
24hr

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Reference: Tiriganiaq Footwall Rock

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	12: M05-561-01	13: M99-348-01	14: M97-136-01	15: M97-130-02	16: M97-134-01	17: M97-130-01	18: M05-561-03
Sample [weight(g)]	200	200	200	200	200	200	200
Volume mL [D.I. H ₂ O]	800	800	800	800	800	800	800
Initial pH [units]	9.88	9.88	9.88	9.86	9.80	9.89	9.78
Final pH [units]	9.03	8.94	8.72	8.83	8.90	9.29	8.82
pH [no unit]	7.98	7.97	7.84	7.85	7.61	7.81	7.94
Conductivity [uS/cm]	87	94	127	125	107	60	132
Alkalinity [mg/L as CaCO ₃]	44	54	69	69	32	33	71
Chloride [mg/L]	1.4	0.3	0.5	0.6	0.4	0.3	1.9
Sulphate [mg/L]	2.2	0.6	1.0	0.9	25	1.0	1.1
Mercury [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	0.00002	0.00001	0.00002	0.00002	< 0.00001	0.00001	0.00001
Aluminum [mg/L]	0.70	0.85	0.58	0.49	0.85	1.06	0.42
Arsenic [mg/L]	0.0005	0.0007	0.0189	0.0008	0.0006	0.0012	0.0041
Boron [mg/L]	0.0108	0.0042	0.0061	0.0071	0.0040	0.0059	0.0060
Beryllium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	9.53	10.7	14.4	12.0	17.1	7.03	12.2
Cadmium [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Cobalt [mg/L]	0.000019	0.000023	0.000068	0.000024	0.000025	0.000022	0.000036
Chromium [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	4.49	1.86	3.98	2.08	1.82	1.42	2.99
Lithium [mg/L]	0.002	0.002	0.002	0.002	0.002	0.001	0.001
Magnesium [mg/L]	2.15	3.01	5.22	7.15	2.36	0.817	5.95
Manganese [mg/L]	0.00179	0.00241	0.00429	0.00231	0.00540	0.00222	0.00206
Molybdenum [mg/L]	0.00006	0.00003	0.00005	0.00005	0.00004	0.00003	0.00008
Sodium [mg/L]	4.67	5.71	5.28	5.23	3.19	6.29	7.32
Nickel [mg/L]	0.0001	0.0002	0.0006	0.0002	0.0002	0.0001	0.0002
Lead [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002

Online LIMS

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LR Report : CA10283-JUL09

Analysis	12: M05-561-01	13: M99-348-01	14: M97-136-01	15: M97-130-02	16: M97-134-01	17: M97-130-01	18: M05-561-03
Antimony [mg/L]	0.0006	0.0006	0.0026	0.0006	0.0004	0.0009	0.0012
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Strontium [mg/L]	0.0506	0.0174	0.0278	0.0169	0.0697	0.0124	0.0585
Titanium [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Thallium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	< 0.000001	0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001	0.000006
Vanadium [mg/L]	0.00061	0.00075	0.00048	0.00047	0.00077	0.00258	0.00046
Tungsten [mg/L]	0.00088	0.00015	0.00049	0.00036	0.00031	0.00050	0.00072
Yttrium [mg/L]	0.000001	0.000001	0.000001	0.000001	0.000002	0.000001	0.000001
Zinc [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001



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Environmental Services, Analytical



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CERTIFICATE OF ANALYSIS

Final Report

Analysis	19: SS-1	20: SS-2	21: SS-3	22: SS-4	23: SS-5	24: SS-5
Sample [weight(g)]	200	200	200	200	200	200
Volume mL [D.I. H ₂ O]	800	800	800	800	800	800
InitialpH [units]	7.69	5.92	6.66	6.79	6.71	6.67
Final pH [units]	7.63	5.87	7.35	6.68	6.87	6.96
pH [no unit]	7.12	6.99	6.95	7.20	6.89	7.05
Conductivity [uS/cm]	48	52	37	80	54	45
Alkalinity [mg/L as CaCO ₃]	16	15	13	31	10	12
Chloride [mg/L]	0.7	1.0	0.5	1.4	5.4	1.4
Sulphate [mg/L]	6.5	6.9	5.0	8.8	6.6	6.4
Mercury [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	0.00002	0.00010	0.00002	0.00001	0.00004	0.00004
Aluminum [mg/L]	0.80	0.71	1.02	0.23	0.98	0.90
Arsenic [mg/L]	0.0192	0.0213	0.0070	0.0077	0.0208	0.0208
Boron [mg/L]	0.363	0.970	0.326	0.625	0.357	0.314
Beryllium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	0.00002	0.00005	0.00001	0.00002	0.00002	0.00003
Calcium [mg/L]	1.80	1.33	0.76	6.92	1.28	1.09
Cadmium [mg/L]	0.000013	0.000018	0.000011	0.000010	0.000018	0.000018
Cobalt [mg/L]	0.00273	0.00136	0.00115	0.000383	0.00368	0.00323
Chromium [mg/L]	0.0020	0.0028	0.0023	0.0010	0.0023	0.0022
Copper [mg/L]	0.0112	0.0044	0.0040	0.0115	0.0108	0.0096
Iron [mg/L]	1.58	0.89	1.24	0.63	2.10	1.97
Potassium [mg/L]	0.88	1.97	1.00	1.64	2.08	1.09
Lithium [mg/L]	0.001	0.005	0.001	0.002	0.001	0.001
Magnesium [mg/L]	0.631	0.425	0.392	1.27	0.514	0.468
Manganese [mg/L]	0.0647	0.0284	0.0428	0.00639	0.0844	0.0717
Molybdenum [mg/L]	0.00117	0.00039	0.00094	0.00206	0.00086	0.00122
Sodium [mg/L]	8.20	10.6	8.32	10.5	8.91	8.01
Nickel [mg/L]	0.0095	0.0028	0.0027	0.0035	0.0097	0.0085
Lead [mg/L]	0.00227	0.00081	0.00111	0.00037	0.00231	0.00228

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LR Report : CA10283-JUL09

Analysis	19: SS-1	20: SS-2	21: SS-3	22: SS-4	23: SS-5	24: SS-5
Antimony [mg/L]	0.0003	0.0004	0.0004	0.0004	0.0003	0.0003
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	0.00003	0.00003	0.00002	0.00003	0.00001	0.00002
Strontium [mg/L]	0.0240	0.0239	0.0178	0.0490	0.0239	0.0211
Titanium [mg/L]	0.0178	0.0174	0.0194	0.0122	0.0212	0.0221
Thallium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	0.000083	0.000128	0.000085	0.000194	0.000100	0.000094
Vanadium [mg/L]	0.00166	0.00199	0.00171	0.00158	0.00184	0.00188
Tungsten [mg/L]	< 0.00003	0.00004	0.00009	0.00004	0.00009	< 0.00003
Yttrium [mg/L]	0.000504	0.000410	0.000373	0.000264	0.000479	0.000441
Zinc [mg/L]	0.035	0.603	0.041	0.152	0.051	0.040



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Comaplex Minerals Corp

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June 12, 2009

Date Rec. : 04 June 2009
LR Report: CA11033-JUN09
Reference: Comaplex Project

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M99-341-01	6: GT08-04-02	7: M98-194-01	8: M04-533-01	9: M04-526-01
Sample [weight(g)]	08-Jun-09	15:11	1.55	1.47	1.45	1.53	1.46
vol H2O2 [mL]	08-Jun-09	15:11	150	150	150	150	150
Final pH [units]	08-Jun-09	15:11	10.73	11.11	10.48	10.50	11.09
NaOH [Normality]	08-Jun-09	15:11	0.10	0.10	0.10	0.10	0.10
Vol NaOH to PH 4.5 [mL]	08-Jun-09	15:11	0.00	0.00	0.00	0.00	0.00
Vol NaOH to PH 7.0 [mL]	08-Jun-09	15:11	0.00	0.00	0.00	0.00	0.00
NAG [@pH4.5]	08-Jun-09	15:11	0.0	0.0	0.0	0.0	0.0
NAG [@pH7]	08-Jun-09	15:11	0.0	0.0	0.0	0.0	0.0

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne



Chris Sullivan, B.Sc., C.Chem
Project Specialist
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Thursday, June 18, 2009

Date Rec. : 04 June 2009
LR Report: CA11034-JUN09
Reference: Comaplex Project

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M99-341-01	6: GT08-04-02	7: M98-194-01	8: M04-533-01	9: M04-526-01
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	08-Jun-09	15:11	2.45	2.46	2.53	2.55	2.46
vol H2O2 [mL]	08-Jun-09	15:11	250	250	250	250	250
pH [no unit]	10-Jun-09	14:31	11.2	11.4	10.5	10.5	11.1
Conductivity [uS/cm]	10-Jun-09	14:31	467	429	221	205	489
Alkalinity [mg/L as CaCO3]	10-Jun-09	14:31	124	142	77	76	125
Sulphate [mg/L]	12-Jun-09	14:56	64	4.8	32	21	120
Chloride [mg/L]	12-Jun-09	08:26	< 2	< 2	< 2	< 2	< 2
Mercury [mg/L]	12-Jun-09	15:33	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	12-Jun-09	12:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	12-Jun-09	12:02	1.65	1.68	2.04	1.25	4.59
Arsenic [mg/L]	12-Jun-09	12:02	0.0007	0.0003	0.0148	0.0044	0.0047
Barium [mg/L]	12-Jun-09	12:02	0.00265	0.00152	0.0186	0.0802	0.00459
Beryllium [mg/L]	12-Jun-09	12:02	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Boron [mg/L]	12-Jun-09	12:02	1.04	0.498	0.726	0.820	0.896
Bismuth [mg/L]	12-Jun-09	12:02	0.00004	0.00001	0.00002	0.00001	0.00002
Calcium [mg/L]	12-Jun-09	12:02	79.6	60.2	45.7	36.1	107
Cadmium [mg/L]	12-Jun-09	12:02	< 0.000003	< 0.000003	< 0.000003	0.000003	< 0.000003
Cobalt [mg/L]	12-Jun-09	12:02	0.000051	0.000039	0.000025	0.000024	0.000061
Chromium [mg/L]	12-Jun-09	12:02	0.0162	0.0141	0.0119	0.0273	0.0018
Copper [mg/L]	12-Jun-09	12:02	0.0007	< 0.0005	< 0.0005	< 0.0005	0.0008
Iron [mg/L]	12-Jun-09	12:02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	12-Jun-09	12:02	3.20	2.57	6.56	12.6	0.95
Lithium [mg/L]	12-Jun-09	12:02	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Magnesium [mg/L]	12-Jun-09	12:02	0.010	0.004	0.004	0.006	< 0.003
Manganese [mg/L]	12-Jun-09	12:02	0.00023	0.00014	0.00003	0.00011	0.00007
Molybdenum [mg/L]	12-Jun-09	12:02	0.00599	0.00160	0.00566	0.0116	0.00397
Sodium [mg/L]	12-Jun-09	12:02	3.74	4.23	4.97	2.62	1.00
Nickel [mg/L]	12-Jun-09	12:02	0.0008	0.0006	0.0004	0.0003	0.0010
Lead [mg/L]	12-Jun-09	12:02	0.00004	< 0.00002	< 0.00002	0.00008	0.00003
Antimony [mg/L]	12-Jun-09	12:02	0.0004	0.0004	0.0007	0.0010	0.0003
Selenium [mg/L]	12-Jun-09	12:02	0.003	< 0.001	< 0.001	< 0.001	0.002
Tin [mg/L]	12-Jun-09	12:02	0.00009	0.00006	0.00002	0.00008	0.00004

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LR Report : CA11034-JUN09

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M99-341-01	6: GT08-04-02	7: M98-194-01	8: M04-533-01	9: M04-526-01
Strontium [mg/L]	12-Jun-09	12:02	0.120	0.0714	0.474	0.843	0.905
Titanium [mg/L]	12-Jun-09	12:02	0.0002	< 0.0001	< 0.0001	0.0001	0.0003
Thallium [mg/L]	12-Jun-09	12:02	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	12-Jun-09	12:02	0.000004	0.000002	0.000003	0.000003	0.000003
Vanadium [mg/L]	12-Jun-09	12:02	0.00077	0.00189	0.00253	0.00947	0.00032
Tungsten [mg/L]	12-Jun-09	12:02	0.00028	0.00036	0.00061	0.00104	0.00030
Yttrium [mg/L]	12-Jun-09	12:02	0.000001	0.000001	0.000002	0.000007	0.000003
Zinc [mg/L]	12-Jun-09	12:02	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001



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NAG Test

Project : Meliadine Tiriganaiq

Comaplex Minerals Corp

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Thursday, November 19, 2009

Date Rec. : 09 November 2009

LR Report: CA10080-NOV09

Reference: 09-1426-0015

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M05-536A-01	6: M97-141-01	7: M99-403-03	8: M99-404-04
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	16-Nov-09	13:28	1.47	1.52	1.49	1.50
vol H2O2 [mL]	16-Nov-09	13:28	150	150	150	150
Final pH [units]	16-Nov-09	13:28	11.50	11.05	10.81	10.70
NaOH [Normality]	16-Nov-09	13:28	0.10	0.10	0.10	0.10
Vol NaOH to PH 4.5 [mL]	16-Nov-09	13:28	0.00	0.00	0.00	0.00
Vol NaOH to PH 7.0 [mL]	16-Nov-09	13:28	0.00	0.00	0.00	0.00
NAG pH4.5 [kg H2SO4/tonne]	16-Nov-09	13:28	0.0	0.0	0.0	0.0
NAG pH7.0 [kg H2SO4/tonne]	16-Nov-09	13:28	0.0	0.0	0.0	0.0

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne

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NAG Test with analyses

Project : Meliadine Tiriganaiq

Comaplex Minerals Corp

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Tuesday, November 24, 2009

Date Rec. : 10 November 2009

LR Report: CA11233-NOV09

Reference: 07-1426-0015

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M05-536A-01	6: M97-141-01	7: M99-403-03	8: M99-404-04
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	17-Nov-09	15:27	2.5	2.6	2.5	2.5
vol H2O2 [mL]	17-Nov-09	15:27	250	250	250	250
Final pH [units]	17-Nov-09	15:27	11.52	11.14	10.98	10.89
pH [no unit]	20-Nov-09	08:53	10.6	10.2	9.89	9.70
Alkalinity [mg/L as CaCO3]	20-Nov-09	08:53	95	93	80	83
Acidity [mg/L as CaCO3]	20-Nov-09	08:53	< 2	< 2	< 2	< 2
Conductivity [uS/cm]	20-Nov-09	08:53	236	235	205	249
Sulphate [mg/L]	20-Nov-09	16:56	19	31	24	44
Chloride [mg/L]	19-Nov-09	12:30	0.3	0.2	0.2	< 0.2
Mercury [mg/L]	19-Nov-09	12:04	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	23-Nov-09	09:20	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	23-Nov-09	09:20	1.65	1.15	1.71	1.10
Arsenic [mg/L]	23-Nov-09	09:20	0.0008	0.0004	0.0330	0.0074
Boron [mg/L]	23-Nov-09	09:20	0.908	0.893	0.677	0.578
Beryllium [mg/L]	23-Nov-09	09:20	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	23-Nov-09	09:20	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	19-Nov-09	16:05	56.8	53.6	38.6	48.7
Cadmium [mg/L]	23-Nov-09	09:20	< 0.000003	0.000003	< 0.000003	0.000005
Cobalt [mg/L]	23-Nov-09	09:20	0.000081	0.000072	0.000056	0.000069
Chromium [mg/L]	23-Nov-09	09:20	0.0182	0.0177	0.0165	0.0181
Copper [mg/L]	23-Nov-09	09:20	0.0017	0.0008	0.0006	< 0.0005
Iron [mg/L]	19-Nov-09	16:05	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	19-Nov-09	16:05	2.76	1.89	5.66	4.70
Lithium [mg/L]	23-Nov-09	09:20	0.001	0.001	0.002	< 0.001
Magnesium [mg/L]	19-Nov-09	16:05	0.003	0.004	< 0.003	< 0.003
Manganese [mg/L]	23-Nov-09	09:20	0.00023	0.00003	0.00005	0.00011
Molybdenum [mg/L]	23-Nov-09	09:20	0.00159	0.00098	0.00629	0.0135
Sodium [mg/L]	19-Nov-09	16:05	3.15	3.83	3.64	2.60
Nickel [mg/L]	23-Nov-09	09:20	0.0011	0.0010	0.0006	0.0009
Lead [mg/L]	23-Nov-09	09:20	< 0.00002	0.00009	< 0.00002	0.00003
Antimony [mg/L]	23-Nov-09	09:20	0.0007	0.0005	0.0009	0.0009
Selenium [mg/L]	23-Nov-09	09:20	0.001	0.002	< 0.001	< 0.001

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NAG Test with analyses**Project :** Meliadine Tiriganaiq**LR Report :** CA11233-NOV09

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M05-536A-01	6: M97-141-01	7: M99-403-03	8: M99-404-04
Tin [mg/L]	23-Nov-09	09:20	0.00018	0.00005	0.00006	0.00007
Strontium [mg/L]	23-Nov-09	09:20	0.0639	0.0649	0.372	0.276
Titanium [mg/L]	23-Nov-09	09:20	0.0001	0.0002	0.0002	0.0003
Thallium [mg/L]	23-Nov-09	09:20	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	23-Nov-09	09:20	0.000028	0.000003	0.000004	0.000016
Vanadium [mg/L]	23-Nov-09	09:20	0.00167	0.00245	0.00431	0.00871
Tungsten [mg/L]	23-Nov-09	09:20	0.00144	0.00072	0.00064	0.00053
Yttrium [mg/L]	23-Nov-09	09:20	0.000003	0.000002	0.000002	0.000005
Zinc [mg/L]	23-Nov-09	09:20	< 0.001	< 0.001	< 0.001	< 0.001

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NAG Test with analyses

Project : Meliadine Tiriganaiq

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Tuesday, November 24, 2009

Date Rec. : 10 November 2009

LR Report: CA11233-NOV09

Reference: 07-1426-0015

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M05-536A-01	6: M97-141-01	7: M99-403-03	8: M99-404-04
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	17-Nov-09	15:27	2.5	2.6	2.5	2.5
vol H2O2 [mL]	17-Nov-09	15:27	250	250	250	250
Final pH [units]	17-Nov-09	15:27	11.52	11.14	10.98	10.89
pH [no unit]	20-Nov-09	08:53	10.6	10.2	9.89	9.70
Alkalinity [mg/L as CaCO3]	20-Nov-09	08:53	95	93	80	83
Acidity [mg/L as CaCO3]	20-Nov-09	08:53	< 2	< 2	< 2	< 2
Conductivity [uS/cm]	20-Nov-09	08:53	236	235	205	249
Sulphate [mg/L]	20-Nov-09	16:56	19	31	24	44
Chloride [mg/L]	19-Nov-09	12:30	0.3	0.2	0.2	< 0.2
Mercury [mg/L]	19-Nov-09	12:04	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	23-Nov-09	09:20	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	23-Nov-09	09:20	1.65	1.15	1.71	1.10
Arsenic [mg/L]	23-Nov-09	09:20	0.0008	0.0004	0.0330	0.0074
Boron [mg/L]	23-Nov-09	09:20	0.908	0.893	0.677	0.578
Beryllium [mg/L]	23-Nov-09	09:20	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	23-Nov-09	09:20	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	19-Nov-09	16:05	56.8	53.6	38.6	48.7
Cadmium [mg/L]	23-Nov-09	09:20	< 0.000003	0.000003	< 0.000003	0.000005
Cobalt [mg/L]	23-Nov-09	09:20	0.000081	0.000072	0.000056	0.000069
Chromium [mg/L]	23-Nov-09	09:20	0.0182	0.0177	0.0165	0.0181
Copper [mg/L]	23-Nov-09	09:20	0.0017	0.0008	0.0006	< 0.0005
Iron [mg/L]	19-Nov-09	16:05	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	19-Nov-09	16:05	2.76	1.89	5.66	4.70
Lithium [mg/L]	23-Nov-09	09:20	0.001	0.001	0.002	< 0.001
Magnesium [mg/L]	19-Nov-09	16:05	0.003	0.004	< 0.003	< 0.003
Manganese [mg/L]	23-Nov-09	09:20	0.00023	0.00003	0.00005	0.00011
Molybdenum [mg/L]	23-Nov-09	09:20	0.00159	0.00098	0.00629	0.0135
Sodium [mg/L]	19-Nov-09	16:05	3.15	3.83	3.64	2.60
Nickel [mg/L]	23-Nov-09	09:20	0.0011	0.0010	0.0006	0.0009
Lead [mg/L]	23-Nov-09	09:20	< 0.00002	0.00009	< 0.00002	0.00003
Antimony [mg/L]	23-Nov-09	09:20	0.0007	0.0005	0.0009	0.0009
Selenium [mg/L]	23-Nov-09	09:20	0.001	0.002	< 0.001	< 0.001

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NAG Test with analyses**Project :** Meliadine Tiriganaiq**LR Report :** CA11233-NOV09

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M05-536A-01	6: M97-141-01	7: M99-403-03	8: M99-404-04
Tin [mg/L]	23-Nov-09	09:20	0.00018	0.00005	0.00006	0.00007
Strontium [mg/L]	23-Nov-09	09:20	0.0639	0.0649	0.372	0.276
Titanium [mg/L]	23-Nov-09	09:20	0.0001	0.0002	0.0002	0.0003
Thallium [mg/L]	23-Nov-09	09:20	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	23-Nov-09	09:20	0.000028	0.000003	0.000004	0.000016
Vanadium [mg/L]	23-Nov-09	09:20	0.00167	0.00245	0.00431	0.00871
Tungsten [mg/L]	23-Nov-09	09:20	0.00144	0.00072	0.00064	0.00053
Yttrium [mg/L]	23-Nov-09	09:20	0.000003	0.000002	0.000002	0.000005
Zinc [mg/L]	23-Nov-09	09:20	< 0.001	< 0.001	< 0.001	< 0.001

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



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Meliadine Resources Ltd

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260-12500 Horseshoe Way
Richmond, BC
V7A 5K2,

Phone: 604-241-4566
Fax:604-241-4586

NAG Test

Thursday, November 19, 2009

Date Rec. : 12 November 2009
LR Report: CA11271-NOV09
Reference: 09-1426-0013

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Da	4: Analysis Approval Ti	5: ML00-221-04	6: ML90-04-01	7: ML90-12-01	8: ML92-061-01	9: ML95-93-02	10: ML95-93-03
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	16-Nov-09	13:28	1.51	1.50	1.50	1.50	1.53	1.47
vol H2O2 [mL]	16-Nov-09	13:28	150	150	150	150	150	150
Final pH [units]	16-Nov-09	13:28	4.89	6.49	6.36	4.48	4.13	10.08
NaOH [Normality]	16-Nov-09	13:28	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to PH 4.5 [mL]	16-Nov-09	13:28	0.00	0.00	0.00	0.10	0.10	0.00
Vol NaOH to PH 7.0 [mL]	16-Nov-09	13:28	0.30	0.10	0.15	0.30	0.50	0.00
NAG pH4.5 [kg H2SO4/tonne]	16-Nov-09	13:28	0.0	0.0	0.0	0.3	0.3	0.0
NAG pH7.0 [kg H2SO4/tonne]	16-Nov-09	13:28	1.0	0.3	0.5	1.0	1.6	0.0

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne

Brian Graham B.Sc.
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**SGS Lakefield Research Limited**

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Phone: 403-265-2846, Fax:403-232-1421

Tuesday, November 24, 2009

Date Rec. : 11 November 2009**LR Report:** CA11252-NOV09**Reference:** 09-1426-0015**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M99-350-02	6: M00-474-05	7: M98-269-03	8: M98-297-04
Sample Date & Time			Date:n/a	Date:n/a	Date:n/a	Date:n/a
Sample [weight(g)]	16-Nov-09	08:23	200	200	200	200
Volume mL [D.I. H2O]	16-Nov-09	08:23	800	800	800	800
InitialpH [units]	16-Nov-09	08:23	9.6	9.7	9.8	9.7
Final pH [units]	16-Nov-09	08:23	9.32	9.28	9.32	9.29
pH [no unit]	20-Nov-09	08:53	8.24	8.16	8.44	8.13
Conductivity [uS/cm]	20-Nov-09	08:53	100	99	90	103
Alkalinity [mg/L as CaCO3]	20-Nov-09	08:53	45	39	38	35
Sulphate [mg/L]	20-Nov-09	17:09	3.1	7.2	5.0	12
Chloride [mg/L]	19-Nov-09	08:41	1.0	0.8	0.6	0.6
Mercury [mg/L]	18-Nov-09	09:19	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	19-Nov-09	12:26	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	19-Nov-09	16:03	1.29	1.20	1.31	1.20
Arsenic [mg/L]	19-Nov-09	12:26	0.0093	0.0669	0.0112	0.0119
Boron [mg/L]	19-Nov-09	12:26	0.0086	0.0066	0.0069	0.0085
Beryllium [mg/L]	19-Nov-09	12:26	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	19-Nov-09	12:26	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	19-Nov-09	16:03	8.03	9.65	8.42	9.68
Cadmium [mg/L]	19-Nov-09	12:26	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Cobalt [mg/L]	19-Nov-09	12:26	0.000032	0.000040	0.000030	0.000028
Chromium [mg/L]	19-Nov-09	12:26	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	19-Nov-09	12:26	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	19-Nov-09	16:03	0.03	0.01	0.02	< 0.01
Potassium [mg/L]	19-Nov-09	16:03	11.5	10.7	9.33	9.94
Lithium [mg/L]	19-Nov-09	12:26	< 0.001	< 0.001	< 0.001	0.001
Magnesium [mg/L]	19-Nov-09	16:03	1.47	1.22	1.02	1.13
Manganese [mg/L]	19-Nov-09	12:26	0.00069	0.00097	0.00053	0.00059
Molybdenum [mg/L]	19-Nov-09	12:26	0.00051	0.00060	0.00046	0.00094
Sodium [mg/L]	19-Nov-09	16:03	3.85	3.56	3.81	3.75
Nickel [mg/L]	19-Nov-09	12:26	0.0004	0.0006	0.0004	0.0004
Lead [mg/L]	19-Nov-09	12:26	0.00002	0.00004	0.00002	0.00003
Antimony [mg/L]	19-Nov-09	12:26	0.0030	0.0035	0.0030	0.0027
Selenium [mg/L]	19-Nov-09	12:26	< 0.001	< 0.001	< 0.001	< 0.001



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Modified ABA (Price 1997)

Project : Tiriganiaq deposit

Monday, September 14, 2009

Date Rec. : 21 August 2009
LR Report: CA11183-AUG09
Reference: 09-1426-0015

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M08-734-01	6: M08-734-02	7: M08-734-03	8: M08-734-04	9: M08-735-01	10: M08-735-02	11: M08-735-03	12: M08-742-01	13: M08-742-02
Sample Date & Time	11-Sep-09	11:08	9.25	8.92	9.06	9.05	9.42	9.24	9.05	9.45	9.12
Paste pH [units]	11-Sep-09	11:08	4	4	4	4	4	4	4	4	4
Fizz Rate [—]	11-Sep-09	11:08	2.02	2.00	2.03	1.99	1.97	2.05	2.03	1.97	2.00
Sample [weight(g)]	11-Sep-09	11:08	76.70	113.60	111.50	138.20	69.60	144.00	107.20	57.80	87.20
HCl added [mL]	11-Sep-09	11:08	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
HCl [Normality]	11-Sep-09	11:08	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	11-Sep-09	11:08	24.10	43.40	39.95	48.10	20.70	57.10	30.40	21.00	35.30
NaOH to [pH=8.3 mL]	11-Sep-09	11:08	1.78	1.59	1.73	1.79	1.99	1.78	1.93	1.88	1.63
Final pH [units]	11-Sep-09	11:08	130	176	176	226	124	212	189	93.4	130
NP [t CaCO ₃ /1000t]	11-Sep-09	11:09	2.2	8.1	5.3	1.6	1.9	3.4	2.2	1.6	3.4
AP [t CaCO ₃ /1000 t]	11-Sep-09	11:09	128	167	171	225	122	209	187	91.8	126
Net NP [t CaCO ₃ /1000 t]	11-Sep-09	11:09	59.2	21.7	33.1	139	65.0	62.4	87.5	58.4	38.2
NP/AP [ratio]	04-Sep-09	14:41	0.107	0.334	0.261	0.088	0.106	0.179	0.124	0.132	0.207
Total Sulphur [%]	11-Sep-09	10:28	0.04	0.08	0.09	0.04	0.05	0.07	0.05	0.08	0.10
Acid Leachable SO ₄ -S [%]	11-Sep-09	10:28	0.07	0.26	0.17	0.05	0.06	0.11	0.07	0.05	0.11
Sulphide-S [%]	04-Sep-09	14:41	1.53	2.06	2.05	3.15	1.46	2.73	2.24	1.04	1.50
Total Carbon [%]	04-Sep-09	14:43	7.34	9.52	9.58	14.8	6.86	12.8	10.7	4.72	6.92
Carbonate (CO ₃) [%]											



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Modified ABA (Price 1997)

Project : Tiriganiaq deposit

LR Report : CA11183-AUG09

*NP (Neutralization Potential)
= $50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})$

Weight of sample

*AP (Acid Potential) = % Sulphide sulphur $\times 31.25$

*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.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)

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



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Modified ABA (Price 1997)

Project : Tiriganiaq deposit

Monday, September 14, 2009

Date Rec. : 21 August 2009
LR Report: CA11183-AUG09
Reference: 09-1426-0015

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	14: M08-742-03	15: M08-742-04	16: M08-742-05	17: M08-742-06	18: M08-743-01	19: M08-743-02	20: M08-743-03	21: M08-743-04	22: M08-750-01	23: M08-750-02	24: M08-750-03
Sample Date & Time											
Paste pH [units]	8.93	9.01	8.64	9.44	9.59	9.18	8.56	9.69	9.39	8.94	9.07
Fizz Rate [—]	4	4	3	4	4	3	3	3	4	4	4
Sample [weight(g)]	1.98	2.02	2.01	2.02	2.02	2.00	2.02	1.98	1.98	2.00	1.97
HCl added [mL]	128.00	119.20	48.70	62.30	40.00	82.90	53.70	24.90	145.90	121.30	93.70
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	56.40	39.40	25.45	25.10	16.80	22.00	23.30	13.00	56.50	54.00	41.10
Final pH [units]	1.61	1.93	1.66	1.54	1.76	2.00	1.92	1.65	1.64	1.68	1.61
NP [t CaCO ₃ /1000t]	181	198	57.8	92.1	57.4	152	75.2	30.1	226	168	134
AP [t CaCO ₃ /1000 t]	0.62	1.2	31.9	1.6	1.9	0.31	35.6	1.2	3.1	1.2	1.6
Net NP [t CaCO ₃ /1000 t]	180	196	25.9	90.5	55.5	152	39.6	28.9	223	167	132
NP/AP [ratio]	292	165	1.81	57.6	29.9	491	2.11	25.1	72.8	140	83.4
Total Sulphur [%]	0.051	0.086	2.17	0.082	0.101	0.033	2.21	0.070	0.155	0.070	0.118
Acid Leachable SO ₄ -S [%]	0.03	0.04	1.15	0.03	0.04	0.02	1.07	0.03	0.06	0.03	0.06
Sulphide-S [%]	0.02	0.04	1.02	0.05	0.06	< 0.01	1.14	0.04	0.10	0.04	0.05
Total Carbon [%]	2.34	2.44	0.966	1.08	0.617	1.89	1.16	0.277	2.50	2.32	1.50
Carbonate (CO ₃) [%]	10.9	11.5	2.11	5.06	2.81	9.01	3.02	1.22	12.5	11.1	7.17



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Modified ABA (Price 1997)

Project : Tiriganiaq deposit

LR Report : CA11183-AUG09

$$\begin{aligned} & \text{*NP (Neutralization Potential)} \\ & = 50 \times (\text{N of HCL} \times \text{Total HCL added} - \text{N NaOH} \times \text{NaOH added}) \\ & \text{-----} \\ & \text{Weight of Sample} \end{aligned}$$

*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.

sulphur analysis performed following BC ARD Guidelines (Price 1997)

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Environmental Services, Analytical

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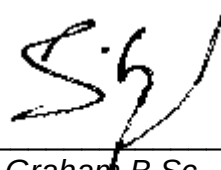
P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - KOL 2H0

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LR Report : CA11252-NOV09

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M99-350-02	6: M00-474-05	7: M98-269-03	8: M98-297-04
Tin [mg/L]	19-Nov-09	12:26	0.00001	< 0.00001	0.00001	< 0.00001
Strontium [mg/L]	19-Nov-09	16:03	0.0285	0.0417	0.0395	0.0385
Titanium [mg/L]	19-Nov-09	12:26	0.0010	0.0004	0.0006	0.0004
Thallium [mg/L]	19-Nov-09	12:26	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	19-Nov-09	12:26	0.000100	0.000190	0.000071	0.000044
Vanadium [mg/L]	19-Nov-09	12:26	0.00262	0.00244	0.00256	0.00245
Tungsten [mg/L]	19-Nov-09	12:26	0.00041	0.00052	0.00048	0.00037
Yttrium [mg/L]	19-Nov-09	12:26	0.000025	0.000010	0.000006	0.000006
Zinc [mg/L]	19-Nov-09	12:26	< 0.001	< 0.001	< 0.001	< 0.001



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NAG Test

Project : Meliadine Tiriganaiq

Comaplex Minerals Corp

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Thursday, November 19, 2009

Date Rec. : 09 November 2009

LR Report: CA10080-NOV09

Reference: 09-1426-0015

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M05-536A-01	6: M97-141-01	7: M99-403-03	8: M99-404-04
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	16-Nov-09	13:28	1.47	1.52	1.49	1.50
vol H2O2 [mL]	16-Nov-09	13:28	150	150	150	150
Final pH [units]	16-Nov-09	13:28	11.50	11.05	10.81	10.70
NaOH [Normality]	16-Nov-09	13:28	0.10	0.10	0.10	0.10
Vol NaOH to PH 4.5 [mL]	16-Nov-09	13:28	0.00	0.00	0.00	0.00
Vol NaOH to PH 7.0 [mL]	16-Nov-09	13:28	0.00	0.00	0.00	0.00
NAG pH4.5 [kg H2SO4/tonne]	16-Nov-09	13:28	0.0	0.0	0.0	0.0
NAG pH7.0 [kg H2SO4/tonne]	16-Nov-09	13:28	0.0	0.0	0.0	0.0

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne

Brian Graham B.Sc.
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Environmental Services, Analytical



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Project : Tiriganiaq deposit

Monday, September 14, 2009

Date Rec. : 21 August 2009
LR Report: CA11182-AUG09
Reference: 09-1426-0015

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CERTIFICATE OF ANALYSIS

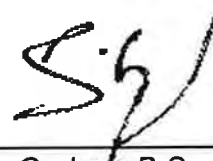
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M08-734-01	6: M08-734-02	7: M08-734-03	8: M08-734-04	9: M08-735-01	10: M08-735-02	11: M08-735-03	12: M08-742-01	13: M08-742-02
Sample Date & Time											
Silver [µg/g]	11-Sep-09	12:09	0.14	0.14	0.08	0.23	0.15	0.10	0.06	0.07	0.08
Aluminum [µg/g]	11-Sep-09	07:48	78000	67000	71000	69000	81000	74000	72000	81000	74000
Arsenic [µg/g]	11-Sep-09	12:09	8.8	3.7	12	86	28	200	28	4.0	10
Barium [µg/g]	11-Sep-09	12:09	47	110	41	68	140	230	69	120	74
Beryllium [µg/g]	11-Sep-09	12:09	0.25	0.32	0.23	0.26	0.29	0.36	0.26	0.21	0.20
Bismuth [µg/g]	11-Sep-09	12:09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09
Calcium [µg/g]	11-Sep-09	07:49	65000	71000	65000	63000	60000	70000	74000	50000	60000
Cadmium [µg/g]	11-Sep-09	12:09	1.4	2.0	0.53	0.59	0.63	0.39	0.30	0.38	0.32
Cobalt [µg/g]	11-Sep-09	12:09	40	34	42	41	41	44	40	42	41
Chromium [µg/g]	11-Sep-09	12:09	160	150	200	200	160	210	190	210	150
Copper [µg/g]	11-Sep-09	07:49	150	91	120	190	140	120	110	110	140
Iron [µg/g]	11-Sep-09	07:49	75000	95000	77000	75000	66000	82000	80000	60000	80000
Potassium [µg/g]	11-Sep-09	07:49	1900	3000	2900	6200	8600	14000	3800	5700	3600
Lithium [µg/g]	11-Sep-09	12:09	21	46	37	30	27	33	28	15	26
Magnesium [µg/g]	11-Sep-09	07:49	32000	40000	35000	46000	24000	36000	32000	26000	38000
Manganese [µg/g]	11-Sep-09	12:09	1100	1800	1100	1100	1100	1400	1200	940	1200
Molybdenum [µg/g]	11-Sep-09	12:09	1.0	0.9	0.6	1.2	0.9	0.9	0.5	0.8	0.7
Sodium [µg/g]	11-Sep-09	07:49	19000	6300	18000	11000	13000	10000	20000	24000	13000
Nickel [µg/g]	11-Sep-09	12:09	76	75	120	140	76	130	100	84	71

Project : Tiriganiaq deposit

LR Report : CA11182-AUG09

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M08-734-01	6: M08-734-02	7: M08-734-03	8: M08-734-04	9: M08-735-01	10: M08-735-02	11: M08-735-03	12: M08-742-01	13: M08-742-02
Lead [µg/g]	11-Sep-09	12:09	3.3	3.2	3.6	6.1	2.4	5.5	2.7	2.7	4.1
Antimony [µg/g]	11-Sep-09	12:09	< 0.8	< 0.8	0.9	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	11-Sep-09	12:09	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	0.9	< 0.7	1.3	< 0.7
Tin [µg/g]	11-Sep-09	12:09	1.0	2.3	0.8	0.5	1.0	0.9	1.1	1.0	1.1
Strontium [µg/g]	11-Sep-09	12:09	110	53	120	120	88	110	100	99	86
Titanium [µg/g]	11-Sep-09	07:49	6400	5700	5100	3100	6400	5300	5300	5800	5700
Thallium [µg/g]	11-Sep-09	12:09	0.05	0.14	0.09	0.11	0.40	0.44	0.12	0.26	0.14
Uranium [µg/g]	11-Sep-09	12:09	0.21	0.37	0.34	0.16	0.43	0.20	0.28	0.17	0.18
Vanadium [µg/g]	11-Sep-09	12:09	230	190	200	150	230	190	210	230	210
Yttrium [µg/g]	11-Sep-09	12:09	18	22	12	4.0	14	6.5	13	14	14
Zinc [µg/g]	11-Sep-09	07:49	110	170	96	110	98	100	100	88	110



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Project : Tiriganiaq deposit

Monday, September 14, 2009

Date Rec. : 21 August 2009
LR Report: CA11182-AUG09
Reference: 09-1426-0015

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	14: M08-742-03	15: M08-742-04	16: M08-742-05	17: M08-742-06	18: M08-743-01	19: M08-743-02	20: M08-743-03	21: M08-743-04	22: M08-750-01	23: M08-750-02	24: M08-750-03
Sample Date & Time											
Silver [µg/g]	0.19	0.08	0.22	0.05	0.11	0.19	0.60	0.24	0.18	0.47	0.75
Aluminum [µg/g]	68000	74000	12000	74000	74000	80000	15000	83000	67000	69000	70000
Arsenic [µg/g]	29	20	150	7.6	2.1	74	96	4.7	2.8	100	66
Barium [µg/g]	68	33	12	14	45	79	29	110	170	220	150
Beryllium [µg/g]	0.37	0.33	0.15	0.17	0.31	0.24	0.19	0.35	0.46	0.80	0.56
Bismuth [µg/g]	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	0.27	< 0.09	< 0.09	< 0.09	< 0.09
Calcium [µg/g]	60000	71000	15000	76000	70000	56000	22000	66000	81000	47000	51000
Cadmium [µg/g]	0.43	0.19	0.93	0.19	0.24	0.19	1.4	0.55	0.34	0.58	0.44
Cobalt [µg/g]	37	42	10	46	42	44	15	51	37	43	41
Chromium [µg/g]	170	190	220	350	140	210	240	240	140	64	78
Copper [µg/g]	62	110	110	130	100	120	70	120	64	97	84
Iron [µg/g]	77000	72000	73000	76000	88000	52000	91000	85000	69000	85000	90000
Potassium [µg/g]	4700	4400	530	580	2000	5700	2600	2800	9400	9500	5500
Lithium [µg/g]	37	49	7	25	18	43	7	24	38	25	36
Magnesium [µg/g]	37000	40000	7400	49000	37000	33000	11000	44000	33000	26000	23000
Manganese [µg/g]	1100	1100	1900	1100	1100	990	3500	1200	1200	1000	1100
Molybdenum [µg/g]	0.4	0.9	4.8	0.7	1.1	0.9	4.4	1.3	0.9	1.4	1.3
Sodium [µg/g]	14000	15000	4000	15000	15000	20000	2700	19000	21000	23000	20000
Nickel [µg/g]	67	120	17	130	59	110	34	110	51	88	55



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Project : Tiriganiaq deposit

LR Report : CA11182-AUG09

Analysis	14: M08-742-03	15: M08-742-04	16: M08-742-05	17: M08-742-06	18: M08-743-01	19: M08-743-02	20: M08-743-03	21: M08-743-04	22: M08-750-01	23: M08-750-02	24: M08-750-03
Lead [µg/g]	6.8	6.1	3.7	1.4	3.0	2.4	4.8	2.9	3.8	10	5.1
Antimony [µg/g]	1.2	< 0.8	< 0.8	1.0	< 0.8	< 0.8	< 0.8	1.1	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	< 0.7	0.8	< 0.7	0.7	< 0.7	< 0.7	1.5	< 0.7	< 0.7	< 0.7	< 0.7
Tin [µg/g]	1.1	1.2	< 0.5	< 0.5	0.9	0.6	1.3	< 0.5	0.5	0.7	0.9
Strontium [µg/g]	97	130	27	110	130	91	30	130	190	150	160
Titanium [µg/g]	5900	4200	930	4100	6100	3800	840	6500	5100	6700	8400
Thallium [µg/g]	0.25	0.19	0.04	< 0.02	0.07	0.42	0.22	0.14	0.41	0.37	0.17
Uranium [µg/g]	0.28	0.13	0.43	0.058	0.41	0.090	0.19	0.40	0.18	1.2	1.1
Vanadium [µg/g]	200	180	19	180	190	190	37	200	180	150	170
Yttrium [µg/g]	11	9.6	3.0	12	17	6.2	3.4	16	12	9.7	16
Zinc [µg/g]	120	90	200	78	110	76	170	110	87	200	130

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Modified ABA (Price 1997)

Project : Tiriganiaq deposit

Monday, September 14, 2009

Date Rec. : 21 August 2009
LR Report: CA11183-AUG09
Reference: 09-1426-0015

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M08-734-01	6: M08-734-02	7: M08-734-03	8: M08-734-04	9: M08-735-01	10: M08-735-02	11: M08-735-03	12: M08-742-01	13: M08-742-02
Sample Date & Time											
Paste pH [units]	11-Sep-09	11:08	9.25	8.92	9.06	9.05	9.42	9.24	9.05	9.45	9.12
Fizz Rate [—]	11-Sep-09	11:08	4	4	4	4	4	4	4	4	4
Sample [weight(g)]	11-Sep-09	11:08	2.02	2.00	2.03	1.99	1.97	2.05	2.03	1.97	2.00
HCl added [mL]	11-Sep-09	11:08	76.70	113.60	111.50	138.20	69.60	144.00	107.20	57.80	87.20
HCl [Normality]	11-Sep-09	11:08	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	11-Sep-09	11:08	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	11-Sep-09	11:08	24.10	43.40	39.95	48.10	20.70	57.10	30.40	21.00	35.30
Final pH [units]	11-Sep-09	11:08	1.78	1.59	1.73	1.79	1.99	1.78	1.93	1.88	1.63
NP [t CaCO3/1000t]	11-Sep-09	11:08	130	176	176	226	124	212	189	93.4	130
AP [t CaCO3/1000 t]	11-Sep-09	11:09	2.2	8.1	5.3	1.6	1.9	3.4	2.2	1.6	3.4
Net NP [t CaCO3/1000 t]	11-Sep-09	11:09	128	167	171	225	122	209	187	91.8	126
NP/AP [ratio]	11-Sep-09	11:09	59.2	21.7	33.1	139	65.0	62.4	87.5	58.4	38.2
Total Sulphur [%]	04-Sep-09	14:41	0.107	0.334	0.261	0.088	0.106	0.179	0.124	0.132	0.207
Acid Leachable SO4-S [%]	11-Sep-09	10:28	0.04	0.08	0.09	0.04	0.05	0.07	0.05	0.08	0.10
Sulphide-S [%]	11-Sep-09	10:28	0.07	0.26	0.17	0.05	0.06	0.11	0.07	0.05	0.11
Total Carbon [%]	04-Sep-09	14:41	1.53	2.06	2.05	3.15	1.46	2.73	2.24	1.04	1.50
Carbonate (CO3) [%]	04-Sep-09	14:43	7.34	9.52	9.58	14.8	6.86	12.8	10.7	4.72	6.92



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Project : Tiriganiaq deposit

LR Report : CA11183-AUG09

*NP (Neutralization Potential)
= $50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})$

Weight of Sample

*AP (Acid Potential) = % Sulphide Sulphur $\times$ 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.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)

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



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Modified ABA (Price 1997)

Project : Tiriganiaq deposit

Monday, September 14, 2009

Date Rec. : 21 August 2009
LR Report: CA11183-AUG09
Reference: 09-1426-0015

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	14: M08-742-03	15: M08-742-04	16: M08-742-05	17: M08-742-06	18: M08-743-01	19: M08-743-02	20: M08-743-03	21: M08-743-04	22: M08-750-01	23: M08-750-02	24: M08-750-03
Sample Date & Time											
Paste pH [units]	8.93	9.01	8.64	9.44	9.59	9.18	8.56	9.69	9.39	8.94	9.07
Fizz Rate [—]	4	4	3	4	4	3	3	3	4	4	4
Sample [weight(g)]	1.98	2.02	2.01	2.02	2.02	2.00	2.02	1.98	1.98	2.00	1.97
HCl added [mL]	128.00	119.20	48.70	62.30	40.00	82.90	53.70	24.90	145.90	121.30	93.70
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	56.40	39.40	25.45	25.10	16.80	22.00	23.30	13.00	56.50	54.00	41.10
Final pH [units]	1.61	1.93	1.66	1.54	1.76	2.00	1.92	1.65	1.64	1.68	1.61
NP [t CaCO3/1000t]	181	198	57.8	92.1	57.4	152	75.2	30.1	226	168	134
AP [t CaCO3/1000 t]	0.62	1.2	31.9	1.6	1.9	0.31	35.6	1.2	3.1	1.2	1.6
Net NP [t CaCO3/1000 t]	180	196	25.9	90.5	55.5	152	39.6	28.9	223	167	132
NP/AP [ratio]	292	165	1.81	57.6	29.9	491	2.11	25.1	72.8	140	83.4
Total Sulphur [%]	0.051	0.086	2.17	0.082	0.101	0.033	2.21	0.070	0.155	0.070	0.118
Acid Leachable SO4-S [%]	0.03	0.04	1.15	0.03	0.04	0.02	1.07	0.03	0.06	0.03	0.06
Sulphide-S [%]	0.02	0.04	1.02	0.05	0.06	< 0.01	1.14	0.04	0.10	0.04	0.05
Total Carbon [%]	2.34	2.44	0.966	1.08	0.617	1.89	1.16	0.277	2.50	2.32	1.50
Carbonate (CO3) [%]	10.9	11.5	2.11	5.06	2.81	9.01	3.02	1.22	12.5	11.1	7.17



