

#### Geological, Geochemical and

#### Prospecting Report Undertaken On The

#### **QCM Property**

Omineca Mining Division Manson Creek Area, British Columbia

> Latitude: 55 41' N Longitude: 124 35' W NTS: 93 N / 10E BCGS: 93N 068

Prepared For: Royal County Minerals Ltd. (Operator) Viceroy Resources (Owner)

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> > April 65660 GICAL SURVEY BRANCH ASSESSMENT REPORT

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#### I. SUMMARY AND RECOMMENDATIONS

The QCM 1 and 2 claims cover an extensive zone of stockwork and possibly stratabound gold mineralization and related hydrothermal alteration developed in mafic volcanic rocks and related epiclastic rocks. They are located in the road accessible Manson Creek-Germansen Landing gold camp of northern British Columbia.

In 1983, Anaconda delimited an open-ended zone of mineralization present with dimensions of 300 meters long by up to 130 meters wide averaging 0.6 g/t gold to a depth of 80 meters by 32 percussion drill holes. Within this zone are numerous higher-grade intersections, for example percussion drill hole #14 returned a 36.5 meters section averaging 1.31 g/t gold. Other more restricted higher-grade intervals, which grade between 2 to 8 g/t gold are also present, suggests that further work may outline significant tonnages of higher-grade mineralization (Fox, 1995).

Later in 1983, Anaconda drilled 4 reverse circulation holes and 3 diamond drill holes, which generally returned lower overall values than the percussion holes. A careful analysis of assaying and sampling methods to date is required to determine the reasons for the discrepancies between percussion drill hole assays and diamond and reverse circulation drill hole assays. At the present time, the nature of the gold mineralization and its mineralogical association, if any, are not understood (Fox, 1995).

Fox (1995) recommended additional geological mapping and limited trenching for comparative analysis with previous drilling, which would provide insight into the controls of mineralization, additionally Fox recommended a mineralogic study of the gold mineralization. To indicate the mode of mineralization, conventional fire assaying and bottle rolls should be utilized.

The QCM property has seen extensive work by Noranda and Anaconda. However, this work has not been reported publically. Six diamond drill holes completed by Noranda in 1973, 32 percussion holes and three diamond drill holes completed by Anaconda in 1983 were not filed for Assessment credits.

The 2002 field program involved the collection of 17 rock and 77 soil samples, which were taken from September 24<sup>th</sup> to 28<sup>th</sup>, 2002. This program resulted in an expenditure of \$16,050. A program consisting of compilation and acquisition of previous data, remote sensing, detailed grid geochemistry and rock sampling is proposed and estimated to cost \$53,500. Contingent upon the success of this work systematic trenching and drilling is then recommended.

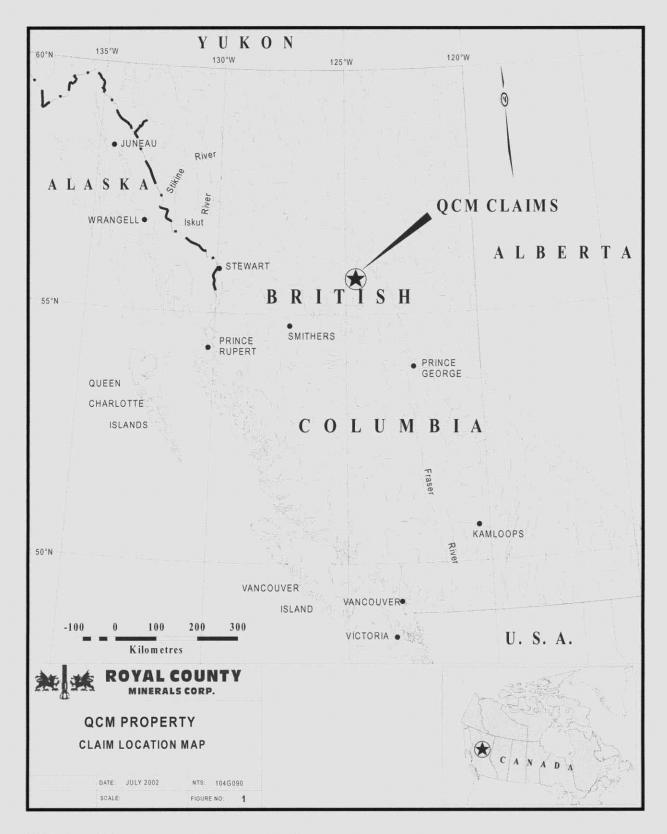
# II. LOCATION AND ACCESS

The QCM property is situated within the Omineca Mining Division of north central British Columbia, approximately 250 kilometers north-northwest of Prince George or alternatively 7 kilometers northwest the village of Manson Creek (Figure 1). The claims are located on N.T.S map sheet 93N/10 E or B.C.G.S Map sheet 93N 068 at latitude 55 41' north and longitude 124 35' west.