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Project : Tiriganiaq deposit

LR Report : CA11183-AUG09

*NP (Neutralization Potential)
= $50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})$

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.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)

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SFE (4:1)

Project : Fzone deposit

Thursday, September 10, 2009

Date Rec. : 21 August 2009
LR Report: CA10222-AUG09
Reference: 09-1426-0015

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M98-316-01	6: GT-08-04-01	7: M05-536A-01	8: GT08-02-01	9: M97-138-01	10: M05-564-01	11: M97-139-01	12: M97-141-01	13: M97-93-01	14: M97-92-01
Sample Date & Time			Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a
Sample [weight(g)]	03-Sep-09	14:29	200	200	200	200	200	200	200	200	200	200
Volume mL [D.I. H2O]	03-Sep-09	14:29	800	800	800	800	800	800	800	800	800	800
Initial pH [units]	03-Sep-09	14:29	9.91	9.90	9.85	9.86	9.90	9.79	9.77	9.72	9.81	9.82
Final pH [units]	03-Sep-09	14:29	9.21	9.30	8.69	8.91	8.91	9.20	8.71	8.78	8.73	8.93
pH [no unit]	08-Sep-09	14:02	7.91	7.97	8.19	7.97	8.02	8.02	8.35	8.25	8.14	8.04
Conductivity [uS/cm]	08-Sep-09	14:02	66	74	155	96	95	73	218	164	136	105
Alkalinity [mg/L as CaCO3]	08-Sep-09	14:02	34	34	84	46	51	39	117	89	75	58
Sulphate [mg/L]	09-Sep-09	11:21	1.3	0.9	0.8	0.9	0.6	1.1	1.0	0.8	1.0	0.8
Chloride [mg/L]	09-Sep-09	11:21	0.7	2.7	1.4	3.5	0.7	0.8	0.8	0.9	0.8	0.8
Mercury [mg/L]	10-Sep-09	08:50	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	09-Sep-09	13:51	0.00003	0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	08-Sep-09	14:44	0.97	0.90	0.51	0.93	0.82	1.18	0.50	0.42	0.55	0.67
Arsenic [mg/L]	09-Sep-09	13:51	0.0012	0.0028	0.0141	0.0009	0.0024	0.0003	0.0711	0.0014	0.0077	0.0032
Boron [mg/L]	09-Sep-09	13:51	0.0095	0.0802	0.0121	0.0126	0.0046	0.0033	0.0119	0.0074	0.0045	0.0072
Beryllium [mg/L]	09-Sep-09	13:51	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	09-Sep-09	13:51	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	08-Sep-09	14:44	8.62	6.70	14.2	11.2	10.6	7.98	16.0	14.3	13.8	11.1
Cadmium [mg/L]	09-Sep-09	13:51	0.000008	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000008	< 0.000003	< 0.000003	< 0.000003
Cobalt [mg/L]	09-Sep-09	13:51	0.000031	0.000021	0.000075	0.000023	0.000030	0.000019	0.000337	0.000037	0.000054	0.000035
Chromium [mg/L]	09-Sep-09	13:51	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	09-Sep-09	13:51	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0006	< 0.0005	< 0.0005
Iron [mg/L]	08-Sep-09	14:44	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	08-Sep-09	14:44	0.56	2.98	7.42	0.58	2.89	1.07	12.5	5.31	3.11	3.48



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SFE (4:1)

Project : Fzone deposit
LR Report : CA10222-AUG09

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M98-316-01	6: GT-08-04-01	7: M05-536A-01	8: GT08-02-01	9: M97-138-01	10: M05-564-01	11: M97-139-01	12: M97-141-01	13: M97-93-01	14: M97-92-01
Lithium [mg/L]	09-Sep-09	13:51	< 0.001	< 0.001	0.002	< 0.001	< 0.001	0.002	0.001	< 0.001	0.003	< 0.001
Magnesium [mg/L]	08-Sep-09	14:44	1.10	0.814	7.04	1.88	2.44	1.10	11.5	8.60	5.73	3.66
Manganese [mg/L]	09-Sep-09	13:51	0.00133	0.00080	0.00354	0.00239	0.00266	0.00209	0.00737	0.00185	0.00473	0.00238
Molybdenum [mg/L]	09-Sep-09	13:51	0.00004	0.00006	0.00011	0.00006	0.00006	0.00004	0.00013	0.00009	0.00004	0.00008
Sodium [mg/L]	08-Sep-09	14:44	2.75	5.43	4.10	5.26	3.87	5.14	5.46	4.16	5.62	4.24
Nickel [mg/L]	09-Sep-09	13:51	< 0.0001	< 0.0001	0.0004	< 0.0001	< 0.0001	< 0.0001	0.0028	0.0002	0.0002	< 0.0001
Lead [mg/L]	09-Sep-09	13:51	0.00005	0.00004	0.00003	0.00004	0.00003	0.00003	0.00017	0.00016	0.00002	0.00003
Antimony [mg/L]	09-Sep-09	13:51	0.0015	0.0020	0.0031	0.0017	0.0012	0.0007	0.0129	0.0036	0.0025	0.0007
Selenium [mg/L]	09-Sep-09	13:51	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	09-Sep-09	13:51	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00009	< 0.00001	0.00001
Strontium [mg/L]	08-Sep-09	14:44	0.0386	0.0251	0.0262	0.0457	0.0258	0.0183	0.0324	0.0246	0.0251	0.0393
Titanium [mg/L]	09-Sep-09	13:51	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Thallium [mg/L]	09-Sep-09	13:51	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	09-Sep-09	13:51	0.000013	0.000013	0.000002	0.000001	0.000002	0.000003	0.000035	0.000002	0.000003	0.000009
Vanadium [mg/L]	09-Sep-09	13:51	0.00146	0.00157	0.00050	0.00065	0.00060	0.00200	0.00073	0.00047	0.00056	0.00068
Tungsten [mg/L]	09-Sep-09	13:51	0.00036	0.00524	0.00195	0.00047	0.00099	0.00035	0.00179	0.00090	0.00170	0.00141
Yttrium [mg/L]	09-Sep-09	13:51	0.000011	0.000002	0.000001	0.000001	0.000002	0.000002	0.000006	0.000005	0.000002	0.000002
Zinc [mg/L]	09-Sep-09	13:51	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001

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Monday, January 11, 2010

Date Rec. : 21 December 2009
LR Report: CA11450-DEC09
Reference: F-Zone

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M09-855-01	6: M09-855-02	7: M09-858-01	8: M09-858-02	9: M09-857-01	10: M09-816-01	11: M09-816-02	12: M09-862-01	13: M09-798-01	14: M09-798-02	15: GT09-07-01	16: GT09-07-02	17: M09-866-01	18: M09-866-02
Sample Date & Time																
Silver [µg/g]	08-Jan-10	14:53	0.53	0.27	0.11	0.13	0.17	0.12	0.15	0.17	0.27	0.22	0.09	0.36	0.35	0.36
Aluminum [µg/g]	08-Jan-10	14:14	55000	24000	66000	66000	64000	69000	64000	63000	77000	78000	76000	50000	57000	59000
Arsenic [µg/g]	08-Jan-10	14:53	220	110	2.2	2.1	6.1	1.7	1.7	13	4.2	4.0	3.9	9.1	33	39
Barium [µg/g]	08-Jan-10	14:53	120	74	110	49	170	49	88	89	320	200	59	64	200	190
Beryllium [µg/g]	08-Jan-10	14:53	0.57	0.55	0.31	0.33	0.37	0.27	0.40	0.31	0.73	0.66	0.26	0.54	0.49	0.63
Bismuth [µg/g]	08-Jan-10	14:53	0.16	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09
Calcium [µg/g]	08-Jan-10	14:14	56000	61000	84000	77000	64000	88000	75000	70000	57000	57000	68000	77000	79000	75000
Cadmium [µg/g]	08-Jan-10	14:53	1.2	0.29	0.10	0.11	0.24	0.14	0.10	0.19	0.28	0.17	0.13	0.34	0.54	0.32
Cobalt [µg/g]	08-Jan-10	14:53	53	44	40	36	40	40	41	41	47	45	42	34	37	34
Chromium [µg/g]	08-Jan-10	14:53	180	290	160	160	150	160	170	150	72	110	170	170	140	150
Copper [µg/g]	08-Jan-10	14:14	330	86	94	98	110	91	110	83	120	110	100	59	130	62
Iron [µg/g]	08-Jan-10	14:15	110000	72000	64000	70000	61000	72000	73000	74000	93000	87000	71000	68000	98000	70000
Potassium [µg/g]	08-Jan-10	14:15	6300	3500	1400	1200	6500	850	2300	4100	9100	6300	2000	4800	7400	5300
Lithium [µg/g]	08-Jan-10	14:53	27	45	15	20	34	14	16	41	23	22	29	48	40	35
Magnesium [µg/g]	08-Jan-10	14:15	23000	19000	32000	31000	30000	30000	34000	36000	28000	29000	32000	25000	30000	30000
Manganese [µg/g]	08-Jan-10	14:53	2800	1900	1300	1200	1200	1300	1100	1200	1200	1100	1100	1700	2200	1700
Molybdenum [µg/g]	08-Jan-10	14:53	1.3	0.4	0.3	0.4	0.2	0.3	1.1	0.2	0.8	0.6	0.2	0.6	0.5	0.4
Sodium [µg/g]	08-Jan-10	14:15	7000	14000	17000	15000	17000	13000	14000	15000	18000	19000	19000	13000	2400	12000
Nickel [µg/g]	08-Jan-10	14:53	86	89	57	49	56	57	57	53	67	76	60	69	63	67
Lead [µg/g]	08-Jan-10	14:53	9.5	5.7	2.5	3.8	4.4	2.3	32	3.6	7.6	6.0	1.2	3.4	4.9	4.9
Antimony [µg/g]	08-Jan-10	14:53	11	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	5.6	< 0.8	1.0	1.1	< 0.8	2.2	< 0.8	< 0.8
Selenium [µg/g]	08-Jan-10	14:53	1.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Tin [µg/g]	08-Jan-10	14:53	6.3	0.6	1.4	0.6	1.0	1.1	2.2	1.3	1.8	1.3	1.0	1.6	2.4	1.3

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LR Report : **CA11450-DEC09**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M09-855-01	6: M09-855-02	7: M09-858-01	8: M09-858-02	9: M09-857-01	10: M09-816-01	11: M09-816-02	12: M09-862-01	13: M09-798-01	14: M09-798-02	15: GT09-07-01	16: GT09-07-02	17: M09-866-01	18: M09-866-02
Strontium [µg/g]	08-Jan-10	14:53	68	120	160	210	110	110	180	90	210	260	93	98	40	91
Titanium [µg/g]	08-Jan-10	14:15	3900	4200	5600	5300	5200	5400	5500	4900	8200	6600	6100	6800	5300	6000
Thallium [µg/g]	08-Jan-10	14:54	0.39	0.12	< 0.02	< 0.02	0.19	< 0.02	< 0.02	0.09	0.44	0.27	0.05	0.16	0.27	0.16
Uranium [µg/g]	08-Jan-10	14:54	0.43	0.14	0.20	0.21	0.39	0.18	0.27	0.19	1.1	0.87	0.18	0.37	0.28	0.26
Vanadium [µg/g]	08-Jan-10	14:54	140	220	220	210	200	200	210	200	190	180	230	200	170	180
Yttrium [µg/g]	08-Jan-10	14:54	9.9	3.7	15	17	13	16	17	11	19	16	16	20	13	16
Zinc [µg/g]	08-Jan-10	14:15	540	140	90	71	110	92	76	97	120	110	95	100	230	120

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SFE (4:1) 0.45µm, 24hr

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Friday, January 08, 2010

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CERTIFICATE OF ANALYSIS

Final Report

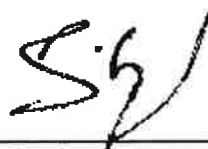
Analysis	3: Approval Date	4: Approval Time	5: M09-855-01	6: M09-855-02	7: M09-858-01	8: M09-858-02	9: M09-857-01	10: M09-816-01
Sample Date & Time								
Sample [weight(g)]	04-Jan-10	15:19	200	200	200	200	200	200
Volume mL [D.I. H ₂ O]	04-Jan-10	15:19	800	800	800	800	800	800
Initial pH [units]	04-Jan-10	15:19	9.6	9.7	9.8	9.9	9.9	9.8
Final pH [units]	04-Jan-10	15:19	8.69	8.89	9.87	9.92	9.51	9.61
pH [no unit]	06-Jan-10	09:43	8.10	8.46	9.50	9.46	8.65	8.69
Conductivity [uS/cm]	06-Jan-10	09:43	268	194	85	87	174	84
Alkalinity [mg/L as CaCO ₃]	06-Jan-10	09:43	59	77	34	32	42	29
Sulphate [mg/L]	05-Jan-10	16:01	10	2.5	1.5	1.4	4.6	1.8
Chloride [mg/L]	05-Jan-10	15:34	23	13	4.4	6.8	20	8.2
Mercury [mg/L]	04-Jan-10	15:11	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	06-Jan-10	13:48	0.00005	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	06-Jan-10	08:34	0.40	0.37	0.65	0.70	0.80	0.71
Arsenic [mg/L]	06-Jan-10	13:48	0.0049	0.0191	0.0012	0.0012	0.0100	0.0010
Boron [mg/L]	06-Jan-10	13:48	0.0220	0.0134	0.0879	0.0140	0.0237	0.0103
Beryllium [mg/L]	06-Jan-10	13:48	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	06-Jan-10	13:48	0.00003	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	06-Jan-10	08:34	18.2	11.7	3.85	4.15	4.46	5.72
Cadmium [mg/L]	06-Jan-10	13:48	0.000011	0.000006	< 0.000003	0.000003	0.000008	0.000014
Cobalt [mg/L]	06-Jan-10	13:48	0.000080	0.000061	0.000041	0.000027	0.000031	0.000030
Chromium [mg/L]	06-Jan-10	13:48	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	06-Jan-10	13:48	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	06-Jan-10	08:34	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	06-Jan-10	08:34	13.0	5.52	1.54	1.57	10.7	1.29
Lithium [mg/L]	06-Jan-10	13:48	0.002	0.002	< 0.001	< 0.001	< 0.001	< 0.001
Magnesium [mg/L]	06-Jan-10	08:34	5.14	8.25	0.615	0.582	0.719	0.864
Manganese [mg/L]	06-Jan-10	13:48	0.0120	0.00287	0.00049	0.00028	0.00047	0.00079
Molybdenum [mg/L]	06-Jan-10	13:48	0.00028	0.00022	0.00031	0.00008	0.00041	0.00013
Sodium [mg/L]	06-Jan-10	08:34	19.7	13.3	11.8	12.6	23.3	9.74
Nickel [mg/L]	06-Jan-10	13:48	0.0006	0.0006	0.0001	0.0002	0.0003	0.0002
Lead [mg/L]	06-Jan-10	13:48	0.00005	0.00003	0.00004	0.00004	0.00005	0.00005
Antimony [mg/L]	06-Jan-10	13:48	0.0009	0.0024	0.0013	0.0012	0.0012	0.0011
Selenium [mg/L]	06-Jan-10	13:48	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

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LR Report : CA11451-DEC09

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M09-855-01	6: M09-855-02	7: M09-858-01	8: M09-858-02	9: M09-857-01	10: M09-816-01
Tin [mg/L]	06-Jan-10	13:48	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Strontium [mg/L]	06-Jan-10	08:34	0.0654	0.0347	0.0128	0.0155	0.0193	0.0160
Titanium [mg/L]	06-Jan-10	13:48	< 0.0001	< 0.0001	0.0004	0.0003	0.0002	0.0002
Thallium [mg/L]	06-Jan-10	13:48	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	06-Jan-10	13:48	0.000022	0.000025	0.000009	0.000011	0.000022	0.000019
Vanadium [mg/L]	06-Jan-10	13:48	0.00011	0.00045	0.0195	0.0156	0.00363	0.00644
Tungsten [mg/L]	06-Jan-10	13:48	0.00144	0.00170	0.00111	0.00070	0.00154	0.00368
Yttrium [mg/L]	06-Jan-10	13:48	0.000019	0.000011	0.000010	0.000015	0.000017	0.000017
Zinc [mg/L]	06-Jan-10	13:48	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001



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SFE (4:1) 0.45µm, 24hr

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Friday, January 08, 2010

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	11: M09-816-02	12: M09-862-01	13: M09-798-01	14: M09-798-02	15: GT09-07-01	16: GT09-07-02	17: M09-866-01	18: M09-866-02
Sample Date & Time								
Sample [weight(g)]	200	200	200	200	200	200	200	200
Volume mL [D.I. H ₂ O]	800	800	800	800	800	800	800	800
Initial pH [units]	9.8	9.8	9.9	9.9	9.8	9.7	9.8	9.7
Final pH [units]	9.78	9.26	10.02	10.04	9.47	9.32	8.93	9.03
pH [no unit]	9.21	8.11	9.41	9.23	8.22	8.25	8.36	8.41
Conductivity [uS/cm]	85	112	118	96	105	106	199	158
Alkalinity [mg/L as CaCO ₃]	29	40	37	38	32	38	61	66
Sulphate [mg/L]	2.8	1.0	1.8	1.3	1.8	1.2	3.1	1.3
Chloride [mg/L]	5.3	8.6	9.0	4.5	12	8.0	17	10
Mercury [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	0.62	0.67	1.20	1.01	0.89	0.87	0.65	0.53
Arsenic [mg/L]	0.0013	0.0005	0.0075	0.0076	0.0007	0.0016	0.0011	0.0065
Boron [mg/L]	0.0218	0.0100	0.0178	0.0264	0.0407	0.0098	0.0246	0.0173
Beryllium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	4.78	7.33	3.62	3.35	5.52	6.31	9.50	9.87
Cadmium [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Cobalt [mg/L]	0.000024	0.000014	0.000140	0.000108	0.000006	0.000007	0.000011	0.000022
Chromium [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	< 0.01	< 0.01	0.25	0.16	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	4.50	6.27	10.3	8.25	3.93	9.08	12.5	7.67
Lithium [mg/L]	< 0.001	< 0.001	0.008	0.002	< 0.001	< 0.001	< 0.001	0.001
Magnesium [mg/L]	0.645	1.72	0.355	0.346	0.820	0.986	2.62	5.18
Manganese [mg/L]	0.00085	0.00078	0.00327	0.00241	0.00049	0.00110	0.00383	0.00276
Molybdenum [mg/L]	0.00030	0.00013	0.00033	0.00018	0.00013	0.00015	0.00050	0.00019
Sodium [mg/L]	9.48	10.0	14.2	12.3	12.7	9.84	19.0	13.2
Nickel [mg/L]	0.0001	0.0001	0.0004	0.0003	< 0.0001	0.0002	0.0002	0.0003
Lead [mg/L]	0.00006	0.00002	0.00006	0.00005	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Antimony [mg/L]	0.0010	0.0012	0.0029	0.0038	0.0011	0.0017	0.0012	0.0028
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Online LIMS

SGS Lakefield Research Limited

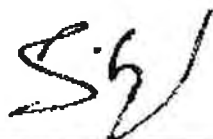
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LR Report : CA11451-DEC09

Analysis	11: M09-816-02	12: M09-862-01	13: M09-798-01	14: M09-798-02	15: GT09-07-01	16: GT09-07-02	17: M09-866-01	18: M09-866-02
Tin [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00008	< 0.00001	< 0.00001	0.00002	< 0.00001
Strontium [mg/L]	0.0729	0.0304	0.0169	0.0128	0.0177	0.0220	0.0221	0.0209
Titanium [mg/L]	0.0003	< 0.0001	0.0107	0.0061	0.0002	< 0.0001	< 0.0001	< 0.0001
Thallium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	0.000008	0.000005	0.000139	0.000047	0.000001	0.000001	< 0.000001	< 0.000001
Vanadium [mg/L]	0.0123	0.00090	0.0199	0.0187	0.00385	0.00148	0.00021	0.00045
Tungsten [mg/L]	0.00144	0.00109	0.00112	0.00101	0.00096	0.00125	0.00076	0.00114
Yttrium [mg/L]	0.000008	0.000002	0.000038	0.000020	< 0.000001	0.000001	< 0.000001	< 0.000001
Zinc [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001


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LR Report: CA11452-DEC09

Reference: F-Zone

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	5: M09-855-01	6: M09-855-02	7: M09-858-01	8: M09-858-02	9: M09-857-01	10: M09-816-01	11: M09-816-02
Sample Date & Time							
SiO2 [%]	43.4	43.7	47.9	47.8	46.9	46.8	48.0
Al2O3 [%]	11.1	12.8	13.6	13.3	13.3	13.4	13.2
Fe2O3 [%]	17.8	11.2	9.87	11.2	9.86	11.0	11.5
MgO [%]	3.98	5.88	5.80	5.59	5.50	5.13	6.24
CaO [%]	8.93	9.84	13.2	12.5	10.5	13.6	12.0
Na2O [%]	1.02	2.13	2.37	2.28	2.67	1.77	2.00
K2O [%]	0.67	0.38	0.14	0.12	0.70	0.08	0.23
TiO2 [%]	0.65	0.78	0.91	0.89	0.90	0.86	0.90
P2O5 [%]	0.06	0.07	0.07	0.07	0.09	0.07	0.08
MnO [%]	0.43	0.27	0.20	0.20	0.21	0.22	0.19
Cr2O3 [%]	0.03	0.05	0.04	0.04	0.04	0.03	0.03
V2O5 [%]	0.03	0.04	0.05	0.05	0.04	0.05	0.05
LOI [%]	4.62	10.1	3.40	4.01	7.32	5.52	3.49
Sum [%]	92.8	97.2	97.6	98.0	98.0	98.5	97.9



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Project Specialist
Environmental Services, Analytical



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Friday, January 08, 2010

Date Rec. : 21 December 2009
LR Report: CA11452-DEC09
Reference: F-Zone

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	12: M09-862-01	13: M09-798-01	14: M09-798-02	15: GT09-07-01	16: GT09-07-02	17: M09-866-01	18: M09-866-02
Sample Date & Time							
SiO2 [%]	43.2	51.1	50.5	47.5	43.4	40.2	43.0
Al2O3 [%]	12.4	14.9	15.3	14.4	12.2	11.0	11.8
Fe2O3 [%]	11.2	14.5	13.6	10.6	10.9	15.3	10.9
MgO [%]	6.23	4.69	5.18	5.23	5.21	5.12	5.19
CaO [%]	10.9	8.82	9.02	10.3	12.5	12.3	11.8
Na2O [%]	2.19	2.53	2.82	2.58	1.91	0.35	1.75
K2O [%]	0.41	0.93	0.66	0.19	0.50	0.75	0.56
TiO2 [%]	0.83	1.32	1.11	0.98	1.19	0.88	1.03
P2O5 [%]	0.07	0.16	0.13	0.08	0.20	0.12	0.15
MnO [%]	0.19	0.19	0.18	0.19	0.25	0.35	0.28
Cr2O3 [%]	0.03	0.01	0.02	0.03	0.03	0.03	0.04
V2O5 [%]	0.04	0.04	0.03	0.05	0.04	0.04	0.04
LOI [%]	9.70	0.86	1.12	6.21	9.41	9.93	11.8
Sum [%]	97.3	100.0	99.7	98.4	97.7	96.4	98.3



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August 14, 2009

Date Rec. : 23 July 2009
LR Report: CA10278-JUL09
Reference: Meliadine Gold Project

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1:	2:	3:	4:
	Analysis Start Date	Analysis Start Time	Analysis Approval Date	Analysis Approval Time
Paste pH [units]	04-Aug-09	09:00	06-Aug-09	14:50
Fizz Rate [---]	04-Aug-09	09:00	06-Aug-09	14:50
Sample [weight(g)]	04-Aug-09	09:00	06-Aug-09	14:50
HCl added [mL]	04-Aug-09	09:00	06-Aug-09	14:50
HCl [Normality]	04-Aug-09	09:00	06-Aug-09	14:50
NaOH [Normality]	04-Aug-09	09:00	06-Aug-09	14:50
NaOH to [pH=8.3 mL]	04-Aug-09	09:00	06-Aug-09	14:50
Final pH [units]	04-Aug-09	09:00	06-Aug-09	14:50
NP [t CaCO ₃ /1000t]	04-Aug-09	09:00	06-Aug-09	14:50
AP [t CaCO ₃ /1000 t]	04-Aug-09	09:00	10-Aug-09	11:31
Net NP [t CaCO ₃ /1000 t]	04-Aug-09	09:00	10-Aug-09	11:31
NP/AP [ratio]	04-Aug-09	09:00	10-Aug-09	11:31
Total Sulphur [%]	06-Aug-09	19:28	10-Aug-09	11:30
Acid Leachable SO ₄ -S [%]	2.00	0.35	10-Aug-09	11:30
Sulphide-S [%]	04-Aug-09	11:00	05-Aug-09	10:00
Total Carbon [%]	06-Aug-09	19:28	10-Aug-09	11:31
Carbonate (CO ₃) [%]	04-Aug-09	08:30	04-Aug-09	14:11



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LR Report : CA10278-JUL09

*NP (Neutralization Potential)

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

Weight of sample

*AP (Acid Potential) = % Sulphide sulphur $\times$ 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.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)

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August 14, 2009

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	5: M08-755-01	6: M08-740-04	7: M08-740-02	8: M08-748-03	9: M08-755-03	10: M08-740-05	11: M08-752-02	12: M08-752-03
Paste pH [units]	9.20	9.40	9.21	9.02	9.09	9.34	10.04	9.35
Fizz Rate [---]	4	4	4	4	4	4	2	4
Sample [weight(g)]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
HCl added [mL]	88.90	139.95	124.00	105.00	77.20	131.30	26.60	122.80
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	44.40	52.05	52.20	37.60	27.00	43.80	18.60	56.20
Final pH [units]	1.66	1.76	1.61	1.86	1.80	1.90	1.55	1.84
NP [t CaCO ₃ /1000t]	113	221	180	171	127	222	19.7	163
AP [t CaCO ₃ /1000 t]	0.31	0.85	0.56	0.91	0.88	1.46	1.32	1.00
Net NP [t CaCO ₃ /1000 t]	113	220	180	170	126	221	18.4	162
NP/AP [ratio]	364	259	323	188	145	153	14.9	164
Total Sulphur [%]	0.016	0.065	0.086	0.057	0.039	0.100	0.111	0.074
Acid Leachable SO ₄ -S [%]	0.02	0.04	0.07	0.03	0.01	0.05	0.07	0.04
Sulphide-S [%]	< 0.01	0.03	0.02	0.03	0.03	0.05	0.04	0.03
Total Carbon [%]	1.25	2.82	2.35	2.06	1.56	2.54	0.141	2.10
Carbonate (CO ₃) [%]	5.66	13.1	10.8	9.31	7.08	11.5	0.494	9.48

Chris Sullivan, B.Sc., C.Chem
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CERTIFICATE OF ANALYSIS

Final Report

Analysis	13: M08-755-02	14: M08-752-04	15: M08-752-01	16: M08-748-02	17: M08-748-01	18: M08-740-03	19: M08-729-03	20: M08-747-01
Paste pH [units]	9.41	9.23	9.29	9.25	9.62	9.35	9.15	8.99
Fizz Rate [---]	4	4	4	4	4	4	4	4
Sample [weight(g)]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
HCl added [mL]	89.50	105.80	87.20	117.10	54.70	60.30	135.95	102.60
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	40.00	37.50	28.25	40.10	27.50	26.10	60.90	28.20
Final pH [units]	1.65	1.90	1.79	1.95	1.88	1.84	1.64	1.87
NP [t CaCO ₃ /1000t]	123	172	147	195	68.0	86.4	186	185
AP [t CaCO ₃ /1000 t]	0.47	1.07	7.88	14.3	4.67	2.30	2.01	9.48
Net NP [t CaCO ₃ /1000 t]	123	171	140	181	63.3	84.1	184	176
NP/AP [ratio]	263	161	18.7	13.7	14.6	37.5	92.6	19.5
Total Sulphur [%]	0.042	0.053	0.566	0.574	0.211	0.103	0.086	0.436
Acid Leachable SO ₄ -S [%]	0.03	0.02	0.31	0.12	0.06	0.03	0.02	0.13
Sulphide-S [%]	0.02	0.03	0.25	0.46	0.15	0.07	0.06	0.30
Total Carbon [%]	1.44	2.01	1.75	2.29	0.683	0.982	2.21	2.27
Carbonate (CO ₃) [%]	6.49	8.94	7.76	9.93	2.93	4.40	10.2	10.4

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Final Report

Analysis	21: M08-740-01	22: M08-747-02	23: M08-729-04	24: M08-747-04	25: M08-729-06	26: M08-747-03	27: M08-729-01	28: M08-729-02
Paste pH [units]	8.98	9.46	9.28	9.32	9.10	8.92	9.14	8.90
Fizz Rate [---]	4	4	4	4	4	4	4	4
Sample [weight(g)]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
HCl added [mL]	120.30	40.00	91.70	55.40	115.20	110.45	105.40	105.60
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	47.20	15.10	39.60	25.40	39.40	36.50	44.30	41.10
Final pH [units]	1.71	1.99	1.63	1.73	1.90	1.86	1.64	1.67
NP [t CaCO ₃ /1000t]	180	62.2	128	73.2	188	188	154	159
AP [t CaCO ₃ /1000 t]	3.53	8.63	3.93	3.84	2.11	0.45	7.21	0.73
Net NP [t CaCO ₃ /1000 t]	176	53.6	124	69.4	185	187	146	158
NP/AP [ratio]	51.0	7.21	32.7	19.1	88.8	417	21.3	218
Total Sulphur [%]	0.176	0.532	0.188	0.169	0.078	0.034	0.277	0.047
Acid Leachable SO ₄ -S [%]	0.06	0.26	0.06	0.05	0.01	0.02	0.05	0.02
Sulphide-S [%]	0.11	0.28	0.13	0.12	0.07	0.01	0.23	0.02
Total Carbon [%]	2.16	0.712	1.63	0.849	2.40	2.25	1.79	1.88
Carbonate (CO ₃) [%]	9.54	2.94	7.09	3.73	10.9	10.1	7.97	8.57

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August 14, 2009

Date Rec. : 23 July 2009
LR Report: CA10278-JUL09
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CERTIFICATE OF ANALYSIS

Final Report

Analysis	29: FZ-SS-6	30: FZ-SS-7	31: FZ-SS-8	32: FZ-SS-9	33: FZ-SS-10
Paste pH [units]	8.23	8.67	8.46	8.44	8.80
Fizz Rate [---]	2	4	3	3	1
Sample [weight(g)]	2.0	2.0	2.0	2.0	2.0
HCl added [mL]	20.00	52.80	29.90	20.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	16.50	27.70	15.80	13.80	17.80
Final pH [units]	1.84	1.67	1.79	1.77	1.56
NP [t CaCO ₃ /1000t]	8.8	64.0	35.8	15.5	5.6
AP [t CaCO ₃ /1000 t]	0.31	0.31	0.31	0.31	0.31
Net NP [t CaCO ₃ /1000 t]	8.49	63.7	35.5	15.2	5.29
NP/AP [ratio]	28.4	206	115	50.0	18.1
Total Sulphur [%]	0.014	0.026	0.012	< 0.005	< 0.005
Acid Leachable SO ₄ -S [%]	0.01	0.03	0.01	< 0.005	< 0.005
Sulphide-S [%]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total Carbon [%]	0.847	0.974	0.800	0.255	0.208
Carbonate (CO ₃) [%]	0.268	3.14	1.85	0.589	0.022



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**Shake Flask Leach @ 4:1 ratio filter=0.45µ,
24hr**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Approval Date	4: Analysis Approval Time	36:BLK: \$D.I. Leachate Blank
Sample [weight(g)]	08-Aug-09	07:00	07-Aug-09	08:57	N/A
Volume mL [D.I. H2O]	08-Aug-09	07:00	07-Aug-09	08:57	800
Initial pH [units]	08-Aug-09	07:00	07-Aug-09	08:57	5.75
Final pH [units]	08-Aug-09	07:00	07-Aug-09	08:57	5.88
pH [no unit]	10-Aug-09	12:45	11-Aug-09	11:43	5.82
Conductivity [uS/cm]	10-Aug-09	12:45	11-Aug-09	11:44	1
Alkalinity [mg/L as CaCO3]	10-Aug-09	12:45	11-Aug-09	11:44	< 2
Sulphate [mg/L]	10-Aug-09	09:43	12-Aug-09	15:23	< 0.2
Chloride [mg/L]	10-Aug-09	09:43	12-Aug-09	15:23	< 0.2
Mercury [mg/L]	11-Aug-09	10:00	11-Aug-09	14:33	< 0.0001
Silver [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.00001
Aluminum [mg/L]	11-Aug-09	13:00	12-Aug-09	11:08	< 0.01
Arsenic [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.0002
Boron [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	0.0061
Beryllium [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.00002
Bismuth [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.00001
Calcium [mg/L]	11-Aug-09	13:00	12-Aug-09	11:07	< 0.03
Cadmium [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.000003
Cobalt [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	0.000024
Chromium [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.0005
Copper [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.0005
Iron [mg/L]	11-Aug-09	13:00	12-Aug-09	11:07	< 0.01
Potassium [mg/L]	11-Aug-09	13:00	12-Aug-09	11:07	< 0.01
Lithium [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.001
Magnesium [mg/L]	11-Aug-09	13:00	12-Aug-09	11:07	< 0.003
Manganese [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	0.00039
Molybdenum [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	0.00001
Sodium [mg/L]	11-Aug-09	13:00	12-Aug-09	11:07	< 0.01
Nickel [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.0001
Lead [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.00002

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LR Report : CA10279-JUL09

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Approval Date	4: Analysis Approval Time	36:BLK: \$D.I. Leachate Blank
Antimony [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	0.0003
Selenium [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.001
Tin [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.00001
Strontium [mg/L]	11-Aug-09	13:00	12-Aug-09	11:07	< 0.0001
Titanium [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.0001
Thallium [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.00002
Uranium [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.000001
Vanadium [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.00003
Tungsten [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.00003
Yttrium [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.000001
Zinc [mg/L]	12-Aug-09	09:54	12-Aug-09	14:43	< 0.001



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**Shake Flask Leach @ 4:1 ratio filter=0.45µ,
24hr**

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August 14, 2009

Date Rec. : 23 July 2009
LR Report: CA10279-JUL09
Reference: Meliadine Gold Project

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	5:	6:	7:	8:	9:	10:	11:	12:
	M08-755-01	M08-740-04	M08-740-02	M08-748-03	M08-755-03	M08-740-05	M08-752-02	M08-752-03
Sample [weight(g)]	200	200	200	200	200	200	200	200
Volume mL [D.I. H ₂ O]	800	800	800	800	800	800	800	800
Initial pH [units]	9.78	9.87	9.88	9.85	9.87	9.88	9.80	9.83
Final pH [units]	9.80	9.05	9.14	9.46	9.57	9.54	9.96	9.11
pH [no unit]	8.81	8.05	7.97	7.94	8.32	8.51	8.53	8.03
Conductivity [uS/cm]	77	126	119	66	72	116	100	118
Alkalinity [mg/L as CaCO ₃]	32	57	54	30	35	42	41	54
Sulphate [mg/L]	1.2	0.9	0.9	1.0	1.0	2.5	5.7	0.8
Chloride [mg/L]	4.1	5.3	5.9	2.5	2.9	7.8	2.5	5.2
Mercury [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	0.00002	0.00001	0.00002	0.00002	0.00002	0.00002	0.00001	< 0.00001
Aluminum [mg/L]	0.83	0.47	0.53	0.66	0.61	0.85	0.64	0.49
Arsenic [mg/L]	0.0043	0.0168	0.0723	0.0018	0.0040	0.0367	0.0053	0.0248
Boron [mg/L]	0.0075	0.0081	0.0180	0.0199	0.0239	0.0167	0.249	0.0164
Beryllium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	3.91	7.72	6.58	5.53	4.44	3.56	3.27	6.94
Cadmium [mg/L]	0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Cobalt [mg/L]	0.000035	0.000053	0.000053	0.000030	0.000020	0.000025	0.000316	0.000034
Chromium [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0010	< 0.0005
Copper [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0005	< 0.0005
Iron [mg/L]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.70	< 0.01
Potassium [mg/L]	5.86	10.7	3.70	1.49	1.38	10.4	5.36	9.08
Lithium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.004	< 0.001
Magnesium [mg/L]	0.346	2.79	2.67	0.692	0.606	0.428	0.435	2.46
Manganese [mg/L]	0.00037	0.00124	0.00047	0.00053	0.00022	0.00052	0.00613	0.00083
Molybdenum [mg/L]	0.00010	0.00012	0.00006	0.00005	0.00008	0.00025	0.00016	0.00012
Sodium [mg/L]	8.56	8.95	11.5	6.65	9.91	13.8	15.2	9.95
Nickel [mg/L]	< 0.0001	0.0006	0.0003	0.0001	< 0.0001	0.0002	0.0005	0.0002
Lead [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00011	< 0.00002



Shake Flask Leach @ 4:1 ratio filter=0.45µ,
24hr

SGS Lakefield Research Limited
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2H0
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA10279-JUL09

Analysis	5:	6:	7:	8:	9:	10:	11:	12:
	M08-755-01	M08-740-04	M08-740-02	M08-748-03	M08-755-03	M08-740-05	M08-752-02	M08-752-03
Antimony [mg/L]	0.0016	0.0033	0.0016	0.0036	0.0033	0.0020	0.0037	0.0015
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00003	< 0.00001
Strontium [mg/L]	0.0080	0.0296	0.0232	0.0211	0.0178	0.0164	0.0292	0.0293
Titanium [mg/L]	0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0224	0.0002
Thallium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	0.000011	0.000008	< 0.000001	0.000001	0.000002	0.000006	0.000201	0.000004
Vanadium [mg/L]	0.0166	0.00113	0.00173	0.00358	0.00584	0.00502	0.0287	0.00141
Tungsten [mg/L]	0.00219	0.00105	0.00062	0.00083	0.00110	0.00083	0.00102	0.00316
Yttrium [mg/L]	< 0.000001	< 0.000001	< 0.000001	< 0.000001	0.000001	0.000008	0.000113	0.000001
Zinc [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.005	< 0.001

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



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24hr**

Comaplex Minerals Corp

Attn : Mark Balog mbalog@comaplex.com; Valerie_Bertrand@golder.com

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CERTIFICATE OF ANALYSIS **Final Report**

Analysis	13: M08-755-02	14: M08-752-04	15: M08-752-01	16: M08-748-02	17: M08-748-01	18: M08-740-03	19: M08-729-03	20: M08-747-01
Sample [weight(g)]	200	200	200	200	200	200	200	200
Volume mL [D.I. H2O]	800	800	800	800	800	800	800	800
Initial pH [units]	9.85	9.85	9.85	9.85	9.87	9.86	9.86	9.84
Final pH [units]	9.69	9.44	9.50	9.23	9.77	9.75	9.38	9.23
pH [no unit]	8.46	7.93	8.24	7.74	8.65	8.70	8.24	7.95
Conductivity [uS/cm]	88	82	134	124	104	80	111	110
Alkalinity [mg/L as CaCO3]	36	36	33	38	40	32	43	34
Sulphate [mg/L]	1.8	1.2	5.2	3.7	2.0	1.7	3.4	3.3
Chloride [mg/L]	4.6	3.9	12	5.7	5.6	5.2	6.0	7.1
Mercury [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	0.87	0.93	0.55	0.73	0.99	0.72	1.11	0.79
Arsenic [mg/L]	0.0017	0.0007	0.0073	0.0007	0.0031	0.0025	0.0098	0.0007
Boron [mg/L]	0.0123	0.0104	0.0134	0.0112	0.0241	0.0136	0.0242	0.0093
Beryllium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	3.55	4.81	5.29	6.49	2.98	3.82	4.52	7.92
Cadmium [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Cobalt [mg/L]	0.000018	0.000017	0.000020	0.000018	0.000019	0.000021	0.000017	0.000055
Chromium [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	8.20	7.84	4.55	11.2	8.17	3.08	8.74	4.89
Lithium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Magnesium [mg/L]	0.380	0.528	0.788	0.895	0.278	0.398	0.504	0.970
Manganese [mg/L]	0.00045	0.00062	0.00067	0.00100	0.00025	0.00026	0.00071	0.00282
Molybdenum [mg/L]	0.00014	0.00004	0.00020	0.00006	0.00012	0.00005	0.00032	0.00007
Sodium [mg/L]	9.78	7.54	17.3	9.71	13.2	10.1	12.7	9.52
Nickel [mg/L]	< 0.0001	< 0.0001	0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002
Lead [mg/L]	0.00003	< 0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002

OnLine LIMS



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Shake Flask Leach @ 4:1 ratio filter=0.45µ,
24hr

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Analysis	13: M08-755-02	14: M08-752-04	15: M08-752-01	16: M08-748-02	17: M08-748-01	18: M08-740-03	19: M08-729-03	20: M08-747-01
Antimony [mg/L]	0.0016	0.0017	0.0026	0.0017	0.0033	0.0019	0.0020	0.0014
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00003	< 0.00001	0.00002	< 0.00001
Strontium [mg/L]	0.0110	0.0124	0.0203	0.0302	0.0240	0.0119	0.0110	0.0248
Titanium [mg/L]	0.0003	< 0.0001	< 0.0001	< 0.0001	0.0003	0.0003	< 0.0001	< 0.0001
Thallium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	0.000003	< 0.000001	0.000008	< 0.000001	0.000014	0.000006	< 0.000001	0.000001
Vanadium [mg/L]	0.00843	0.00338	0.00715	0.00111	0.0137	0.0174	0.00338	0.00201
Tungsten [mg/L]	0.00100	0.00269	0.00140	0.00089	0.00082	0.00100	0.00102	0.00057
Yttrium [mg/L]	< 0.000001	< 0.000001	< 0.000001	< 0.000001	0.000001	< 0.000001	< 0.000001	< 0.000001
Zinc [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

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



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CERTIFICATE OF ANALYSIS

Final Report

Analysis	21: M08-740-01	22: M08-747-02	23: M08-729-04	24: M08-747-04	25: M08-729-06	26: M08-747-03	27: M08-729-01	28: M08-729-02
Sample [weight(g)]	200	200	200	200	200	200	200	200
Volume mL [D.I. H2O]	800	800	800	800	800	800	800	800
Initial pH [units]	9.83	9.80	9.86	9.90	9.81	9.82	9.84	9.81
Final pH [units]	9.25	9.70	9.27	9.78	9.08	9.40	9.49	9.46
pH [no unit]	8.11	8.33	8.05	8.71	8.01	8.09	8.22	7.95
Conductivity [uS/cm]	115	93	100	80	107	75	99	90
Alkalinity [mg/L as CaCO3]	40	30	47	37	53	35	37	32
Sulphate [mg/L]	1.8	2.8	1.3	1.1	0.8	0.7	2.3	1.5
Chloride [mg/L]	10	3.8	2.5	2.0	2.2	3.9	6.0	7.7
Mercury [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	0.00014	0.00007	0.00004	0.00005	0.00002	0.00001	0.00001	< 0.00001
Aluminum [mg/L]	1.11	0.44	0.75	0.78	0.50	0.63	0.87	0.83
Arsenic [mg/L]	0.0223	0.0022	0.0622	0.0046	0.0409	0.0007	0.0024	0.0026
Boron [mg/L]	0.0236	0.0103	0.0185	0.0110	0.0094	0.0066	0.0162	0.0182
Beryllium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001
Calcium [mg/L]	6.15	5.58	5.85	3.15	7.35	5.46	4.45	5.03
Cadmium [mg/L]	< 0.000003	0.000004	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Cobalt [mg/L]	0.000030	0.000034	0.000041	0.000020	0.000043	0.000018	0.000021	0.000019
Chromium [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	5.18	4.27	6.31	0.88	8.53	4.35	8.50	4.94
Lithium [mg/L]	< 0.001	< 0.001	0.002	< 0.001	0.001	< 0.001	< 0.001	< 0.001
Magnesium [mg/L]	0.678	0.787	1.41	0.342	2.29	0.720	0.465	0.516
Manganese [mg/L]	0.00129	0.00061	0.00147	0.00026	0.00090	0.00032	0.00044	0.00038
Molybdenum [mg/L]	0.00007	0.00005	0.00009	0.00004	0.00015	0.00003	0.00032	0.00007
Sodium [mg/L]	12.7	9.36	9.77	12.9	7.36	6.91	10.1	9.62
Nickel [mg/L]	0.0002	< 0.0001	0.0012	< 0.0001	0.0010	< 0.0001	< 0.0001	< 0.0001
Lead [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002

Online LIMS



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24hr

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Antimony [mg/L]	0.0014	0.0022	0.0027	0.0044	0.0035	0.0036	0.0031	0.0018
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00003	< 0.00001	< 0.00001
Strontium [mg/L]	0.0162	0.0172	0.0158	0.0082	0.0306	0.0228	0.0153	0.0141
Titanium [mg/L]	< 0.0001	0.0003	0.0002	0.0004	< 0.0001	< 0.0001	0.0002	0.0001
Thallium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	0.000008	0.000013	0.000011	0.000002	0.000003	< 0.000001	0.000003	< 0.000001
Vanadium [mg/L]	0.00189	0.0111	0.00629	0.0119	0.00144	0.00180	0.00535	0.00399
Tungsten [mg/L]	0.00153	0.00126	0.00095	0.00146	0.00134	0.00095	0.00119	0.00159
Yttrium [mg/L]	0.000005	0.000007	0.000001	< 0.000001	0.000006	0.000001	0.000001	< 0.000001
Zinc [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