An extensive network of logging roads out of Mackenzie and Fort St. James, including the main access into the Kemess Mine, provide good access into the Manson Creek-Germansen Landing area. Many of these roads have been recently upgraded; travel time to Mackenzie is approximately 2 hours.

Further access into the claims is via a network of well maintained forestry and resource roads that traverse the claims. Access into the main showing, the QCM, which is near the center of the claims, is via a 1 kilometer cat road that was built during previous exploration programs. This road was brushed out during the 2002 field program allowing 4 by 4 access to the main showings.

The Motherlode showing is located on the south bank of the Germansen River, access is gained on foot from a well maintained logging road down an old steep cat road for a distance of approximately 300 meters. It is noted that the actual location of the Motherlode is approximately 400 meters upstream of where plotted on the current Minfile (6174130mN, 399416mE).



# III. TOPOGRAPHY AND PHYSIOGRAPHY

The general area is drained by the Omineca River in the north and the Germansen River system in the south. Most of the area is forested with only the regions around Germansen Mountain, Plughat Mountain and Nina Creek extending above treeline (Ferri and Melville, 1988).

In the Germansen Landing to Manson Creek area elevations generally range from 800-1300 meters and form gently rolling hills. Elevations on the claims range from 900 meters on the Germansen River near the Motherlode showing in the NW corner of the claims to 1200 meters on the east-northeast trending ridge crest at the QCM showing in the central portion of the claims. Topography is considered very subdued due to a masking of glacial till and is only moderate to steep along the canyon created by the Germansen River.

Vegetation primarily consists of jackpine, which is commercially harvested. In less well drained areas spruce, balsam and willows occur. An example of this vegetation is in the southeast corner of the claims where swampy areas are noted near the headwaters of Slate Creek.

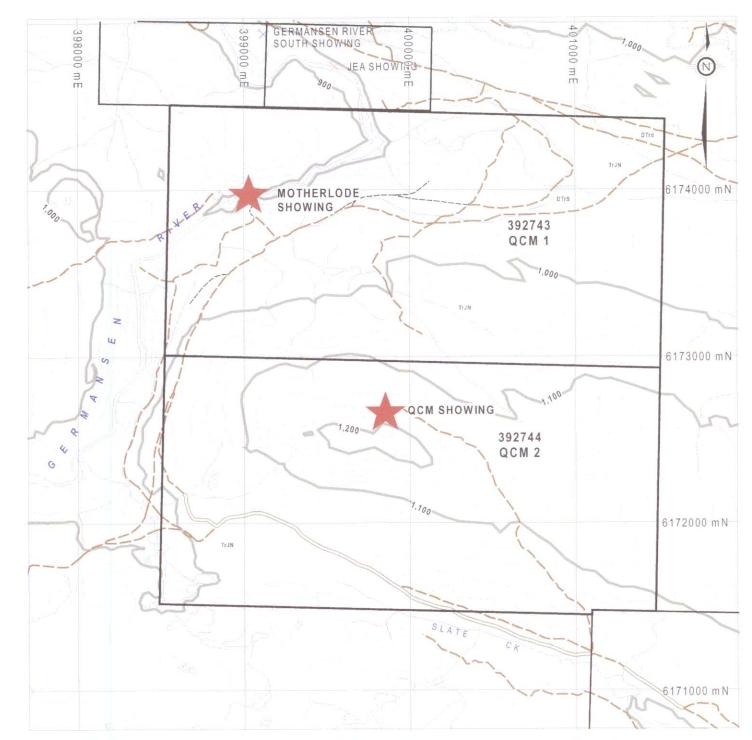
#### IV. CLAIM DETAILS

Viceroy Resources acquired the contiguous QCM 1 and 2 claims by staking on April 15-16, 2002. The claims expand over 36 units and approximately 900 hectares (Figure 2). The claims are in the Omineca Mining Division and are tenure numbers 392743 and 392744 (Table 1). These claims later formed part an option agreement with Royal County Minerals.