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



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CERTIFICATE OF ANALYSIS

Final Report

Analysis	29: FZ-SS-6	30: FZ-SS-7	31: FZ-SS-8	32: FZ-SS-9	33: FZ-SS-10	34: M08-748-02	35: FZ-SS-10
Sample [weight(g)]	200	200	200	200	200	200	200
Volume mL [D.I. H2O]	800	800	800	800	800	800	800
InitialpH [units]	7.44	8.51	8.55	8.37	7.35	9.80	7.35
Final pH [units]	7.54	8.52	8.59	8.58	7.54	9.15	7.55
pH [no unit]	7.32	7.89	7.90	7.69	7.39	7.96	7.48
Conductivity [uS/cm]	64	137	138	94	91	129	92
Alkalinity [mg/L as CaCO3]	25	66	61	46	30	40	33
Sulphate [mg/L]	5.2	7.6	10	4.4	14	3.7	13
Chloride [mg/L]	2.1	0.6	1.9	0.6	0.7	5.5	0.5
Mercury [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	0.00004	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	0.71	0.31	0.48	0.77	0.87	0.69	0.84
Arsenic [mg/L]	0.0201	0.0203	0.0173	0.0118	0.0131	0.0010	0.0122
Boron [mg/L]	0.408	0.340	0.312	0.322	0.374	0.0173	0.339
Beryllium [mg/L]	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	0.00002	< 0.00001	< 0.00001	< 0.00001	0.00003	< 0.00001	0.00002
Calcium [mg/L]	4.56	17.3	18.2	12.0	9.09	6.87	10.3
Cadmium [mg/L]	0.000023	0.000038	0.000006	0.000012	0.000019	< 0.000003	0.000018
Cobalt [mg/L]	0.00244	0.00100	0.000573	0.00111	0.00280	0.000032	0.00282
Chromium [mg/L]	0.0025	0.0015	0.0011	0.0025	0.0031	< 0.0005	0.0028
Copper [mg/L]	0.0130	0.0164	0.0059	0.0112	0.0159	< 0.0005	0.0157
Iron [mg/L]	1.57	0.93	0.52	1.16	1.29	< 0.01	1.24
Potassium [mg/L]	0.91	2.09	2.04	0.86	0.84	11.8	0.90
Lithium [mg/L]	0.002	0.003	0.003	0.002	0.002	0.002	0.002
Magnesium [mg/L]	0.921	1.27	1.31	0.995	0.962	0.973	0.991
Manganese [mg/L]	0.0479	0.0161	0.0119	0.0326	0.0919	0.00152	0.117
Molybdenum [mg/L]	0.00033	0.00390	0.00312	0.00097	0.00140	0.00008	0.00137
Sodium [mg/L]	7.67	9.22	8.49	7.29	8.01	9.79	7.15
Nickel [mg/L]	0.0089	0.0046	0.0026	0.0058	0.0072	0.0001	0.0072
Lead [mg/L]	0.00216	0.00076	0.00046	0.00060	0.00160	< 0.00002	0.00156



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Shake Flask Leach @ 4:1 ratio filter=0.45µ,
24hr

LR Report : CA10279-JUL09

Analysis	29: FZ-SS-6	30: FZ-SS-7	31: FZ-SS-8	32: FZ-SS-9	33: FZ-SS-10	34: M08-748-02	35: FZ-SS-10
Antimony [mg/L]	0.0003	0.0004	0.0007	0.0004	0.0013	0.0016	0.0009
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	0.00008	0.00002	0.00003	0.00002	0.00002	< 0.00001	< 0.00001
Strontium [mg/L]	0.0356	0.0635	0.0564	0.0340	0.0304	0.0309	0.0299
Titanium [mg/L]	0.0223	0.0117	0.0198	0.0312	0.0293	0.0001	0.0284
Thallium [mg/L]	0.00002	< 0.00002	< 0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	0.000064	0.000296	0.000640	0.000186	0.000108	0.000002	0.000054
Vanadium [mg/L]	0.00188	0.00177	0.00228	0.00255	0.00438	0.00104	0.00423
Tungsten [mg/L]	< 0.00003	0.00006	0.00015	0.00006	0.00005	0.00082	0.00005
Yttrium [mg/L]	0.000638	0.000447	0.000261	0.000880	0.000642	0.000002	0.000623
Zinc [mg/L]	0.038	0.020	0.010	0.013	0.017	< 0.001	0.017

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	29: FZ-SS-6	30: FZ-SS-7	31: FZ-SS-8	32: FZ-SS-9	33: FZ-SS-10
Sample Date & Time					
Silver [µg/g]	0.34	0.27	0.29	0.33	0.32
Aluminum [µg/g]	62000	67000	64000	60000	62000
Arsenic [µg/g]	56	68	26	28	13
Barium [µg/g]	580	430	560	590	560
Beryllium [µg/g]	1.1	0.75	1.0	1.1	0.99
Bismuth [µg/g]	0.12	0.10	0.10	< 0.09	< 0.09
Calcium [µg/g]	15000	33000	27000	19000	14000
Cadmium [µg/g]	0.29	0.37	0.23	0.28	0.22
Cobalt [µg/g]	14	26	14	16	14
Chromium [µg/g]	200	240	250	250	250
Copper [µg/g]	34	74	22	32	33
Iron [µg/g]	31000	48000	33000	33000	32000
Potassium [µg/g]	15000	11000	15000	15000	15000
Lithium [µg/g]	18	29	20	16	17
Magnesium [µg/g]	9000	18000	12000	11000	11000
Manganese [µg/g]	490	890	570	630	390
Molybdenum [µg/g]	3.7	3.8	4.8	3.8	4.8
Sodium [µg/g]	21000	19000	21000	20000	21000
Nickel [µg/g]	39	69	38	40	39
Lead [µg/g]	16	12	13	13	14
Antimony [µg/g]	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Tin [µg/g]	1.3	0.9	1.3	0.8	0.9
Strontium [µg/g]	310	250	330	280	290
Titanium [µg/g]	2200	3200	2600	2700	2700
Thallium [µg/g]	0.37	0.33	0.36	0.38	0.36
Uranium [µg/g]	1.2	0.91	1.2	1.0	1.0
Vanadium [µg/g]	77	140	86	84	80
Yttrium [µg/g]	9.2	10	9.5	11	10
Zinc [µg/g]	45	110	55	45	44



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LR Report : CA10277-JUL09

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Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Approval Date	4: Analysis Approval Time
Sample Date & Time				
Silver [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Aluminum [µg/g]	10-Aug-09	08:00	10-Aug-09	15:29
Arsenic [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Barium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Beryllium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Bismuth [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Calcium [µg/g]	10-Aug-09	08:00	10-Aug-09	15:29
Cadmium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Cobalt [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Chromium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Copper [µg/g]	10-Aug-09	08:00	10-Aug-09	15:29
Iron [µg/g]	10-Aug-09	08:00	10-Aug-09	15:29
Potassium [µg/g]	10-Aug-09	08:00	10-Aug-09	15:29
Lithium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Magnesium [µg/g]	10-Aug-09	08:00	10-Aug-09	15:29
Manganese [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Molybdenum [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Sodium [µg/g]	10-Aug-09	08:00	10-Aug-09	15:29
Nickel [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Lead [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Antimony [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Selenium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Tin [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Strontium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Titanium [µg/g]	10-Aug-09	08:00	10-Aug-09	15:29
Thallium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Uranium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Vanadium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Yttrium [µg/g]	10-Aug-09	10:41	10-Aug-09	15:29
Zinc [µg/g]	10-Aug-09	08:00	10-Aug-09	15:29

OnLine LIMS



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CERTIFICATE OF ANALYSIS

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Analysis	29: FZ-SS-6	30: FZ-SS-7	31: FZ-SS-8	32: FZ-SS-9	33: FZ-SS-10
Sample Date & Time					
SiO2 [%]	69.9	60.4	67.0	70.7	71.4
Al2O3 [%]	12.3	13.1	12.4	11.9	12.3
Fe2O3 [%]	4.46	7.37	4.95	4.87	4.70
MgO [%]	1.65	3.18	2.10	1.91	1.86
CaO [%]	2.26	5.17	4.00	2.88	2.23
Na2O [%]	3.14	2.83	3.02	3.00	3.07
K2O [%]	1.69	1.26	1.62	1.66	1.72
TiO2 [%]	0.48	0.64	0.49	0.48	0.50
P2O5 [%]	0.14	0.11	0.13	0.13	0.13
MnO [%]	0.06	0.12	0.08	0.09	0.06
Cr2O3 [%]	0.03	0.04	0.04	0.04	0.04
V2O5 [%]	0.02	0.03	0.02	0.02	0.02
LOI [%]	3.47	5.43	3.98	2.26	1.90
Sum [%]	99.6	99.7	99.8	99.9	100.0

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CERTIFICATE OF ANALYSIS

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Analysis	13:	14:	15:	16:	17:	18:	19:	20:
	M08-755-02	M08-752-04	M08-752-01	M08-748-02	M08-748-01	M08-740-03	M08-729-03	M08-747-01
Sample Date & Time								
SiO ₂ [%]	47.1	44.7	44.7	43.1	48.9	50.1	43.9	42.2
Al ₂ O ₃ [%]	13.1	14.8	13.1	11.9	14.4	14.3	14.0	13.5
Fe ₂ O ₃ [%]	11.5	10.2	10.3	12.9	13.3	10.5	10.9	11.6
MgO [%]	5.71	5.52	6.35	6.00	5.39	5.49	5.06	4.60
CaO [%]	12.3	10.8	13.1	11.9	8.42	9.93	11.5	14.3
Na ₂ O [%]	1.38	2.21	2.48	1.52	2.36	2.47	1.72	1.88
K ₂ O [%]	0.51	0.67	0.35	0.53	0.95	0.28	0.60	0.13
TiO ₂ [%]	0.93	0.69	0.73	0.71	1.10	0.93	1.00	0.89
P ₂ O ₅ [%]	0.11	0.04	0.06	0.07	0.14	0.07	0.07	0.07
MnO [%]	0.24	0.22	0.23	0.26	0.18	0.16	0.25	0.33
Cr ₂ O ₃ [%]	0.03	0.04	0.06	0.05	0.02	0.04	0.05	0.06
V ₂ O ₅ [%]	0.05	0.05	0.05	0.04	0.04	0.06	0.06	0.06
LOI [%]	7.28	10.2	7.54	10.0	4.37	5.67	10.7	9.87
Sum [%]	100.3	100.0	99.2	99.0	99.5	99.9	99.7	99.4

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Analysis	5:	6:	7:	8:	9:	10:	11:	12:
	M08-755-01	M08-740-04	M08-740-02	M08-748-03	M08-755-03	M08-740-05	M08-752-02	M08-752-03
Sample Date & Time								
SiO2 [%]	47.1	41.6	43.3	44.8	45.2	41.9	53.5	46.6
Al2O3 [%]	14.0	13.2	16.3	13.5	13.4	12.6	13.2	13.2
Fe2O3 [%]	11.5	11.4	8.31	10.0	11.4	10.1	14.9	12.1
MgO [%]	5.72	5.49	6.65	6.79	7.78	6.79	4.06	5.73
CaO [%]	11.4	10.7	9.91	11.1	10.1	11.9	7.25	7.65
Na2O [%]	2.07	3.05	2.61	2.04	2.39	1.77	2.39	2.45
K2O [%]	0.37	0.68	0.25	0.05	0.05	0.96	1.23	0.87
TiO2 [%]	0.94	0.83	0.54	0.74	0.75	0.79	1.60	1.04
P2O5 [%]	0.07	0.06	0.04	0.05	0.05	0.06	0.23	0.12
MnO [%]	0.21	0.23	0.15	0.21	0.17	0.27	0.19	0.19
Cr2O3 [%]	0.04	0.04	0.08	0.06	0.05	0.04	0.01	0.03
V2O5 [%]	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
LOI [%]	6.61	12.1	11.3	10.7	8.60	12.2	1.34	9.99
Sum [%]	100.1	99.4	99.5	100.0	99.9	99.4	100.0	99.9

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Sample Date & Time								
SiO2 [%]	44.3	48.6	51.0	46.2	43.4	42.4	44.4	45.4
Al2O3 [%]	14.1	13.4	15.7	14.5	13.6	13.3	14.5	13.9
Fe2O3 [%]	11.7	11.0	8.27	12.0	11.6	10.6	10.2	9.63
MgO [%]	4.31	8.12	4.38	7.99	6.05	7.98	5.88	6.08
CaO [%]	11.4	11.1	8.10	10.4	8.87	10.6	11.2	11.2
Na2O [%]	1.65	2.64	2.61	1.81	3.18	1.85	2.16	2.01
K2O [%]	0.34	0.15	0.73	0.06	0.44	0.10	0.44	0.13
TiO2 [%]	0.88	0.56	1.02	0.85	0.83	0.60	0.98	0.89
P2O5 [%]	0.06	0.04	0.08	0.07	0.07	0.04	0.10	0.10
MnO [%]	0.31	0.19	0.20	0.25	0.20	0.17	0.24	0.24
Cr2O3 [%]	0.05	0.06	0.04	0.06	0.04	0.03	0.05	0.05
V2O5 [%]	0.05	0.04	0.06	0.06	0.05	0.03	0.06	0.05
LOI [%]	10.3	4.22	7.69	5.66	11.1	12.0	8.94	10.1
Sum [%]	99.4	100.1	99.9	99.9	99.5	99.9	99.1	99.7

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Analysis	29: FZ-SS-6	30: FZ-SS-7	31: FZ-SS-8	32: FZ-SS-9	33: FZ-SS-10
Sample Date & Time					
Silver [µg/g]	0.34	0.27	0.29	0.33	0.32
Aluminum [µg/g]	62000	67000	64000	60000	62000
Arsenic [µg/g]	56	68	26	28	13
Barium [µg/g]	580	430	560	590	560
Beryllium [µg/g]	1.1	0.75	1.0	1.1	0.99
Bismuth [µg/g]	0.12	0.10	0.10	< 0.09	< 0.09
Calcium [µg/g]	15000	33000	27000	19000	14000
Cadmium [µg/g]	0.29	0.37	0.23	0.28	0.22
Cobalt [µg/g]	14	26	14	16	14
Chromium [µg/g]	200	240	250	250	250
Copper [µg/g]	34	74	22	32	33
Iron [µg/g]	31000	48000	33000	33000	32000
Potassium [µg/g]	15000	11000	15000	15000	15000
Lithium [µg/g]	18	29	20	16	17
Magnesium [µg/g]	9000	18000	12000	11000	11000
Manganese [µg/g]	490	890	570	630	390
Molybdenum [µg/g]	3.7	3.8	4.8	3.8	4.8
Sodium [µg/g]	21000	19000	21000	20000	21000
Nickel [µg/g]	39	69	38	40	39
Lead [µg/g]	16	12	13	13	14
Antimony [µg/g]	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Tin [µg/g]	1.3	0.9	1.3	0.8	0.9
Strontium [µg/g]	310	250	330	280	290
Titanium [µg/g]	2200	3200	2600	2700	2700
Thallium [µg/g]	0.37	0.33	0.36	0.38	0.36
Uranium [µg/g]	1.2	0.91	1.2	1.0	1.0
Vanadium [µg/g]	77	140	86	84	80
Yttrium [µg/g]	9.2	10	9.5	11	10
Zinc [µg/g]	45	110	55	45	44



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Analysis	21: M08-740-01	22: M08-747-02	23: M08-729-04	24: M08-747-04	25: M08-729-06	26: M08-747-03	27: M08-729-01	28: M08-729-02
Sample Date & Time								
Silver [µg/g]	< 0.01	< 0.01	0.12	< 0.01	0.02	< 0.01	< 0.01	0.12
Aluminum [µg/g]	78000	74000	90000	80000	75000	72000	79000	73000
Arsenic [µg/g]	68	3.2	68	11	120	1.9	7.2	7.7
Barium [µg/g]	66	52	130	8.4	64	3.3	98	57
Beryllium [µg/g]	0.23	0.14	0.28	0.19	0.43	0.17	0.27	0.23
Bismuth [µg/g]	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09
Calcium [µg/g]	78000	76000	58000	71000	61000	71000	77000	74000
Cadmium [µg/g]	0.05	0.29	0.13	0.03	0.07	< 0.02	0.09	0.09
Cobalt [µg/g]	47	43	41	48	43	47	49	38
Chromium [µg/g]	260	360	190	280	230	190	260	260
Copper [µg/g]	87	92	110	110	81	90	160	100
Iron [µg/g]	83000	77000	61000	85000	82000	73000	71000	65000
Potassium [µg/g]	3100	1400	6700	570	4000	890	4000	1200
Lithium [µg/g]	38	24	46	32	43	54	55	49
Magnesium [µg/g]	26000	49000	27000	48000	37000	47000	35000	35000
Manganese [µg/g]	1800	1100	1100	1400	1200	1000	1300	1500
Molybdenum [µg/g]	0.7	0.9	1.0	0.7	0.8	0.5	1.0	0.8
Sodium [µg/g]	12000	19000	19000	13000	22000	13000	15000	14000
Nickel [µg/g]	120	110	78	110	110	150	110	84
Lead [µg/g]	3.5	3.0	6.1	2.2	4.5	2.4	2.8	1.6
Antimony [µg/g]	< 0.8	1.8	< 0.8	1.5	< 0.8	1.5	1.3	< 0.8
Selenium [µg/g]	1.5	2.6	3.2	1.5	2.0	1.8	< 0.7	< 0.7
Tin [µg/g]	< 0.5	15	1.2	2.4	0.8	2.0	0.9	0.6
Strontium [µg/g]	92	110	110	120	130	120	140	120
Titanium [µg/g]	5100	3400	5900	5100	4800	3400	5900	5600
Thallium [µg/g]	0.07	0.06	0.33	< 0.02	0.12	0.02	0.12	< 0.02
Uranium [µg/g]	0.22	0.15	0.16	0.005	0.42	< 0.002	0.11	0.20
Vanadium [µg/g]	270	210	290	260	240	200	300	260
Yttrium [µg/g]	10	12	6.7	14	7.4	10	16	14
Zinc [µg/g]	90	170	90	140	110	73	95	78

Online LIMS



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LR Report : CA10277-JUL09

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August 14, 2009

Date Rec. : 23 July 2009
LR Report: CA10277-JUL09
Reference: Meliadine Gold Project

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	13: M08-755-02	14: M08-752-04	15: M08-752-01	16: M08-748-02	17: M08-748-01	18: M08-740-03	19: M08-729-03	20: M08-747-01
Sample Date & Time								
Silver [µg/g]	< 0.01	< 0.01	< 0.01	< 0.01	0.09	< 0.01	< 0.01	< 0.01
Aluminum [µg/g]	73000	83000	72000	65000	77000	76000	76000	71000
Arsenic [µg/g]	2.2	2.9	3.5	4.4	5.6	3.1	40	2.1
Barium [µg/g]	210	62	100	130	320	120	220	79
Beryllium [µg/g]	0.44	0.32	0.25	0.34	0.55	0.20	0.24	0.26
Bismuth [µg/g]	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09
Calcium [µg/g]	86000	75000	90000	82000	57000	66000	79000	93000
Cadmium [µg/g]	0.08	0.13	0.03	0.13	0.07	< 0.02	0.14	0.18
Cobalt [µg/g]	41	50	41	39	49	40	46	49
Chromium [µg/g]	170	200	280	280	140	180	260	300
Copper [µg/g]	95	120	110	88	110	100	84	120
Iron [µg/g]	82000	72000	72000	90000	91000	72000	76000	76000
Potassium [µg/g]	4700	6300	3200	4800	8400	2600	5500	1200
Lithium [µg/g]	30	71	26	42	41	30	46	25
Magnesium [µg/g]	35000	34000	38000	36000	31000	32000	31000	26000
Manganese [µg/g]	1400	1200	1200	1500	1100	910	1400	1900
Molybdenum [µg/g]	1.4	0.8	0.8	1.1	1.3	0.9	1.0	1.0
Sodium [µg/g]	9900	16000	18000	11000	16000	17000	12000	12000
Nickel [µg/g]	60	120	85	86	81	55	87	140
Lead [µg/g]	5.9	9.1	6.3	3.8	7.7	1.5	1.6	3.4
Antimony [µg/g]	< 0.8	< 0.8	< 0.8	1.6	1.0	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	1.1	1.3	1.8	0.8	1.4	0.7	1.4	2.1
Tin [µg/g]	2.3	1.6	1.2	2.2	1.5	3.1	3.1	2.1
Strontium [µg/g]	110	120	170	140	200	110	62	93
Titanium [µg/g]	5600	4100	4300	4200	6500	5400	5800	5000
Thallium [µg/g]	0.34	0.22	0.16	0.29	0.79	0.18	0.19	0.08
Uranium [µg/g]	0.23	< 0.002	0.11	0.083	1.0	0.13	< 0.002	0.025
Vanadium [µg/g]	250	250	230	220	210	290	290	260
Yttrium [µg/g]	22	12	13	12	17	16	15	16
Zinc [µg/g]	160	110	110	180	110	82	130	180



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LR Report : CA10277-JUL09

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August 14, 2009

Date Rec. : 23 July 2009
LR Report: CA10277-JUL09
Reference: Meliadine Gold Project

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	5: M08-755-01	6: M08-740-04	7: M08-740-02	8: M08-748-03	9: M08-755-03	10: M08-740-05	11: M08-752-02	12: M08-752-03
Sample Date & Time								
Silver [µg/g]	0.10	0.12	< 0.01	< 0.01	0.03	0.05	0.09	0.20
Aluminum [µg/g]	78000	63000	90000	73000	71000	69000	65000	70000
Arsenic [µg/g]	3.0	40	140	11	16	87	3.8	87
Barium [µg/g]	140	64	84	9.2	11	140	510	140
Beryllium [µg/g]	0.28	0.29	0.17	0.22	0.24	0.37	0.79	0.53
Bismuth [µg/g]	< 0.09	< 0.09	0.15	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09
Calcium [µg/g]	80000	64000	68000	76000	67000	81000	45000	51000
Cadmium [µg/g]	0.14	0.16	< 0.02	0.02	0.09	0.12	0.13	0.18
Cobalt [µg/g]	47	38	53	45	46	50	39	46
Chromium [µg/g]	210	200	420	330	260	230	77	150
Copper [µg/g]	100	84	46	88	110	110	90	110
Iron [µg/g]	82000	70000	58000	70000	77000	70000	95000	83000
Potassium [µg/g]	3500	5400	2400	500	480	8700	9800	7600
Lithium [µg/g]	27	39	51	38	43	49	32	41
Magnesium [µg/g]	35000	29000	40000	40000	45000	40000	22000	34000
Manganese [µg/g]	1300	1300	880	1200	950	1600	980	1100
Molybdenum [µg/g]	1.3	0.8	0.9	1.1	0.7	0.8	1.8	1.3
Sodium [µg/g]	15000	19000	18000	14000	16000	12000	15000	17000
Nickel [µg/g]	64	87	130	110	96	96	34	91
Lead [µg/g]	2.5	3.4	5.1	3.3	4.8	5.8	9.4	11
Antimony [µg/g]	< 0.8	< 0.8	< 0.8	0.9	0.9	< 0.8	0.9	< 0.8
Selenium [µg/g]	0.9	0.9	< 0.7	1.6	1.5	1.1	0.7	1.4
Tin [µg/g]	1.9	0.7	< 0.5	1.5	0.6	1.7	1.1	1.9
Strontium [µg/g]	100	110	140	130	120	130	170	130
Titanium [µg/g]	5700	4100	1700	4300	4300	4300	8700	5700
Thallium [µg/g]	0.17	0.21	0.06	< 0.02	< 0.02	0.40	0.90	0.35
Uranium [µg/g]	0.20	0.21	0.006	0.061	< 0.002	0.17	1.3	0.56
Vanadium [µg/g]	290	210	230	250	240	240	210	220
Yttrium [µg/g]	17	7.3	4.8	12	11	9.1	20	8.6
Zinc [µg/g]	110	110	73	81	81	100	130	110

Online LIMS



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LR Report : CA10277-JUL09

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NAG Test with analyses

Project : 09-1426-0015

Comaplex Minerals Corp

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Tuesday, November 24, 2009

Date Rec. : 10 November 2009

LR Report: CA11232-NOV09

Reference: Meliadine F-Zone

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M08-750-03	6: M08-740-05	7: M08-734-03
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	17-Nov-09	15:27	2.5	2.5	2.5
vol H2O2 [mL]	17-Nov-09	15:27	250	250	250
Final pH [units]	17-Nov-09	15:27	11.48	11.47	11.55
pH [no unit]	19-Nov-09	15:10	10.9	11.0	11.0
Alkalinity [mg/L as CaCO3]	19-Nov-09	15:10	127	132	120
Acidity [mg/L as CaCO3]	19-Nov-09	15:10	< 2	< 2	< 2
Conductivity [uS/cm]	19-Nov-09	15:10	347	388	396
Sulphate [mg/L]	19-Nov-09	12:34	17	21	42
Chloride [mg/L]	19-Nov-09	12:34	0.7	0.6	0.3
Mercury [mg/L]	19-Nov-09	12:03	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	23-Nov-09	09:20	0.00003	0.00001	< 0.00001
Aluminum [mg/L]	23-Nov-09	09:20	4.00	4.19	3.79
Arsenic [mg/L]	23-Nov-09	09:20	0.0008	0.0021	0.0011
Boron [mg/L]	23-Nov-09	09:20	0.193	0.727	0.478
Beryllium [mg/L]	23-Nov-09	09:20	0.00003	< 0.00002	< 0.00002
Bismuth [mg/L]	23-Nov-09	09:20	0.00002	< 0.00001	< 0.00001
Calcium [mg/L]	19-Nov-09	16:05	62.4	46.9	66.1
Cadmium [mg/L]	23-Nov-09	09:20	0.000017	0.000003	< 0.000003
Cobalt [mg/L]	23-Nov-09	09:20	0.000103	0.000074	0.000090
Chromium [mg/L]	23-Nov-09	09:20	0.0110	0.0314	0.0253
Copper [mg/L]	23-Nov-09	09:20	0.0016	0.0015	< 0.0005
Iron [mg/L]	19-Nov-09	16:05	< 0.01	0.01	0.01
Potassium [mg/L]	19-Nov-09	16:05	23.3	26.7	15.6
Lithium [mg/L]	23-Nov-09	09:20	0.002	< 0.001	0.001
Magnesium [mg/L]	19-Nov-09	16:05	< 0.003	< 0.003	< 0.003
Manganese [mg/L]	23-Nov-09	09:20	0.00014	0.00044	0.00037
Molybdenum [mg/L]	23-Nov-09	09:20	0.00559	0.00162	0.00208
Sodium [mg/L]	19-Nov-09	16:05	3.63	5.12	4.16
Nickel [mg/L]	23-Nov-09	09:20	0.0010	0.0008	0.0012
Lead [mg/L]	23-Nov-09	09:20	0.00003	0.00003	0.00004
Antimony [mg/L]	23-Nov-09	09:20	0.0007	0.0005	0.0010
Selenium [mg/L]	23-Nov-09	09:20	< 0.001	0.001	0.002

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NAG Test with analyses**Project :** 09-1426-0015**LR Report :** CA11232-NOV09

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M08-750-03	6: M08-740-05	7: M08-734-03
Tin [mg/L]	23-Nov-09	09:20	0.00010	0.00017	0.00021
Strontium [mg/L]	23-Nov-09	09:20	0.110	0.0698	0.0715
Titanium [mg/L]	23-Nov-09	09:20	0.0001	0.0001	0.0002
Thallium [mg/L]	23-Nov-09	09:20	0.0002	0.0003	0.0003
Uranium [mg/L]	23-Nov-09	09:20	0.000061	0.000011	0.000016
Vanadium [mg/L]	23-Nov-09	09:20	0.0142	0.00956	0.00479
Tungsten [mg/L]	23-Nov-09	09:20	0.00207	0.00079	0.00100
Yttrium [mg/L]	23-Nov-09	09:20	0.000018	0.000006	0.000003
Zinc [mg/L]	23-Nov-09	09:20	< 0.001	< 0.001	< 0.001

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NAG Test

Project : Meliadine F-Zone

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Thursday, November 19, 2009

Date Rec. : 09 November 2009

LR Report: CA10083-NOV09

Reference: 09-1426-0015

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M08-750-03	6: M08-740-05	7: M08-734-03
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	16-Nov-09	13:27	1.51	1.52	1.51
vol H2O2 [mL]	16-Nov-09	13:27	150	150	150
Final pH [units]	16-Nov-09	13:27	11.52	11.43	11.56
NaOH [Normality]	16-Nov-09	13:27	0.10	0.10	0.10
Vol NaOH to PH 4.5 [mL]	16-Nov-09	13:27	0.00	0.00	0.00
Vol NaOH to PH 7.0 [mL]	16-Nov-09	13:27	0.00	0.00	0.00
NAG pH4.5 [kg H2SO4/tonne]	16-Nov-09	13:27	0.0	0.0	0.0
NAG pH7.0 [kg H2SO4/tonne]	16-Nov-09	13:27	0.0	0.0	0.0

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne

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NAG Test

Thursday, November 19, 2009

Date Rec. : 12 November 2009
LR Report: CA11271-NOV09
Reference: 09-1426-0013

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Da	4: Analysis Approval Ti	5: ML00-221-04	6: ML90-04-01	7: ML90-12-01	8: ML92-061-01	9: ML95-93-02	10: ML95-93-03
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	16-Nov-09	13:28	1.51	1.50	1.50	1.50	1.53	1.47
vol H2O2 [mL]	16-Nov-09	13:28	150	150	150	150	150	150
Final pH [units]	16-Nov-09	13:28	4.89	6.49	6.36	4.48	4.13	10.08
NaOH [Normality]	16-Nov-09	13:28	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to PH 4.5 [mL]	16-Nov-09	13:28	0.00	0.00	0.00	0.10	0.10	0.00
Vol NaOH to PH 7.0 [mL]	16-Nov-09	13:28	0.30	0.10	0.15	0.30	0.50	0.00
NAG pH4.5 [kg H2SO4/tonne]	16-Nov-09	13:28	0.0	0.0	0.0	0.3	0.3	0.0
NAG pH7.0 [kg H2SO4/tonne]	16-Nov-09	13:28	1.0	0.3	0.5	1.0	1.6	0.0

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne

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SFE (4:1)

Friday, September 04, 2009

Date Rec. : 17 August 2009
LR Report: CA11125-AUG09
Reference: Discovery Deposit

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	14: ML00-221-01	15: ML00-221-02	16: ML00-221-03	17: ML00-221-04	18: ML92-061-01	19: ML92-061-02	20: ML92-061-03	21: ML92-061-04	22: ML92-062-01	23: ML92-062-02
Sample Date & Time	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A
Sample [weight(g)]	200	200	200	200	200	200	200	200	200	200
Volume mL [D.I. H ₂ O]	800	800	800	800	800	800	800	800	800	800
Initial pH [units]	9.73	9.20	9.43	9.63	9.27	9.34	9.81	9.43	9.72	9.24
Final pH [units]	9.64	9.57	9.53	9.45	9.52	9.47	9.57	9.72	9.34	9.66
pH [no unit]	9.10	8.88	8.53	8.16	8.64	8.09	9.07	8.91	8.23	9.01
Conductivity [uS/cm]	88	79	86	84	79	80	89	74	86	85
Alkalinity [mg/L as CaCO ₃]	43	34	38	37	36	33	43	38	36	41
Sulphate [mg/L]	1.9	3.1	3.6	1.8	3.1	5.5	0.6	1.1	2.2	0.8
Chloride [mg/L]	2.2	1.6	2.0	2.2	0.7	0.9	0.5	0.6	1.7	1.2
Mercury [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	0.00002	0.00002	0.00002	0.00001	0.00002	0.00002	0.00003	0.00003	0.00003	0.00002
Aluminum [mg/L]	2.03	1.47	1.93	1.94	1.77	1.64	0.38	1.69	0.16	1.87
Arsenic [mg/L]	0.347	0.0598	0.0604	0.0270	0.0757	0.0292	0.0044	0.0821	0.0013	0.0090
Boron [mg/L]	0.0337	0.0255	0.0319	0.0321	0.0284	0.0272	0.0208	0.0207	0.0395	0.0245
Beryllium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002
Bismuth [mg/L]	0.00001	0.00002	0.00002	0.00001	0.00002	0.00002	0.00002	0.00002	< 0.00001	0.00001
Calcium [mg/L]	2.37	3.36	3.10	3.88	3.39	4.03	4.51	3.39	7.23	2.48
Cadmium [mg/L]	< 0.000003	< 0.000003	0.000003	< 0.000003	0.000005	< 0.000003	0.000003	< 0.000003	< 0.000003	< 0.000003
Cobalt [mg/L]	0.000277	0.000262	0.000324	0.000220	0.000393	0.000249	0.000037	0.000245	0.000042	0.000127

Online LIMS



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LR Report : CA11125-AUG09

Analysis	14: ML00-221-01	15: ML00-221-02	16: ML00-221-03	17: ML00-221-04	18: ML92-061-01	19: ML92-061-02	20: ML92-061-03	21: ML92-061-04	22: ML92-062-01	23: ML92-062-02
Chromium [mg/L]	0.0018	0.0017	0.0022	0.0015	0.0023	0.0018	< 0.0005	0.0012	< 0.0005	< 0.0005
Copper [mg/L]	< 0.0005	0.0006	< 0.0005	< 0.0005	0.0007	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	0.48	0.34	0.44	0.42	0.55	0.35	0.23	0.50	0.41	1.06
Potassium [mg/L]	10.7	8.66	10.5	9.83	10.6	9.96	12.6	9.18	6.03	17.2
Lithium [mg/L]	0.001	0.002	0.002	< 0.001	0.002	0.001	0.004	0.002	0.002	0.007
Magnesium [mg/L]	0.444	0.489	0.543	0.519	0.629	0.612	0.449	0.387	1.05	0.351
Manganese [mg/L]	0.00462	0.00366	0.00374	0.00250	0.00488	0.00325	0.00077	0.00389	0.00173	0.00227
Molybdenum [mg/L]	0.00043	0.00047	0.00069	0.00048	0.00047	0.00036	0.00009	0.00023	0.00018	0.00017
Sodium [mg/L]	10.6	7.95	8.23	7.93	6.59	5.90	5.71	7.02	5.28	4.55
Nickel [mg/L]	0.0010	0.0015	0.0013	0.0008	0.0015	0.0012	< 0.0001	0.0007	0.0001	0.0003
Lead [mg/L]	0.00023	0.00031	0.00031	0.00023	0.00021	0.00016	0.00004	0.00014	0.00003	0.00064
Antimony [mg/L]	0.0008	0.0008	0.0008	0.0009	0.0006	0.0008	0.0006	0.0006	0.0006	0.0006
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	0.00007	0.00009	0.00011	0.00010	0.00005	0.00005	0.00006	0.00006	0.00001	0.00007
Strontium [mg/L]	0.0118	0.0171	0.0154	0.0174	0.0163	0.0170	0.0642	0.0134	0.0922	0.0321
Titanium [mg/L]	0.0225	0.0193	0.0285	0.0200	0.0294	0.0208	0.0013	0.0266	0.0013	0.0201
Thallium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	0.000205	0.000441	0.000309	0.000128	0.000269	0.000181	0.000191	0.000251	0.000105	0.000187
Vanadium [mg/L]	0.0146	0.0115	0.0138	0.00894	0.0113	0.0108	0.00064	0.0125	0.00036	0.00286
Tungsten [mg/L]	0.00088	0.00080	0.00139	0.00075	0.00134	0.00088	0.00071	0.00053	0.00074	0.00050
Yttrium [mg/L]	0.000183	0.000185	0.000256	0.000145	0.000339	0.000151	0.000023	0.000148	0.000026	0.000126
Zinc [mg/L]	0.002	0.002	0.002	0.002	0.003	0.002	0.001	0.002	0.001	0.001

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SFE (4:1)

Friday, September 04, 2009

Date Rec. : 17 August 2009
LR Report: CA11125-AUG09
Reference: Discovery Deposit

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	24: ML92-062-03	25: ML90-12-01	26: ML90-12-02	27: ML90-04-01	28: ML90-04-02	29: ML90-04-03	30: ML90-03-01	31: ML90-03-02	32: Disc SS1	33: Disc SS2	34: Disc SS3
Sample Date & Time	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	200	200	200	200	200	200	200	200	200	200	200
Volume mL [D.I. H ₂ O]	800	800	800	800	800	800	800	800	800	800	800
Initial pH [units]	9.63	9.07	9.44	9.70	9.38	9.82	9.66	9.77	8.39	6.44	6.79
Final pH [units]	9.80	9.59	9.64	9.53	9.56	9.58	9.50	9.54	8.67	6.65	7.15
pH [no unit]	9.21	8.95	8.62	8.39	8.49	9.03	8.81	9.01	7.60	6.74	6.86
Conductivity [uS/cm]	85	76	70	85	70	94	84	84	64	18	22
Alkalinity [mg/L as CaCO ₃]	42	37	35	35	34	45	41	42	34	5	5
Sulphate [mg/L]	1.2	1.8	1.4	6.2	3.0	4.1	2.5	1.3	1.2	0.3	3.0
Chloride [mg/L]	0.9	0.9	1.0	0.8	0.8	1.4	0.9	1.3	0.5	0.5	0.5
Mercury [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	0.00003	0.00002	0.00002	0.00003	0.00004	0.00002	0.00003	0.00001	0.00003	0.00003	0.00002
Aluminum [mg/L]	1.91	1.78	1.49	1.73	1.72	1.32	2.06	1.71	0.72	0.89	0.76
Arsenic [mg/L]	0.0437	0.242	0.0380	0.0466	0.0565	0.0248	0.123	0.0584	0.0181	0.0106	0.0090
Boron [mg/L]	0.0252	0.0279	0.0205	0.0303	0.0279	0.0383	0.0459	0.0315	0.0348	0.0673	0.0565
Beryllium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00008	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002
Bismuth [mg/L]	0.00001	< 0.00001	0.00001	0.00003	0.00005	0.00001	0.00003	< 0.00001	0.00002	0.00005	0.00003
Calcium [mg/L]	2.77	3.26	4.05	4.36	3.38	3.73	2.75	3.70	7.84	1.07	0.98
Cadmium [mg/L]	< 0.000003	< 0.000003	< 0.000003	0.000006	0.000013	< 0.000003	0.000003	< 0.000003	0.000013	0.000022	0.000011
Cobalt [mg/L]	0.000249	0.000200	0.000114	0.000384	0.000323	0.000191	0.000339	0.000156	0.00195	0.00652	0.00232

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LR Report : CA11125-AUG09

Analysis	24: ML92-062-03	25: ML90-12-01	26: ML90-12-02	27: ML90-04-01	28: ML90-04-02	29: ML90-04-03	30: ML90-03-01	31: ML90-03-02	32: Disc SS1	33: Disc SS2	34: Disc SS3
Chromium [mg/L]	0.0011	0.0012	< 0.0005	0.0020	0.0021	0.0010	0.0023	0.0008	0.0018	0.0032	0.0020
Copper [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0008	< 0.0005	0.0215	0.0225	0.0143
Iron [mg/L]	0.69	0.33	0.36	0.47	0.38	0.48	0.60	0.53	0.94	1.50	1.44
Potassium [mg/L]	11.3	9.97	7.66	10.7	7.02	11.0	13.6	10.5	3.93	0.85	1.57
Lithium [mg/L]	0.003	0.003	0.001	0.003	0.001	0.001	0.002	0.001	0.003	0.001	< 0.001
Magnesium [mg/L]	0.396	0.406	0.380	0.639	0.501	0.511	0.588	0.471	0.749	0.405	0.359
Manganese [mg/L]	0.00605	0.00264	0.00275	0.00483	0.00379	0.00324	0.00460	0.00386	0.0167	0.0567	0.0202
Molybdenum [mg/L]	0.00050	0.00139	0.00023	0.00036	0.00021	0.00033	0.00086	0.00095	0.00191	0.00061	0.00088
Sodium [mg/L]	8.44	7.28	6.20	6.66	7.27	10.2	6.99	8.14	3.67	2.39	2.40
Nickel [mg/L]	0.0007	0.0008	0.0004	0.0015	0.0011	0.0008	0.0015	0.0006	0.0099	0.0130	0.0076
Lead [mg/L]	0.00022	0.00011	0.00008	0.00043	0.00023	0.00013	0.00027	0.00014	0.00091	0.00132	0.00118
Antimony [mg/L]	0.0006	0.0007	0.0006	0.0009	0.0008	0.0008	0.0012	0.0010	0.0006	0.0004	0.0004
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	0.00003	0.00006	0.00002	0.00006	0.00006	0.00004	0.00009	0.00003	0.00007	0.00004	0.00007
Strontium [mg/L]	0.0123	0.0149	0.0165	0.0173	0.0144	0.0202	0.0130	0.0147	0.0307	0.0062	0.0052
Titanium [mg/L]	0.0344	0.0147	0.0110	0.0206	0.0263	0.0206	0.0287	0.0173	0.0308	0.0444	0.0368
Thallium [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	< 0.00002
Uranium [mg/L]	0.000382	0.000677	0.000195	0.000395	0.000354	0.000159	0.000342	0.000170	0.000291	0.000456	0.000177
Vanadium [mg/L]	0.0138	0.0133	0.00755	0.0122	0.0130	0.0153	0.0143	0.00942	0.00252	0.00283	0.00246
Tungsten [mg/L]	0.00054	0.00060	0.00042	0.00046	0.00053	0.00057	0.00081	0.00048	0.00019	0.00006	< 0.00003
Yttrium [mg/L]	0.000252	0.000238	0.000089	0.000196	0.000189	0.000132	0.000308	0.000116	0.000883	0.00254	0.00111
Zinc [mg/L]	0.002	0.001	0.001	0.002	0.002	0.001	0.002	0.001	0.005	0.032	0.007

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Friday, September 04, 2009

Date Rec. : 17 August 2009
LR Report: CA11125-AUG09
Reference: Discovery Deposit

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: ML95-93-01	6: ML95-93-02	7: ML95-93-03	8: ML95-93-04	9: ML90-08-01	10: ML90-08-02	11: ML90-07-01	12: ML08-238-03	13: ML08-238-04
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	27-Aug-09	09:59	200	200	200	200	200	200	200	200	200
Volume mL [D.I. H2O]	27-Aug-09	09:59	800	800	800	800	800	800	800	800	800
Initial pH [units]	27-Aug-09	09:59	9.54	9.66	9.71	9.80	8.91	9.68	9.43	9.31	9.72
Final pH [units]	27-Aug-09	09:59	9.58	9.60	8.95	9.68	9.65	9.75	9.82	9.81	9.58
pH [no unit]	01-Sep-09	13:08	8.32	8.83	7.75	9.13	8.77	9.33	9.22	9.25	8.72
Conductivity [uS/cm]	01-Sep-09	13:08	84	77	115	93	70	78	73	81	111
Alkalinity [mg/L as CaCO3]	01-Sep-09	13:08	41	37	43	40	31	40	36	38	41
Sulphate [mg/L]	02-Sep-09	14:09	1.3	1.3	2.1	2.2	2.8	1.7	0.7	0.8	2.7
Chloride [mg/L]	02-Sep-09	14:09	2.8	0.9	1.2	0.8	1.2	0.9	0.7	3.2	8.4
Mercury [mg/L]	02-Sep-09	07:48	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	01-Sep-09	10:50	0.00004	0.00002	0.00003	0.00003	0.00001	0.00001	0.00002	0.00002	0.00002
Aluminum [mg/L]	03-Sep-09	11:40	1.99	1.68	0.22	1.42	1.15	1.49	1.42	1.92	2.02
Arsenic [mg/L]	01-Sep-09	10:50	0.178	0.0699	0.0014	0.0038	0.0192	0.0873	0.0484	0.136	0.0642
Boron [mg/L]	01-Sep-09	10:50	0.132	0.0479	0.0205	0.0211	0.0226	0.0225	0.0453	0.0208	0.0436
Beryllium [mg/L]	01-Sep-09	10:50	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	01-Sep-09	10:50	0.00002	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001
Calcium [mg/L]	03-Sep-09	11:40	2.53	2.86	12.5	3.70	3.23	3.65	2.48	2.68	2.75
Cadmium [mg/L]	01-Sep-09	10:49	0.000006	< 0.000003	0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Cobalt [mg/L]	01-Sep-09	10:49	0.000645	0.000192	0.000055	0.000165	0.000109	0.000121	0.000120	0.000274	0.000303



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LR Report : CA11125-AUG09

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: ML95-93-01	6: ML95-93-02	7: ML95-93-03	8: ML95-93-04	9: ML90-08-01	10: ML90-08-02	11: ML90-07-01	12: ML08-238-03	13: ML08-238-04
Chromium [mg/L]	01-Sep-09	10:49	0.0030	0.0012	< 0.0005	0.0007	0.0007	< 0.0005	< 0.0005	0.0014	0.0019
Copper [mg/L]	01-Sep-09	10:49	0.0008	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	03-Sep-09	11:40	0.78	0.31	0.02	0.41	0.15	0.20	0.22	0.78	0.63
Potassium [mg/L]	03-Sep-09	11:40	10.2	11.1	11.1	11.3	6.66	11.3	10.4	10.3	10.2
Lithium [mg/L]	01-Sep-09	10:49	0.002	0.001	0.003	0.003	0.003	0.002	0.003	0.005	0.001
Magnesium [mg/L]	03-Sep-09	11:40	0.592	0.381	0.850	0.346	0.361	0.282	0.236	0.377	0.491
Manganese [mg/L]	01-Sep-09	10:49	0.00525	0.00232	0.00068	0.00342	0.00146	0.00217	0.00223	0.00685	0.00398
Molybdenum [mg/L]	01-Sep-09	10:49	0.00064	0.00042	0.00011	0.00021	0.00018	0.00015	0.00014	0.00018	0.00073
Sodium [mg/L]	03-Sep-09	11:40	10.3	6.73	1.79	9.00	7.69	6.77	6.49	8.56	14.0
Nickel [mg/L]	01-Sep-09	10:49	0.0019	0.0005	0.0002	0.0004	0.0004	0.0006	0.0004	0.0008	0.0010
Lead [mg/L]	01-Sep-09	10:49	0.00045	0.00015	< 0.00002	0.00017	0.00010	0.00006	0.00005	0.00021	0.00025
Antimony [mg/L]	01-Sep-09	10:49	0.0012	0.0009	0.0007	0.0007	0.0006	0.0006	0.0005	0.0008	0.0007
Selenium [mg/L]	01-Sep-09	10:49	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	01-Sep-09	10:49	0.00011	0.00006	0.00003	0.00008	0.00004	0.00004	0.00002	0.00003	0.00005
Strontium [mg/L]	03-Sep-09	11:40	0.0133	0.0140	0.106	0.0199	0.0160	0.0136	0.0137	0.0156	0.0171
Titanium [mg/L]	01-Sep-09	10:48	0.0268	0.0138	0.0002	0.0173	0.0086	0.0117	0.0123	0.0377	0.0258
Thallium [mg/L]	01-Sep-09	10:48	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	01-Sep-09	10:48	0.000227	0.000232	0.000061	0.00119	0.000326	0.000447	0.000434	0.000627	0.000230
Vanadium [mg/L]	01-Sep-09	10:48	0.0115	0.0122	0.0001	0.0104	0.0105	0.0115	0.0109	0.0111	0.0136
Tungsten [mg/L]	01-Sep-09	10:48	0.0178	0.00168	0.00106	0.00171	0.00053	0.00068	0.00111	0.00104	0.00083
Yttrium [mg/L]	01-Sep-09	10:48	0.000398	0.000142	0.000003	0.000216	0.000058	0.000085	0.000146	0.000265	0.000188
Zinc [mg/L]	01-Sep-09	10:48	0.005	0.002	0.002	0.002	< 0.001	< 0.001	< 0.001	0.002	0.002

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Thursday, September 03, 2009

Date Rec. : 17 August 2009
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Reference: Discovery Deposit

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	24: ML92-062-03	25: ML90-12-01	26: ML90-12-02	27: ML90-04-01	28: ML90-04-02	29: ML90-04-03	30: ML90-03-01	31: ML90-03-02	32: Disc SS1	33: Disc SS2	34: Disc SS3
Sample Date & Time	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Paste pH [units]	10.01	9.86	9.69	9.77	9.74	9.81	9.77	9.76	9.06	8.31	8.73
Fizz Rate [—]	1	1	1	1	1	1	1	1	1	1	1
Sample [weight(g)]	1.99	2.01	1.98	1.99	2.00	1.99	1.99	1.99	2.01	2.00	2.01
HCl added [mL]	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	14.00	16.30	13.30	15.30	16.40	13.20	16.30	15.00	16.70	17.60	18.90
Final pH [units]	1.81	1.63	1.99	1.55	1.56	1.91	1.47	1.63	1.44	1.50	1.37
NP [t CaCO ₃ /1000t]	15	9.2	17	12	9.0	17	9.3	13	8.2	6.0	2.7
AP [t CaCO ₃ /1000 t]	1.58	3.35	2.93	3.64	1.99	3.70	2.03	1.56	0.31	0.31	0.31
Net NP [t CaCO ₃ /1000 t]	13.5	5.8	14.0	8.2	7.0	13.4	7.3	11.0	7.9	5.7	2.4
NP/AP [ratio]	9.5	2.7	5.8	3.2	4.5	4.6	4.6	8.1	26.5	19.4	8.7
Total Sulphur [%]	0.093	0.153	0.140	0.172	0.105	0.186	0.087	0.064	0.005	< 0.005	< 0.005
Acid Leachable SO ₄ -S [%]	0.04	0.05	0.05	0.06	0.04	0.07	0.02	0.02	< 0.01	< 0.01	< 0.01
Sulphide-S [%]	0.05	0.11	0.09	0.12	0.06	0.12	0.07	0.05	< 0.01	< 0.01	< 0.01
Total Carbon [%]	0.123	0.063	0.138	0.074	0.041	0.116	0.046	0.119	0.090	0.139	0.063
Carbonate (CO ₃) [%]	0.466	0.163	0.492	0.218	0.127	0.405	0.128	0.445	0.097	0.047	0.049
CarbNP	10	5.3	12	6.2	3.4	9.7	3.8	9.9	7.5	12	5.3

Online LIMS



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Modified ABA (Price 1997)

LR Report : CA11124-AUG09

*NP (Neutralization Potential)
= $50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})$

weight of Sample

Carb-NP = $(\% \text{ Total C}) \times (100.09/12.01) \times (10)$

*AP (Acid Potential) = $\% \text{ Sulphide Sulphur} \times 31.25$

*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.

sulphur analysis performed following BC ARD Guidelines (Price 1997)

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Sample Date & Time	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Paste pH [units]	9.92	9.87	9.82	9.52	9.65	9.60	9.56	9.83	9.26	9.85
Fizz Rate [—]	1	1	1	1	1	1	2	2	2	1
Sample [weight(g)]	2.01	1.96	2.01	2.01	1.99	2.00	1.99	2.01	2.00	2.01
HCl added [mL]	20.00	20.00	20.00	20.00	20.00	20.00	41.90	20.00	20.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	16.30	15.90	16.80	16.10	17.10	16.60	26.10	13.40	11.00	20.70
Final pH [units]	1.31	1.46	1.39	1.60	1.48	1.52	1.58	1.91	1.91	1.74
NP [t CaCO ₃ /1000t]	9.2	10	8.0	9.7	7.3	8.5	40	16	22	-1.7
AP [t CaCO ₃ /1000 t]	1.56	2.49	2.05	3.14	2.45	1.96	3.61	2.94	4.80	2.90
Net NP [t CaCO ₃ /1000 t]	7.6	8.0	6.0	6.6	4.8	6.5	36.1	13.5	17.7	-4.6
NP/AP [ratio]	5.9	4.2	3.9	3.1	3.0	4.3	11.0	5.6	4.7	-0.59
Total Sulphur [%]	0.092	0.132	0.100	0.138	0.124	0.097	0.134	0.141	0.190	0.117
Acid Leachable SO ₄ -S [%]	0.04	0.05	0.03	0.04	0.05	0.03	0.02	0.05	0.04	0.02
Sulphide-S [%]	0.05	0.08	0.07	0.10	0.08	0.06	0.12	0.09	0.15	0.09
Total Carbon [%]	0.043	0.047	0.071	0.098	0.055	0.050	0.374	0.135	0.212	0.111
Carbonate (CO ₃) [%]	0.102	0.139	0.214	0.280	0.192	0.148	1.48	0.472	0.780	0.425
CarbNP	3.6	4.0	5.9	8.2	4.6	4.2	31	11	18	9.2

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*NP (Neutralization Potential)
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weight of sample

Carb-NP = $(\% \text{ Total C}) \times (100.09/12.01) \times (10)$

*AP (Acid Potential) = $\% \text{ Sulphide Sulphur} \times 31.25$

*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 $\% \text{ Sulphide}$ value of <0.01 will be calculated using a 0.01 value.

sulphur analysis performed following BC ARD Guidelines (Price 1997)

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Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Paste pH [units]	26-Aug-09	15:42	9.81	9.86	8.68	9.99	9.99	10.04	10.14	10.20	9.64
Fizz Rate [—]	31-Aug-09	08:36	1	1	2	1	1	2	1	1	1
Sample [weight(g)]	31-Aug-09	08:36	1.98	1.97	2.02	1.96	2.03	1.97	1.99	2.02	1.96
HCl added [mL]	31-Aug-09	08:36	20.00	20.00	42.10	31.40	20.00	20.00	20.00	20.00	20.00
HCl [Normality]	31-Aug-09	08:36	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	31-Aug-09	08:36	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	31-Aug-09	08:36	16.50	16.70	20.80	20.20	16.20	11.40	14.60	14.30	16.20
Final pH [units]	31-Aug-09	08:36	1.34	1.26	1.70	1.72	1.41	1.85	1.59	1.72	1.51
NP [t CaCO3/1000t]	31-Aug-09	08:36	8.8	8.4	53	29	9.4	22	14	14	9.7
AP [t CaCO3/1000 t]	02-Sep-09	07:43	0.31	3.26	39.4	5.00	2.32	2.24	0.62	0.94	1.73
Net NP [t CaCO3/1000 t]	02-Sep-09	07:43	8.5	5.1	13.4	23.6	7.1	19.6	13.0	13.2	8.0
NP/AP [ratio]	02-Sep-09	07:43	28.4	2.6	1.3	5.7	4.0	9.7	21.9	15.0	5.6
Total Sulphur [%]	28-Aug-09	10:40	0.009	0.136	1.26	0.206	0.123	0.130	0.045	0.069	0.105
Acid Leachable SO4-S [%]	02-Sep-09	07:42	< 0.01	0.03	< 0.01	0.05	0.05	0.06	0.03	0.04	0.05
Sulphide-S [%]	02-Sep-09	07:42	< 0.01	0.10	1.26	0.16	0.07	0.07	0.02	0.03	0.06
Total Carbon [%]	28-Aug-09	10:40	0.112	0.068	0.742	0.203	0.162	0.175	0.044	0.071	0.048
Carbonate (CO3) [%]	31-Aug-09	09:00	0.275	0.234	2.14	0.810	0.404	0.666	0.152	0.227	0.142
CarbNP	03-Sep-09	08:10	9.4	5.7	62	17	14	15	3.7	5.9	4.0



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weight of Sample

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*AP (Acid Potential) = $\% \text{ Sulphide Sulphur} \times 31.25$

*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 $\% \text{ Sulphide}$ value of <0.01 will be calculated using a 0.01 value.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)

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Final Report

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Sample Date & Time	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Silver [g/t]	0.04	0.05	0.51	0.36	0.34	0.27	0.36	0.30	0.25	0.22	0.26
Aluminum [g/t]	93000	87000	91000	92000	92000	85000	98000	90000	77000	71000	72000
Arsenic [g/t]	48	110	34	18	43	16	160	16	13	9.6	13
Barium [g/t]	740	650	670	550	650	490	680	570	670	630	650
Beryllium [g/t]	1.0	0.91	1.2	0.98	0.99	0.83	1.3	0.96	1.2	1.1	1.2
Bismuth [g/t]	0.17	0.19	0.44	0.25	0.14	0.10	0.20	0.15	0.15	0.12	0.13
Calcium [g/t]	22000	11000	21000	12000	11000	19000	11000	18000	17000	17000	17000
Cadmium [g/t]	0.26	0.19	0.40	0.31	0.33	0.22	0.30	0.24	0.24	0.21	0.20
Cobalt [g/t]	14	18	14	18	18	13	21	12	11	9.8	11
Chromium [g/t]	110	160	130	210	170	110	170	140	180	160	190
Copper [g/t]	43	84	79	54	49	36	42	35	30	17	33
Iron [g/t]	49000	44000	63000	40000	42000	50000	49000	56000	29000	26000	27000
Potassium [g/t]	25000	21000	27000	22000	23000	15000	25000	22000	20000	19000	20000
Lithium [g/t]	44	35	49	37	36	36	44	45	20	12	15
Magnesium [g/t]	14000	15000	14000	15000	15000	15000	19000	15000	10000	8000	8800
Manganese [g/t]	350	320	430	360	330	320	380	350	340	300	320
Molybdenum [g/t]	2.5	1.3	3.2	1.5	1.9	0.7	5.0	1.3	1.8	0.7	4.6
Sodium [g/t]	26000	23000	23000	25000	26000	29000	24000	25000	26000	26000	25000
Nickel [g/t]	43	59	42	58	58	39	69	39	33	24	29



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Lead [g/t]	9.8	10	11	16	12	9.3	12	9.9	15	14	15
Antimony [g/t]	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [g/t]	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Tin [g/t]	1.3	1.2	1.5	1.2	1.2	0.8	1.4	1.0	1.1	0.8	1.1
Strontium [g/t]	300	240	310	320	310	300	340	290	380	360	360
Titanium [g/t]	3500	3900	3500	4200	4100	3700	4600	3500	2900	2500	2700
Thallium [g/t]	0.44	0.38	0.51	0.41	0.43	0.22	0.56	0.33	0.42	0.34	0.36
Uranium [g/t]	1.7	2.4	1.8	1.9	1.8	1.3	2.0	1.5	1.3	1.2	1.3
Vanadium [g/t]	75	88	80	93	91	78	110	73	61	48	53
Yttrium [g/t]	9.0	9.1	10	7.6	7.7	8.4	8.7	8.0	10	8.8	9.7
Zinc [g/t]	73	93	92	86	93	76	98	86	50	36	41

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Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Silver [g/t]	27-Aug-09	11:29	0.30	0.19	0.03	0.17	0.11	0.11	0.06	0.08	0.10
Aluminum [g/t]	27-Aug-09	16:16	96000	91000	12000	83000	85000	87000	82000	89000	94000
Arsenic [g/t]	27-Aug-09	11:29	85	34	11	1.8	16	53	16	30	36
Barium [g/t]	27-Aug-09	11:29	650	600	72	500	570	560	580	590	580
Beryllium [g/t]	27-Aug-09	11:29	1.2	0.99	0.15	0.89	0.88	0.93	0.94	1.00	1.1
Bismuth [g/t]	27-Aug-09	11:29	0.18	0.11	0.19	0.15	0.11	0.11	< 0.09	0.10	0.22
Calcium [g/t]	27-Aug-09	16:16	8400	11000	24000	23000	11000	22000	21000	21000	12000
Cadmium [g/t]	27-Aug-09	11:29	0.25	0.26	0.26	0.29	0.26	0.25	0.26	0.25	0.27
Cobalt [g/t]	27-Aug-09	11:29	20	19	3.3	16	16	15	12	14	17
Chromium [g/t]	27-Aug-09	11:29	170	160	190	150	160	120	150	130	160
Copper [g/t]	27-Aug-09	16:16	56	52	31	30	55	40	20	31	45
Iron [g/t]	27-Aug-09	16:17	50000	53000	220000	59000	37000	44000	44000	54000	51000
Potassium [g/t]	27-Aug-09	16:17	26000	22000	2300	15000	19000	21000	18000	21000	24000
Lithium [g/t]	27-Aug-09	11:29	37	38	8	38	31	42	35	41	43
Magnesium [g/t]	27-Aug-09	16:17	18000	17000	5300	15000	12000	13000	14000	15000	16000
Manganese [g/t]	27-Aug-09	11:29	340	370	330	510	290	430	370	440	340
Molybdenum [g/t]	27-Aug-09	11:29	1.8	2.6	0.7	1.4	1.5	2.5	0.7	1.3	1.3
Sodium [g/t]	27-Aug-09	16:17	20000	23000	250	29000	28000	25000	25000	27000	24000
Nickel [g/t]	27-Aug-09	11:29	79	72	14	50	51	46	44	49	66



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Lead [g/t]	27-Aug-09	11:29	8.5	11	3.4	7.7	12	7.3	8.5	9.1	12
Antimony [g/t]	27-Aug-09	11:29	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [g/t]	27-Aug-09	11:29	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Tin [g/t]	27-Aug-09	11:29	1.6	1.4	0.6	1.6	1.4	1.2	1.3	1.8	1.6
Strontium [g/t]	27-Aug-09	11:29	230	260	140	310	260	290	320	330	240
Titanium [g/t]	27-Aug-09	16:17	4600	4200	700	3600	3600	3500	3300	3800	4100
Thallium [g/t]	27-Aug-09	11:29	0.43	0.39	0.08	0.31	0.30	0.36	0.29	0.40	0.53
Uranium [g/t]	27-Aug-09	11:29	1.8	1.6	0.46	2.4	1.6	1.4	1.5	1.8	1.9
Vanadium [g/t]	27-Aug-09	11:29	120	100	9	85	78	79	76	87	100
Yttrium [g/t]	27-Aug-09	11:29	9.0	8.2	6.1	9.2	7.2	8.8	8.7	8.9	9.2
Zinc [g/t]	27-Aug-09	16:17	96	110	58	79	77	59	64	76	86

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Final Report

Analysis	14: ML00-221-01	15: ML00-221-02	16: ML00-221-03	17: ML00-221-04	18: ML92-061-01	19: ML92-061-02	20: ML92-061-03	21: ML92-061-04	22: ML92-062-01	23: ML92-062-02
Sample Date & Time	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A
Silver [g/t]	0.09	0.04	0.04	0.05	0.05	0.03	0.09	0.01	0.03	0.03
Aluminum [g/t]	94000	89000	87000	92000	91000	89000	26000	90000	18000	65000
Arsenic [g/t]	280	31	48	21	49	32	6.7	53	1.4	13
Barium [g/t]	660	480	540	540	530	570	420	570	150	1400
Beryllium [g/t]	1.00	0.95	0.92	0.94	0.98	0.93	0.79	0.93	0.42	2.0
Bismuth [g/t]	0.14	0.17	0.14	0.17	0.18	0.17	< 0.09	0.23	< 0.09	0.17
Calcium [g/t]	13000	11000	7900	9300	11000	9400	18000	20000	18000	16000
Cadmium [g/t]	0.26	0.22	0.22	0.27	0.24	0.23	0.16	0.26	0.15	0.22
Cobalt [g/t]	17	17	17	18	18	20	3.4	16	2.8	9.0
Chromium [g/t]	170	220	160	130	170	180	70	120	84	130
Copper [g/t]	45	50	42	46	48	43	< 6	30	< 6	< 6
Iron [g/t]	42000	39000	39000	57000	43000	41000	240000	50000	280000	130000
Potassium [g/t]	22000	21000	20000	23000	22000	21000	5700	20000	1600	20000
Lithium [g/t]	40	34	34	43	40	34	12	41	6	58
Magnesium [g/t]	16000	15000	16000	17000	17000	16000	8100	15000	11000	12000
Manganese [g/t]	350	320	290	330	380	330	210	360	290	190
Molybdenum [g/t]	3.1	1.7	2.0	1.4	2.6	1.5	1.3	1.0	2.6	1.0
Sodium [g/t]	24000	24000	24000	16000	23000	21000	11000	29000	6500	15000
Nickel [g/t]	67	63	65	66	71	67	12	51	8.6	25

Online LIMS



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LR Report : CA11123-AUG09

Analysis	14: ML00-221-01	15: ML00-221-02	16: ML00-221-03	17: ML00-221-04	18: ML92-061-01	19: ML92-061-02	20: ML92-061-03	21: ML92-061-04	22: ML92-062-01	23: ML92-062-02
Lead [g/t]	12	11	8.6	12	9.4	8.3	4.2	11	3.2	39
Antimony [g/t]	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [g/t]	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Tin [g/t]	0.9	1.6	1.5	1.3	1.2	1.1	< 0.5	1.3	< 0.5	1.8
Strontium [g/t]	300	290	290	170	300	260	290	290	250	930
Titanium [g/t]	4200	3900	3700	4500	4100	4000	810	3700	510	1900
Thallium [g/t]	0.43	0.42	0.36	0.42	0.45	0.42	0.20	0.32	0.04	0.51
Uranium [g/t]	1.8	1.9	1.7	1.7	1.7	1.7	0.66	1.5	0.33	1.3
Vanadium [g/t]	98	87	93	110	100	97	16	84	12	37
Yttrium [g/t]	8.3	7.1	7.4	8.1	8.0	7.4	5.5	8.5	5.9	7.4
Zinc [g/t]	94	88	77	99	92	82	36	75	39	67

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Thursday, September 03, 2009

Date Rec. : 17 August 2009
LR Report: CA11122-AUG09
Reference: Discovery Deposit

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	25: ML90-12-01	26: ML90-12-02	27: ML90-04-01	28: ML90-04-02	29: ML90-04-03	30: ML90-03-01	31: ML90-03-02	32: Disc SS1	33: Disc SS2	34: Disc SS3	35: ML90-12-01
Sample Date & Time	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	
SiO2 [%]	65.6	62.3	64.9	66.0	63.8	61.3	63.4	70.9	73.4	72.5	65.4
Al2O3 [%]	16.2	16.0	16.9	16.6	15.8	18.2	16.3	13.9	12.9	13.2	16.1
Fe2O3 [%]	6.34	8.61	5.74	5.80	7.20	6.80	7.85	4.03	3.42	3.71	6.38
MgO [%]	2.36	2.12	2.43	2.31	2.47	3.02	2.31	1.65	1.24	1.46	2.36
CaO [%]	1.62	2.74	1.71	1.51	2.75	1.58	2.51	2.39	2.40	2.44	1.61
Na2O [%]	3.08	2.92	3.64	3.54	4.26	3.17	3.33	3.51	3.43	3.47	3.05
K2O [%]	2.38	2.81	2.26	2.34	1.56	2.68	2.29	2.08	1.97	2.03	2.35
TiO2 [%]	0.61	0.52	0.64	0.61	0.57	0.68	0.51	0.44	0.40	0.44	0.61
P2O5 [%]	0.12	0.14	0.12	0.11	0.15	0.12	0.13	0.14	0.14	0.14	0.12
MnO [%]	0.03	0.04	0.04	0.03	0.04	0.04	0.04	0.03	0.02	0.03	0.03
Cr2O3 [%]	0.03	0.02	0.03	0.02	0.02	0.04	0.02	0.03	0.03	0.03	0.03
V2O5 [%]	0.02	0.02	0.02	0.02	0.01	0.03	0.02	0.02	< 0.01	0.01	0.02
LOI [%]	1.94	2.06	2.03	2.13	1.69	2.36	1.91	1.45	1.27	1.21	1.95
Sum [%]	100.3	100.3	100.5	101.0	100.3	100.0	100.6	100.6	100.6	100.8	100.0



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LR Report : CA11122-AUG09

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NAG Test

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Thursday, March 04, 2010

Date Rec. : 24 February 2010
LR Report: CA11029-FEB10
Reference: 09-1426-0013 Discovery

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: ML92-061-01	6: ML90-14-2	7: ML95-82-1
Sample Date & Time			Date:n/a	Date:n/a	Date:n/a
Sample [weight(g)]	25-Feb-10	14:26	1.48	1.53	1.48
vol H2O2 [mL]	25-Feb-10	14:26	150	150	150
Final pH [units]	25-Feb-10	14:26	4.80	7.42	3.40
NaOH [Normality]	25-Feb-10	14:26	0.10	0.10	0.10
Vol NaOH to PH 4.5 [mL]	25-Feb-10	14:26	0.00	0.00	0.60
Vol NaOH to PH 7.0 [mL]	25-Feb-10	14:26	0.30	0.00	1.00
NAG (pH 4.5) [kg H2SO4/tonne]	25-Feb-10	14:26	0.0	0.0	2.0
NAG (pH 7.0) [kg H2SO4/tonne]	25-Feb-10	14:26	1.0	0.0	3.3

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne

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Thursday, September 03, 2009

Date Rec. : 17 August 2009
LR Report: CA11122-AUG09
Reference: Discovery Deposit

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	15: ML00-221-02	16: ML00-221-03	17: ML00-221-04	18: ML92-061-01	19: ML92-061-02	20: ML92-061-03	21: ML92-061-04	22: ML92-062-01	23: ML92-062-02	24: ML92-062-03
Sample Date & Time	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
SiO2 [%]	65.5	65.8	60.4	63.9	63.9	48.6	63.1	47.3	60.7	64.1
Al2O3 [%]	16.4	16.5	18.2	17.5	16.9	5.11	16.3	3.45	11.9	16.6
Fe2O3 [%]	5.52	5.61	8.65	6.40	5.99	39.0	7.10	44.7	18.7	6.74
MgO [%]	2.41	2.61	2.97	2.88	2.80	1.42	2.29	1.80	1.93	2.23
CaO [%]	1.50	1.15	1.40	1.62	1.36	2.65	2.80	2.52	2.25	2.88
Na2O [%]	3.63	3.68	2.40	3.27	3.10	1.67	4.06	0.94	2.01	3.51
K2O [%]	2.16	2.11	2.70	2.45	2.49	0.63	2.07	0.16	2.11	2.71
TiO2 [%]	0.61	0.60	0.74	0.66	0.64	0.13	0.58	0.08	0.29	0.53
P2O5 [%]	0.12	0.11	0.13	0.12	0.12	0.20	0.13	0.24	0.12	0.13
MnO [%]	0.03	0.02	0.03	0.03	0.06	0.02	0.04	0.03	< 0.01	0.03
Cr2O3 [%]	0.03	0.03	0.02	0.03	0.03	< 0.01	0.01	0.02	< 0.01	< 0.01
V2O5 [%]	0.01	0.02	0.02	0.03	0.02	< 0.01	0.02	< 0.01	< 0.01	0.02
LOI [%]	1.94	2.16	3.09	2.19	2.39	0.30	1.74	-0.61	0.80	1.48
Sum [%]	99.9	100.4	100.8	101.1	99.9	99.9	100.3	100.7	100.8	100.9



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LR Report : CA11122-AUG09

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Thursday, September 03, 2009

Date Rec. : 17 August 2009
LR Report: CA11122-AUG09
Reference: Discovery Deposit

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	5:	6:	7:	8:	9:	10:	11:	12:	13:	14:
	ML95-93-01	ML95-93-02	ML95-93-03	ML95-93-04	ML90-08-01	ML90-08-02	ML90-07-01	ML08-238-03	ML08-238-04	ML00-221-01
Sample Date & Time	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
SiO2 [%]	60.1	62.9	55.5	63.2	67.3	62.4	64.4	63.7	62.7	63.6
Al2O3 [%]	18.8	16.7	2.25	15.2	15.5	16.9	16.3	16.2	17.3	17.3
Fe2O3 [%]	7.35	7.52	34.7	8.24	5.08	6.64	6.75	7.64	7.18	5.92
MgO [%]	3.14	2.68	0.93	2.36	1.96	2.25	2.47	2.34	2.61	2.55
CaO [%]	1.21	1.59	3.34	3.15	1.51	3.18	3.09	2.94	1.65	1.77
Na2O [%]	2.74	3.10	0.08	4.21	4.10	3.92	3.94	3.95	3.33	3.57
K2O [%]	2.99	2.33	0.25	1.61	2.04	2.53	2.04	2.13	2.61	2.48
TiO2 [%]	0.73	0.64	0.11	0.55	0.56	0.56	0.55	0.57	0.65	0.65
P2O5 [%]	0.13	0.13	0.21	0.14	0.12	0.14	0.16	0.14	0.12	0.12
MnO [%]	0.04	0.04	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.04
Cr2O3 [%]	0.03	0.03	0.02	0.02	0.04	0.02	0.02	0.03	0.03	0.02
V2O5 [%]	0.03	0.02	< 0.01	0.02	0.02	0.02	0.03	0.02	0.03	0.02
LOI [%]	2.80	2.17	0.87	1.80	1.62	1.63	1.11	1.21	2.43	2.04
Sum [%]	100.1	99.9	98.3	100.5	99.8	100.3	100.8	100.9	100.6	100.1



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LR Report : CA11122-AUG09

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Wednesday, March 10, 2010

Date Rec. : 24 February 2010
LR Report: CA11033-FEB10
Reference: 09-1426-0013 Discovery

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: ML92-061-01	6: ML90-14-2	7: ML95-82-1
Sample Date & Time			Date:n/a	Date:n/a	Date:n/a
Sample [weight(g)]	25-Feb-10	14:26	2.47	2.59	2.47
vol H2O2 [mL]	25-Feb-10	14:26	250	250	250
pH [no unit]	02-Mar-10	09:02	4.78	6.87	3.46
Conductivity [uS/cm]	02-Mar-10	09:02	127	138	269
Alkalinity [mg/L as CaCO3]	02-Mar-10	09:02	< 2	6	< 2
Sulphate [mg/L]	09-Mar-10	11:03	45	45	62
Chloride [mg/L]	05-Mar-10	15:06	< 2	< 2	< 2
Silver [mg/L]	02-Mar-10	08:49	0.00035	0.00001	0.00028
Aluminum [mg/L]	02-Mar-10	12:58	0.14	0.14	1.19
Arsenic [mg/L]	02-Mar-10	08:49	< 0.0002	0.0301	0.0004
Barium [mg/L]	02-Mar-10	08:49	0.0489	0.0161	0.0634
Beryllium [mg/L]	02-Mar-10	08:49	< 0.00002	< 0.00002	0.00014
Boron [mg/L]	02-Mar-10	08:49	0.302	0.0884	0.328
Bismuth [mg/L]	02-Mar-10	08:49	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	02-Mar-10	12:58	7.08	14.2	7.44
Cadmium [mg/L]	02-Mar-10	08:49	0.000365	0.000005	0.000582
Cobalt [mg/L]	02-Mar-10	08:49	0.0249	0.000060	0.132
Chromium [mg/L]	02-Mar-10	08:49	0.0072	0.0244	0.0060
Copper [mg/L]	02-Mar-10	08:49	0.0070	0.0005	0.361
Iron [mg/L]	02-Mar-10	12:58	< 0.01	< 0.01	0.16
Potassium [mg/L]	02-Mar-10	12:58	9.64	14.3	6.05
Lithium [mg/L]	02-Mar-10	12:58	< 0.002	0.004	< 0.002
Magnesium [mg/L]	02-Mar-10	12:58	3.11	0.145	1.79
Manganese [mg/L]	02-Mar-10	08:49	0.137	0.00068	0.130
Molybdenum [mg/L]	02-Mar-10	08:49	0.0129	0.0109	0.00009
Sodium [mg/L]	02-Mar-10	12:58	1.74	1.60	1.28
Nickel [mg/L]	02-Mar-10	08:49	0.180	< 0.0001	0.390
Lead [mg/L]	02-Mar-10	08:49	0.00008	0.00047	0.00629
Antimony [mg/L]	02-Mar-10	08:49	0.0003	0.0003	0.0003
Selenium [mg/L]	02-Mar-10	08:49	0.001	< 0.001	0.001
Tin [mg/L]	02-Mar-10	08:49	0.00001	0.00004	< 0.00001
Strontium [mg/L]	02-Mar-10	12:58	0.0358	0.0377	0.0404



NAG Test with chemical analysis

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LR Report : CA11033-FEB10

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: ML92-061-01	6: ML90-14-2	7: ML95-82-1
Titanium [mg/L]	02-Mar-10	08:49	0.0008	0.0018	0.0005
Thallium [mg/L]	02-Mar-10	08:49	< 0.0002	< 0.0002	0.0002
Uranium [mg/L]	02-Mar-10	08:49	0.000038	0.000047	0.00364
Vanadium [mg/L]	02-Mar-10	08:49	0.0161	0.0271	< 0.00003
Tungsten [mg/L]	02-Mar-10	08:49	0.00216	0.00242	< 0.00003
Yttrium [mg/L]	02-Mar-10	08:49	0.00114	0.000008	0.00976
Zinc [mg/L]	02-Mar-10	08:49	0.012	< 0.001	0.112

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SFE (4:1 ratio)

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Date Rec. : 31 August 2009
LR Report: CA11286-AUG09
Reference: Discovery Deposit

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	11: ML08-236-1	12: ML08-236-2	13: ML08-236-3	14: ML92-060-1	15: ML90-14-2	16: ML95-82-1	17: ML95-82-2	18: ML95-82-3
Sample Date & Time	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A
Sample [weight(g)]	200	200	200	200	200	200	200	200
Volume mL [D.I. H ₂ O]	800	800	800	800	800	800	800	800
Initial pH [units]	9.88	9.69	9.83	9.62	9.19	9.43	9.67	9.84
Final pH [units]	9.65	9.70	9.56	8.98	9.51	9.46	8.89	9.75
pH [no unit]	8.58	8.31	8.49	7.81	8.17	7.88	7.73	8.83
Conductivity [uS/cm]	101	102	119	155	87	86	140	89
Alkalinity [mg/L as CaCO ₃]	44	39	43	47	34	36	46	41
Sulphate [mg/L]	0.6	2.5	2.9	4.6	3.5	4.6	3.5	1.6
Chloride [mg/L]	1.9	4.1	6.9	1.6	0.5	0.5	0.6	0.6
Mercury [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	0.00004	0.00002	0.00002	0.00003	0.00002	0.00002	0.00003	0.00007
Aluminum [mg/L]	1.02	1.60	1.35	0.14	1.38	1.42	0.06	1.23
Arsenic [mg/L]	0.0124	0.0489	0.0334	0.0009	0.0603	0.116	0.0025	0.159
Boron [mg/L]	0.0208	0.0243	0.0291	0.0158	0.0186	0.0232	0.0156	0.0207
Beryllium [mg/L]	0.00004	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002
Bismuth [mg/L]	0.00005	0.00002	< 0.00001	< 0.00001	0.00001	0.00001	0.00003	0.00003
Calcium [mg/L]	3.77	2.92	3.88	9.15	4.08	3.46	11.7	3.30
Cadmium [mg/L]	0.000033	0.000004	< 0.000003	< 0.000003	< 0.000003	0.000003	0.000028	0.000041
Cobalt [mg/L]	0.000064	0.000120	0.000063	0.000032	0.000151	0.000168	0.000069	0.000110
Chromium [mg/L]	< 0.0005	0.0006	0.0005	< 0.0005	0.0006	0.0010	< 0.0005	< 0.0005
Copper [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0006
Iron [mg/L]	0.17	0.29	0.16	0.36	0.29	0.23	0.13	0.23
Potassium [mg/L]	15.8	12.5	9.73	20.6	9.98	11.5	18.0	10.9
Lithium [mg/L]	0.003	0.002	< 0.001	0.002	0.001	< 0.001	0.010	< 0.001
Magnesium [mg/L]	0.292	0.300	0.398	1.19	0.441	0.520	0.965	0.288
Manganese [mg/L]	0.00102	0.00242	0.00119	0.00140	0.00224	0.00196	0.00112	0.00213
Molybdenum [mg/L]	0.00036	0.00026	0.00058	0.00023	0.00039	0.00065	0.00022	0.00032
Sodium [mg/L]	6.72	9.84	13.3	5.39	6.62	6.64	1.48	8.01
Nickel [mg/L]	< 0.0001	0.0004	0.0002	< 0.0001	0.0005	0.0007	0.0001	0.0003
Lead [mg/L]	0.00009	0.00014	0.00014	0.00003	0.00010	0.00027	0.00005	0.00013
Antimony [mg/L]	0.0008	0.0006	0.0007	0.0007	0.0005	0.0009	0.0006	0.0022
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

OnLine LIMS



SFE (4:1 ratio)

SGS Lakefield Research Limited

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

LR Report : CA11286-AUG09

Analysis	11: ML08-236-1	12: ML08-236-2	13: ML08-236-3	14: ML92-060-1	15: ML90-14-2	16: ML95-82-1	17: ML95-82-2	18: ML95-82-3
Tin [mg/L]	0.00004	0.00007	< 0.00001	0.00005	0.00009	0.00004	0.00003	0.00004
Strontium [mg/L]	0.0330	0.0124	0.0156	0.110	0.0192	0.0154	0.142	0.0148
Titanium [mg/L]	0.0026	0.0161	0.0090	0.0010	0.0165	0.0148	0.0005	0.0129
Thallium [mg/L]	0.00004	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002
Uranium [mg/L]	0.00104	0.000496	0.000148	0.000085	0.000290	0.000543	0.000334	0.00116
Vanadium [mg/L]	0.00214	0.0110	0.00842	0.00023	0.00869	0.0105	0.00023	0.0133
Tungsten [mg/L]	0.00160	0.00132	0.00453	0.00068	0.00072	0.00081	0.00074	0.00068
Yttrium [mg/L]	0.000073	0.000155	0.000065	0.000020	0.000130	0.000177	0.000035	0.000123
Zinc [mg/L]	0.003	0.002	< 0.001	0.002	< 0.001	0.002	< 0.001	0.001

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



SFE (4:1 ratio)

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Phone: 604-241-4566, Fax:604-241-4586

Wednesday, September 16, 2009

Date Rec. : 31 August 2009
LR Report: CA11286-AUG09
Reference: Discovery Deposit

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: ML90-10-1	6: ML90-10-2	7: ML90-10-3	8: ML90-09-1	9: ML90-09-2	10: ML92-053-1
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	09-Sep-09	10:08	200	200	200	200	200	200
Volume mL [D.I. H ₂ O]	09-Sep-09	10:08	800	800	800	800	800	800
Initial pH [units]	09-Sep-09	10:08	9.67	9.70	9.77	9.75	9.85	9.77
Final pH [units]	09-Sep-09	10:08	9.51	9.12	9.75	9.17	9.74	9.21
pH [no unit]	14-Sep-09	15:52	7.92	7.88	8.47	7.76	8.81	7.85
Conductivity [uS/cm]	14-Sep-09	15:52	95	122	85	98	97	87
Alkalinity [mg/L as CaCO ₃]	14-Sep-09	15:52	40	45	40	41	44	39
Sulphate [mg/L]	16-Sep-09	11:53	3.5	3.4	1.0	1.0	1.7	0.9
Chloride [mg/L]	16-Sep-09	11:53	0.7	1.0	0.6	0.7	1.0	0.9
Mercury [mg/L]	14-Sep-09	15:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	14-Sep-09	15:39	0.00002	0.00025	0.00006	0.00004	0.00003	< 0.00001
Aluminum [mg/L]	14-Sep-09	15:39	0.97	0.56	1.60	0.43	1.24	0.46
Arsenic [mg/L]	14-Sep-09	15:39	0.159	0.0059	0.0244	0.0210	0.0230	0.0047
Boron [mg/L]	14-Sep-09	15:39	0.0322	0.0231	0.0191	0.0188	0.0200	0.0166
Beryllium [mg/L]	14-Sep-09	15:39	< 0.00002	0.00022	0.00003	0.00003	< 0.00002	< 0.00002
Bismuth [mg/L]	14-Sep-09	15:39	0.00017	0.00025	0.00004	0.00003	0.00001	< 0.00001
Calcium [mg/L]	14-Sep-09	15:39	4.22	9.58	2.47	8.40	3.60	8.14
Cadmium [mg/L]	14-Sep-09	15:39	0.000005	0.000229	0.000031	0.000021	0.000009	< 0.000003
Cobalt [mg/L]	14-Sep-09	15:39	0.000152	0.000242	0.000141	0.000060	0.000085	0.000037
Chromium [mg/L]	14-Sep-09	15:39	0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	14-Sep-09	15:39	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	14-Sep-09	15:39	0.16	0.01	0.31	0.10	0.16	0.04
Potassium [mg/L]	14-Sep-09	15:39	10.4	13.7	13.9	12.0	12.3	9.51
Lithium [mg/L]	14-Sep-09	15:39	0.002	0.003	0.001	< 0.001	0.003	< 0.001
Magnesium [mg/L]	14-Sep-09	15:39	0.579	0.792	0.280	0.644	0.276	0.770
Manganese [mg/L]	14-Sep-09	15:39	0.00145	0.00096	0.00239	0.00064	0.00161	0.00033
Molybdenum [mg/L]	14-Sep-09	15:39	0.00475	0.00049	0.00042	0.00031	0.00132	0.00021
Sodium [mg/L]	14-Sep-09	15:39	7.98	4.24	6.12	1.78	8.73	1.73
Nickel [mg/L]	14-Sep-09	15:39	0.0007	0.0003	0.0004	< 0.0001	0.0003	< 0.0001
Lead [mg/L]	14-Sep-09	15:39	0.00012	0.00021	0.00014	0.00003	0.00010	0.00005
Antimony [mg/L]	14-Sep-09	15:39	0.0008	0.0005	0.0007	0.0006	0.0007	0.0007
Selenium [mg/L]	14-Sep-09	15:39	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Online LIMS



SFE (4:1 ratio)

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LR Report : CA11286-AUG09

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: ML90-10-1	6: ML90-10-2	7: ML90-10-3	8: ML90-09-1	9: ML90-09-2	10: ML92-053-1
Tin [mg/L]	14-Sep-09	15:39	0.00006	0.00002	0.00009	0.00002	0.00007	0.00002
Strontium [mg/L]	14-Sep-09	15:39	0.0205	0.0897	0.0117	0.126	0.0175	0.134
Titanium [mg/L]	14-Sep-09	15:39	0.0098	0.0003	0.0168	0.0005	0.0103	0.0002
Thallium [mg/L]	14-Sep-09	15:39	< 0.00002	0.00022	0.00004	0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	14-Sep-09	15:39	0.00116	0.000520	0.000498	0.000062	0.00134	0.000033
Vanadium [mg/L]	14-Sep-09	15:39	0.00874	0.00076	0.0103	0.00030	0.0145	0.00029
Tungsten [mg/L]	14-Sep-09	15:39	0.00146	0.00123	0.00084	0.00066	0.00079	0.00079
Yttrium [mg/L]	14-Sep-09	15:39	0.000250	0.000205	0.000201	0.000027	0.000246	0.000007
Zinc [mg/L]	14-Sep-09	15:39	< 0.001	0.001	0.001	0.001	0.001	0.003

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Project Specialist
Environmental Services, Analytical



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Phone: 604-241-4566
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NAG Test

Wednesday, September 09, 2009

Date Rec. : 31 August 2009
LR Report: CA11287-AUG09
Reference: Discovery Deposit

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Sample Date & Time	Sample weight(g)	vol H2O2 mL	Final pH units	NaOH Normality	Vol NaOH to PH 4.5 mL	Vol NaOH to PH 7.0 mL	NAG (pH 4.5) kg H2SO4/tonne	NAG (pH 7.0) kg H2SO4/tonne
3: Analysis Approval Date		08-Sep-09	08-Sep-09	08-Sep-09	08-Sep-09	08-Sep-09	08-Sep-09	08-Sep-09	08-Sep-09
4: Analysis Approval Time		16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00
5: ML90-10-1	Date:N/A	1.54	150	7.31	0.10	0.00	0.00	0.0	0.0
6: ML90-10-2	Date:N/A	1.50	150	10.03	0.10	0.00	0.00	0.0	0.0
7: ML90-10-3	Date:N/A	1.51	150	7.54	0.10	0.00	0.00	0.0	0.0
8: ML90-09-1	Date:N/A	1.47	150	9.77	0.10	0.00	0.00	0.0	0.0
9: ML90-09-2	Date:N/A	1.51	150	9.86	0.10	0.00	0.00	0.0	0.0
10: ML92-053-1	Date:N/A	1.47	150	10.71	0.10	0.00	0.00	0.0	0.0
11: ML08-236-1	Date:N/A	1.48	150	10.34	0.10	0.00	0.00	0.0	0.0
12: ML08-236-2	Date:N/A	1.45	150	7.83	0.10	0.00	0.00	0.0	0.0
13: ML08-236-3	Date:N/A	1.46	150	7.47	0.10	0.00	0.00	0.0	0.0
14: ML92-060-1	Date:N/A	1.52	150	9.29	0.10	0.00	0.00	0.0	0.0
15: ML90-14-2	Date:N/A	1.46	150	7.11	0.10	0.00	0.00	0.0	0.0
16: ML95-82-1	Date:N/A	1.48	150	3.33	0.10	0.80	1.30	2.6	4.3
17: ML95-82-2	Date:N/A	1.45	150	2.88	0.10	2.50	3.50	8.4	12
18: ML95-82-3	Date:N/A	1.47	150	10.03	0.10	0.00	0.00	0.0	0.0



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NAG Test

LR Report : CA11287-AUG09

$$\text{NAG} = (49 \times \text{Vol. of base} \times \text{N of base}) / \text{sample weight}$$

kg H₂SO₄/tonne

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



Modified ABA (Price 1997)

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Tuesday, September 15, 2009

Date Rec. : 31 August 2009
LR Report: CA11285-AUG09
Reference: Discovery Deposit

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	11: ML08-236-1	12: ML08-236-2	13: ML08-236-3	14: ML92-060-1	15: ML90-14-2	16: ML95-82-1	17: ML95-82-2	18: ML95-82-3
Sample Date & Time	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Paste pH [units]	9.65	9.74	9.47	8.95	9.61	9.32	8.67	9.82
Fizz Rate [—]	3	2	2	3	1	1	3	3
Sample [weight(g)]	2.04	2.05	1.99	1.96	2.02	2.02	1.98	2.02
HCl added [mL]	26.00	20.00	20.00	26.90	20.00	20.00	20.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	12.60	14.60	14.60	16.30	15.10	17.00	9.30	10.60
Final pH [units]	1.86	1.36	1.53	1.68	1.47	1.12	1.93	1.91
NP [t CaCO ₃ /1000t]	33	13	14	27	12	7.4	27	23
AP [t CaCO ₃ /1000 t]	5.0	2.5	3.4	10.0	2.5	3.8	33.1	2.5
Net NP [t CaCO ₃ /1000 t]	27.8	10.7	10.2	17.0	9.6	3.6	-6.1	20.8
NP/AP [ratio]	6.6	5.3	4.0	2.7	4.8	1.9	0.82	9.3
Total Sulphur [%]	0.245	0.176	0.183	0.424	0.145	0.246	1.26	0.138
Acid Leachable SO ₄ -S [%]	0.09	0.09	0.07	0.11	0.06	0.12	0.20	0.06
Sulphide-S [%]	0.16	0.08	0.11	0.32	0.08	0.12	1.06	0.08
Total Carbon [%]	0.430	0.095	0.117	0.238	0.108	0.031	0.326	0.208
Carbonate (CO ₃) [%]	1.74	0.376	0.433	0.810	0.396	0.089	1.10	0.883



Modified ABA (Price 1997)

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LR Report : CA11285-AUG09

*NP (Neutralization Potential)

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

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.

sulphur analysis performed following BC ARD Guidelines (Price 1997)

Brian Graham B.Sc.