Tenure #	Claim Name	Owner	Map #	Status	Mining Division	Area Tag #		
392743	QCM 1	127898	093N10E	2003.04.16	15 OMINECA	18 units 221327		
392744	QCM 2	127898	093N10E	2003.04.16	15 OMINECA	18 units 221328		
Table 1 QCM property claim information.								

The claims have not been legally surveyed however the position of the legal corner post has been verified by handheld G.P.S. during the 2002 field program to be accurately

located on government claim maps. All identification posts have been placed and claim lines were noted to be in accordance with the Mineral Tenure Act. Numerous placer claims occur in the area and the current QCM claims are covered by placer claims held by Angel Jade Mines of Smithers.





## V. HISTORY

Placer gold was discovered on the Germansen River in 1870 and later on the Manson River and its tributaries the following year, since then production has been almost continuous. Current placer operations are in operation on Slate Creek and Germansen River near the claims. Intensive prospecting of the area eventually led to the discovery of a number of lode gold and silver occurrences.

In 1972, Sullivan & Rogers of Toronto sampled anomalous gold, silver, copper and zinc from soil and rock geochemistry and outlined two large anomalous trends on the current QCM claims (Assessment Report 4245). This geochemistry program was followed up later in 1972 by IP and resistivity surveys (Assessment Report 4246). This work extended over 100 km of grid lines and resulted in two extensive anomalous gold trends, each more than one thousand meters long, with soil samples returning up to 2.95 g/t gold.

In 1973, Rio Tinto optioned the claims and completed six diamond drill holes. Drill targets appear to have been the chargeability anomalies. Rio Tinto may have been drilling base metal targets. The results of this drilling were not filed but it has been reported that one of the drill holes, which intersected the more easterly of the two major carbonate alteration zones, returned a 0.79 meter wide zone grading 4.25 g/t gold. Claims in the area lapsed, and were re-staked in 1979 by Vital Mines; these were allowed to lapse just one year later.

In 1980, Golden Rule Resources of Calgary staked the QCM claims and contracted Taiga Resources to complete geological mapping, soil and rock geochemistry, as well as a limited ground magnetic and ground VLF-EM survey. Their work is summarized in Assessment Reports 8956 (OPEC Claims) and 9954 (QCM Claims) respectively. The soil geochemistry program confirmed the gold anomaly, as outlined by Sullivan & Rogers in 1972, additionally; it outlined multi-element soil anomalies on the OPEC 2 and 3 claims. At QCM, two anomalous gold zones, each approximately 3000 meters long by 50 to 300 meters wide with gold in soils up to 2950 ppb gold were discovered (Fox, 1981).

Anaconda Canada optioned the Manson Creek Property from Golden Rule in 1982 and carried out extensive geological mapping, detailed soil and rock geochemical sampling, ground magnetic and VLF-EM surveys and trenching. This work delineated two zones, the Flag showing, which is now called the Motherlode or Flagstaff, and the Central showing, which is now called the QCM. The QCM is 200 meters by 300 meters and open to the southeast with gold in soils ranging from less than 10 ppb to 4200 ppb (Riccio et al., 1982). Bedrock below and around the Central Zone consists of quartz-carbonate altered epiclastics of the Takla Group. Values ranging between 1800 to 3700 ppb gold were returned from two consecutive 1 meter chip samples in Trench 1. A total

of 4 trenches totalling 300 meters were completed, however only Trench 1, which was 6 to 8 meters deep, was successful at reaching bedrock.

These encouraging results were followed by a 32 percussion drill hole program, of which the work was not filed for assessment, and a 4 reverse circulation drill hole program including 414 meters of drilling (Assessment Report 11627) and a 3 NQ sized diamond drill hole program including 422 meters of drilling, which was not filed for assessment either. Fortunately the results of the percussion and diamond drill program were briefly summarized in later assessment reports numbered 19594 and 24349.

In 1992, Golden Rule allowed the claims to lapse. Mike Fox, who worked on the property for Golden Rule since 1980, staked the Au 1-12 two-post claims in 1993. Fox completed a program of re-mapping, analysis of existing data, and re-evaluation of the controls of mineralization in late 1994 to 1995. Four line kilometers of grid line were re-established to provide ground control. This program concluded that a significant potential gold resource, of 0.6 g/t gold extending over an area 300 meters long by 130 meters wide by 80 meters deep, justified further exploration on the property. In 1995, Fox recommended:

- A careful analysis of the assaying and sampling methods used to date to determine the reasons for the discrepancies between percussion drill hole, diamond drill hole, and reverse circulation drill hole assays.
- Polished thin section analysis. At the present time, the nature of the gold mineralization and its mineralogical associations are not understood.
- > Further geologic mapping with emphasis on kinematic indicators.
- Limited trenching in the vicinity of percussion hole #14, in order to obtain a bulk sample for comparative assay analysis.
- Contingent upon the results of this work, more detailed drilling should be undertaken to better delineate higher grade zones, which are present by the results of several of the percussion drill holes (Fox, 1995).