Project Specialist

Environmental Services, Analytical



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Friday, September 11, 2009

Date Rec. : 31 August 2009
LR Report: CA11284-AUG09
Reference: Discovery Deposit

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: ML90-10-1	6: ML90-10-2	7: ML90-10-3	8: ML90-09-1	9: ML90-09-2	10: ML92-053-1	11: ML08-236-1	12: ML08-236-2	13: ML08-236-3	14: ML92-060-1	15: ML90-14-2	16: ML95-82-1	17: ML95-82-2	18: ML95-82-3
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Silver [µg/g]	11-Sep-09	12:09	0.47	0.34	0.41	2.1	0.49	0.26	0.28	0.46	0.43	0.28	0.43	0.59	0.52	3.3
Aluminum [µg/g]	11-Sep-09	07:51	84000	32000	78000	21000	84000	18000	40000	88000	89000	16000	89000	92000	14000	75000
Arsenic [µg/g]	11-Sep-09	12:09	36	35	8.6	96	8.9	19	14	29	34	2.0	29	100	10	74
Barium [µg/g]	11-Sep-09	12:09	550	410	560	81	540	75	720	650	520	160	650	660	100	520
Beryllium [µg/g]	11-Sep-09	12:09	0.97	0.82	1.1	0.24	1.00	0.34	1.3	1.1	1.1	0.42	1.1	1.1	0.37	0.99
Bismuth [µg/g]	11-Sep-09	12:09	0.18	0.11	0.15	0.20	0.13	< 0.09	0.22	0.16	0.23	< 0.09	0.18	0.16	0.30	0.37
Calcium [µg/g]	11-Sep-09	07:51	9800	26000	14000	21000	21000	23000	21000	20000	18000	16000	20000	9600	18000	21000
Cadmium [µg/g]	11-Sep-09	12:09	0.16	0.20	0.18	0.25	0.26	0.24	0.17	0.21	0.23	0.12	0.24	0.25	0.21	0.35
Cobalt [µg/g]	11-Sep-09	12:09	16	6.0	12	3.7	13	2.9	3.9	14	17	3.0	15	18	2.3	13
Chromium [µg/g]	11-Sep-09	12:09	160	130	120	99	120	99	130	130	170	91	140	140	68	140
Copper [µg/g]	11-Sep-09	07:50	31	18	18	< 1	23	5	2	41	44	5	39	50	25	39
Iron [µg/g]	11-Sep-09	07:50	36000	170000	45000	260000	43000	260000	140000	53000	55000	270000	55000	44000	220000	43000
Potassium [µg/g]	11-Sep-09	07:50	20000	9900	20000	2100	19000	1200	15000	23000	20000	2700	19000	23000	2300	16000
Lithium [µg/g]	11-Sep-09	12:09	35	20	45	6	40	6	23	42	44	5	44	39	7	33
Magnesium [µg/g]	11-Sep-09	07:50	14000	5600	13000	9100	14000	9000	8600	15000	17000	10000	15000	17000	8800	13000
Manganese [µg/g]	11-Sep-09	12:09	270	380	320	350	410	250	330	430	410	310	400	340	630	430
Molybdenum [µg/g]	11-Sep-09	12:09	3.8	1.2	1.5	3.5	3.0	1.1	1.4	3.1	1.5	3.3	1.4	1.8	2.4	0.7
Sodium [µg/g]	11-Sep-09	07:49	24000	2200	21000	2000	27000	910	2700	21000	22000	3500	22000	21000	1900	24000
Nickel [µg/g]	11-Sep-09	12:09	49	19	36	9.0	40	8.0	12	45	54	7.7	46	62	6.4	44
Lead [µg/g]	11-Sep-09	12:09	9.4	6.0	9.7	3.4	7.9	2.7	8.8	11	16	3.2	10	11	5.5	8.6
Antimony [µg/g]	11-Sep-09	12:09	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	11-Sep-09	12:09	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Tin [µg/g]	11-Sep-09	12:09	0.8	0.5	0.9	< 0.5	0.7	< 0.5	1.6	1.7	1.0	< 0.5	1.0	1.2	< 0.5	1.0



SGS Lakefield Research Limited
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LR Report : CA11284-AUG09

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: ML90-10-1	6: ML90-10-2	7: ML90-10-3	8: ML90-09-1	9: ML90-09-2	10: ML92-053-1	11: ML08-236-1	12: ML08-236-2	13: ML08-236-3	14: ML92-060-1	15: ML90-14-2	16: ML95-82-1	17: ML95-82-2	18: ML95-82-3
Strontium [µg/g]	11-Sep-09	12:09	250	260	250	230	320	220	280	240	260	210	290	270	270	310
Titanium [µg/g]	11-Sep-09	07:49	3100	1300	2700	570	3300	560	1200	3600	3900	500	3700	4000	330	3000
Thallium [µg/g]	11-Sep-09	12:09	0.42	0.19	0.45	0.07	0.40	0.03	0.34	0.41	0.40	0.08	0.38	0.47	0.06	0.31
Uranium [µg/g]	11-Sep-09	12:09	2.9	1.4	1.6	0.45	3.7	0.40	1.3	1.9	1.8	0.46	1.8	2.5	0.65	2.0
Vanadium [µg/g]	11-Sep-09	12:09	77	28	66	16	82	14	22	90	110	17	94	100	9	80
Yttrium [µg/g]	11-Sep-09	12:09	9.0	6.6	7.3	6.2	11	5.7	6.3	9.9	8.6	6.3	9.0	8.3	8.0	7.8
Zinc [µg/g]	11-Sep-09	07:49	71	41	69	78	61	42	40	74	87	41	76	87	53	62

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



Modified ABA (Price 1997)

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Tuesday, September 15, 2009

Date Rec. : 31 August 2009
LR Report: CA11285-AUG09
Reference: Discovery Deposit

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: ML90-10-1	6: ML90-10-2	7: ML90-10-3	8: ML90-09-1	9: ML90-09-2	10: ML92-053-1
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Paste pH [units]	11-Sep-09	10:32	9.85	8.96	9.97	8.83	9.88	8.94
Fizz Rate [---]	11-Sep-09	10:32	1	3	1	3	2	3
Sample [weight(g)]	11-Sep-09	10:32	2.00	1.97	2.05	1.98	2.00	1.97
HCl added [mL]	11-Sep-09	10:32	20.00	31.00	20.00	26.00	20.00	26.60
HCl [Normality]	11-Sep-09	10:32	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	11-Sep-09	10:32	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	11-Sep-09	10:32	15.70	12.20	16.00	14.40	10.50	12.10
Final pH [units]	11-Sep-09	10:32	1.30	1.94	1.40	1.63	1.98	1.63
NP [t CaCO3/1000t]	11-Sep-09	10:32	11	48	9.8	29	24	37
AP [t CaCO3/1000 t]	11-Sep-09	10:32	1.6	20.9	0.62	9.4	1.9	4.1
Net NP [t CaCO3/1000 t]	11-Sep-09	10:32	9.2	26.8	9.18	19.9	21.9	32.7
NP/AP [ratio]	11-Sep-09	10:32	6.8	2.3	15.8	3.1	12.7	9.0
Total Sulphur [%]	04-Sep-09	14:41	0.116	0.908	0.038	0.426	0.145	0.189
Acid Leachable SO4-S [%]	11-Sep-09	10:27	0.06	0.23	0.01	0.12	0.09	0.06
Sulphide-S [%]	11-Sep-09	10:27	0.05	0.67	0.02	0.30	0.06	0.13
Total Carbon [%]	04-Sep-09	14:41	0.079	0.588	0.037	0.298	0.206	0.387
Carbonate (CO3) [%]	09-Sep-09	10:08	0.245	1.81	0.107	0.969	0.877	1.56



Modified ABA (Price 1997)

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LR Report : CA11285-AUG09

*NP (Neutralization Potential)

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

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.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)

Brian Graham B.Sc.

Project Specialist

Environmental Services, Analytical



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Friday, September 11, 2009

Date Rec. : 31 August 2009
LR Report: CA11283-AUG09
Reference: Discovery Deposit

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	6:	6:	7:	8:	9:	10:	11:	12:	13:	14:	15:	16:	17:	18:
	ML90-10-1	ML90-10-2	ML90-10-3	ML90-09-1	ML90-09-2	ML92-053-1	ML08-236-1	ML08-236-2	ML08-236-3	ML92-060-1	ML90-14-2	ML95-82-1	ML95-82-2	ML95-82-3
Sample Date & Time	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A	Date: N/A
SiO2 [%]	66.6	57.5	64.7	48.5	63.0	48.8	62.5	61.7	61.4	48.8	62.0	63.1	52.9	65.5
Al2O3 [%]	15.5	6.37	15.5	3.96	16.3	3.55	7.68	16.9	16.6	3.06	16.6	17.3	2.98	15.4
Fe2O3 [%]	4.74	25.9	6.72	41.8	6.32	41.7	21.3	7.65	7.83	42.7	7.84	6.08	38.5	6.71
MgO [%]	2.31	0.99	2.33	1.54	2.31	1.56	1.45	2.53	2.77	1.78	2.48	2.70	1.69	2.25
CaO [%]	1.42	3.89	2.14	3.05	3.11	3.37	3.12	2.94	2.65	2.31	2.93	1.38	2.99	3.30
Na2O [%]	3.56	0.36	3.11	0.30	4.28	0.14	0.40	3.10	3.17	0.52	3.24	2.95	0.28	3.87
K2O [%]	2.22	1.16	2.50	0.24	2.29	0.14	1.78	2.81	2.18	0.31	2.28	2.74	0.28	1.92
TiO2 [%]	0.48	0.20	0.46	0.09	0.55	0.09	0.19	0.57	0.62	0.08	0.57	0.63	0.06	0.51
P2O5 [%]	0.10	0.17	0.11	0.27	0.15	0.22	0.15	0.14	0.11	0.20	0.12	0.12	0.26	0.14
MnO [%]	0.04	0.05	0.05	0.04	0.06	0.03	0.05	0.06	0.06	0.04	0.06	0.05	0.09	0.06
Cr2O3 [%]	0.03	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.03	0.02	0.02	0.02	0.01	0.02
V2O5 [%]	0.02	< 0.01	0.01	< 0.01	0.02	< 0.01	< 0.01	0.02	0.02	< 0.01	0.02	0.02	< 0.01	0.02
LOI [%]	1.75	1.13	1.38	-0.18	1.68	0.44	1.03	1.42	2.17	-0.47	1.59	2.10	-0.93	1.48
Sum [%]	98.8	97.7	99.0	99.6	100.1	100.1	99.7	99.9	99.6	99.4	99.8	99.2	99.1	101.2



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LR Report : CA11283-AUG09

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Friday, November 27, 2009

Date Rec. : 12 November 2009**LR Report:** CA11272-NOV09**Reference:** 09-1426-0013**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: ML00-221-04	6: ML90-04-01	7: ML90-12-01	8: ML92-061-01	9: ML95-93-02	10: ML95-93-03
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	17-Nov-09	15:27	2.5	2.5	2.5	2.5	2.5	2.5
vol H2O2 [mL]	17-Nov-09	15:27	250	250	250	250	250	250
Final pH [units]	17-Nov-09	15:27	4.87	6.39	5.72	4.36	4.01	10.46
pH [no unit]	19-Nov-09	15:10	4.92	6.07	5.38	4.56	4.12	8.89
Alkalinity [mg/L as CaCO3]	19-Nov-09	15:10	< 2	< 2	< 2	< 2	< 2	46
Acidity [mg/L as CaCO3]	19-Nov-09	15:10	10	3	5	8	14	< 2
Conductivity [uS/cm]	19-Nov-09	15:10	179	200	154	153	172	561
Sulphate [mg/L]	20-Nov-09	16:55	69	77	58	52	59	240
Chloride [mg/L]	19-Nov-09	12:30	0.3	0.2	< 0.2	< 0.2	< 0.2	0.2
Mercury [mg/L]	19-Nov-09	12:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	23-Nov-09	09:19	0.00024	0.00002	0.00013	0.00021	0.00036	< 0.00001
Aluminum [mg/L]	23-Nov-09	09:19	0.620	0.0097	0.0163	0.348	0.657	0.960
Arsenic [mg/L]	23-Nov-09	09:19	0.0004	0.0005	0.0011	0.0004	0.0003	0.0007
Boron [mg/L]	23-Nov-09	09:19	0.0979	0.0654	0.0633	0.0708	0.0464	0.503
Beryllium [mg/L]	23-Nov-09	09:19	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	23-Nov-09	09:19	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	19-Nov-09	16:05	10.4	14.9	7.80	6.82	7.46	104
Cadmium [mg/L]	23-Nov-09	09:19	0.000643	0.000036	0.000146	0.000434	0.000575	0.000005
Cobalt [mg/L]	23-Nov-09	09:19	0.00918	0.000928	0.00237	0.0453	0.0681	0.000614
Chromium [mg/L]	23-Nov-09	09:19	0.0096	0.0403	0.0250	0.0067	0.0076	0.0182
Copper [mg/L]	23-Nov-09	09:19	0.0035	0.0006	0.0011	0.0151	0.0345	0.0010
Iron [mg/L]	19-Nov-09	16:05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	19-Nov-09	16:05	8.46	14.3	12.7	9.73	10.9	10.5
Lithium [mg/L]	23-Nov-09	09:19	0.007	0.002	0.003	0.011	0.017	0.005
Magnesium [mg/L]	19-Nov-09	16:05	5.83	4.58	4.43	3.59	3.58	0.005
Manganese [mg/L]	23-Nov-09	09:19	0.168	0.0797	0.154	0.137	0.175	0.00135
Molybdenum [mg/L]	23-Nov-09	09:19	0.0158	0.00843	0.0114	0.0140	0.00968	0.00310
Sodium [mg/L]	19-Nov-09	16:05	1.73	2.69	2.42	1.58	1.69	0.94
Nickel [mg/L]	23-Nov-09	09:19	0.0637	0.0013	0.0042	0.248	0.257	0.0013
Lead [mg/L]	23-Nov-09	09:19	0.00038	< 0.00002	0.00005	0.00039	0.00053	< 0.00002
Antimony [mg/L]	23-Nov-09	09:19	0.0003	0.0003	0.0003	0.0003	0.0003	0.0004
Selenium [mg/L]	23-Nov-09	09:19	0.002	0.002	0.002	0.001	0.001	0.003

Online LIMS



NAG Test with analyses

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LR Report : CA11272-NOV09

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: ML00-221-04	6: ML90-04-01	7: ML90-12-01	8: ML92-061-01	9: ML95-93-02	10: ML95-93-03
Tin [mg/L]	23-Nov-09	09:19	0.00003	0.00004	0.00003	0.00003	0.00003	0.00008
Strontium [mg/L]	23-Nov-09	09:19	0.0509	0.0569	0.0559	0.0415	0.0531	0.698
Titanium [mg/L]	23-Nov-09	09:19	0.0021	0.0006	0.0005	0.0009	0.0009	0.0006
Thallium [mg/L]	23-Nov-09	09:19	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	23-Nov-09	09:19	0.000069	0.000040	0.000896	0.000088	0.000488	0.000042
Vanadium [mg/L]	23-Nov-09	09:19	0.0318	0.0157	0.0237	0.0176	0.0177	0.00031
Tungsten [mg/L]	23-Nov-09	09:19	0.00080	< 0.00003	0.00045	0.00078	0.00004	0.00077
Yttrium [mg/L]	23-Nov-09	09:19	0.00210	0.000023	0.000103	0.00419	0.00673	0.000052
Zinc [mg/L]	23-Nov-09	09:19	0.013	< 0.001	0.002	0.024	0.039	< 0.001

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

QUANTITATIVE PHASE ANALYSIS OF 5 POWDER SAMPLES USING THE RIETVELD METHOD AND X-RAY POWDER DIFFRACTION DATA.

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June 29, 2009

EXPERIMENTAL METHOD

The five samples **M99-341-01**, **GT08-04-02**, **M98-194-01**, **M04-533-01**, and **M04-526-01** were reduced into fine powder to the optimum grain-size range for X-ray analysis ($<10\mu\text{m}$) grinding under ethanol in a vibratory McCrone Micronising Mill for 7 minutes. Step-scan X-ray powder-diffraction data were collected over a range $3-80^{\circ}2\theta$ with $\text{CoK}\alpha$ radiation on a standard Siemens (Bruker) D5000 Bragg-Brentano diffractometer equipped with an Fe monochromator foil, 0.6 mm (0.3°) divergence slit, incident- and diffracted-beam Soller slits and a Vantec-1 strip detector. The long fine-focus Co X-ray tube was operated at 35 kV and 40 mA, using a take-off angle of 6° .

RESULTS AND DISCUSSION

The X-ray diffractograms were analyzed using the International Centre for Diffraction Database PDF-4 using Search-Match software by Siemens (Bruker). X-ray powder-diffraction data were refined with Rietveld program Topas 3 (Bruker AXS).

The results of quantitative phase analysis by Rietveld refinement are given in Table 1. These amounts represent the relative amounts of crystalline phases normalized to 100%. The Rietveld refinement plots for the samples are shown in Figures 1 – 5.

Table 1. Results of quantitative phase analysis (wt. %)

Mineral	Ideal Formula	M99-341-01	GT08-04-02	M98-194-01	M04-533-01	M04-526-01
		Mafic volcanic	Mafic volcanic	Greywacke-siltstone	Greywacke-siltstone	Iron formation
Quartz	SiO ₂	27.2	27.1	33.2	26.9	57.3
Clinocllore	(Mg,Fe ²⁺) ₅ Al(Si ₃ Al)O ₁₀ (OH) ₈	9.9	7.0	4.7	6.4	16.8
Muscovite	KAl ₂ (AlSi ₃ O ₁₀)(OH) ₂	12.3	10.0	14.0	28.6	2.0
Biotite	K(Mg,Fe) ₃ (AlSi ₃ O ₁₀)(OH) ₂				5.4	
Paragonite	NaAl ₂ AlSi ₃ O ₁₀ (OH) ₂	6.5	8.3			
Plagioclase	NaAlSi ₃ O ₈ – CaAl ₂ Si ₂ O ₈	6.5	8.4	37.4	21.3	
K-Feldspar	KAlSi ₃ O ₈	2.6	2.7			
Calcite	CaCO ₃	8.1	10.8	0.8	0.8	10.7
Ankerite	Ca(Fe ²⁺ ,Mg,Mn ²⁺)(CO ₃) ₂	26.0	24.7	8.2	8.4	0.5
Actinolite	Ca ₂ (Mg,Fe) ₅ Si ₈ O ₂₂ (OH) ₂					1.8
Magnetite	Fe ²⁺ Fe ³⁺ ₂ O ₄	0.9	1.0	1.7		8.6
Almandine	Fe ₃ ²⁺ Al ₂ (SiO ₄) ₃				2.3	
Pyrrhotite	Fe _{1-x} S					2.3
Total		100.0	100.0	100.0	100.0	100.0

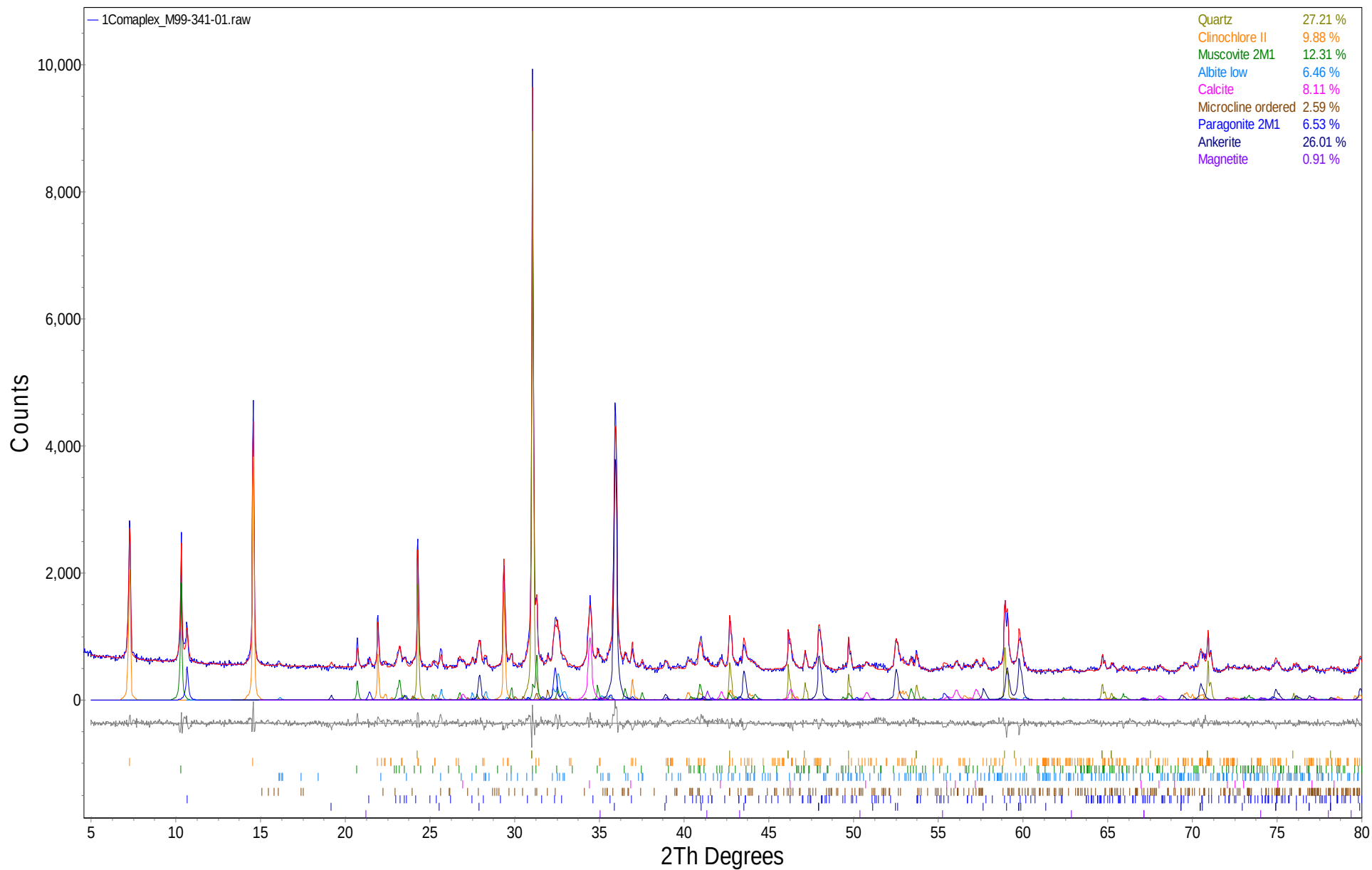


Figure 1. Rietveld refinement plot of sample **Comaplex “M99-341-01”** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

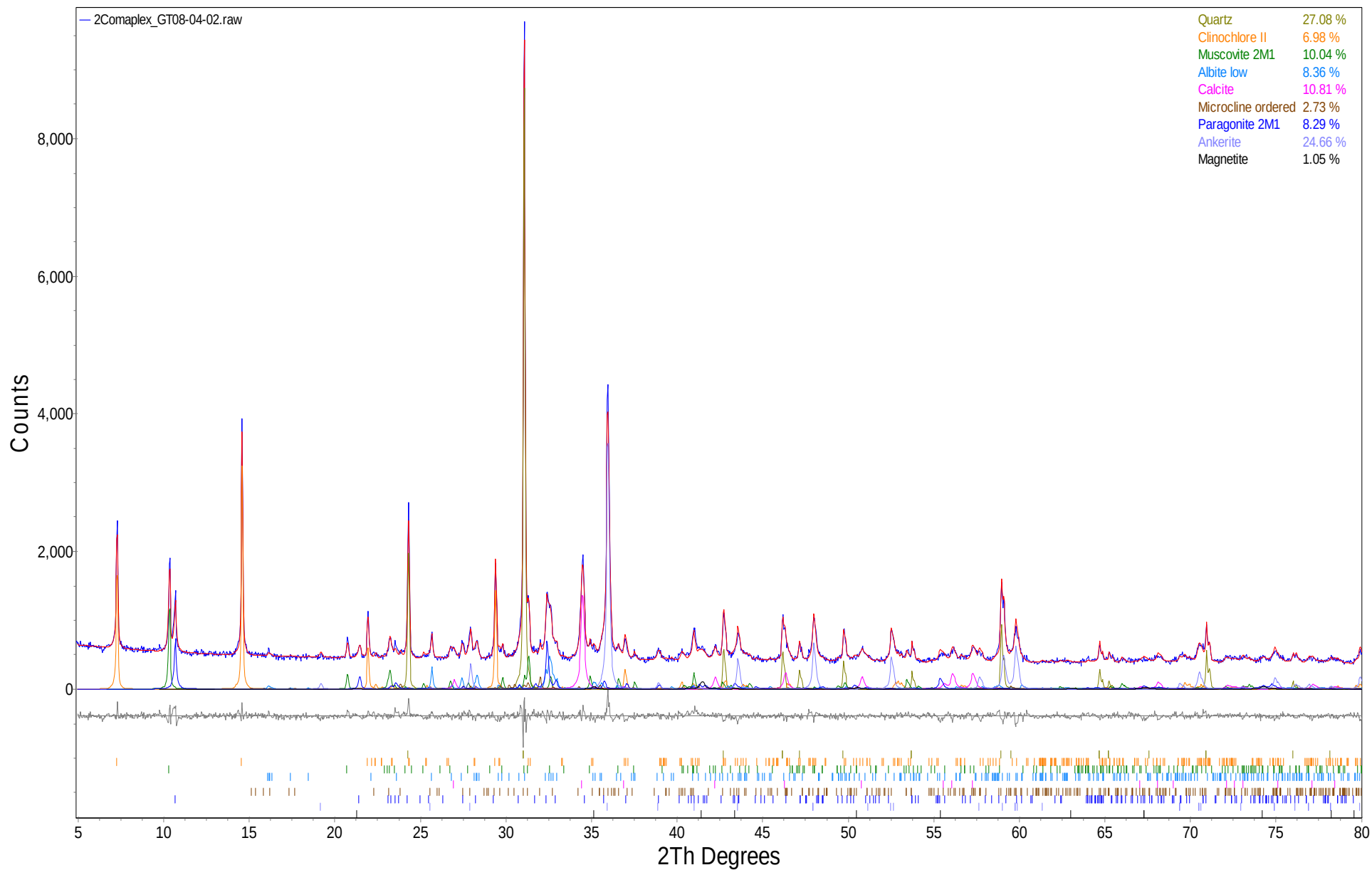


Figure 2. Rietveld refinement plot of sample **Comaplex “GT08-04-02”** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

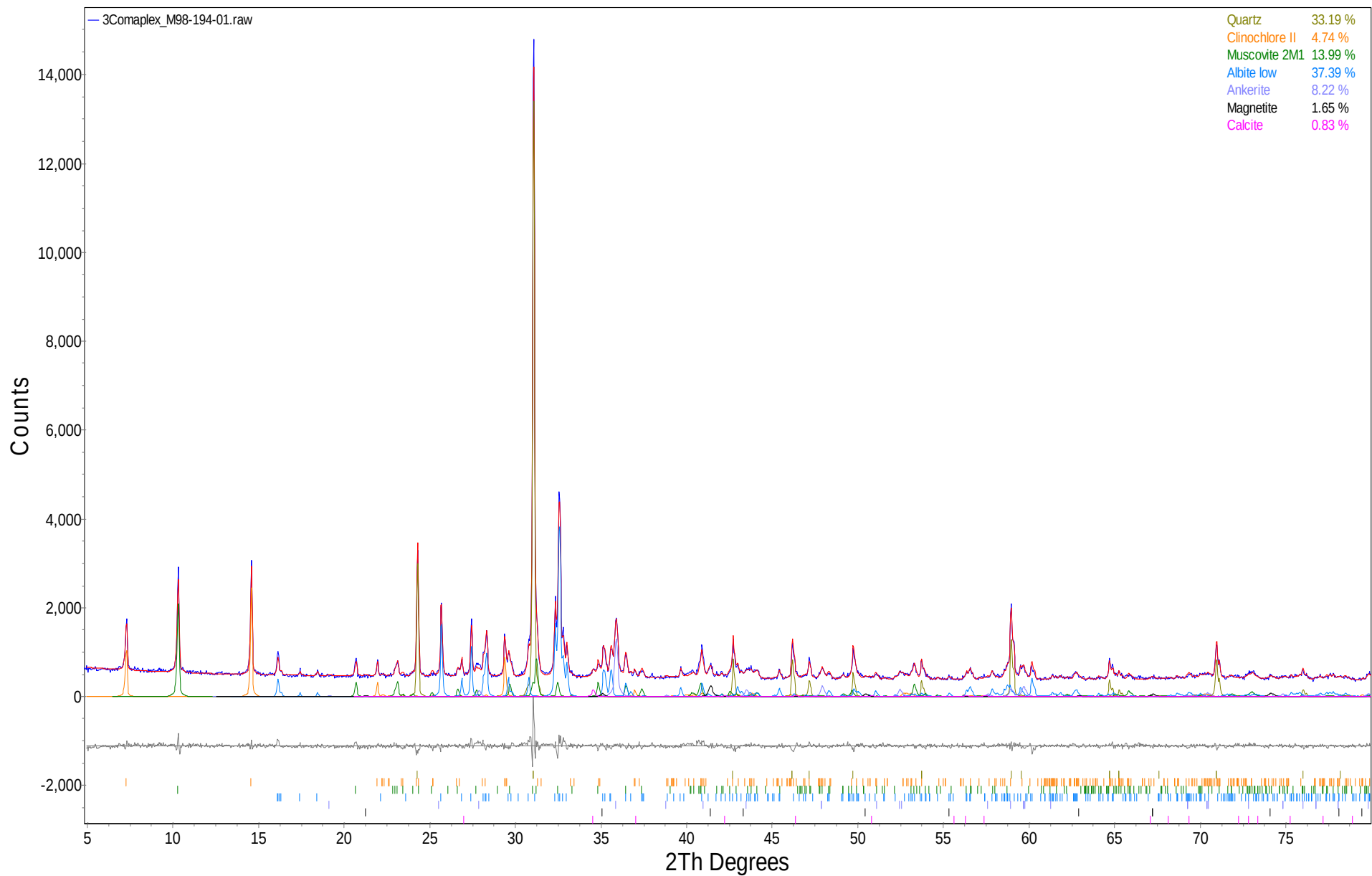


Figure 3. Rietveld refinement plot of sample **Comaplex “M98-194-01”** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

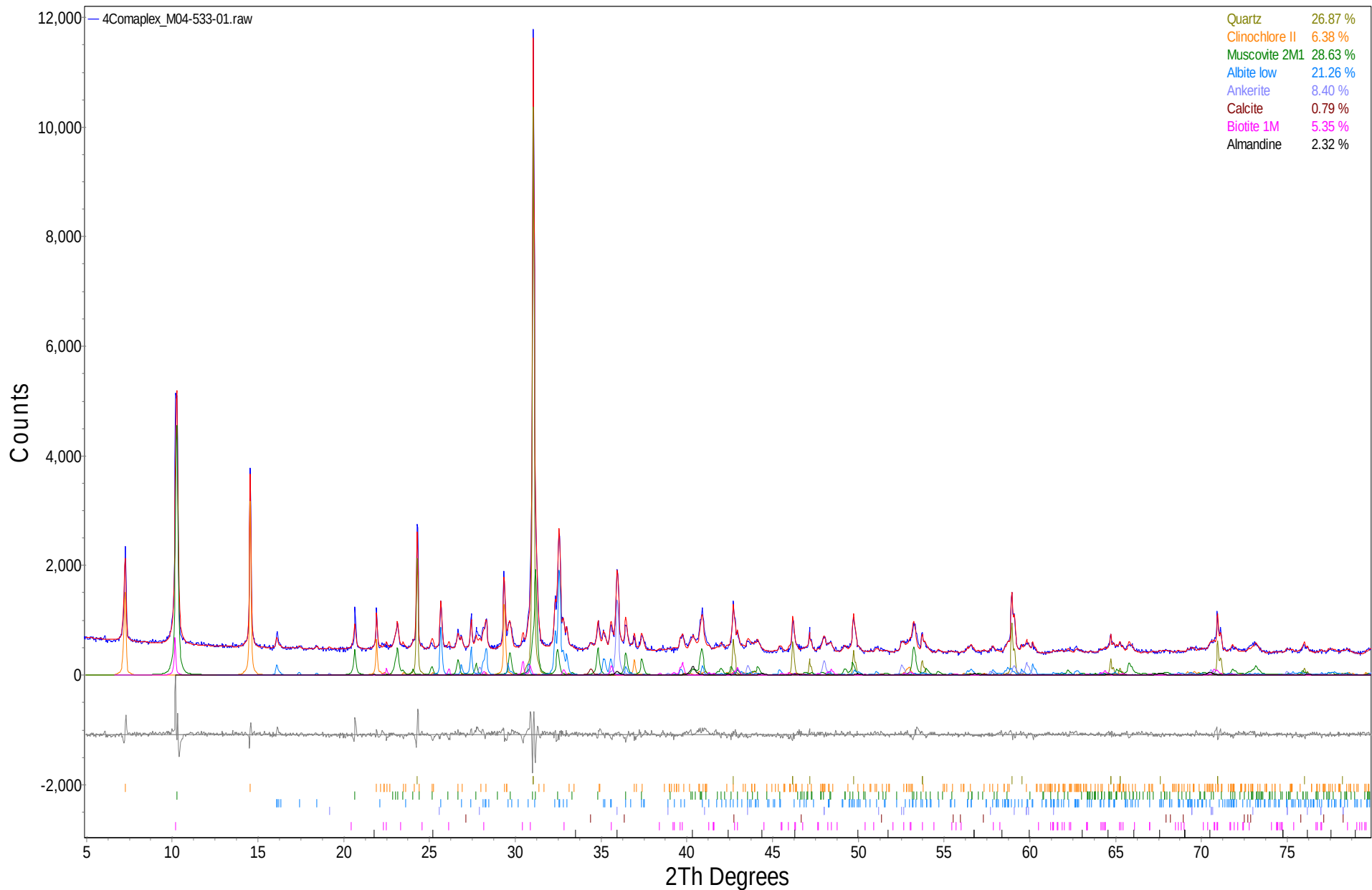


Figure 4. Rietveld refinement plot of sample **Comaplex “M04-533-01”** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

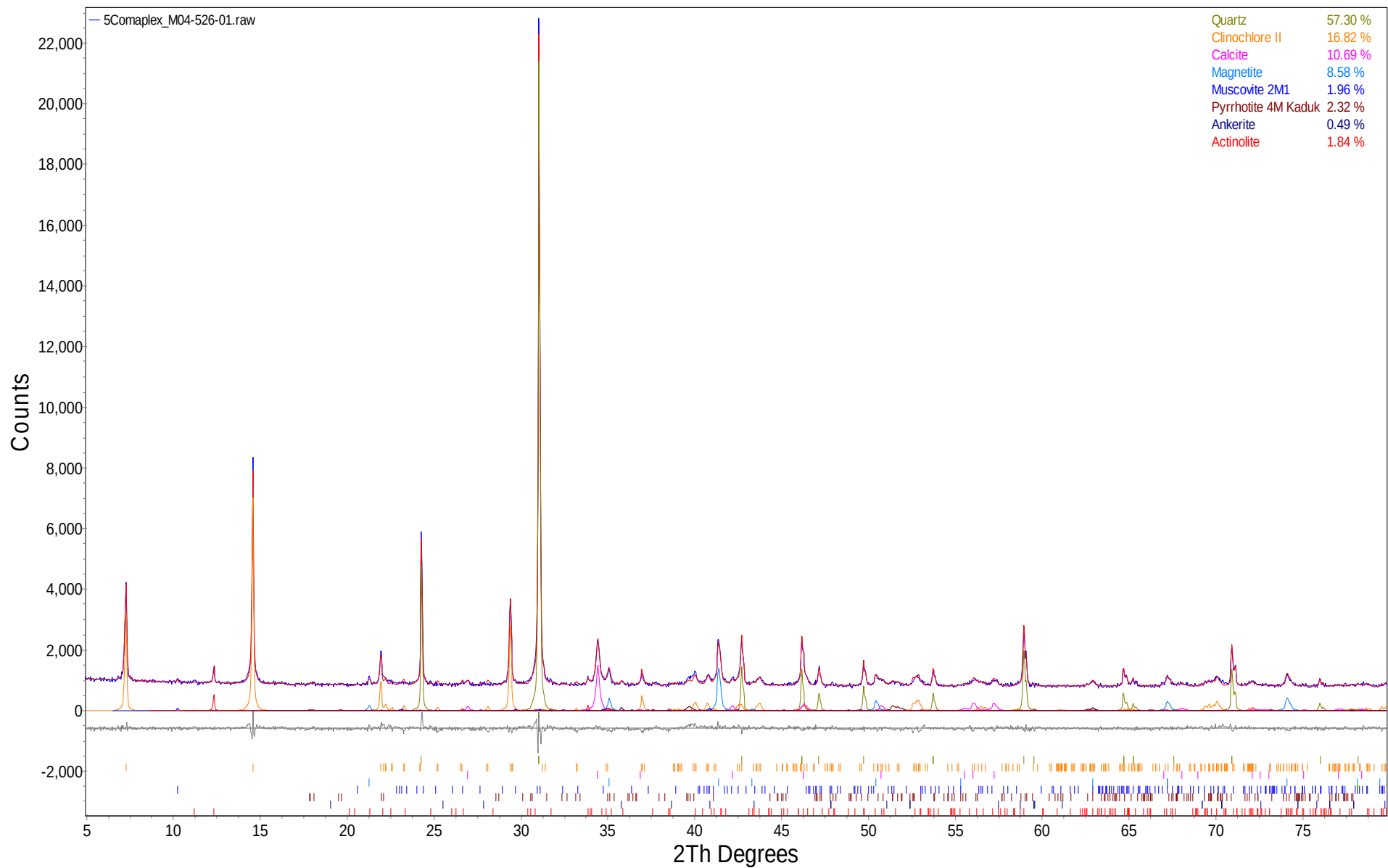


Figure 5. Rietveld refinement plot of sample **Comaplex “M04-526-01”** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

QUANTITATIVE PHASE ANALYSIS OF THREE POWDER SAMPLES USING THE RIETVELD METHOD AND X-RAY POWDER DIFFRACTION DATA.

(Project: Meliadine – Discovery 09-1426-0013)

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March 5, 2010

EXPERIMENTAL METHOD

The three samples from the **Project Meliadine – Discovery** were reduced into fine powder to the optimum grain-size range for X-ray analysis ($<10\mu\text{m}$) grinding under ethanol in a vibratory McCrone Micronising Mill for 7 minutes. Step-scan X-ray powder-diffraction data were collected over a range $3-80^{\circ}2\theta$ with CoK α radiation on a Bruker D8 Focus Bragg-Brentano diffractometer equipped with an Fe monochromator foil, 0.6 mm (0.3°) divergence slit, incident- and diffracted-beam Soller slits and a LynxEye detector. The long fine-focus Co X-ray tube was operated at 35 kV and 40 mA, using a take-off angle of 6° .

RESULTS

The X-ray diffractograms were analyzed using the International Centre for Diffraction Database PDF-4 using Search-Match software by Siemens (Bruker). X-ray powder-diffraction data of the samples were refined with Rietveld program Topas 4.2 (Bruker AXS).

The results of quantitative phase analysis by Rietveld refinement are given in Table 1. These amounts represent the relative amounts of crystalline phases normalized to 100%. The Rietveld refinement plots for the samples are shown in Figures 1 – 3.

Table 1. Results of quantitative phase analysis (wt. %)

Mineral	Ideal Formula	ML95-82-1	ML92-061-01	ML90-14-2
Quartz	SiO ₂	31.7	31.4	30.4
Clinocllore	(Mg,Fe ²⁺) ₅ Al(Si ₃ Al)O ₁₀ (OH) ₈	10.9	9.9	9.2
Muscovite	KAl ₂ (AlSi ₃ O ₁₀)(OH) ₂	20.3	15.8	7.5
Biotite	K(Mg,Fe) ₃ (AlSi ₃ O ₁₀)(OH) ₂	6.1	7.5	8.4
Plagioclase	NaAlSi ₃ O ₈ – CaAl ₂ Si ₂ O ₈	30.1	34.5	38.6
Actinolite	Ca ₂ (Mg,Fe) ₅ Si ₈ O ₂₂ (OH) ₂			3.9
Gypsum	CaSO ₄ ·2H ₂ O			0.7
Calcite	CaCO ₃			0.3
Magnesite ?	MgCO ₃	0.8	0.9	0.8
Total		100.0	100.0	100.0

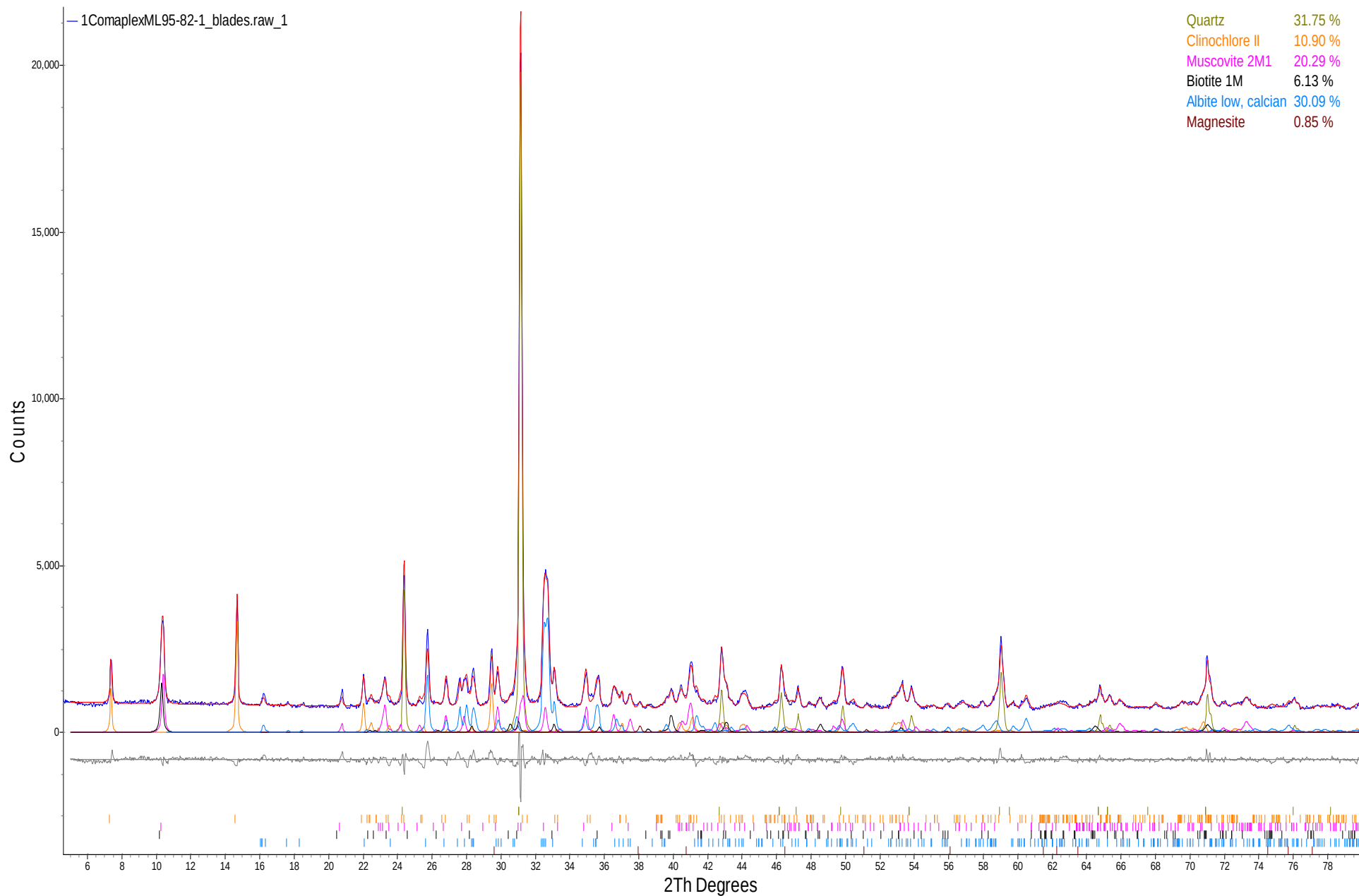


Figure 1. Rietveld refinement plot of sample **Comaplex “ML95-82-1”** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

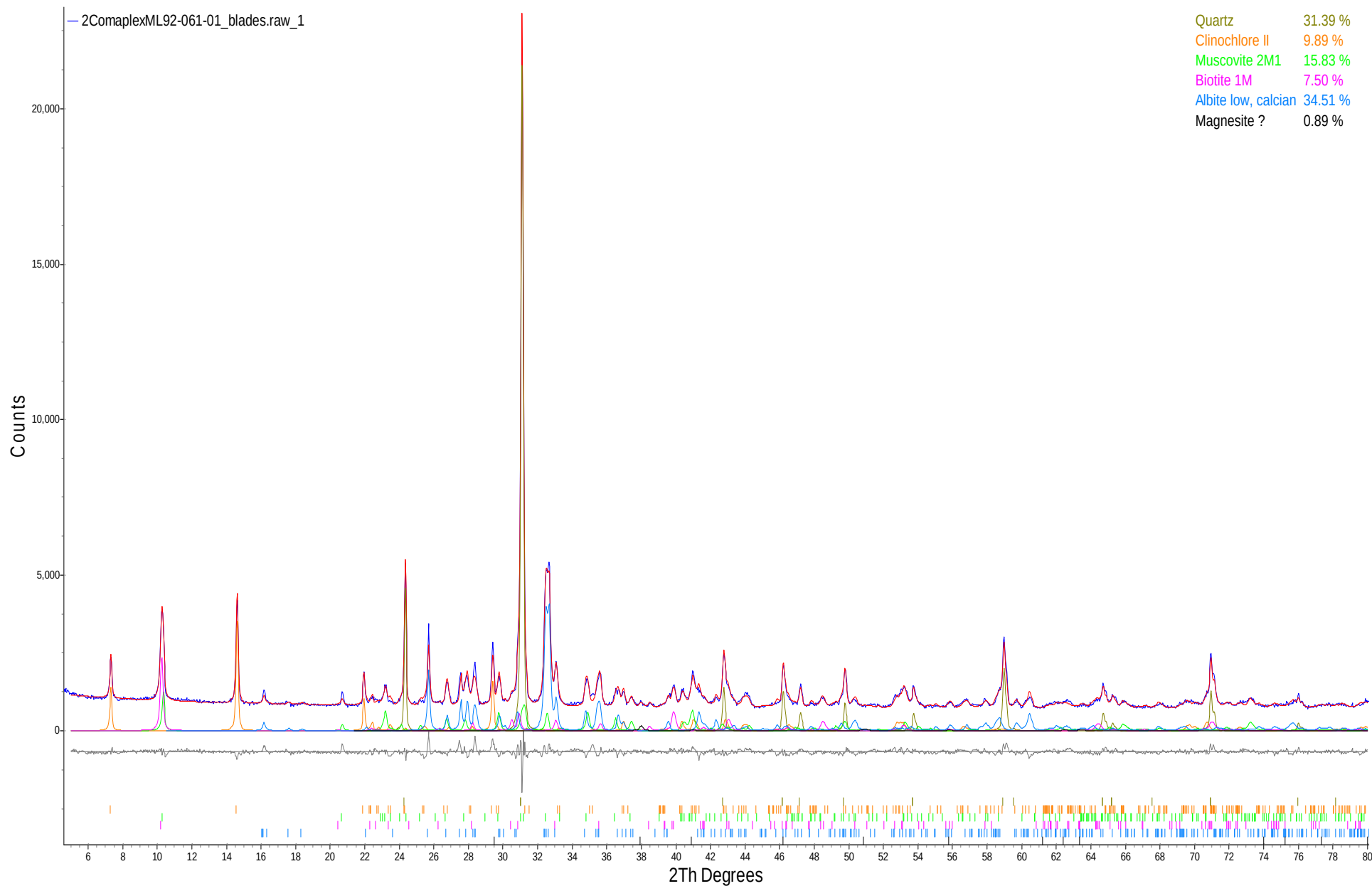


Figure 2. Rietveld refinement plot of sample **Comaplex “ML92-061-01”** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

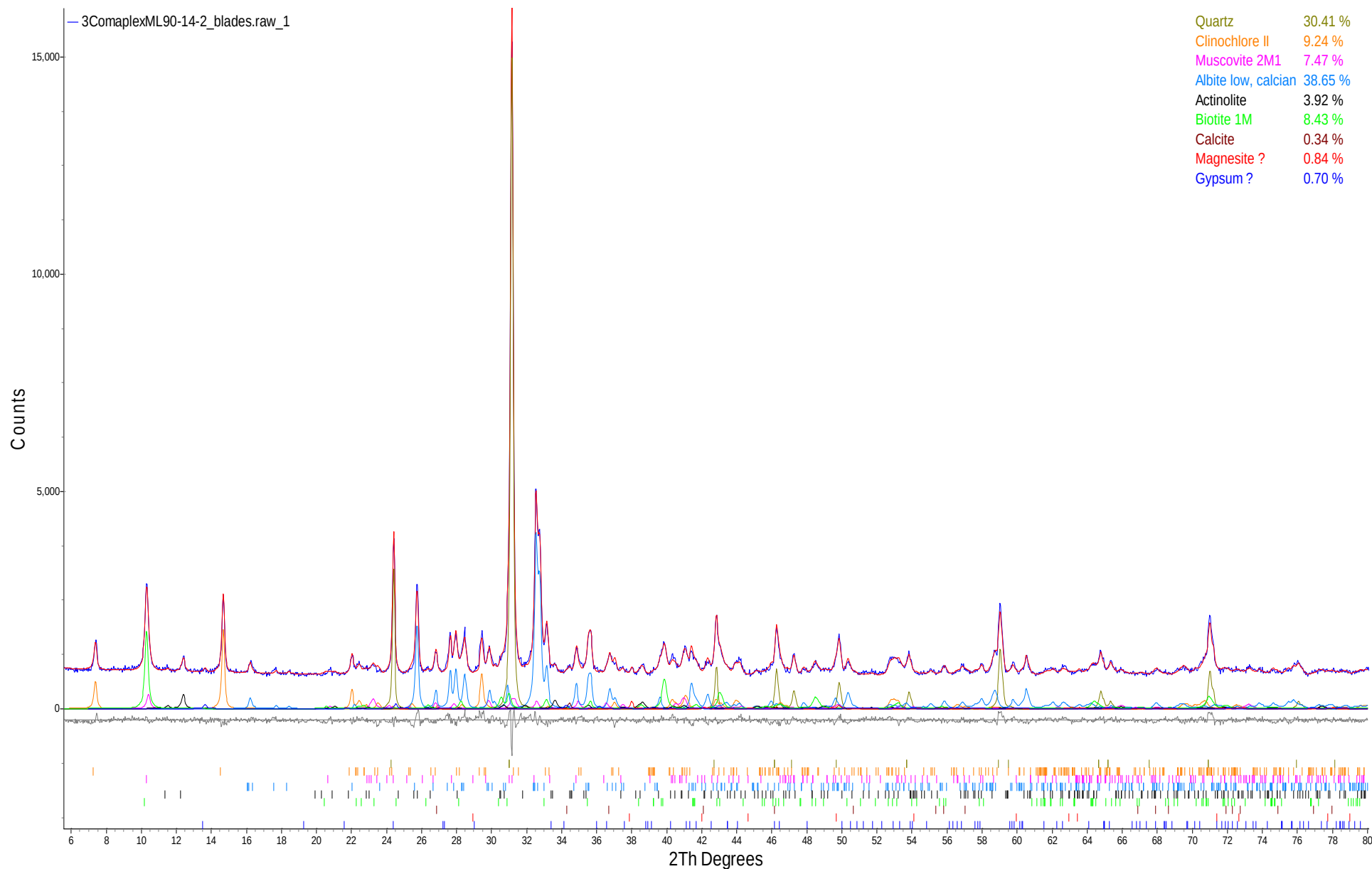


Figure 3. Rietveld refinement plot of sample **Comaplex “ML90-14-2”** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

QUANTITATIVE PHASE ANALYSIS OF EIGHT POWDER SAMPLES USING THE RIETVELD METHOD AND X-RAY POWDER DIFFRACTION DATA.

(Project: Meliadine - Tiriganiaq and F Zone)

**Doug Dumka
Comaplex Minerals Corporation
Suite 901 - 1015 4th Street SW
Calgary, AB T2R 1J4**

**Mati Raudsepp, Ph.D.
Elisabetta Pani, Ph.D.
Jenny Lai, B.Sc.**

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6339 Stores Road
The University of British Columbia
Vancouver, BC V6T 1Z4**

November 26, 2009

EXPERIMENTAL METHOD

The eight samples of **Project Meliadine** were reduced into fine powder to the optimum grain-size range for X-ray analysis ($<10\mu\text{m}$) grinding under ethanol in a vibratory McCrone Micronising Mill for 7 minutes. Step-scan X-ray powder-diffraction data were collected over a range $3\text{--}80^\circ 2\theta$ with CoK α radiation on a Bruker D8 Focus Bragg-Brentano diffractometer equipped with an Fe monochromator foil, 0.6 mm (0.3°) divergence slit, incident- and diffracted-beam Soller slits and a LynxEye detector. The long fine-focus Co X-ray tube was operated at 35 kV and 40 mA, using a take-off angle of 6° .

RESULTS

The X-ray diffractograms were analyzed using the International Centre for Diffraction Database PDF-4 using Search-Match software by Siemens (Bruker). X-ray powder-diffraction data were refined with Rietveld program Topas 3 (Bruker AXS).

The results of quantitative phase analysis by Rietveld refinement are given in Table 1. These amounts represent the relative amounts of crystalline phases normalized to 100%. The Rietveld refinement plots for the samples are shown in Figures 1 – 8.

Table 1. Results of quantitative phase analysis (wt. %)

[illegible]

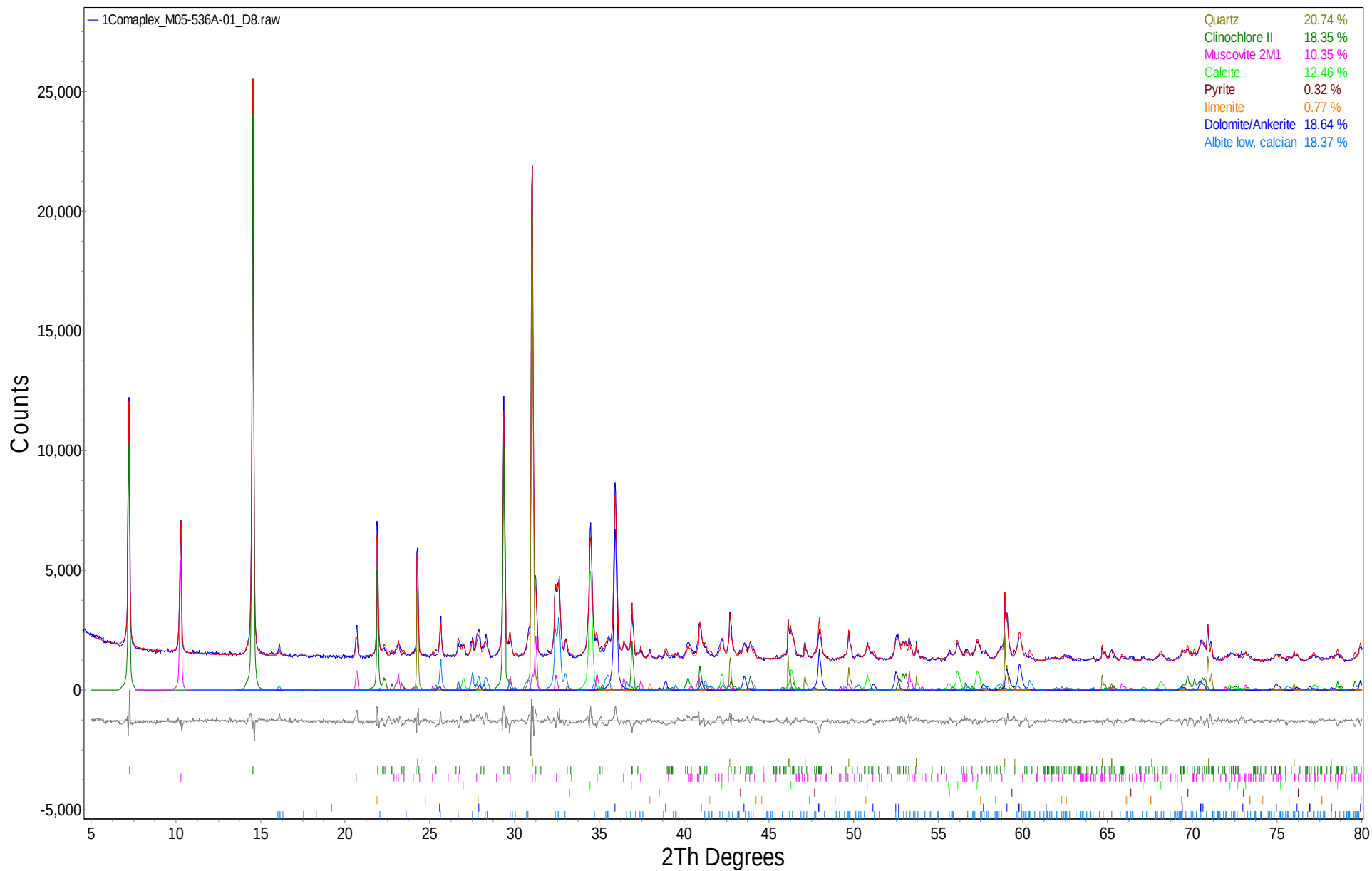


Figure 1. Rietveld refinement plot of sample **Comaplex “M05-536A-01”** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

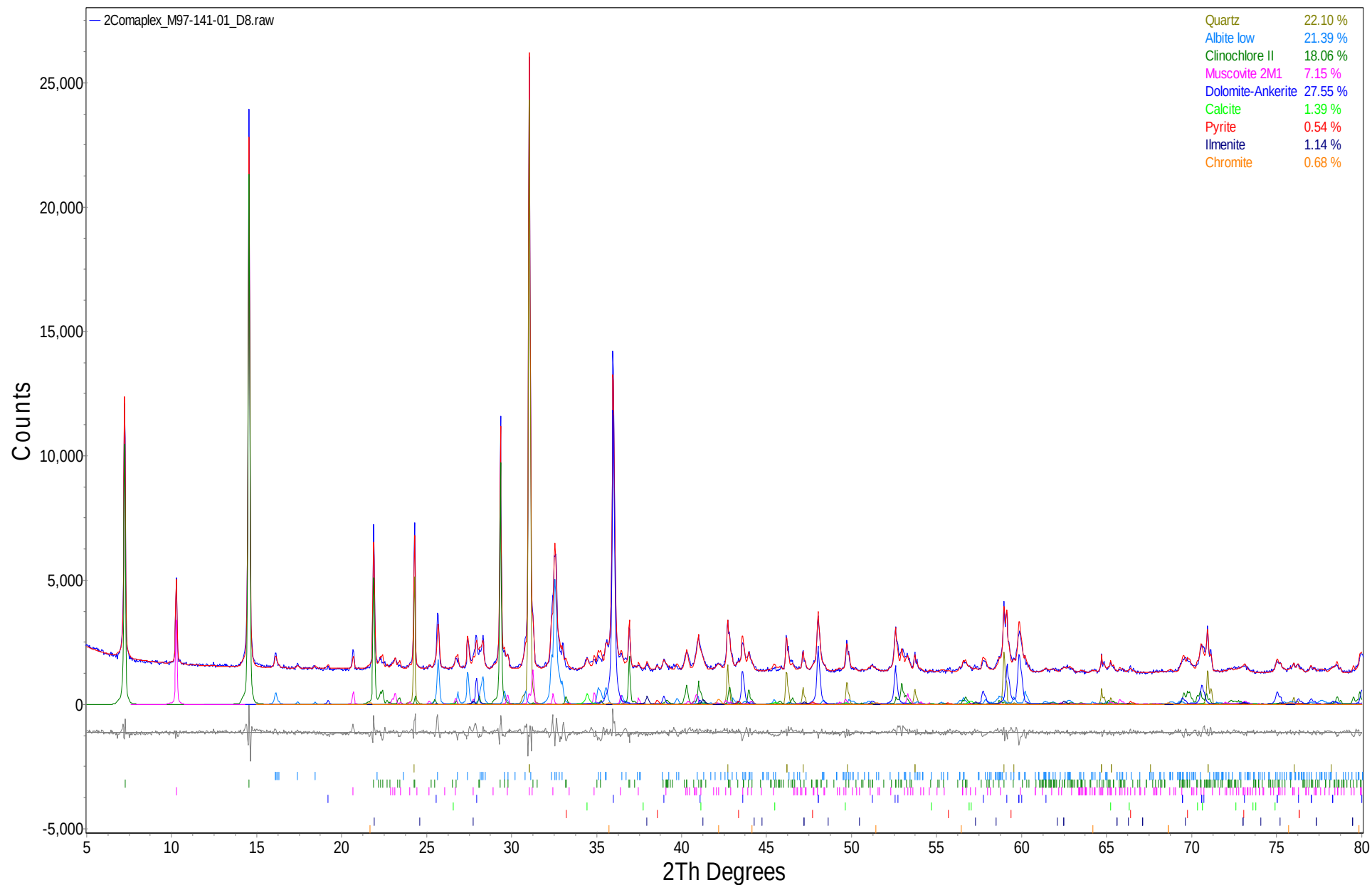


Figure 2. Rietveld refinement plot of sample **Comaplex "M97-141-01"** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

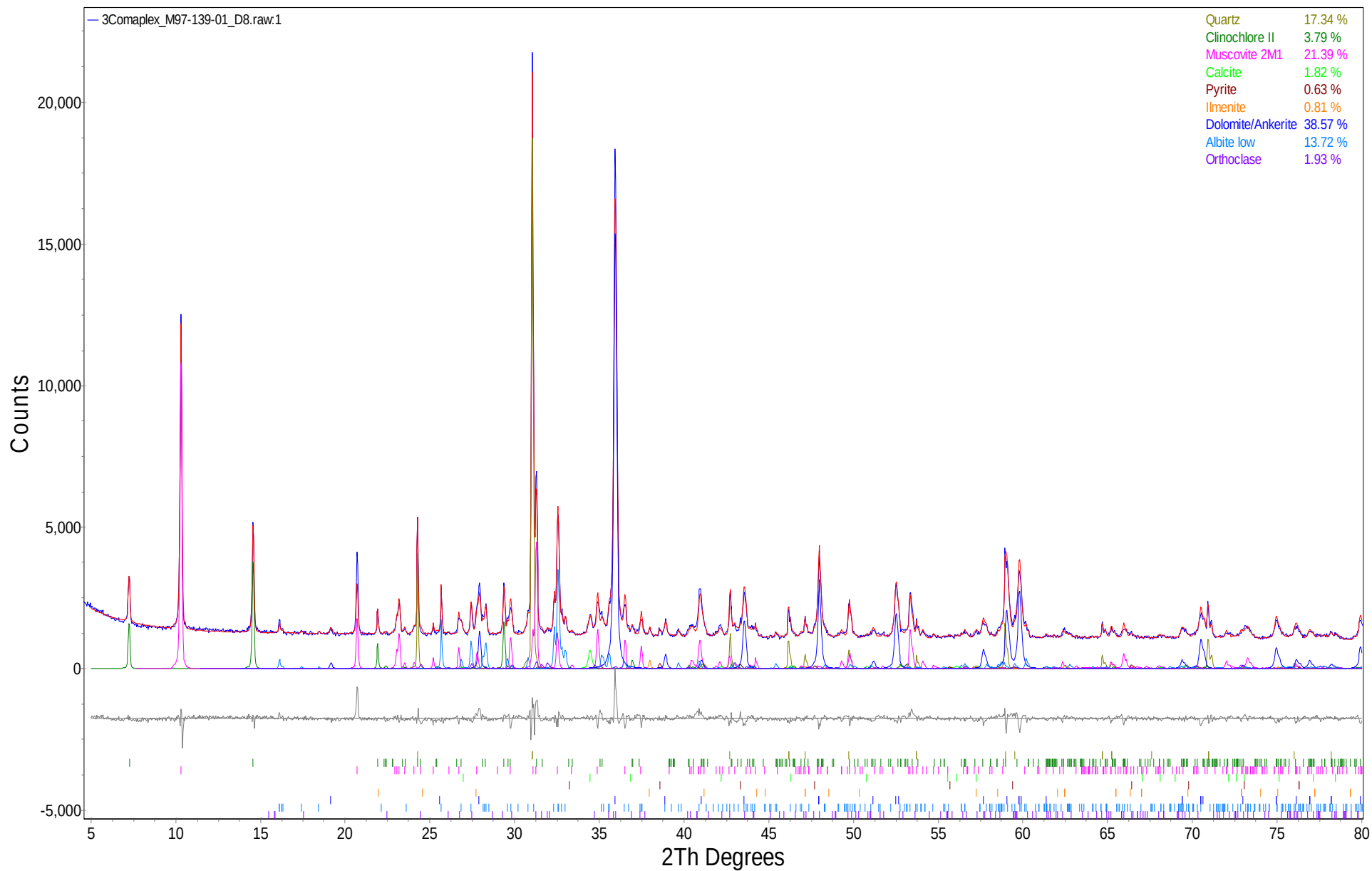


Figure 3. Rietveld refinement plot of sample **Comaplex “M97-139-01”** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

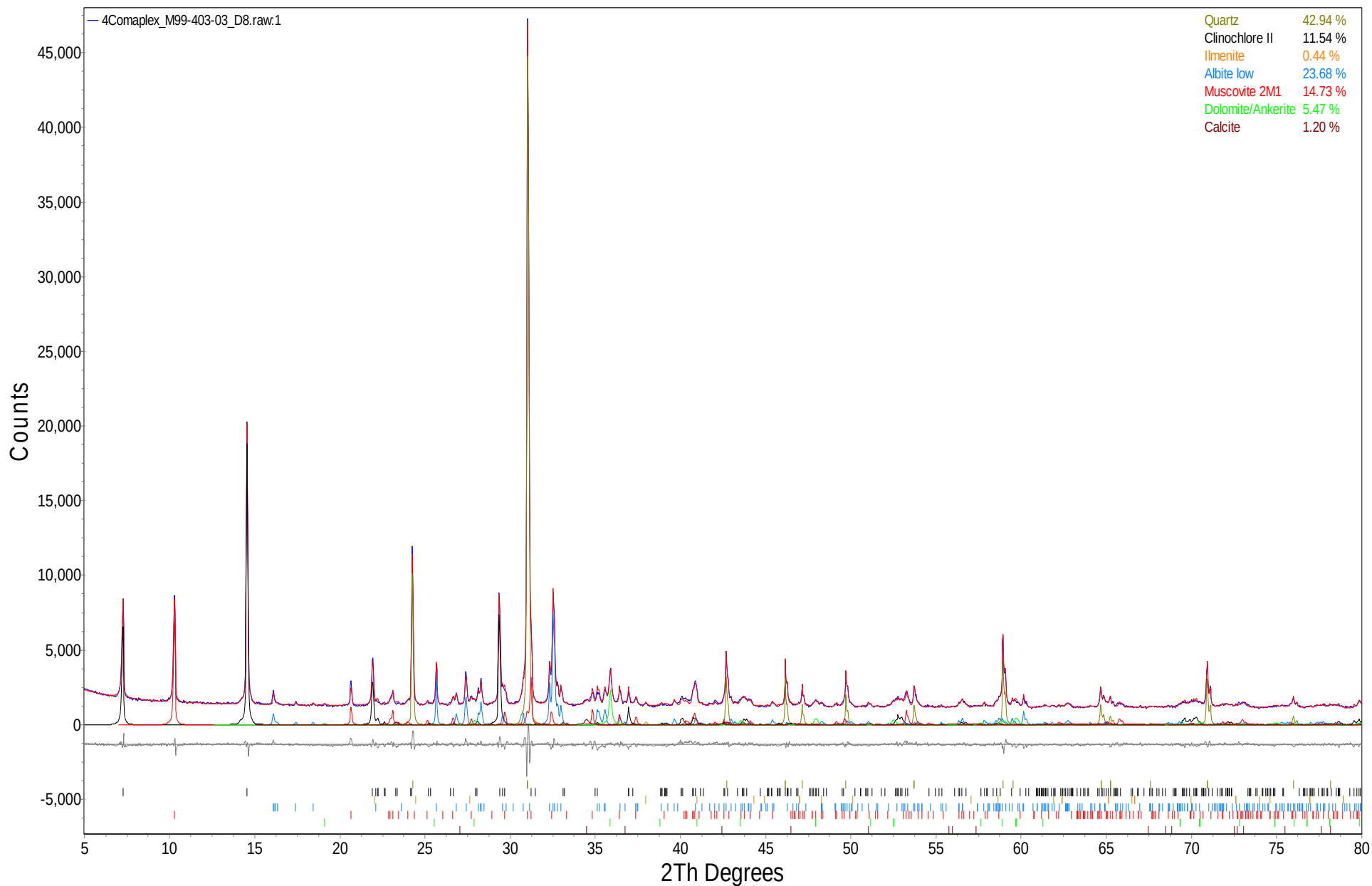


Figure 4. Rietveld refinement plot of sample **Comaplex “M99-403-03”** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

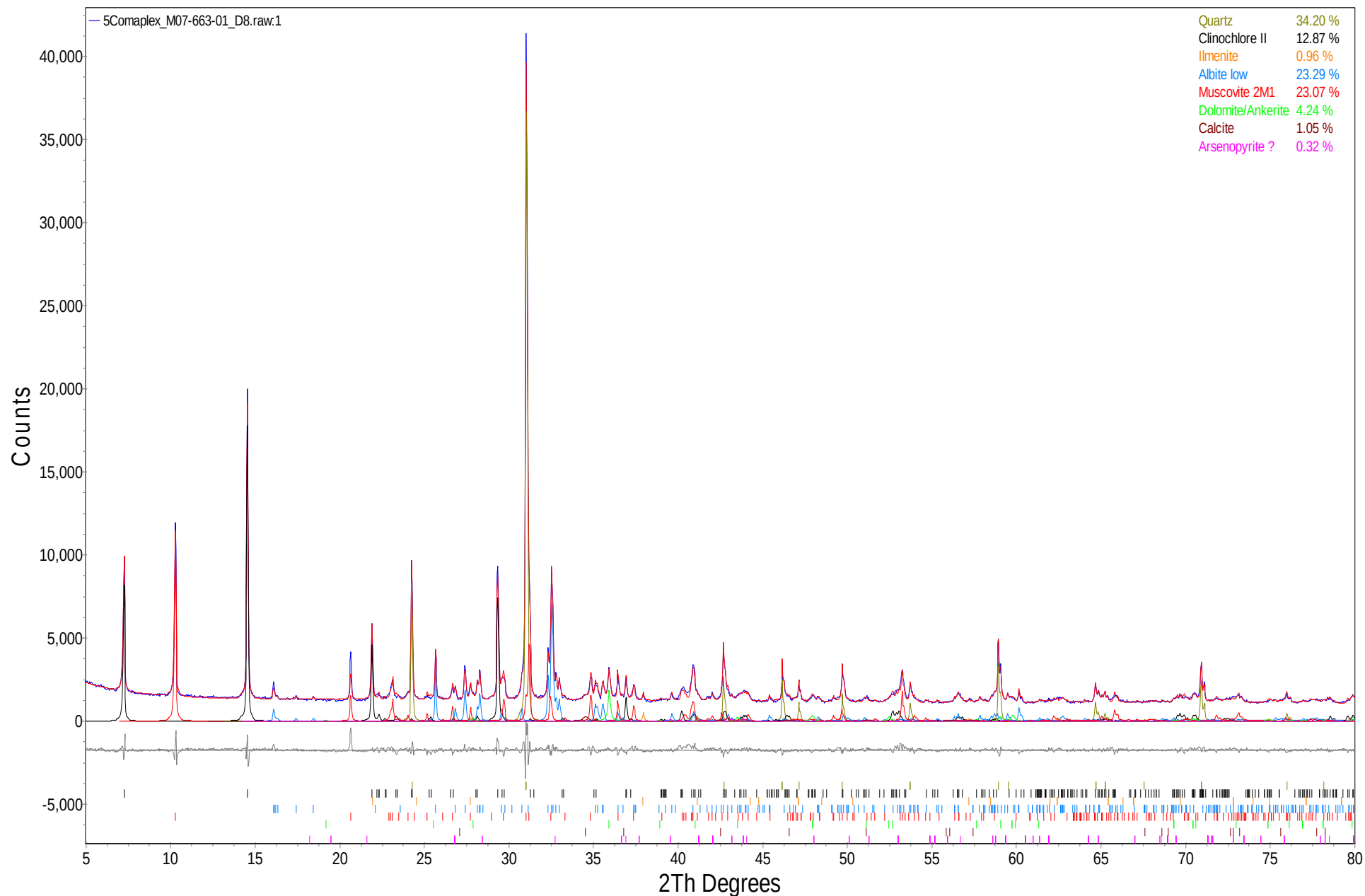


Figure 5. Rietveld refinement plot of sample **Comaplex “M07-663-01”** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

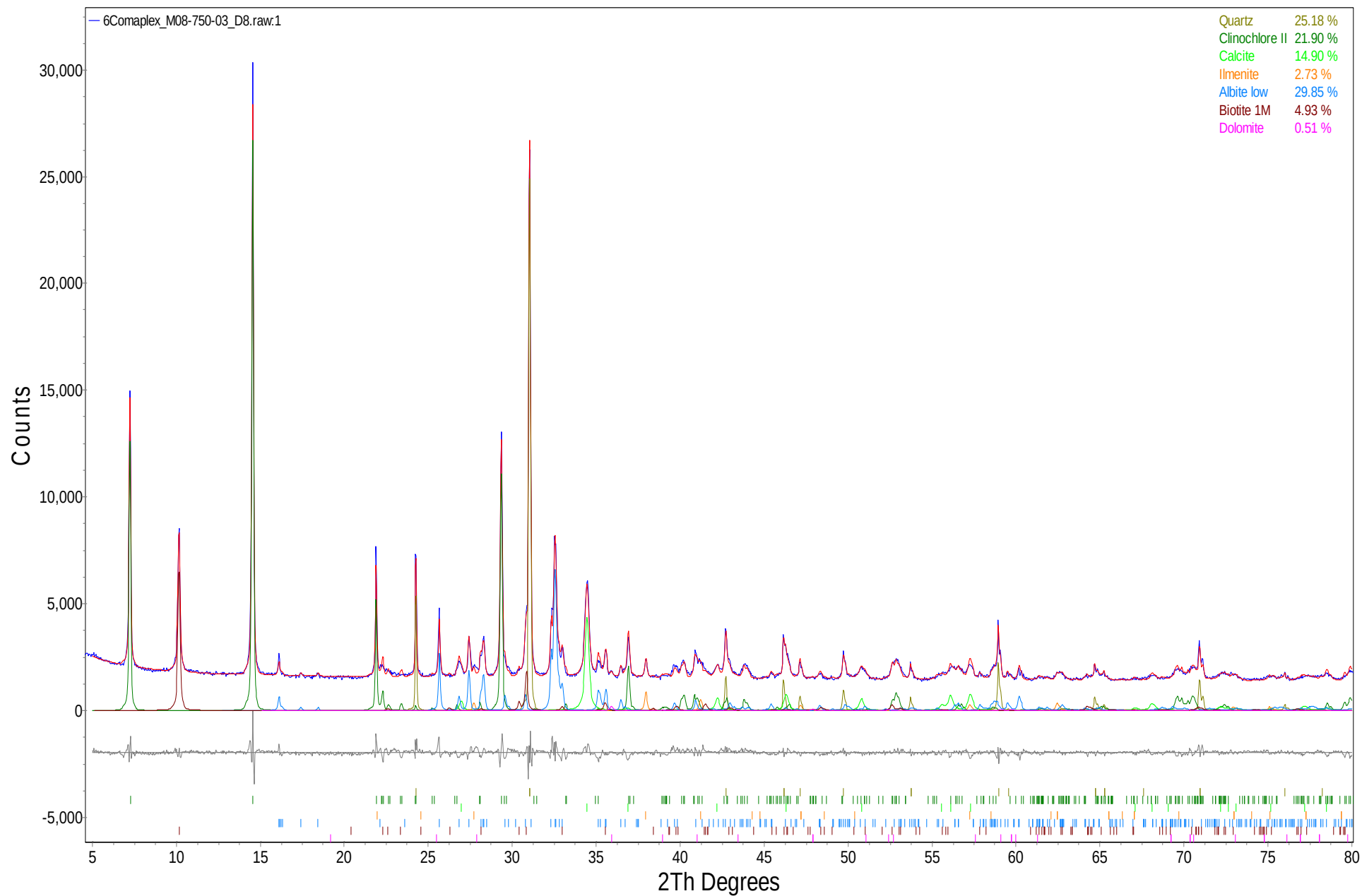


Figure 6. Rietveld refinement plot of sample **Comaplex “M08-750-03”** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

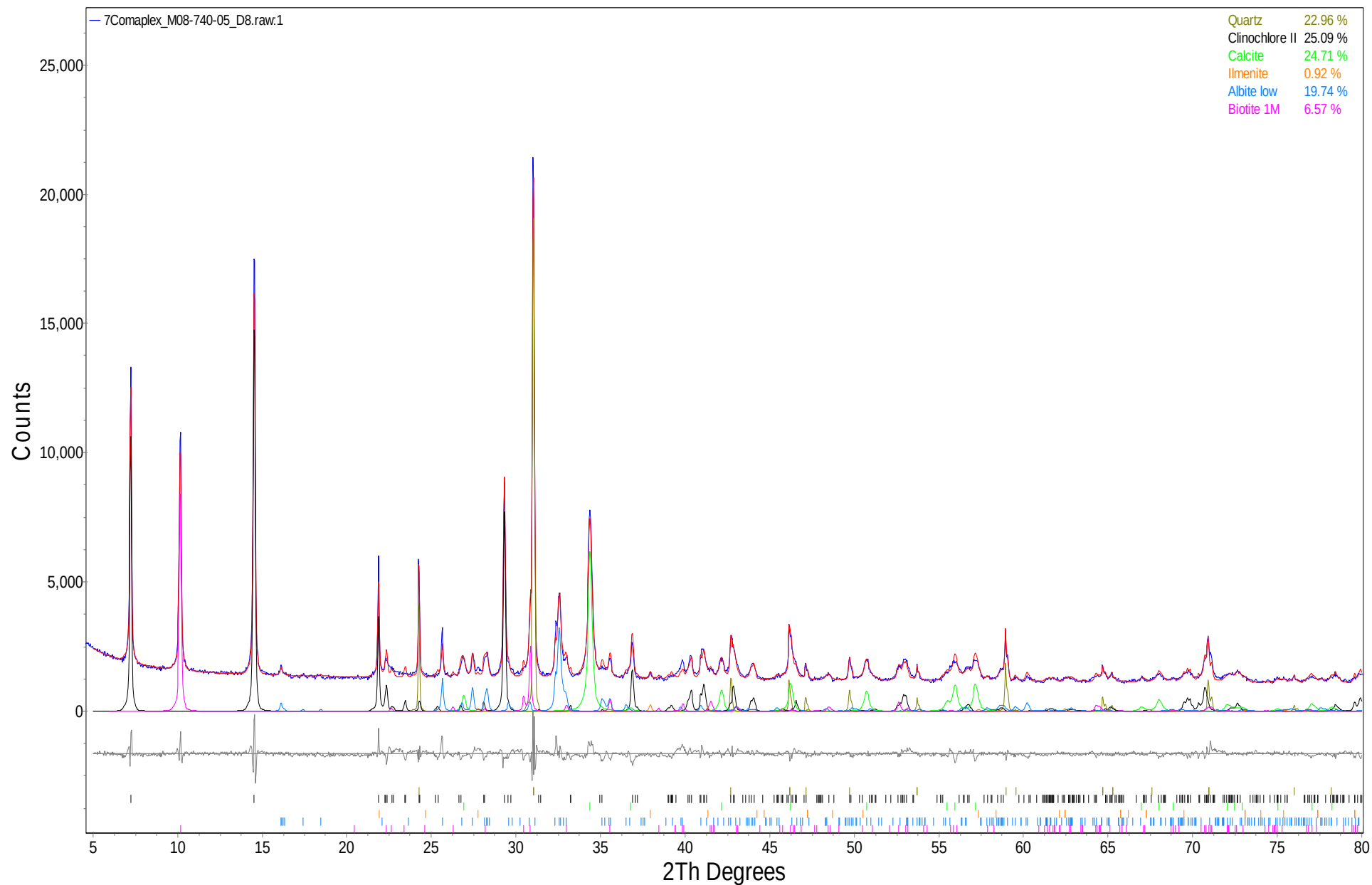


Figure 7. Rietveld refinement plot of sample **Comaplex “M08-740-05”** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

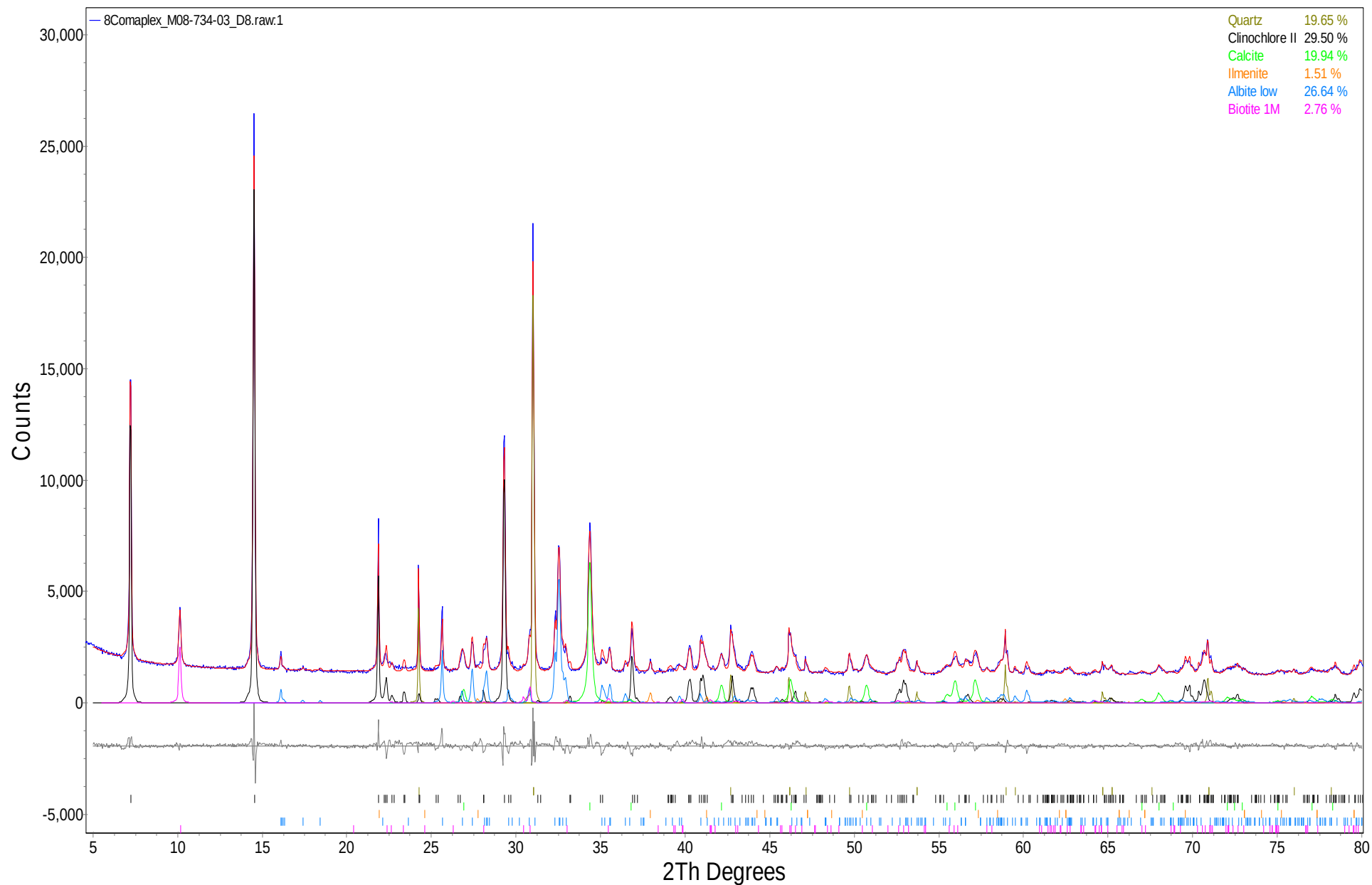


Figure 8. Rietveld refinement plot of sample **Comaplex “M08-734-03”** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.



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Shake Flask (24hr 4:1 L:S Ratio)

Project : CALR-11858-002

Environmental Met
Attn : Barb Bowman

Wednesday, May 20, 2009

Date Rec. : 01 May 2009
LR Report: CA11071-MAY09
Reference: 11858-002-01

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: F-1 Ro Tls	6: F-1 Ro Conc	7: F-2 Ro Tls	8: F-2 Ro Conc
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	14-May-09	14:32	200	200	200	200
Volume mL [D.I. H ₂ O]	14-May-09	14:32	800	800	800	800
Initial pH [units]	14-May-09	14:32	9.26	8.79	8.61	8.21
Final pH [units]	14-May-09	14:32	9.03	7.94	8.19	7.54
Cyanide [mg/L]	15-May-09	08:37	< 0.01	< 0.01	< 0.01	< 0.01
Cyanide WAD [mg/L]	15-May-09	08:37	< 0.01	< 0.01	< 0.01	< 0.01
Thiocyanate [mg/L]	19-May-09	17:07	< 0.2	< 0.2	< 0.2	< 10
Cyanate [mg/L]	19-May-09	12:43	< 0.1	< 0.1	< 0.1	< 0.1
As+3 [mg/L]	15-May-09	14:06	0.020	0.252	0.480	1.27
As+5 [mg/L]	15-May-09	14:06	0.063	0.012	0.050	0.035
Mercury [mg/L]	19-May-09	14:54	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	20-May-09	14:52	0.00001	0.00005	0.00002	0.00002
Aluminum [mg/L]	20-May-09	15:01	0.28	0.03	0.06	< 0.01
Arsenic [mg/L]	20-May-09	14:52	0.0899	0.315	0.596	1.53
Boron [mg/L]	20-May-09	14:52	0.0068	0.0176	0.0051	0.0059
Barium [mg/L]	20-May-09	14:52	0.00210	0.0101	0.0389	0.0438
Beryllium [mg/L]	20-May-09	14:52	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	20-May-09	14:52	0.00003	0.00004	< 0.00001	< 0.00001
Calcium [mg/L]	20-May-09	15:01	12.3	45.8	46.6	102
Cadmium [mg/L]	20-May-09	14:52	0.000004	0.000007	< 0.000003	< 0.000003
Cobalt [mg/L]	20-May-09	14:52	0.000050	0.000139	0.000063	0.000368
Chromium [mg/L]	20-May-09	14:52	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	20-May-09	14:52	< 0.0005	< 0.0005	< 0.0005	0.0007
Iron [mg/L]	20-May-09	15:01	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	20-May-09	15:01	4.08	9.60	20.8	18.3
Lithium [mg/L]	20-May-09	14:52	0.002	0.004	0.005	0.005
Magnesium [mg/L]	20-May-09	15:01	3.85	10.8	7.62	12.8
Manganese [mg/L]	20-May-09	14:52	0.00470	0.0478	0.0413	0.0899
Molybdenum [mg/L]	20-May-09	14:52	0.00285	0.0118	0.00355	0.00285

Online LMS



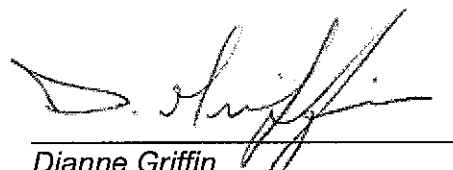
SGS Lakefield Research Limited
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Shake Flask (24hr 4:1 L:S Ratio)

Project : CALR-11858-002

LR Report : CA11071-MAY09

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: F-1 Ro Tls	6: F-1 Ro Conc	7: F-2 Ro Tls	8: F-2 Ro Conc
Sodium [mg/L]	20-May-09	15:01	1.92	4.53	1.30	1.92
Nickel [mg/L]	20-May-09	14:52	0.0001	0.0015	0.0004	0.0032
Phosphorus [mg/L]	20-May-09	15:01	< 0.01	< 0.01	< 0.01	< 0.01
Lead [mg/L]	20-May-09	14:52	0.00005	0.00009	0.00006	0.00014
Antimony [mg/L]	20-May-09	14:52	0.0016	0.0048	0.0026	0.0046
Selenium [mg/L]	20-May-09	14:52	< 0.001	0.002	< 0.001	0.001
Silica [mg/L]	20-May-09	15:01	1.18	1.94	0.97	1.17
Tin [mg/L]	20-May-09	14:52	0.00004	0.00006	0.00005	0.00009
Strontium [mg/L]	20-May-09	15:01	0.0608	0.233	0.296	0.503
Titanium [mg/L]	20-May-09	14:52	0.0001	0.0001	< 0.0001	< 0.0001
Thallium [mg/L]	20-May-09	14:52	< 0.00002	< 0.00002	0.00002	< 0.00002
Uranium [mg/L]	20-May-09	14:52	0.000138	0.000560	0.000467	0.000451
Vanadium [mg/L]	20-May-09	14:52	0.00030	0.00022	0.00011	0.00014
Yttrium [mg/L]	20-May-09	14:52	0.000002	0.000006	0.000004	0.000007
Zinc [mg/L]	20-May-09	14:52	< 0.001	0.001	< 0.001	0.002


Dianne Griffin
Project Specialist



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NAG Test

Project : Meliadine Tiriganaiq

Comaplex Minerals Corp

Attn : Mark Balog mbalog@comaplex.com; Valerie_Bertrand@golder.com

Suite 901, 1015-4 St. SW
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Phone: 403-265-2846
Fax: 403-232-1421

Thursday, November 19, 2009

Date Rec. : 09 November 2009

LR Report: CA10080-NOV09

Reference: 09-1426-0015

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M05-536A-01	6: M97-141-01	7: M99-403-03	8: M99-404-04
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	16-Nov-09	13:28	1.47	1.52	1.49	1.50
vol H2O2 [mL]	16-Nov-09	13:28	150	150	150	150
Final pH [units]	16-Nov-09	13:28	11.50	11.05	10.81	10.70
NaOH [Normality]	16-Nov-09	13:28	0.10	0.10	0.10	0.10
Vol NaOH to PH 4.5 [mL]	16-Nov-09	13:28	0.00	0.00	0.00	0.00
Vol NaOH to PH 7.0 [mL]	16-Nov-09	13:28	0.00	0.00	0.00	0.00
NAG pH4.5 [kg H2SO4/tonne]	16-Nov-09	13:28	0.0	0.0	0.0	0.0
NAG pH7.0 [kg H2SO4/tonne]	16-Nov-09	13:28	0.0	0.0	0.0	0.0

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne

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



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NAG Test

Project : Meliadine F-Zone

Comaplex Minerals Corp

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Thursday, November 19, 2009

Date Rec. : 09 November 2009

LR Report: CA10083-NOV09

Reference: 09-1426-0015

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: M08-750-03	6: M08-740-05	7: M08-734-03
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	16-Nov-09	13:27	1.51	1.52	1.51
vol H2O2 [mL]	16-Nov-09	13:27	150	150	150
Final pH [units]	16-Nov-09	13:27	11.52	11.43	11.56
NaOH [Normality]	16-Nov-09	13:27	0.10	0.10	0.10
Vol NaOH to PH 4.5 [mL]	16-Nov-09	13:27	0.00	0.00	0.00
Vol NaOH to PH 7.0 [mL]	16-Nov-09	13:27	0.00	0.00	0.00
NAG pH4.5 [kg H2SO4/tonne]	16-Nov-09	13:27	0.0	0.0	0.0
NAG pH7.0 [kg H2SO4/tonne]	16-Nov-09	13:27	0.0	0.0	0.0

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne



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



NAG Test

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Thursday, March 04, 2010

Date Rec. : 24 February 2010
LR Report: CA11029-FEB10
Reference: 09-1426-0013 Discovery

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: ML92-061-01	6: ML90-14-2	7: ML95-82-1
Sample Date & Time			Date:n/a	Date:n/a	Date:n/a
Sample [weight(g)]	25-Feb-10	14:26	1.48	1.53	1.48
vol H2O2 [mL]	25-Feb-10	14:26	150	150	150
Final pH [units]	25-Feb-10	14:26	4.80	7.42	3.40
NaOH [Normality]	25-Feb-10	14:26	0.10	0.10	0.10
Vol NaOH to PH 4.5 [mL]	25-Feb-10	14:26	0.00	0.00	0.60
Vol NaOH to PH 7.0 [mL]	25-Feb-10	14:26	0.30	0.00	1.00
NAG (pH 4.5) [kg H2SO4/tonne]	25-Feb-10	14:26	0.0	0.0	2.0
NAG (pH 7.0) [kg H2SO4/tonne]	25-Feb-10	14:26	1.0	0.0	3.3

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne

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



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Wednesday, March 10, 2010

Date Rec. : 24 February 2010
LR Report: CA11033-FEB10
Reference: 09-1426-0013 Discovery

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: ML92-061-01	6: ML90-14-2	7: ML95-82-1
Sample Date & Time			Date:n/a	Date:n/a	Date:n/a
Sample [weight(g)]	25-Feb-10	14:26	2.47	2.59	2.47
vol H2O2 [mL]	25-Feb-10	14:26	250	250	250
pH [no unit]	02-Mar-10	09:02	4.78	6.87	3.46
Conductivity [uS/cm]	02-Mar-10	09:02	127	138	269
Alkalinity [mg/L as CaCO3]	02-Mar-10	09:02	< 2	6	< 2
Sulphate [mg/L]	09-Mar-10	11:03	45	45	62
Chloride [mg/L]	05-Mar-10	15:06	< 2	< 2	< 2
Silver [mg/L]	02-Mar-10	08:49	0.00035	0.00001	0.00028
Aluminum [mg/L]	02-Mar-10	12:58	0.14	0.14	1.19
Arsenic [mg/L]	02-Mar-10	08:49	< 0.0002	0.0301	0.0004
Barium [mg/L]	02-Mar-10	08:49	0.0489	0.0161	0.0634
Beryllium [mg/L]	02-Mar-10	08:49	< 0.00002	< 0.00002	0.00014
Boron [mg/L]	02-Mar-10	08:49	0.302	0.0884	0.328
Bismuth [mg/L]	02-Mar-10	08:49	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	02-Mar-10	12:58	7.08	14.2	7.44
Cadmium [mg/L]	02-Mar-10	08:49	0.000365	0.000005	0.000582
Cobalt [mg/L]	02-Mar-10	08:49	0.0249	0.000060	0.132
Chromium [mg/L]	02-Mar-10	08:49	0.0072	0.0244	0.0060
Copper [mg/L]	02-Mar-10	08:49	0.0070	0.0005	0.361
Iron [mg/L]	02-Mar-10	12:58	< 0.01	< 0.01	0.16
Potassium [mg/L]	02-Mar-10	12:58	9.64	14.3	6.05
Lithium [mg/L]	02-Mar-10	12:58	< 0.002	0.004	< 0.002
Magnesium [mg/L]	02-Mar-10	12:58	3.11	0.145	1.79
Manganese [mg/L]	02-Mar-10	08:49	0.137	0.00068	0.130
Molybdenum [mg/L]	02-Mar-10	08:49	0.0129	0.0109	0.00009
Sodium [mg/L]	02-Mar-10	12:58	1.74	1.60	1.28
Nickel [mg/L]	02-Mar-10	08:49	0.180	< 0.0001	0.390
Lead [mg/L]	02-Mar-10	08:49	0.00008	0.00047	0.00629
Antimony [mg/L]	02-Mar-10	08:49	0.0003	0.0003	0.0003
Selenium [mg/L]	02-Mar-10	08:49	0.001	< 0.001	0.001
Tin [mg/L]	02-Mar-10	08:49	0.00001	0.00004	< 0.00001
Strontium [mg/L]	02-Mar-10	12:58	0.0358	0.0377	0.0404

Online LIMS



NAG Test with chemical analysis

SGS Lakefield Research Limited

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Lakefield - Ontario - K0L 2H0

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LR Report : CA11033-FEB10

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: ML92-061-01	6: ML90-14-2	7: ML95-82-1
Titanium [mg/L]	02-Mar-10	08:49	0.0008	0.0018	0.0005
Thallium [mg/L]	02-Mar-10	08:49	< 0.0002	< 0.0002	0.0002
Uranium [mg/L]	02-Mar-10	08:49	0.000038	0.000047	0.00364
Vanadium [mg/L]	02-Mar-10	08:49	0.0161	0.0271	< 0.00003
Tungsten [mg/L]	02-Mar-10	08:49	0.00216	0.00242	< 0.00003
Yttrium [mg/L]	02-Mar-10	08:49	0.00114	0.000008	0.00976
Zinc [mg/L]	02-Mar-10	08:49	0.012	< 0.001	0.112

Brian Graham B.Sc.

Project Specialist

Environmental Services, Analytical



Modified Acid Base Accounting

Parameter	Unit	F-1 Ro Tls	F-1 Ro Conc	F-2 Ro Tls	F-2 Ro Conc	F-4 Ro Tls	F-4 Ro Conc	F-3R Ro Tls	F-3R Ro Conc
LIMS		11072-MAY09	11072-MAY09	11072-MAY09	11072-MAY09	10121-JUN09	10121-JUN09	11045-JUN09	11045-JUN09
Paste pH	units	8.66	8.08	8.22	7.44	8.46	7.88	9.56	9.53
Fizz Rate	---	3	3	3	3	3	3	1	1
Sample weight	g	1.97	1.99	2.02	2.00	2.04	2.00	2.00	1.99
HCl added	mL	79.10	73.30	76.30	66.20	117.70	99.50	28.00	37.60
HCl	Normality	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH	Normality	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to pH=8.3	mL	35.60	32.70	40.40	42.00	66.90	43.30	22.70	30.70
Final pH	units	1.59	1.68	1.63	1.55	1.49	2.02	1.70	1.79
NP ¹	t CaCO ₃ /1000 t	110	102	88.9	60.5	124	140	13.2	17.3
AP	t CaCO ₃ /1000 t	0.85	201	4.61	521	2.27	390	0.59	363
Net NP	t CaCO ₃ /1000 t	110	-98.72	84.3	-460.59	122	-249.67	12.6	-345.29
NP/AP	ratio	129	0.51	19.3	0.12	54.8	0.36	22.5	0.05
S	%	0.043	6.49	0.249	16.9	0.134	14.0	2.06	13.6
SO ₄	%	0.02	0.07	0.10	0.25	0.06	1.48	2.04	1.96
Sulphide	%	0.03	6.42	0.15	16.7	0.07	12.5	0.02	11.6
C	%	1.61	1.51	1.98	1.57	2.03	2.33	0.102	0.206
Carbonate	%	7.00	5.92	5.30	4.08	7.95	6.54	0.146	0.183
CO ₃ NP ²	t CaCO ₃ /1000 t	116.2	98.3	88.0	67.7	132.0	108.6	2.4	3.0
CO ₃ Net NP	t CaCO ₃ /1000 t	115.4	-102.7	83.4	-453.3	129.7	-281.4	1.8	-360.0
CO ₃ NP/AP	ratio	137	0.49	19.1	0.13	58.137	0.278	4.11	0.01
Classification	based on ABA NP ¹	PAN	PAG	PAN	PAG	PAN	PAG	uncertain	PAG
Classification	based on CO ₃ NP ²	PAN	PAG	PAN	PAG	PAN	PAG	uncertain	PAG

¹ measured in ABA test

² theoretical, based on CO₃ content alone.

Green highlighting indicates Net NP values less than 20.

Orange highlighting indicates NP/AP ratios less than 3.

PAG - Potentially Acid Generating based on interpretation of ABA test data alone.

PAN - Potentially Acid Neutralizing based on interpretation of ABA test data alone.

uncertain - acid generation potential is uncertain based on interpretation of ABA test data alone.

Net Acid Generation Testing

Parameter	Unit	F-1 Ro Tls	F-1 Ro Conc	F-2 Ro Tls	F-2 Ro Conc	F-4 Ro Tls	F-4 Ro Conc	F-3R Ro Tls	F-3R Ro Conc
LIMS		11073-MAY09	11073-MAY09	11073-MAY09	11073-MAY09	10122-JUN09	10122-JUN09	11046-JUN09	11046-JUN09
Sample weight	g	1.49	1.46	1.52	1.46	1.47	1.46	1.50	1.52
Vol H ₂ O ₂	mL	150	150	150	150	150	150	150	150
Final pH	units	9.69	2.47	9.30	2.22	10.60	4.06	8.01	2.97
NaOH	Normality	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH 4.5	mL	0.00	10.50	0.00	13.40	0.00	0.50	0.00	2.10
Vol NaOH to pH 7.0	mL	0.00	17.20	0.00	57.10	0.00	18.50	0.00	48.50
NAG@pH4.5	kg H ₂ SO ₄ /t	0	35	0	45	0	1.7	0	6.8
NAG@pH7	kg H ₂ SO ₄ /t	0	58	0	192	0	62	0	156

**Net Acid Generation
with Metals Analysis**

Parameter	Unit	F-1 Ro Tls	F-1 Ro Conc	F-2 Ro Tls	F-2 Ro Conc
LIMS		11353-MAY09	11353-MAY09	11353-MAY09	11353-MAY09
Sample weight	g	2.69	2.56	2.46	2.57
Vol H ₂ O ₂	mL	250	250	250	250
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L	< 0.00001	0.00005	0.00003	< 0.00001
Al	mg/L	0.57	8.70	0.34	0.19
As	mg/L	0.0191	4.95	0.119	12.5
Ba	mg/L	0.00389	0.0440	0.00355	0.119
Be	mg/L	< 0.00002	0.00097	0.00003	0.00008
B	mg/L	1.14	0.158	1.02	0.0362
Bi	mg/L	< 0.00001	< 0.00001	0.00002	< 0.00001
Ca	mg/L	18.1	273	18.7	177
Cd	mg/L	0.000011	0.00672	0.000031	0.00148
Co	mg/L	0.000027	0.623	0.000076	0.0307
Cr	mg/L	0.0308	0.0236	< 0.0005	< 0.0005
Cu	mg/L	0.0024	2.21	0.0006	0.0049
Fe	mg/L	< 0.01	132	0.04	569
K	mg/L	6.35	11.6	13.3	15.9
Li	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Mg	mg/L	0.005	67.4	0.011	23.2
Mn	mg/L	0.00027	4.95	0.00069	2.77
Mo	mg/L	0.0188	0.00224	0.0343	0.00419
Na	mg/L	3.76	2.81	1.48	0.57
Ni	mg/L	0.0003	1.71	0.0003	0.121
Pb	mg/L	0.00003	0.994	0.00010	0.00494
Sb	mg/L	0.0006	0.0007	0.0005	0.0015
Se	mg/L	< 0.001	0.057	< 0.001	0.080
Sn	mg/L	0.00010	0.00006	0.00013	< 0.00001
Sr	mg/L	0.190	1.07	0.194	0.932
Ti	mg/L	< 0.0001	0.0011	0.0002	0.0003
Tl	mg/L	< 0.0002	0.0004	< 0.0002	< 0.0002
U	mg/L	0.000016	0.00355	0.000022	0.000044
V	mg/L	0.00139	0.00139	0.00103	0.00025
W	mg/L	0.00120	< 0.00003	0.00104	< 0.00003
Y	mg/L	0.000008	0.0213	0.000029	0.00403
Zn	mg/L	0.002	0.756	< 0.001	0.225

**Net Acid Generation
with Metals Analysis**

Parameter	Unit	F-4 Ro Tls	F-4 Ro Conc	F-3R Ro Tls	F-3R Ro Conc
LIMS		10123-JUN09	10123-JUN09	11047-JUN09	11047-JUN09
Sample weight	g	2.53	2.5	2.50	2.52
Vol H ₂ O ₂	mL	250	250	250	250
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al	mg/L	0.43	0.31	1.32	3.81
As	mg/L	0.0121	1.04	0.0393	3.67
Ba	mg/L	0.00368	0.0440	0.00752	0.182
Be	mg/L	< 0.00002	0.00016	< 0.00002	0.00038
B	mg/L	1.14	0.326	0.0474	0.467
Bi	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Ca	mg/L	32.4	310	7.40	40.9
Cd	mg/L	< 0.000003	0.00716	0.000012	0.000371
Co	mg/L	0.000021	0.0536	0.000041	0.00616
Cr	mg/L	0.0186	< 0.0005	0.0189	0.0036
Cu	mg/L	< 0.0005	0.0700	0.0044	0.0244
Fe	mg/L	< 0.01	283	0.19	881
K	mg/L	5.31	6.27	13.5	22.5
Li	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Mg	mg/L	0.010	81.9	0.065	8.04
Mn	mg/L	0.00015	26.6	0.00071	1.21
Mo	mg/L	0.00348	0.00034	0.0281	0.00294
Na	mg/L	2.17	1.35	1.88	3.55
Ni	mg/L	0.0002	0.170	0.0002	0.0493
Pb	mg/L	0.00004	0.00127	0.00010	0.00025
Sb	mg/L	0.0003	< 0.0002	0.0012	0.0009
Se	mg/L	< 0.001	0.026	0.002	0.013
Sn	mg/L	< 0.00001	0.00002	0.00029	0.00003
Sr	mg/L	0.104	0.658	0.0251	0.300
Ti	mg/L	< 0.0001	0.0005	0.0013	0.0015
Tl	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
U	mg/L	0.000004	0.000069	0.000537	0.147
V	mg/L	0.00153	0.00027	0.00569	0.00348
W	mg/L	0.00055	0.00006	0.00232	0.00027
Y	mg/L	< 0.000001	0.007480	0.000011	0.0143
Zn	mg/L	< 0.001	2.79	0.003	0.235

Shake Flask Extraction
24 hr - 4:1 L:S Ratio

Parameter	Unit	F-1 Ro Tls	F-1 Ro Conc	F-2 Ro Tls	F-2 Ro Conc
LIMS		11071-MAY09	11071-MAY09	11071-MAY09	11071-MAY09
Sample weight	g	200	200	200	200
Volume D.I. H ₂ O	mL	800	800	800	800
Initial pH	units	9.26	8.79	8.61	8.21
Final pH	units	9.03	7.94	8.19	7.54
CN(T)	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
CN _{WAD}	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
CNS	mg/L	< 0.2	< 0.2	< 0.2	< 10
CNO	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
As ⁺³	mg/L	0.020	0.252	0.480	1.27
As ⁺⁵	mg/L	0.063	0.012	0.050	0.035
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L	0.00001	0.00005	0.00002	0.00002
Al	mg/L	0.28	0.03	0.06	< 0.01
As	mg/L	0.0899	0.315	0.596	1.53
B	mg/L	0.0068	0.0176	0.0051	0.0059
Ba	mg/L	0.00210	0.0101	0.0389	0.0438
Be	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bi	mg/L	0.00003	0.00004	< 0.00001	< 0.00001
Ca	mg/L	12.3	45.8	46.6	102
Cd	mg/L	0.000004	0.000007	< 0.000003	< 0.000003
Co	mg/L	0.000050	0.000139	0.000063	0.000368
Cr	mg/L	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cu	mg/L	< 0.0005	< 0.0005	< 0.0005	0.0007
Fe	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
K	mg/L	4.08	9.60	20.8	18.3
Li	mg/L	0.002	0.004	0.005	0.005
Mg	mg/L	3.85	10.8	7.62	12.8
Mn	mg/L	0.00470	0.0478	0.0413	0.0899
Mo	mg/L	0.00285	0.0118	0.00355	0.00285
Na	mg/L	1.92	4.53	1.30	1.92
Ni	mg/L	0.0001	0.0015	0.0004	0.0032
P	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pb	mg/L	0.00005	0.00009	0.00006	0.00014
Sb	mg/L	0.0016	0.0048	0.0026	0.0046
Se	mg/L	< 0.001	0.002	< 0.001	0.001
Si	mg/L	1.18	1.94	0.97	1.17
Sn	mg/L	0.00004	0.00006	0.00005	0.00009
Sr	mg/L	0.0608	0.233	0.296	0.503
Ti	mg/L	0.0001	0.0001	< 0.0001	< 0.0001
Tl	mg/L	< 0.00002	< 0.00002	0.00002	< 0.00002
U	mg/L	0.000138	0.000560	0.000467	0.000451
V	mg/L	0.00030	0.00022	0.00011	0.00014
Y	mg/L	0.000002	0.000006	0.000004	0.000007
Zn	mg/L	< 0.001	0.001	< 0.001	0.002

Shake Flask Extraction
24 hr - 4:1 L:S Ratio

Parameter	Unit	F-4 Ro Tls	F-4 Ro Conc	F-3R Ro Tls	F-3R Ro Conc
LIMS		10120-JUN09	10120-JUN09	11044-JUN09	11044-JUN09
Sample weight	g	200	200	200	200
Volume D.I. H ₂ O	mL	800	800	800	800
Initial pH	units	9.15	8.69	9.21	8.73
Final pH	units	8.66	7.65	8.97	7.82
CN(T)	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
CN _{WAD}	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
CNS	mg/L	< 0.2	< 0.2	< 0.2	< 0.2
CNO	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
As ⁺³	mg/L	0.018	0.504	0.002	0.040
As ⁺⁵	mg/L	0.040	0.111	0.005	< 0.001
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00001
Al	mg/L	0.09	< 0.01	0.13	0.03
As	mg/L	0.0582	0.615	0.0061	0.0461
B	mg/L	0.0083	0.0205	0.0425	0.0267
Ba	mg/L	0.00457	0.0137	0.349	0.0817
Be	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bi	mg/L	< 0.00001	< 0.00001	0.00001	0.00009
Ca	mg/L	20.9	62.4	7.52	43.9
Cd	mg/L	< 0.000003	< 0.000003	< 0.000003	0.000006
Co	mg/L	0.000032	0.000135	0.000030	0.000066
Cr	mg/L	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cu	mg/L	< 0.0005	0.0006	0.0010	0.0005
Fe	mg/L	< 0.01	< 0.01	0.27	< 0.01
K	mg/L	11.4	14.4	13.9	30.1
Li	mg/L	0.003	0.003	0.006	0.012
Mg	mg/L	8.62	19.6	0.730	5.04
Mn	mg/L	0.0386	0.229	0.00406	0.06406
Mo	mg/L	0.00195	0.00421	0.00505	0.0146
Na	mg/L	1.77	3.95	3.70	4.08
Ni	mg/L	0.0003	0.0018	0.0002	0.0014
P	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pb	mg/L	< 0.00002	0.00002	0.00007	0.00015
Sb	mg/L	0.0012	0.0018	0.0006	0.0005
Se	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Si	mg/L	0.90	2.14	1.60	2.65
Sn	mg/L	< 0.00001	0.00004	0.00018	0.00014
Sr	mg/L	0.0572	0.159	0.0520	0.270
Ti	mg/L	0.0001	0.0002	0.0018	0.0008
Tl	mg/L	0.00002	< 0.00002	< 0.00002	< 0.00002
U	mg/L	0.000140	0.000240	0.0171	0.111
V	mg/L	0.00008	0.00008	0.00012	0.00013
Y	mg/L	0.000001	0.000004	0.000023	0.000006
Zn	mg/L	< 0.001	0.002	0.002	< 0.001



ICP-OES/MS Strong Acid Digest Elemental Analyses

Parameter	Unit	F-1 Ro Tls	F-1 Ro Conc	F-2 Ro Tls	F-2 Ro Conc	F-4 Ro Tls	F-4 Ro Conc	F-3R Ro Tls	F-3R Ro Conc
LIMS		11070-MAY09	11070-MAY09	11070-MAY09	11070-MAY09	10119-JUN09	10119-JUN09	11043-JUN09	11043-JUN09
Hg	µg/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1
Ag	g/t	0.17	4.6	0.14	8.8	0.08	2.4	0.28	6.2
Al	µg/g	74000	77000	33000	17000	17000	13000	33000	23000
As	µg/g	150	41000	670	130000	220	68000	25	19000
B	g/t	78	110	11	7	9	8	3	4
Ba	g/t	560	660	340	190	28	21	220	200
Be	g/t	1.4	1.6	0.87	0.53	0.25	0.21	0.47	0.39
Bi	µg/g	5.9	6.5	2.0	5.0	< 0.09	3.0	0.16	6.4
Ca	µg/g	31000	30000	29000	20000	36000	39000	19000	14000
Cd	µg/g	0.23	0.95	0.18	0.44	0.26	1.8	0.33	0.33
Co	µg/g	5.6	89	3.4	30	3.2	72	2.8	18
Cr	µg/g	170	510	140	370	240	570	97	570
Cu	µg/g	28	380	16	370	16	960	370	440
Fe	µg/g	53000	150000	140000	310000	82000	270000	210000	300000
K	µg/g	23000	28000	10000	5700	1900	1500	6500	4900
Li	g/t	19	21	13	5	8	5	12	9
Mg	µg/g	15000	15000	8300	5000	16000	15000	10000	7300
Mn	g/t	500	510	450	380	2900	3100	400	380
Mo	µg/g	4.4	60	7.1	70	5.8	14	6.1	25
Na	µg/g	18000	13000	3100	1100	3500	2100	2300	1700
Ni	µg/g	72	380	53	200	57	290	40	260
P	ug/g	430	390	800	840	120	120	990	980
Pb	µg/g	15	1200	23	720	3.8	35	4.7	17
Sb	g/t	< 0.8	14	4.2	42	< 0.8	31	< 0.8	6.7
Se	µg/g	< 1	4	< 1	< 1	< 0.7	4.6	< 1	3
Si	%	27.7	18.4	28.8	8.87	32.3	13	25.7	14.7
Sn	µg/g	1.1	1.7	0.6	0.6	1.2	1.4	1.4	22
Sr	g/t	210	200	190	140	80	81	180	170
Ti	µg/g	3100	3500	1000	640	650	400	940	690
Tl	µg/g	0.43	0.61	0.30	0.23	0.08	0.11	0.15	0.17
U	µg/g	1.2	2.4	0.75	1.1	0.26	0.38	5.7	27
V	g/t	100	110	36	18	47	40	26	17
Y	µg/g	6.7	9.5	5.6	5.5	3.2	3.7	7.0	7.0
Zn	µg/g	61	140	60	69	110	530	96	84



Whole Rock Analysis

Parameter	Unit	F-1 Ro Tls	F-1 Ro Conc	F-2 Ro Tls	F-2 Ro Conc	F-4 Ro Tls	F-4 Ro Conc	F-3R Ro Tls	F-3R Ro Conc
LIMS		11069-MAY09	11069-MAY09	11069-MAY09	11069-MAY09	10118-JUN09	10118-JUN09	11042-JUN09	11042-JUN09
SiO ₂	%	59.1	Analysis	59.0	Analysis	68.3	28.0	56.2	30.7
Al ₂ O ₃	%	13.9	could not be	6.28	could not be	3.28	2.29	6.34	4.57
Fe ₂ O ₃	%	7.45	completed	19.8	completed	11.5	39.6	31.4	48.2
MgO	%	2.46	due to	1.43	due to	2.60	3.05	1.77	1.76
CaO	%	4.48	sample matrix	4.23	sample matrix	4.98	5.44	2.65	1.99
Na ₂ O	%	2.54	---	0.47	---	0.46	0.18	0.32	0.19
K ₂ O	%	2.35	---	1.10	---	0.19	0.15	0.67	0.49
TiO ₂	%	0.53	---	0.17	---	0.11	0.07	0.15	0.11
P ₂ O ₅	%	0.10	---	0.20	---	0.03	0.03	0.21	0.22
MnO	%	0.07	---	0.06	---	0.35	0.41	0.05	0.05
Cr ₂ O ₃	%	0.03	---	0.02	---	0.03	0.09	0.01	0.08
V ₂ O ₅	%	0.02	---	0.01	---	0.01	< 0.01	< 0.01	< 0.01
LOI	%	6.32	---	6.32	---	7.49	16.2	0.12	6.68
Sum	%	99.3	---	99.1	---	99.4	95.5	99.9	95.1



APPENDIX E

Report on Previous Geochemistry Studies

APPENDIX 1.

ACID BASE ACCOUNTING

and

METALS LEACHING ANALYSES

including

TEST RESULTS

Memo

To:	Mark Balog	Date:	January 26, 2006
cc:		From:	Kelly Sexsmith
Subject:	Tiriganiaq Geochemistry	Project #:	1CC024.00

1 Introduction

Comaplex Minerals is considering an underground exploration program in support of scoping studies for development of the Tiriganiaq gold deposit in Nunavut. The program would include excavation of an approximately 500 metre decline to gain access to the ore zones. The purpose of the program would be to confirm the continuity and grade of the ore lodes, and to obtain bulk sampling for metallurgical testing. Development of the underground decline will likely require a Class B water licence from the Nunavut Water Board. To support this application, Comaplex has asked SRK to provide an assessment of the potential for acid rock drainage and metal leaching from the waste rock, including recommendations for management of this material, and preliminary estimates of water quality.

Previous geochemical testing of the ore and waste rock was completed in conjunction with metallurgical testing programs completed in 1998 and 2001. The results indicated a mixed potential for acid rock drainage and metal leaching, with most of the hanging wall rock samples classified as non-acid generating, and most of the ore zone samples classified as having an uncertain potential for ARD. Further testing was recommended to improve the geological and spatial coverage of the sampling.

A supplemental testing program was initiated by SRK in November 2005. The first part of the program included acid base accounting to characterize the potential for ARD, and solids metal analyses to characterize the metal content of the samples. A limited number of these samples were selected for short-term leach extraction tests. This memo summarizes the results of the available testing data.

2 Geology and Mineralogy

A detailed description of the geological setting, the deposit geology and mineralogy is provided in a 2005 report by Strathcona Mineral Services Ltd. Features relevant to the geochemical assessment are summarized as follows.

The Tiriganiaq deposit is part of the Meliadine West property located approximately 25 km west northwest of Rankin Inlet. Rocks on the Meliadine West property are part of the Archean aged Rankin Inlet Greenstone belt. Gold mineralization at Tiriganiaq is principally hosted by a mesothermal quartz-vein dominated gold system occurring in a strongly sheared package of Archean turbiditic sediments and iron formations. The deposit is comprised of multiple loads of mineralization over a strike length of up to 1.5 km, sub-divided into the Tiriganiaq Main and West Zones. The mineralization is parallel to the dominant shear fabric that strikes east-west, and dips to

the north at an average angle of 60°. All of the rocks in the deposit area have been subjected to low to mid-grade greenschist grade metamorphism.

A typical cross section of the deposit is shown in Figure 1. The stratigraphic sequence is as follows:

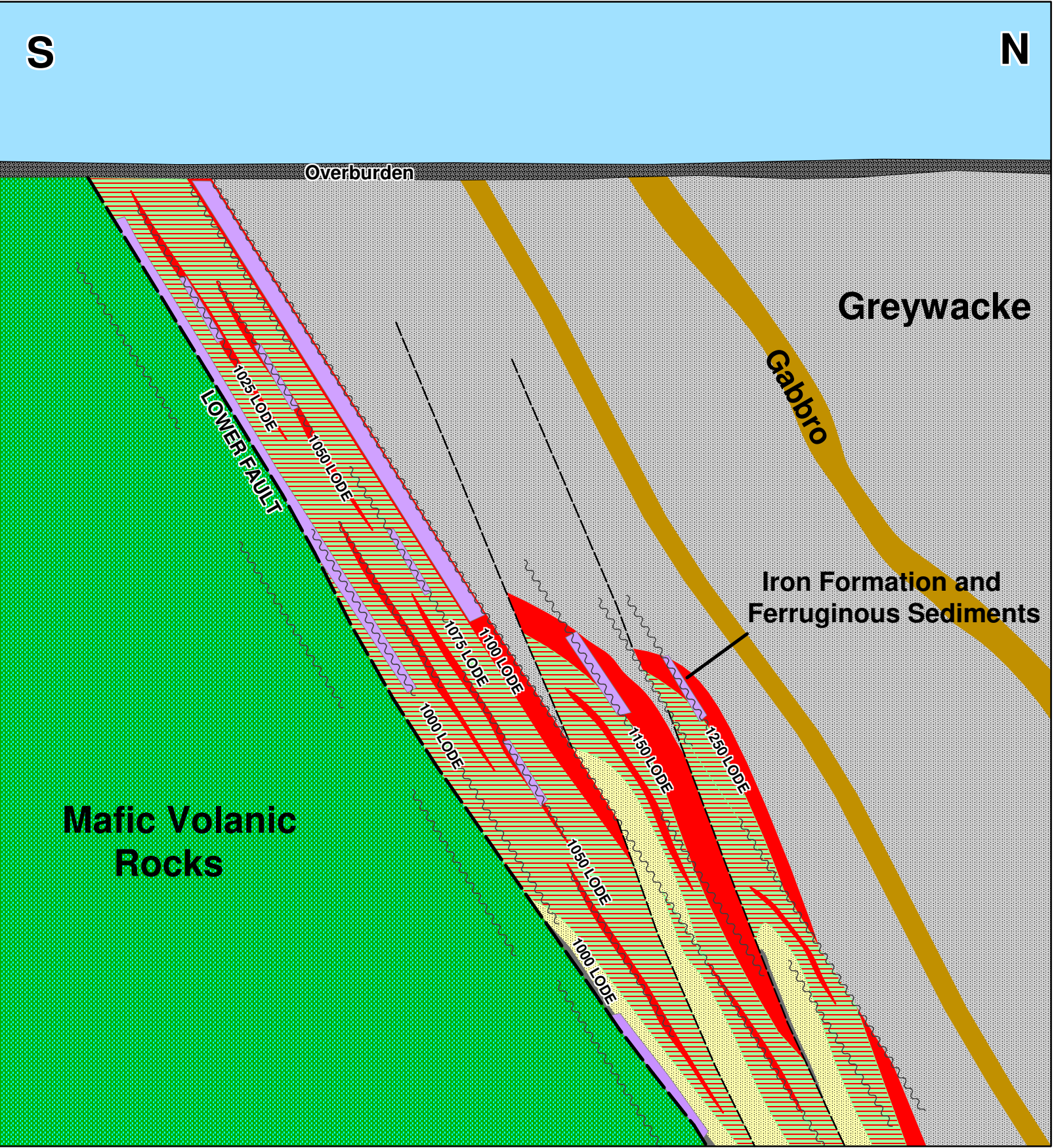
- The structural hanging wall is comprised of clastic turbidite sediments of variable grey coloured greywacke-siltstone-mudstone beds from the **Sam Formation**, ranging in thickness from centimetres to decimetres. This unit also contains minor amounts of argillite.
- The Sam Formation overlies a diverse package of iron-rich rocks with interbedded magnetite, chert, chloritic mudstone and greywacke from the **Upper Iron Formation**. The top of this unit is marked by a laterally continuous iron formation. This unit is often mineralized.
- The **Tiriganiaq Formation** is comprised of finely laminated siltstone. It is commonly altered to a yellowish grey colour by sericite alteration, particularly near the contact with the Lower Fault. Graphitic argillite occurs sporadically near the base of this sequence, and is often coincident with the Lower Fault zone, which demarks the contact with the underlying Wesmeg Formation.
- The **Wesmeg Formation** is comprised mafic volcanoclastics, comprising the structural footwall of the deposit. These rocks are chlorite-rich near the Lower Fault, they can be highly schistose and sericite-carbonate altered.

Tiriganiaq is only one of several known gold occurrences on the property that occur near the faulted contact of sediments and mafic volcanic rocks. The Wolf North deposit located 3.5 km to the west is also associated with this contact, and is geologically analogous to this deposit. Other deposits on the property such as F, Pump, and Wolf Main differ in that they are hosted in lean, chert-rich, magnetite poor iron formations hosted in the Wesmeg Formation.

Gabbro dykes and sills of several ages as well as minor lamprophyre dykes are recognized on the Meliadine West property.

The proposed underground decline will be collared in the Sam Formation, and will ramp towards the ore zones. Therefore, most of the waste rock that will be produced will be from the Sam Formation. The relative proportions of each rock type will need to be defined for the water licence application.

Gold mineralization is directly associated with quartz veins varying from thick laminated veins to wispy erratic stringers and stockwork. In general, quartz and quartz-ankerite veins tend to be mineralized, while quartz-calcite veins are commonly barren. Sulphide minerals occur in two main assemblages. The first, often associated with the iron formation and black argillite, includes wispy discontinuous laminations of pyrrhotite, pyrite, and chalcopyrite, typically parallel to the bedding. The second consists of coarse-grained clots of arsenopyrite and pyrrhotite associated with the quartz veining and gold mineralization. Both assemblages host minor local concentrations of galena and lesser amounts of sphalerite. Areas with strong gold mineralization are associated with hydrothermal sericite alteration. Coarse grained aggregates of carbonate often occur in conjunction with the quartz veins.



Legend

Proterozoic Gabbro

Wesmeg Formation

Mafic Volcanic Rocks
+/- Gabbro, Cherty Iron Formation
Minor Ultramafic Rocks

Tiriganiaq Formation

Siltstone - Argillite Laminated

Graphitic Argillite
(Not visible at this scale)

Upper Oxide Formation

Iron Formation
+/- greywacke, siltstone, argillite

Chloritic Greywacke - Siltstone
+/- Iron Formation

Sam Formation

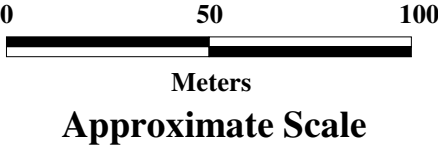
Greywacke / Siltstone
+/- Argillite, Iron Formation

Lode (Lode Name)

Lower Fault

Fault

Shearing



CLIENT	COMAPLEX MINERALS CORP.		
PROJECT	TIRIGANIAQ TECHNICAL REPORT		
TITLE	Schematic Geological Cross Section Looking West		
APPROVAL	D.A.D.	DATE	March 2005
		PROJECT No.	336-2
STRATHCONA MINERAL SERVICES LIMITED TORONTO - CANADA			
File:		Comaplex Database Files	
			Figure 7

3 Review of Earlier Testing Data

Acid base accounting data is available for ore, waste rock and overburden samples from the Tiriganiaq deposit. The testing was completed by Lakefield Research in conjunction with the metallurgical testing programs. Information on the testing programs was presented in a 1998 submission by WMC International Ltd., and reports by Lakefield Research. The testing programs are summarized as follows:

- 3 samples representing quartz vein type ore (Melmet 2), iron formation type ore (Melmet 3), and a sample representing the complete ore profile (Melmet 1) were tested in April 1997.
- 2 samples representing iron formation ore (Comp 1-3) and quartz vein type ore (Comp 4-5) were tested in January 1998. Metallurgical testing was also completed on these samples, and duplicate samples of the process residues were also produced.
- 18 samples of waste rock were tested in May 1998. These included 3 greywacke, 4 argillite and 2 mixed greywacke and argillite samples from the hanging wall, 3 unmineralized iron formation samples from the ore zone, and 6 volcanic samples from the footwall.
- 7 samples of overburden were collected from surficial material in this area.

Two ore samples from the nearby Wolf North deposit were also characterized in a 2001 metallurgical testing program by Lakefield Research (April 2001), and are relevant due to the similarity between this deposit and Tiriganiaq.

The locations of the samples are provided in Figures 2 and 3.

The results for these samples are provided in Appendix 1.

Ore samples had consistently alkaline paste pH's (8.2 to 8.8), moderately high carbonate concentrations (5.9% to 8.4%), and moderately high neutralization potentials (NP) (79 to 139 kgCaCO₃-eq/tonne). The NP and the carbonate content were strongly correlated, suggesting that the NP occurs primarily as carbonate minerals. This is consistent with the mineralogy of the deposit. Sulphur concentrations were also elevated (0.9% to 4.4%), with most of the sulphur occurring as sulphide, resulting in moderately elevated acid potentials (AP). The samples had consistently positive net neutralization potentials, and NP/AP ratios between 1.1 and 6.3, indicating that some samples had an uncertain potential for ARD, while others would likely be non-acid generating. In the absence of kinetic testing data, an NP/AP ratio of less than 3 is typically used as an indication that samples could have potential for acid generation, while samples with NP/AP ratios of less than 1 are considered likely to be acid generating. Three out of the five Tiriganiaq ore samples tested had NP/AP ratios between 1 and 3. The other two Tiriganiaq samples and both of the Wolf North samples had NP/AP ratios of greater than 3.

Waste rock samples also had consistently alkaline paste pH's and moderate to high neutralization potentials. In general, NP's were lower (45 to 118 kg CaCO₃ eq/tonne) in the hanging wall rocks than in the volcanic footwall rocks (219 to 296, with one outlier of 44 kg CaCO₃ eq/tonne). Sulphur concentrations ranged from 0.01% to 6.81%, with most samples having less than 0.5% sulphur. The sulphur occurred primarily as sulphide. Two of the hanging wall argillite samples had sulphide concentrations of 4.75 and 6.81% respectively and were noted to be from a fault zone and a zone of intense quartz/pyrrhotite veining respectively. These two samples had NP/AP ratios of less than 1, and NNP's of -35 and -95 kg CaCO₃ eq/tonne, and were classified as potentially acid generating. The other sixteen samples, including 7 hanging wall samples, 4 iron formation samples, and six volcanic samples had NP/AP ratios of greater than 3. The data indicate that the majority of the waste

rock is likely to be non-acid generating. However isolated zones of acid generating rock are likely to be present. Further testing was recommended to improve the spatial coverage of the sampling.

Overburden samples had negligible sulphur concentrations (0.01 to 0.02%) and low NP's (5 to 11 kgCaCO₃ eq/tonne, resulting in NP/AP ratios consistently greater than 10. The results indicate they are likely non-acid generating, but that they have limited excess buffering capacity.

4 Supplemental Testing Program

4.1 Samples

Samples were selected for testing by Comaplex minerals to represent the stratigraphy that the underground decline is likely to cross. A total of 48 samples were selected from diamond drill core from 1998, 2000 and 2004 drilling programs. The sample intervals were typically 5 metres long. The locations of the samples are shown in Figures 2 and 3. The list of target samples was reviewed by SRK.

A continuous quarter split section of core representing the entire interval selected was provided to the testing laboratory. Samples were sent to Canadian Environmental and Metallurgical Inc. (CEMI) for testing. An SRK geochemist examined the samples on receipt at the lab. The samples were typically competent and hard, and even the oldest samples showed little signs of oxidation and weathering. A rock saw had been used to prepare the quarter splits.

Both carbonate and sulphide minerals were observed in most samples. Calcite was observed in association with quartz veins and was confirmed by vigorous reaction with a 10% solution of hydrochloric acid. Carbonate was also likely present in the fine grained matrix of many samples, also indicated by reaction with hydrochloric acid. Ankerite was observed throughout the matrix of some of the more weathered volcanic samples. Sulphide minerals were typically disseminated or in clots distributed throughout the rock mass. In some samples, there was concentration of the sulphide minerals in the quartz veins. The most abundant sulphide minerals were pyrrhotite, pyrite and arsenopyrite. Lesser amounts of chalcopyrite and galena were found in some samples.

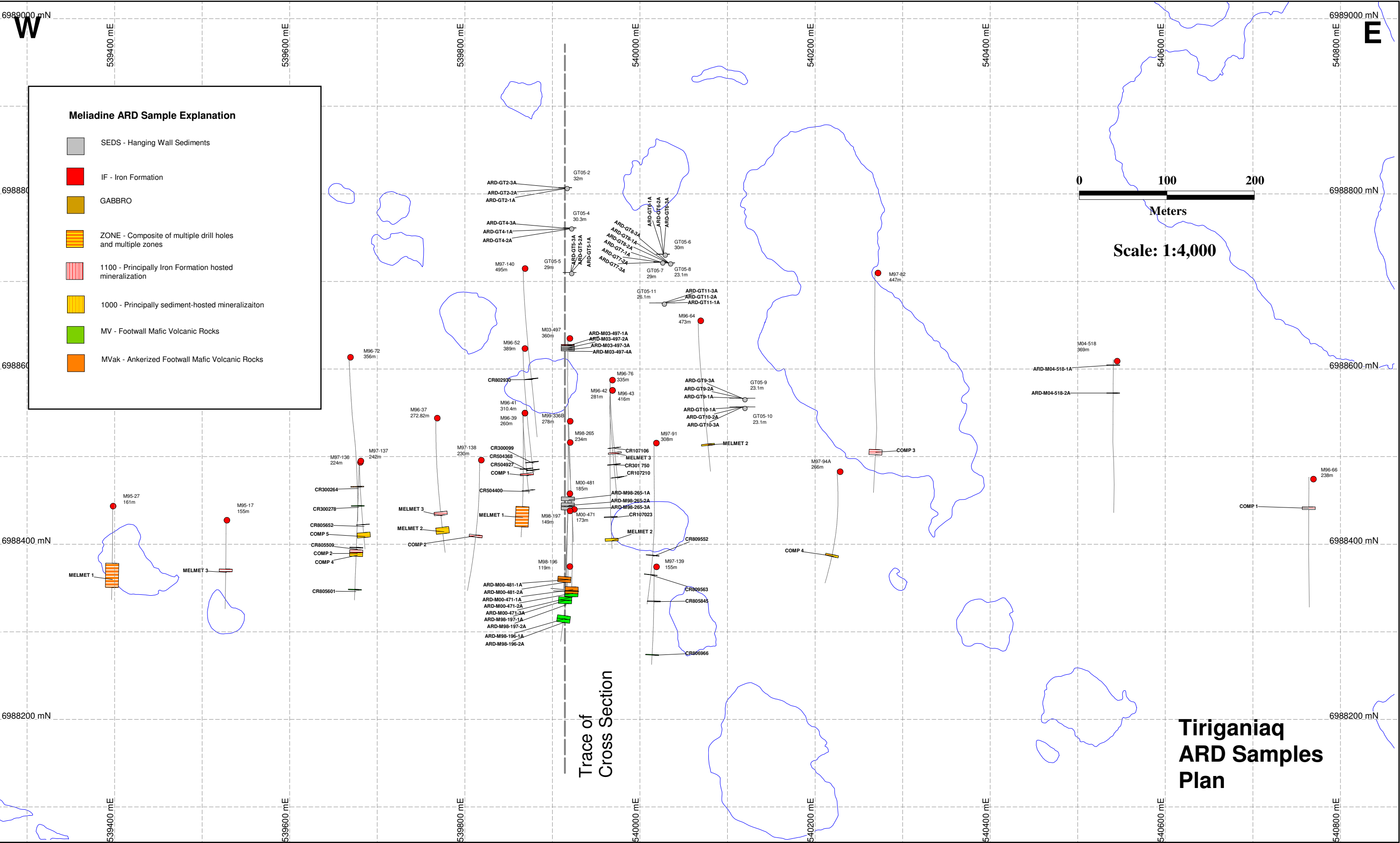
4.2 Testing Methods

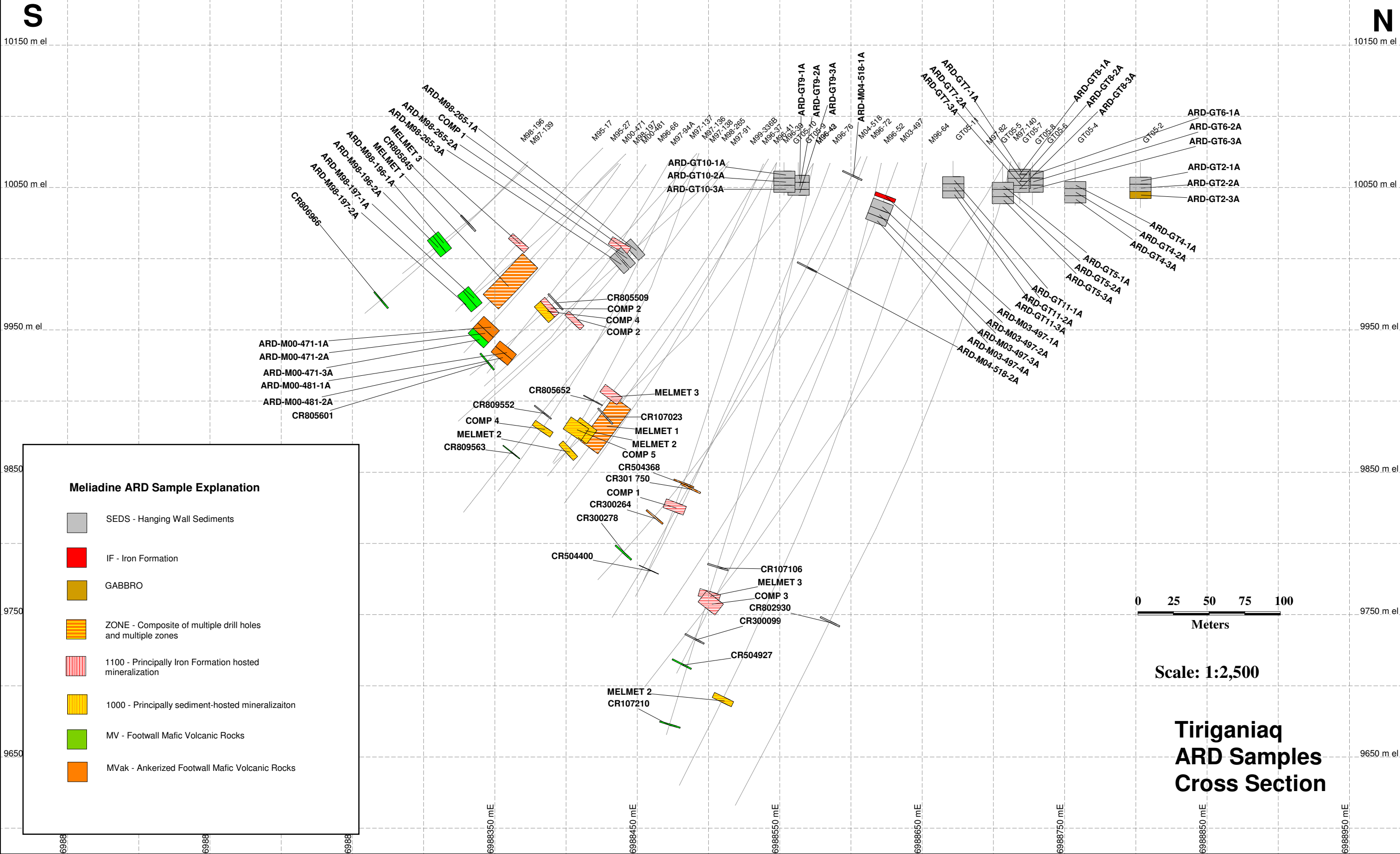
4.2.1 Sample Preparation

Samples were jaw crushed to minus half inch. A representative portion of the samples was split from the jaw crushed material and pulverized for the assay tests. The remaining material was wetted by adding 50 mL of deionized water and the sample bags were loosely sealed to ensure some exchange of oxygen. The samples were stored for approximately 1 month at room temperature to condition them for extraction tests.

4.2.2 ABA and Elemental Analyses

All of the samples were submitted for acid base accounting and elemental analyses. The acid base accounting tests were completed using the Modified Sobek method, including analysis of paste pH, sulphur speciation, and inorganic carbon. The samples for elemental analyses were prepared using an aqua regia digestion, and were analyzed by ICP.





4.2.3 Leach Extraction Tests

At Comaplex's request, SRK selected three waste rock samples from the December 2005 static testing program for leach extraction testing. The samples included one greywacke sample from the hanging wall sediments, one iron formation sample, and one mafic volcanic sample.

Use of extraction tests on fresh competent drill core is not generally recommended due to the limited surface area available for oxidation prior to testing. However, the conditioning described previously should have allowed some oxidation to occur on the freshly exposed surfaces, thereby improving the validity of the results.

Tests were completed using the shake flask extraction method on the minus ¼ inch jaw crushed and conditioned material. In brief, 250 grams of sample was mixed with 750 mL of ultrapure deionized water and was allowed to equilibrate for 96 hours. The pH and conductivity of the leachate was measured and the leachate was filtered and submitted for alkalinity, sulphate, and a full suite metals by ICP-MS.

4.3 Results and Discussion

4.3.1 Acid Base Accounting

The acid base accounting results are provided in Appendix 2.

All of the samples tested had slightly alkaline paste pH's and moderate to high amounts of neutralization potential and carbonate. The mafic volcanic rocks tended to have somewhat higher neutralization potential (228 to 289 kg CaCO₃ eq/tonne) compared to the sedimentary rocks and gabbro dykes (20.1 to 102 kg CaCO₃ eq/tonne) (Figure 4). A single iron formation sample had an NP of 77 kg CaCO₃ eq/tonne. The NP was strongly correlated with carbonate content (Figure 5). Carbonate concentrations tended to be somewhat higher than the neutralization potential in the Iron formation and mafic volcanic samples. This is an indication that some of the carbonate was occurring as iron carbonate minerals. Ankerite was noted on the logs for several of these samples, and is the likely source of the iron carbonate. Carbonate minerals were noted in several of the hand samples, particularly in association with the quartz veining. These reacted strongly in 10% hydrochloric acid, indicating that the carbonate mineral was likely calcite.

Sulphur concentrations were typically less than 0.5% and therefore acid potentials were less than 15 kg CaCO₃ eq/tonne, although one of the sedimentary samples, two of the volcanic samples and the iron formation sample had higher values. As shown in Figure 4, the majority of the waste rock samples have NP:AP ratios of greater than 3, indicating they have a negligible potential for ARD. Three of the sedimentary samples and the iron formation sample had NP/AP ratios in the range of 1 to 3. In the absence of kinetic testing data, these are considered to be potentially acid generating. Overall, the relatively small proportion of samples with potential for acid generation and the high NP content of all of the samples indicate that seepage from the waste rock pile is likely to remain neutral.

4.3.2 Elemental Analyses

Results of the elemental analyses are provided in Appendix 3.

The elemental analyses indicate that arsenic and sulphur concentrations in the waste rock samples are enriched in comparison to typical concentrations in the earth's crust. This is consistent with the presence of arsenopyrite in several of the samples. Other trace elements were less than 2x higher than normal crustal values.

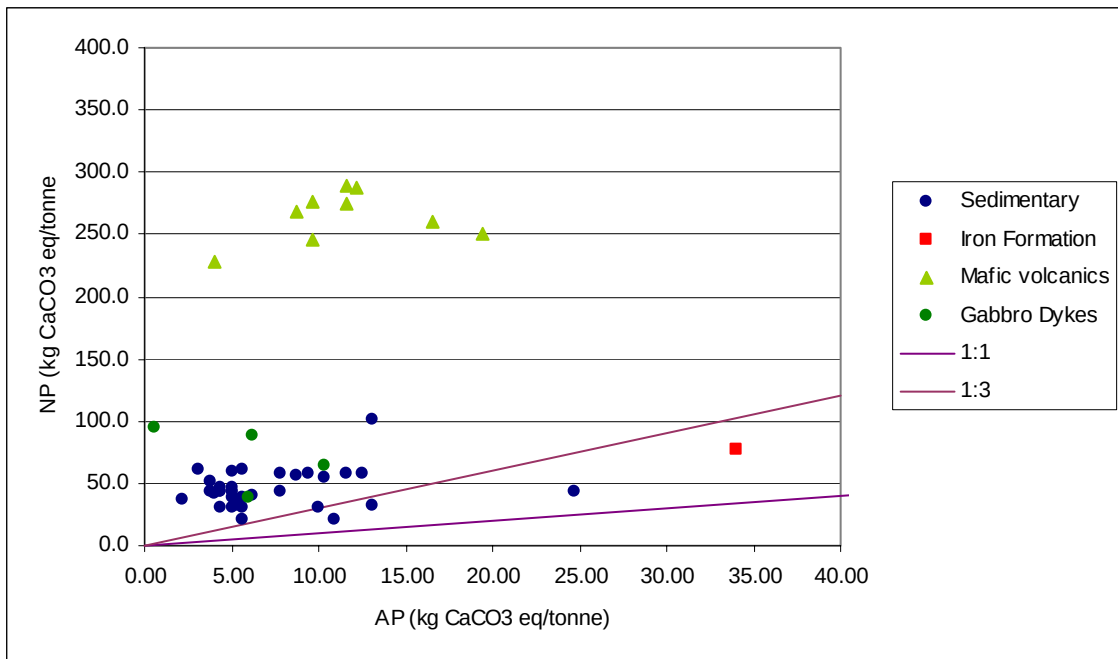


Figure 4: Acid Base Accounting Results - NP versus AP

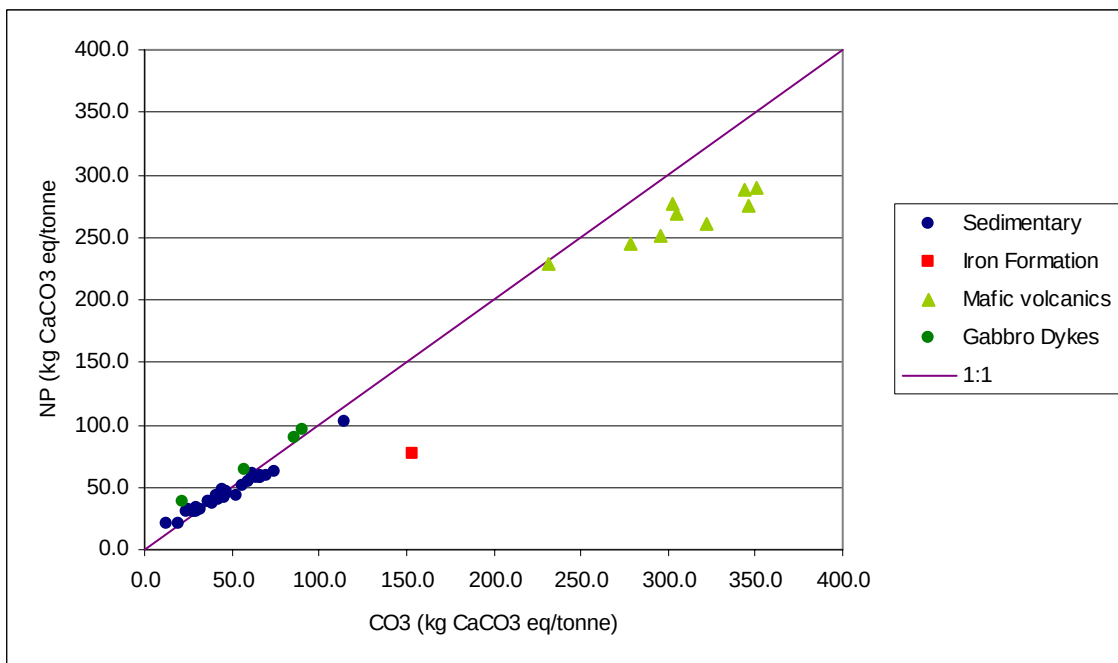


Figure 5: Carbonate versus Modified Sobek NP

The elemental analyses do not provide an indication of the solubility or rate of release of these elements from the waste rock. Arsenic and other trace elements such as copper, cobalt, nickel, and zinc may be mobilized as a result of sulphide oxidation. The rate of metal leaching will also be controlled by the rate of oxidation, the amount of waste rock, the grain size distribution of the rock, the iron content of the rock, and the local pH conditions. Because the pH conditions are expected to remain neutral, concentrations are not expected to be excessively high. However, it is possible that concentrations of some trace elements in seepage from the waste pile will exceed CCME guidelines for freshwater aquatic life. Further testing is therefore required to estimate the potential magnitude and rate of metal release from these materials.

4.3.3 Leach Extraction Test Results

The results are presented in Appendix 4. The results indicate the leachate had neutral pH's, moderate alkalinities, and relatively low sulphate concentrations (maximum of 21 mg/L was observed in the mafic volcanic sample). Trace element concentrations were generally low in comparison to typical mine waste samples. However, concentrations of aluminum, arsenic, copper and zinc were slightly elevated compared to CCME aquatic life guidelines in the mafic volcanic sample, and concentrations of aluminum and arsenic were slightly elevated compared to CCME aquatic life guidelines in the greywacke sample. Potential for release of trace concentrations of these elements is consistent with the mineralogy and elemental composition of the samples.

The number of samples is too few to determine the potential variability in concentrations within or between each of these rock types. However, once further information on the underground development plans is available, these data could be used in scoping level calculations to provide an initial indication of the potential magnitude of contaminant loading. If those calculations indicate potential for impacts, further testing may be warranted.

5 Conclusions and Recommendations

Test results indicate that the majority of the waste rock that would be produced from the proposed exploration decline would be non-acid generating. A few samples (<10%) from the hanging wall of the deposit were classified as acid generating or potentially acid generating. However, they contain significant amounts of neutralization potential. Provided that these isolated intervals of material are well distributed in the waste dump, ARD is unlikely to occur. Monitoring of the blasted rock during excavation of the decline may be required to ensure that any potentially acid generating rock is identified and managed appropriately.

Data from several of the Iron Formation samples had NP/AP ratios in the range of 1 to 3, indicating this material should be classified as potentially acid generating. This material contains sufficient NP that there is likely to be a significant lag time to acid generation. However, to ensure long-term stability of this material, consideration should be given to encapsulating it within the center of the waste rock pile where it can be frozen, or to return it to the underground workings where it will eventually become flooded.

The iron formation rock contains iron oxide minerals which may become mobilized as a result of reductive dissolution. Evidence from the Ekati Diamond MineTM indicates that reductive dissolution of iron can lead to the development of low pH conditions downstream of waste piles as the iron re-precipitates and releases hydrogen ions. Care should be taken to avoid placing this material or any rock that contains significant quantities of iron sulphides directly on organic soils or plant matter.

Elemental analyses indicate there is some potential for release of arsenic and other trace elements from the rock. Aluminum, arsenic, copper and iron were slightly soluble in two of three leach extraction tests. The leach extraction results can be used in conjunction with information on the

amount of waste rock, the hydrology, and the expected configuration of the dump to calculate the potential magnitude of contaminant loading from this material.

Depending on the timing of the permit application, it may be worth considering initiating a small number of kinetic tests. These would be useful for future environmental assessment work, and would provide the information needed to estimate water quality from the development waste rock dump. At this stage in the project, one sample from each of the main rock units should be considered.

If you have any questions, please contact the undersigned.

Yours truly,

Kelly Sexsmith, P.Geo
Senior Environmental Geochemist

Appendix 1: Acid Base Accounting Test Results –
1997, 1998 and 2001 Lakefield Testing Data

Appendix 1 - Acid Base Accounting Test Results - 1997, 1998 and 2001 Lakefield Testing Data

Ore and Tailings Samples														
Sample Type	Sample #	Reference	Head/ Residue	Paste pH s.u.	NP *	CO3 %	CO3-NP *	S %	S(S2-) %	S(SO4) %	AP *	NNP *	NP/AP	Comments
Iron formation	Melmet 1	Lakefield, April 1997	Composite Ore	8.84	103	5.9	98	0.87	0.61	<0.13	19	84	5.4	
	Melmet 2	Lakefield, April 1997	Qtz Vein Ore	8.75	139	8.35	139	1.74	1.32	<0.13	41	97	3.4	
	Melmet 3	Lakefield, April 1997	Iron Fm Ore	8.19	120	5.85	98	4.38	3.34	<0.13	104	15	1.1	
	Comp 1-3	Lakefield, Jan 1998	Iron Fm Ore	8.24	79	6	100	1.96	1.95	<0.13	61	18	1.3	
	Comp 4-5	Lakefield, Jan 1998	Qtz Vein Ore	8.50	90	6.8	113	1.35	1.31	<0.13	41	49	2.2	
	Comp 1-3	Lakefield, Jan 1998	Tailings**	7.08	64	6.5	108	1.78	1.49	<0.13	47	17	1.4	
	Comp 1-3	Lakefield, Jan 1998	Tailings**	8.18	78	6.1	102	1.82	1.68	0.23	53	26	1.5	
	Comp 4-5	Lakefield, Jan 1998	Tailings**	8.53	92	6.9	115	1.42	1.32	<0.13	41	51	2.2	
	Comp 4-5	Lakefield, Jan 1998	Tailings**	8.67	90	6.7	112	1.48	1.17	0.20	37	53	2.5	
	Comp WN	Lakefield, April 2001	Ore	8.70	110	8.2	137	0.93	0.62	0.31	19	91	5.7	
	Comp WN	Lakefield, April 2001	Ore	8.49	111	8.35	139	0.9	0.56	0.34	18	94	6.3	

Waste Rock														
Waste Rock	Sample #	Location		Paste pH s.u.	NP *	CO3 %	CO3-NP *	S %	S(S2- %)	S(SO4) %	AP *	NNP *	NP/AP	Comments
		Hole #	From/To											
HW-Greywacke HW-Mixed Greywacke/Argillite HW-Argillite	CR107106	Mel 96-43	1291.75 - 292.76	8.51	46.6	3.96	66	0.01	0.01	<0.13	0.31	46.3	150.0	Chlorite
	CR802930	Mel 97-140	348.71 - 349.74	8.98	46.1	3.71	62	0.15	0.07	<0.13	2.2	43.9	21.0	Sheared, chlorite, sericite
	CR805509	Mel 97-136	144.00 - 145.00	9.00	44.7	3.63	61	0.23	0.19	<0.13	5.9	38.8	7.6	Trace pyrrhotite
	CR805652	Mel 97-137	189.46 - 190.00	8.93	57.2	4.10	68	0.10	0.08	<0.13	2.5	54.7	22.9	Chlorite
	CR805845	Mel 97-139	57.97 - 59.08	9.05	47.6	3.32	55	0.17	0.08	<0.13	2.5	45.1	19.0	Chlorite
	CR107023	Mel 96-42	231.00 - 231.98	9.10	82.3	6.55	109	0.36	0.32	<0.13	10	72.3	8.2	Sericite, chlorite
	CR300099	Mel 96-52	361.00 - 362.00	9.04	47.7	4.34	72	0.15	0.12	<0.13	3.8	43.9	12.6	Sheared
	CR504400	Mel 96-41	300.95 - 301.20	8.09	108	7.41	124	4.75	4.57	<0.13	143	-35.0	0.8	Fault zone
	CR809552	Mel 97-91	217.43 - 218.18	7.83	118	6.41	107	6.81	6.81	<0.13	213	-95.0	0.6	20% quartz veins with po
Ore Zone - Iron Formation	CR300264	Mel 96-72	295.78 - 296.91	8.64	39.4	3.83	64	0.31	0.24	<0.13	7.5	31.9	5.3	Magnetite, minor pyrite
	CR301750	Mel 96-76	248.78 - 249.93	8.26	92.5	7.34	122	0.74	0.62	<0.13	19.4	73.1	4.8	Magnetite
	CR504368	Mel 96-41	235.00 - 236.00	7.82	149	13.3	222	1.36	1.21	<0.13	37.8	111.0	3.9	Magnetite, minor pyrrhotite
	CR504369-REP	Mel 96-42	235.00 - 236.01	7.76	149	13.5	225	1.41	1.32	<0.13	41.3	108.0	3.6	
FW-Volcanics	CR107210	Mel 96-43	407.88 - 408.79	8.89	263	18.5	308	0.56	0.38	<0.13	11.9	251.0	22.1	Sheared, quartz veins
	CR300278	Mel 96-72	329.17 - 330.26	8.78	43.9	3.36	56	0.30	0.22	<0.13	6.9	37.0	6.4	Quartz veins, 0.5% pyrite
	CR504927	Mel 96-52	381.00 - 382.00	8.43	219	12.8	213	0.14	0.09	<0.13	2.8	216.0	78.2	Epidote
	CR805601	Mel 97-136	208.00 - 209.00	8.83	275	17.9	298	0.40	0.38	<0.13	11.9	263.0	23.1	Trace po, py, aspy, 0.72 g/t Au
	CR806966	Mel 97-139	139.79 - 140.79	8.50	296	20	333	1.35	1.13	<0.13	35.3	261.0	8.4	Quartz veins, py & po
	CR809563	Mel 97-91	253.42 - 253.93	8.65	289	16.6	277	0.30	0.30	<0.13	9.4	280.0	30.7	Fucsite

Overburden														
Overburden	Sample #	Location		Paste pH s.u.	NP *	CO3 %	CO3-NP *	S %	S(S2-) %	S(SO4) %	AP *	NNP *	NP/AP	Comments
		Northing UTM83	Easting UTM83											
Mud-Boil	CS500156	6987097	542435	8.52	7.8	3.14	52	0.02	0.02	<0.13	0.63	7.2	12.4	Abundant Marine Shells
Mud-Boil	CS500184	6989009	540024	8.61	10.8	0.65	11	0.01	0.01	<0.13	0.31	10.5	34.8	
Mud-Boil	CS500187	6988742	539467	7.46	6.1	0.48	8	0.01	-0.01	<0.13	0.31	6.1	19.7	
Mud-Boil	CS500188	6988470	539487	8.55	8.6	0.49	8	0.01	0.01	<0.13	0.31	8.3	27.7	
Mud-Boil	CS500189	6988190	539524	8.17	5.2	0.40	7	0.01	-0.01	<0.13	0.31	5.2	16.8	
Mud-Boil	CS500190	6988264	539991	8.23	6.1	0.22	4	0.01	-0.01	<0.13	0.31	6.1	19.7	
Mud-Boil	CS500191	6987923	539969	7.92	6.0	0.61	10	0.01	-0.01	<0.13	0.31	6.0	19.4	
Mud-Boil	CS500191-REP	6987923	539969	8.08	6.0	0.54	9	-0.01	-0.01	<0.13	0.31	6.0	19.4	

Notes: Sulphide Sulphur method not specified.
AP is calculated from the sulphide sulphur
NP was completed using the Standard Sobek method
* NP, CO3-NP, AP, and NNP are presented in units of kg CaCO3 eq/tonne
** It is noted that tailings will not be produced during development of the exploration decline.

Appendix 2 - 2005 Acid Base Accounting Test Results

Sample ID	Tag #	Hole #	DH DEPTH		WIDTH	LITHO		Paste pH	NP	CO2 %	CaCO3 NP	S(T) %	S(SO4) %	S(S-2) %	AP	Net NP	NP/AP	Fizz Test
			From	To		Rock Code	Zone											
ARD-GT2-1A	415091	GT05-2	10.40	15.40	5	Kwa-s	SEDS	9.5	43.3	1.86	42.3	0.14	<0.01	0.14	4.38	38.9	9.9	moderate
ARD-GT2-2A	415097	GT05-2	15.40	20.40	5	Kwa-s	SEDS	9.4	30.5	1.19	27.0	0.32	<0.01	0.32	10.00	20.5	3.1	moderate
ARD-GT4-1A	415401	GT05-4	13.45	18.45	5	Kwa'ser	SEDS	9.0	40.7	1.85	42.0	0.2	<0.01	0.20	6.25	34.5	6.5	slight
ARD-GT4-2A	415407	GT05-4	18.45	23.45	5	Kwa'ser	SEDS	9.1	44.1	2.06	46.8	0.16	<0.01	0.16	5.00	39.1	8.8	slight
ARD-GT4-3A	415413	GT05-4	23.45	28.45	5	Ks	SEDS	9.1	38.8	1.63	37.0	0.16	<0.01	0.16	5.00	33.8	7.8	slight
ARD-GT5-1A	415419	GT05-5	14.00	19.00	5	Kwa-s	SEDS	9.2	59.8	2.94	66.8	0.16	<0.01	0.16	5.00	54.8	12.0	slight
ARD-GT5-2A	415425	GT05-5	19.00	24.00	5	Kwa-s	SEDS	9.1	51.4	2.47	56.1	0.12	<0.01	0.12	3.75	47.7	13.7	slight
ARD-GT5-3A	415431	GT05-5	24.00	29.00	5	Kwa'ser	SEDS	9.3	61.8	3.27	74.3	0.18	<0.01	0.18	5.63	56.2	11.0	slight
ARD-GT6-1A	415437	GT05-6	6.00	11.00	5	Kwa	SEDS	9.2	43.0	1.93	43.9	0.16	<0.01	0.16	5.00	38.0	8.6	slight
ARD-GT6-2A	415443	GT05-6	11.00	16.00	5	Kwa	SEDS	9.2	57.8	2.74	62.3	0.37	<0.01	0.37	11.56	46.2	5.0	slight
ARD-GT6-3A	415449	GT05-6	16.00	21.00	5	Kwa'ser	SEDS	9.2	57.5	2.84	64.5	0.3	<0.01	0.30	9.38	48.1	6.1	slight
ARD-GT7-1A	415455	GT05-7	4.80	8.10	3.3	Ks-wa	SEDS	8.4	37.3	1.73	39.3	0.1	0.03	0.07	2.19	35.1	17.1	slight
ARD-GT7-2A	415459	GT05-7	8.65	13.35	4.7	Ks-wa	SEDS	9.5	41.3	2	45.5	0.13	<0.01	0.13	4.06	37.2	10.2	slight
ARD-GT7-3A	415464	GT05-7	13.35	18.35	5	Kwa'ser	SEDS	9.4	58.5	3.07	69.8	0.25	<0.01	0.25	7.81	50.7	7.5	slight
ARD-GT8-1A	415470	GT05-8	6.10	11.10	5	Ks	SEDS	9.1	43.7	1.97	44.8	0.15	0.01	0.14	4.38	39.3	10.0	slight
ARD-GT8-2A	415476	GT05-8	11.10	16.10	5	Kwa	SEDS	9.3	47.3	1.96	44.5	0.14	<0.01	0.14	4.38	42.9	10.8	slight
ARD-GT8-3A	415482	GT05-8	16.10	21.10	5	Kwa	SEDS	9.6	56.9	2.93	66.6	0.28	<0.01	0.28	8.75	48.2	6.5	slight
ARD-GT9-2A	415494	GT05-9	13.97	18.97	5	Kwa-qv	SEDS	9.5	30.9	1.06	24.1	0.18	<0.01	0.18	5.63	25.3	5.5	slight
ARD-GT9-3A	415500	GT05-9	18.97	23.10	4.13	Kwa-s	SEDS	9.2	31.0	1.31	29.8	0.16	<0.01	0.16	5.00	26.0	6.2	moderate
ARD-GT10-1A	415055	GT05-10	6.00	11.00	5	Kwa-s	SEDS	9.5	34.4	1.29	29.3	0.17	<0.01	0.17	5.31	29.1	6.5	moderate
ARD-GT10-2A	415061	GT05-10	11.00	16.00	5	Ks-wa	SEDS	9.2	31.0	1.27	28.9	0.14	<0.01	0.14	4.38	26.6	7.1	moderate
ARD-GT10-3A	415067	GT05-10	16.00	21.00	5	Kwa	SEDS	9.7	38.8	1.62	36.8	0.18	<0.01	0.18	5.63	33.2	6.9	moderate
ARD-GT11-1A	415073	GT05-11	11.00	16.00	5	Kwa	SEDS	9.3	43.5	1.97	44.8	0.14	0.02	0.12	3.75	39.8	11.6	strong
ARD-GT11-2A	415079	GT05-11	16.00	21.00	5	Kwa-qv	SEDS	9.7	60.8	2.72	61.8	0.1	<0.01	0.10	3.13	57.7	19.5	strong
ARD-GT11-3A	415085	GT05-11	21.00	26.00	5	Kwa-s	SEDS	9.3	46.3	2.08	47.3	0.16	<0.01	0.16	5.00	41.3	9.3	moderate
ARD-M03-497-2A	451379	M03-497	29.35	35.55	6.2	Ks	SEDS	9.3	43.5	2.32	52.7	0.79	<0.01	0.79	24.69	18.8	1.8	slight
ARD-M03-497-3A	451380	M03-497	35.55	40.55	5	Kwa	SEDS	9.7	102.0	5.06	115.0	0.42	<0.01	0.42	13.13	88.9	7.8	slight
ARD-M03-497-4A	451381	M03-497	40.55	45.10	4.55	Kwa-qv	SEDS	9.6	58.4	2.9	65.9	0.4	<0.01	0.40	12.50	45.9	4.7	slight
ARD-M04-518-1A	339260	M04-518	14.00	15.00	1	Kwa-s	SEDS	9.5	20.8	0.55	12.5	0.18	<0.01	0.18	5.63	15.2	3.7	slight
ARD-M04-518-2A	339264	M04-518	86.00	87.00	1	Kwa	SEDS	9.5	20.1	0.85	19.3	0.35	<0.01	0.35	10.94	9.2	1.8	slight
ARD-M98-265-1A	451400	M98-265	88.00	94.00	6	Kwa	SEDS	9.2	54.3	2.64	60.0	0.33	<0.01	0.33	10.31	44.0	5.3	moderate
ARD-M98-265-2A	415456	M98-265	97.00	102.00	5	Kwa	SEDS	9.6	43.0	1.81	41.1	0.25	<0.01	0.25	7.81	35.2	5.5	moderate
ARD-M98-265-3A	415462	M98-265	103.00	108.00	5	Kwa	SEDS	9.5	32.8	1.42	32.3	0.18	0.01	0.17	5.31	27.5	6.2	slight
ARD-M99-336B-1A	451382	M99-366B	46.32	51.32	5	Kwa	SEDS	9.6	32.0	1.09	24.8	0.43	0.01	0.42	13.13	18.9	2.4	slight
ARD-M03-497-1A	451378	M03-497	24.60	27.24	2.64	Nimj	IF	8.7	76.5	6.76	153.6	1.09	<0.01	1.09	34.06	42.4	2.2	moderate
ARD-M00-471-1A	451365	M00-471	144.55	151.00	6.45	Mv'ser'ak	MVak	9.5	287.5	15.14	344.1	0.39	<0.01	0.39	12.19	275.3	23.6	strong
ARD-M00-471-2A	451366	M00-471	151.00	156.00	5	Mv'ser'ak	MVak	9.2	245.2	12.24	278.2	0.31	<0.01	0.31	9.69	235.5	25.3	strong
ARD-M00-481-1A	451363	M00-481	161.52	166.52	5	Mv'ser'ak	MVak	9.4	274.7	15.23	346.1	0.37	<0.01	0.37	11.56	263.1	23.8	strong
ARD-M00-481-2A	451364	M00-481	166.52	171.52	5	Mv'ser'ak	MVak	9.5	289.4	15.43	350.7	0.37	<0.01	0.37	11.56	277.8	25.0	strong
ARD-M00-471-3A	451372	M00-471	156.00	161.00	5	Mv'ca'c	MV	9.0	228.2	10.18	231.4	0.13	<0.01	0.13	4.06	224.1	56.2	strong
ARD-M98-196-1A	451359	M98-196	80.70	85.70	5	Mv	MV	9.3	251.3	13.03	296.1	0.62	<0.01	0.62	19.38	231.9	13.0	strong
ARD-M98-196-2A	451360	M98-196	85.70	90.70	5	Mv	MV	9.0	268.5	13.39	304.3	0.28	<0.01	0.28	8.75	259.8	30.7	strong
ARD-M98-197-1A	451361	M98-197	136.80	141.80	5	Mv	MV	9.1	260.3	14.19	322.5	0.53	<0.01	0.53	16.56	243.7	15.7	strong
ARD-M98-197-2A	451362	M98-197	141.80	146.80	5	Mv	MV	9.4	276.3	13.32	302.7	0.31	<0.01	0.31	9.69	266.6	28.5	strong
ARD-GT9-1A	415488	GT05-9	8.97	13.97	5	Mg	GAB	9.1	95.3	3.96	90.0	0.02	<0.01	0.02	0.63	94.7	152.5	moderate
ARD-GT2-3A	451353	GT05-2	20.40	25.40	5	Mg	GAB	9.4	38.5	0.94	21.4	0.19	<0.01	0.19	5.94	32.6	6.5	strong
ARD-M99-336B-2A	451388	M99-366B	51.32	56.32	5	Mg'tb	GAB	9.5	89.0	3.79	86.1	0.2	<0.01	0.20	6.25	82.8	14.2	moderate
ARD-M99-336B-3A	451394	M99-366B	56.32	61.32	5	Mg'ep	GAB	9.5	63.8	2.52	57.3	0.33	<0.01	0.33	10.31	53.5	6.2	moderate

Notes: AP = Acid potential in tonnes CaCO3 equivalent per 1000 tonnes of material. AP is determined from calculated sulphide sulphur content: S(T) - S(SO4).
NP = Neutralization potential in tonnes CaCO3 equivalent per 1000 tonnes of material.
NET NP = NP - AP
Carbonate NP is calculated from CO2 originating from carbonates and is expressed in kg CaCO3/tonne.

Appendix 3: Results for Elemental Analyses

Appendix 3
2005 Elemental Analyses

Sample ID	LITHO		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se
	Rock Code	Zone	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm
ARD-GT2-1A	Kwa-s	SEDS	2	53.2	7.6	78	<0.1	67.6	21.7	385	3.7	46	0.7	3.8	4.4	70	0.1	0.1	0.2	26	1.3	0.05	25	100.6	1.41	40	0.013	<1	2.07	0.018	0.14	0.1	<0.01	2.2	<0.1	0.14	6	<0.5
ARD-GT2-2A	Kwa-s	SEDS	1.8	48.5	4	58	<0.1	63.9	21.7	276	2.99	7.2	1	9.3	4.9	45	0.1	0.2	0.1	48	0.95	0.054	26	153.9	1.33	81	0.06	1	1.64	0.04	0.24	0.2	<0.01	4.1	0.1	0.3	8	<0.5
ARD-GT4-1A	Kwa'ser	SEDS	2.4	55	6.1	94	<0.1	85.1	26.6	395	4.64	274.2	0.9	1.5	5.5	45	0.1	0.1	0.2	34	0.96	0.061	28	103.7	1.79	48	0.012	1	2.53	0.024	0.16	<0.1	<0.01	3.2	<0.1	0.2	7	<0.5
ARD-GT4-2A	Kwa'ser	SEDS	1.8	47.2	6.8	78	<0.1	80.6	24.7	438	4.16	214.8	0.8	2.3	5	47	0.1	0.1	0.2	31	1.03	0.058	25	90.5	1.64	41	0.01	1	2.29	0.024	0.17	0.1	<0.01	2.8	<0.1	0.15	7	<0.5
ARD-GT4-3A	Ks	SEDS	1.9	61.5	38.5	87	0.2	89.3	26.2	417	4.33	194.4	0.9	2	5.5	43	0.2	0.1	0.5	34	0.9	0.057	27	101	1.72	43	0.007	1	2.48	0.023	0.17	<0.1	<0.01	3.4	<0.1	0.17	7	<0.5
ARD-GT5-1A	Kwa-s	SEDS	1.8	44.8	8.2	63	<0.1	55.1	19.1	367	2.86	43.8	0.7	2.1	4.3	87	0.1	0.1	0.2	16	1.42	0.042	23	94.9	1.06	44	0.007	1	1.3	0.029	0.15	0.1	<0.01	1.9	<0.1	0.17	4	<0.5
ARD-GT5-2A	Kwa-s	SEDS	1.9	41.6	13.5	80	<0.1	61.9	20.5	365	3.4	197.6	0.6	19.2	4.5	75	0.1	0.1	0.2	23	1.17	0.046	24	97.2	1.34	52	0.003	<1	1.76	0.027	0.16	<0.1	<0.01	2.4	<0.1	0.12	6	<0.5
ARD-GT5-3A	Kwa'ser	SEDS	2	44.5	11.8	57	<0.1	47.1	15.9	358	2.54	54.3	0.7	2.4	4.1	95	0.1	0.1	0.1	13	1.53	0.039	22	104	0.96	47	0.006	<1	1.05	0.03	0.14	0.1	<0.01	1.7	<0.1	0.21	4	<0.5
ARD-GT6-1A	Kwa	SEDS	3	54.3	5.7	100	<0.1	86.3	23.7	366	4.14	64.4	0.8	23.2	4.9	63	0.1	0.1	0.2	34	0.96	0.052	24	109	1.72	53	0.003	1	2.35	0.029	0.17	<0.1	<0.01	3.2	<0.1	0.15	8	<0.5
ARD-GT6-2A	Kwa	SEDS	2.5	46.7	15.8	77	<0.1	54.7	20.7	311	2.79	72.4	1	1.9	5.4	86	0.2	0.1	0.2	17	1.29	0.047	22	122.3	1.07	48	0.003	1	1.26	0.032	0.14	<0.1	<0.01	1.9	<0.1	0.39	4	<0.5
ARD-GT6-3A	Kwa'ser	SEDS	2.1	48.7	13	68	<0.1	51.1	18.7	333	2.89	44.6	1.1	2.4	5.4	94	0.1	0.1	0.2	16	1.35	0.044	21	122	1.12	59	0.003	1	1.28	0.031	0.15	<0.1	<0.01	1.9	<0.1	0.31	4	<0.5
ARD-GT7-1A	Ks-wa	SEDS	2.1	38.9	6.3	81	<0.1	69.6	22.1	361	3.67	54.4	0.7	1.8	4.9	57	0.1	0.1	0.1	23	0.87	0.051	24	104.7	1.46	44	0.003	1	2.05	0.025	0.14	<0.1	0.01	2.3	<0.1	0.08	6	<0.5
ARD-GT7-2A	Ks-wa	SEDS	1.8	39.8	5.8	95	<0.1	72.6	22.8	335	3.74	100.7	0.8	33.8	5.6	71	0.1	0.1	0.1	27	0.98	0.051	25	104.4	1.48	47	0.005	<1	2.07	0.026	0.15	<0.1	<0.01	2.6	<0.1	0.13	6	<0.5
ARD-GT7-3A	Kwa'ser	SEDS	1.8	44.3	7.5	68	<0.1	50.5	17.1	359	2.63	92.1	0.8	2.5	5.1	94	0.1	0.1	0.2	14	1.43	0.042	23	100.8	0.97	51	0.009	<1	1.08	0.032	0.14	0.1	<0.01	1.6	<0.1	0.26	4	<0.5
ARD-GT8-1A	Ks	SEDS	1.9	50.6	6.4	100	<0.1	80.8	25.5	409	4.2	51.8	0.8	2.3	5.3	66	0.1	0.1	0.2	32	1	0.056	27	110	1.67	44	0.005	<1	2.36	0.026	0.16	0.1	<0.01	3.1	<0.1	0.15	7	<0.5
ARD-GT8-2A	Kwa	SEDS	2.1	52.6	9.2	54	<0.1	53.5	18.2	319	2.73	35.6	0.7	3	4.7	62	0.1	0.1	0.2	18	1	0.041	23	120.1	1.03	48	0.005	<1	1.4	0.03	0.18	0.1	<0.01	1.9	<0.1	0.18	4	<0.5
ARD-GT8-3A	Kwa	SEDS	2.4	51.3	12	66	<0.1	53.9	19.7	384	2.74	65.2	0.8	9.7	4.9	77	0.1	0.1	0.9	17	1.44	0.043	24	127	1	40	0.007	1	1.17	0.032	0.15	<0.1	<0.01	1.8	<0.1	0.31	4	<0.5
ARD-GT9-2A	Kwa-qv	SEDS	2.2	62	4.7	82	<0.1	72.9	29	395	4.4	49.3	0.7	2.3	4.1	33	0.1	0.1	0.1	79	0.91	0.056	23	127.8	1.76	51	0.028	1	2.55	0.022	0.15	0.1	<0.01	7.1	<0.1	0.18	9	<0.5
ARD-GT9-3A	Kwa-s	SEDS	2	51.7	5	85	<0.1	82.3	24.2	377	3.77	68.8	0.7	2.6	4.4	51	0.1	0.1	0.2	29	1.16	0.052	22	110	1.55	37	0.011	1	2.36	0.021	0.16	0.1	<0.01	2.4	<0.1	0.15	7	<0.5
ARD-GT10-1A	Kwa-s	SEDS	2.2	59.7	12.3	90	<0.1	83.6	25.4	364	3.54	46.6	0.8	1.2	4.4	54	0.1	0.1	0.4	31	1.09	0.053	21	123.6	1.45	41	0.012	<1	2.21	0.025	0.17	<0.1	<0.01	2.6	<0.1	0.16	7	<0.5
ARD-GT10-2A	Ks-wa	SEDS	2.1	43.7	6.8	84	<0.1	82.5	25.6	381	3.91	122.7	0.7	2	4.6	52	<0.1	0.1	0.2	32	1.05	0.052	24	119.5	1.61	41	0.004	<1	2.42	0.021	0.16	0.1	<0.01	2.6	<0.1	0.12	7	<0.5
ARD-GT10-3A	Kwa	SEDS	2.1	47.5	5.2	85	<0.1	74.5	22.4	396	3.54	29.5	0.7	5.5	4.8	64	0.1	0.1	0.1	27	1.28	0.05	22	114.8	1.44	51	0.004	<1	2.15	0.022	0.16	<0.1	<0.01	2.3	<0.1	0.13	6	<0.5
ARD-GT11-1A	Kwa	SEDS	1.7	39.3	7.2	70	<0.1	54.5	17.9	330	2.78	34.1	0.5	0.9	3.6	82	0.1	0.1	0.2	21	1.4	0.046	23	109	1.1	44	0.003	<1	1.63	0.028	0.13	0.1	<0.01	1.9	<0.1	0.12	6	<0.5
ARD-GT11-2A	Kwa-qv	SEDS	1.8	40.6	5.4	62	<0.1	55.1	16.9	428	2.95	59.6	0.4	1.5	3.3	90	0.2	0.1	0.1	23	1.64	0.044	20	113.4	1.26	44	0.003	1	1.7	0.025	0.14	0.1	<0.01	2.3	<0.1	0.1	6	<0.5
ARD-GT11-3A	Kwa-s	SEDS	1.7	47.6	5.7	75	<0.1	66.2	21.7	410	3.32	71.9	0.6	3	4.4	70	0.1	0.1	0.2	27	1.3	0.051	25	105.7	1.35	47	0.003	<1	1.86	0.023	0.13	0.1	<0.01	2.4	<0.1	0.14	6	<0.5
ARD-M03-497-2A	Ks	SEDS	1.3	68.5	10.7	86	<0.1	73.1	23.5	467	6.82	32.9	0.6	1.8	5.9	98	0.1	0.1	0.2	45	1.42	0.079	26	103.2	1.9	50	0.016	<1	2.97	0.012	0.08	0.1	<0.01	4.5	<0.1	0.66	9	<0.5
ARD-M03-497-3A	Kwa	SEDS	1.6	43.5	9.8	67	<0.1	46.7	18.9	488	2.86	5.7	0.8	5.7	8.1	240	0.1	0.1	0.2	17	2.51	0.11	37	90.6	1.41	323	0.015	<1	1.04	0.025	0.14	0.1	<0.01	2.4	<0.1	0.44	3	<0.5
ARD-M03-497-4A	Kwa-qv	SEDS	2.5	61.6	8.3	87	<0.1	68.1	23.4	337	3.04	9.7	0.9	5.8	6.4	121	0.1	0.1	0.2	19	1.49	0.054	27	127.6	1.27	132	0.007	<1	1.54	0.024	0.14	0.1	<0.01	2.2	<0.1	0.34	4	<0.5
ARD-M04-518-1A	Kwa-s	SEDS	1.9	63.8	7.2	91	<0.1	91	27.2	332	3.75	25.3	1.2	0.8	7	26	<0.1	0.2	0.2	30	0.6	0.06	32	85.6	1.61	45	0.017	<1	2.41	0.022	0.17	0.1	0.01	2.8	<0.1	0.15	7	<0.5
ARD-M04-518-2A	Kwa	SEDS	2	54.2	3.5	61	<0.1	64.6	18.4	222	2.76	8.5	0.8	3.4	5.5	30	0.1	0.1	0.2	33	0.56	0.047	26	135.3	1.16	58	0.028	<1	1.49	0.041	0.12	0.2	0.01	2.9	<0.1	0.23	6	<0.5
ARD-M98-265-1A	Kwa	SEDS	1.9	91.1	14.5	77	0.2	68.5	25.3	417	3.39	260.4	0.8	2.3	5.1	72	0.1	0.1	0.5	24	1.47	0.046	21	98.8	1.31	57	0.004	<1	1.76	0.023	0.15	0.1	<0.01	2.6	<0.1	0.3	5	<0.5
ARD-M98-265-2A	Kwa	SEDS	2.1	54.6	8.4	88	<0.1	73.3	21.1	403	3.35	103.9	0.8	24.3	5.2	60	0.1	0.1	0.2	28	1.21	0.046	20	99.2	1.3	39	0.005	<1	1.85	0.021	0.13	<0.1	<0.01	2.6	<0.1	0.18	6	<0.5
ARD-M98-265-3A	Kwa	SEDS	1.6	52.9	6.4	83	<0.1	80.9	23.8	397	3.85	39.3	0.6	1	4.7	47	0.1	0.1	0.2	33	1.03	0.048	19	97.8	1.49	40	0.005	1	2.33	0.021	0.14	<0.1	<0.01	3.1	<0.1	0.15	6	<0.5
ARD-M99-336B-1A	Kwa	SEDS	2.2	48.6	7.4	60	<0.1	60.9	21.1	254	2.62	42	1	4.6	5.7	57	0.1	0.2	0.2	33	1.04	0.046	25	133.3	1.07	84	0.035	<1	1.41	0.033	0.15	0.1	0.01	3.1	<0.1	0.36	6	<0.5
ARD-M03-497-1A	Nimj	IF	1.7	82.7	3.8	51	<0.1	23.9	8.3	591	14.78	7.1	0.3	17.8	2.1	119	0.1	0.1	0.2	32	2.88	0.066	11	73.6	0.95	8	0.014	<1	2.68	0.004	0.02	0.1	<0.01	3.6	<0.1	0.95	7	<0.5

Appendix 3
2005 Elemental Analyses - Comparison of Duplicate Analyses

Sample ID	LITHO		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se
	Rock Code	Zone	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm
ARD-GT10-2A ARD-GT10-2A	Ks-wa Ks-wa		2.1 1.8	43.7 44.9	6.8 5.7	84 83	<0.1 <0.1	82.5 78.8	25.6 24	381 368	3.91 3.81	122.7 105.9	0.7 0.6	2 1.5	4.6 4.3	52 47	<0.1 0.1	0.1 0.1	0.2 0.2	32 30	1.05 1.01	0.052 0.05	24 22	119.5 114.4	1.61 1.53	41 40	0.004 0.004	<1 1	2.42 2.32	0.021 0.02	0.16 0.15	0.1 <0.1	<0.01 <0.01	2.6 2.5	<0.1 <0.1	0.12 0.12	7 7	<0.5 <0.5
ARD-GT4-1A ARD-GT4-1A	Kwa'ser Kwa'ser																																					
ARD-GT7-1A ARD-GT7-1A	Ks-wa Ks-wa		2.1 2.1	38.9 40.5	6.3 6.4	81 86	<0.1 <0.1	69.6 69.5	22.1 22	361 365	3.67 3.71	54.4 58.1	0.7 0.7	1.8 2	4.9 5.1	57 61	0.1 0.1	0.1 0.1	0.1 0.2	23 25	0.87 0.89	0.051 0.053	24 25	104.7 106.2	1.46 1.49	44 46	0.003 0.003	1 1	2.05 2.07	0.025 0.025	0.14 0.15	<0.1 0.1	0.01 <0.01	2.3 2.4	<0.1 <0.1	0.08 0.07	6 6	<0.5 <0.5
ARD-GT9-3A ARD-GT9-3A	Kwa-s Kwa-s																																					
ARD-M03-497-4A ARD-M03-497-4A	Kwa-qv Kwa-qv		2.5 2.2	61.6 62.3	8.3 8.3	87 88	<0.1 <0.1	68.1 70.6	23.4 23.1	337 340	3.04 3.07	9.7 9.8	0.9 0.9	5.8 8.4	6.4 6.3	121 126	0.1 0.1	0.1 0.1	0.2 0.2	19 19	1.49 1.58	0.054 0.059	27 29	127.6 126	1.27 1.3	132 139	0.007 0.007	<1 <1	1.54 1.55	0.024 0.023	0.14 0.15	0.1 0.1	<0.01 <0.01	2.2 2.4	<0.1 <0.1	0.34 0.36	4 5	<0.5 <0.5
ARD-M04-518-2A ARD-M04-518-2A	Kwa Kwa		2 2.1	54.2 51.8	3.5 3.5	61 59	<0.1 <0.1	64.6 62.6	18.4 18.5	222 221	2.76 2.69	8.5 9.5	0.8 0.8	3.4 0.7	5.5 5	30 31	0.1 0.1	0.1 0.1	0.2 0.1	33 32	0.56 0.55	0.047 0.043	26 25	135.3 131.5	1.16 1.13	58 54	0.028 0.027	<1 <1	1.49 1.44	0.041 0.043	0.12 0.11	0.2 0.2	0.01 <0.01	2.9 2.6	<0.1 <0.1	0.23 0.23	6 6	<0.5 <0.5
ARD-M98-196-1A ARD-M98-196-1A	Mv Mv																																					
ARD-M98-197-1A ARD-M98-197-1A	Mv Mv		1 0.8	119.5 120.2	12.1 12.2	127 126	<0.1 0.1	96.9 97.4	43 42.9	2140 2128	5.82 5.87	2374 2400	0.1 0.1	72.6 184.4	0.5 0.5	62 63	0.3 0.3	0.1 0.2	0.1 0.1	50 48	7.95 8.07	0.029 0.03	1 1	89 85.3	2.14 2.17	18 19	0.002 0.002	1 3	1.49 1.5	0.034 0.032	0.15 0.15	0.2 0.2	<0.01 <0.01	7.3 7.1	0.1 0.1	0.54 0.55	4 4	0.6 <0.5
ARD-M99-336B-1A ARD-M99-336B-1A	Kwa Kwa																																					

Appendix 4: Shake Flask Extraction Test Results

Appendix 4: Shake Flask Extraction Test Results

Sample Name: Group			ARD-M03-497-1A IF	ARD-M98-196-1A MV	ARD-M98-265-1A SEDS
Parameter	Method	Units			
nanopure water volume		mL	750	750	750
Sample Weight		g	250	250	250
pH	meter		7.80	7.91	7.83
Conductivity	meter	uS/cm	211	247	170
Acidity (to pH 4.5)	titration	mg CaCO3/L	#N/A	#N/A	#N/A
Total Acidity (to pH 8.3)	titration	mg CaCO3/L	5	3.5	3.5
Alkalinity	titration	mg CaCO3/L	90	100	82
Sulphate	Turbidity	mg/L	8	21	4
Ion Balance					
Major Anions	#N/A	#N/A	1.97	2.44	1.72
Major Cations	#N/A	#N/A	2.16	2.60	1.77
Diff. (%)	#N/A	#N/A	4.7%	3.2%	1.4%
Dissolved Metals					
Hardness CaCO3		mg/L	101	116	72.6
Aluminum Al	ICP-MS	mg/L	0.037	0.36	0.11
Antimony Sb	ICP-MS	mg/L	0.001	0.0024	0.0022
Arsenic As	ICP-MS	mg/L	0.0002	0.038	0.015
Barium Ba	ICP-MS	mg/L	0.0037	0.005	0.003
Beryllium Be	ICP-MS	mg/L	< 0.0002	< 0.0002	< 0.0002
Bismuth Bi	ICP-MS	mg/L	< 0.0002	< 0.0002	< 0.0002
Boron B	ICP-MS	mg/L	0.01	0.05	0.01
Cadmium Cd	ICP-MS	mg/L	< 0.00004	< 0.00004	< 0.00004
Calcium Ca	ICP-MS	mg/L	36	33.5	22.8
Chromium Cr	ICP-MS	mg/L	< 0.0002	0.0002	< 0.0002
Cobalt Co	ICP-MS	mg/L	< 0.0002	0.0005	< 0.0002
Copper Cu	ICP-MS	mg/L	0.0005	0.075	0.0022
Iron Fe	ICP-MS	mg/L	< 0.01	< 0.01	< 0.01
Lead Pb	ICP-MS	mg/L	< 0.0002	0.0089	0.0002
Lithium Li	ICP-MS	mg/L	0.0008	0.0027	0.0017
Magnesium Mg	ICP-MS	mg/L	2.71	7.78	3.78
Manganese Mn	ICP-MS	mg/L	0.017	0.044	0.033
Mercury Hg	CVAA	ug/L	< 0.02	< 0.02	< 0.02
Molybdenum Mo	ICP-MS	mg/L	0.0005	< 0.0001	0.0006
Nickel Ni	ICP-MS	mg/L	0.0004	0.0053	0.0016
Phosphorus PO4	ICP-MS	mg/L	< 0.03	< 0.03	< 0.03
Potassium K	ICP-MS	mg/L	1.12	4.9	6.65
Selenium Se	ICP-MS	mg/L	< 0.0002	< 0.0002	< 0.0002
Silicon SiO2	ICP-MS	mg/L	0.67	1.1	1.32
Silver Ag	ICP-MS	mg/L	< 0.00005	< 0.00005	< 0.00005
Sodium Na	ICP-MS	mg/L	2.6	3.66	3.52
Strontium Sr	ICP-MS	mg/L	0.181	0.064	0.091
Tellurium Te	ICP-MS	mg/L	< 0.0002	< 0.0002	< 0.0002
Thallium Tl	ICP-MS	mg/L	< 0.00002	< 0.00002	< 0.00002
Thorium Th	ICP-MS	mg/L	< 0.0001	< 0.0001	< 0.0001
Tin Sn	ICP-MS	mg/L	< 0.0002	< 0.0002	< 0.0002
Titanium Ti	ICP-MS	mg/L	< 0.0002	0.0006	< 0.0002
Uranium U	ICP-MS	mg/L	0.0001	< 0.0001	< 0.0001
Vanadium V	ICP-MS	mg/L	< 0.0002	0.0003	0.0003
Zinc Zn	ICP-MS	mg/L	< 0.001	0.19	0.003
Zirconium Zr	ICP-MS	mg/L	< 0.002	< 0.002	< 0.002

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