## VI. REGIONAL GEOLOGY

The Germansen Landing area lies largely within the Intermontane Belt with the Omineca Belt to the northeast. All rocks to the west of this tectonic boundary, which is a west side down normal fault, are considered allochthonous with respect to the North American craton.

The Omineca Belt is represented by miogeosynclinal rocks of the Proterozoic Ingenika Group and is a sequence of carbonates and siliciclastics of Lower to Middle Paleozoic age and their highly metamorphosed and deformed equivalents in the Wolverine Complex (Ferri and Melville, Paper 1989-1).

The Intermontane Belt consists of Late Triassic to Early Jurassic Takla Group (mapcode TrJN and equivalent to Nicola), Middle Paleozoic to Early Triassic Slide Mountain Group (mapcode DTrS) (Figure 3) and possible Harper Ranch equivalents, which are Middle to Late Paleozoic in age. The Early Cretaceous Germansen Batholith (mKqc) and the Triassic to Cretaceous Hogem Batholith intrude all these rocks. The Slide Mountain Group is composed of a sequence of sedimentary, volcanic and igneous rock, which represents a deep-water setting. The Takla Group is a thick sequence of predominantly pyroclastic and epiclastic rocks with lesser mafic flows. These are subalkaline to calcalkaline in composition and represent an arc assemblage. These lie atop carbonate, epiclastics and mafic volcanics, which have tentatively been assigned to the Harper Ranch Group (Ferri and Melville, 1988).

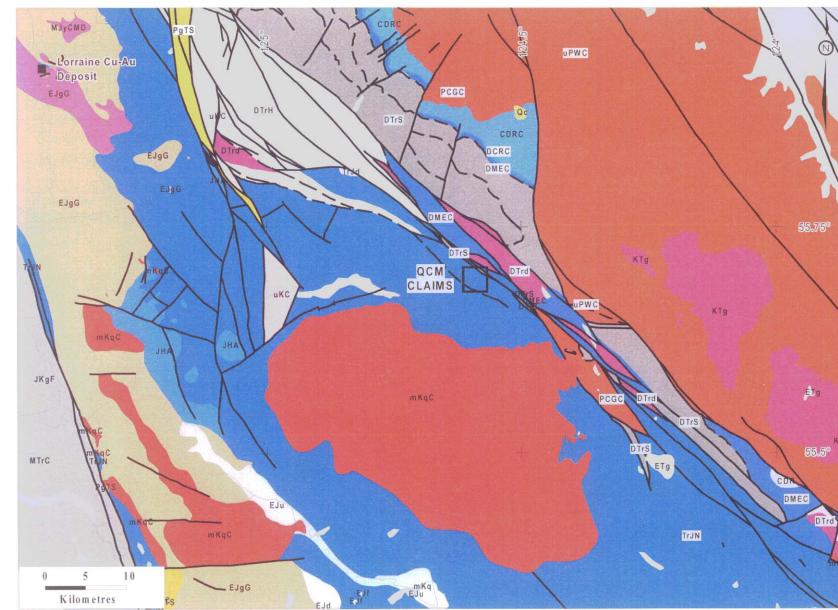
The Harper Ranch Group (Ferri and Melville, 1988) have seen further revision as evidenced on the Map Place Tectonic Assemblage Map and have been subdivided into the Evans Creek Limestone (DMEC) comprised of limestone, marble, calcareous sedimentary rocks and the Lay Range Assemblage volcaniclastic rocks. In any case these rocks underlie argillites, conglomerates and volcanic sandstones of the Takla Group.

The Slide Mountain Group of Ferri and Melville (1988) in the Germansen Landing area was subdivided into a lower, middle and upper divisions. The lower division was composed of phyllite, argillite, calcareous phyllite and carbonate with lesser quartzose siltstone or quartz wacke, ribbon chert and carbonate. Lenticular bodies of altered ultramafite occur within this unit, primarily along the Manson Fault Zone. Later revisions have separated out the Manson Lake Ultramafics (mapcode DTrS) (Figure 3). The Middle Division of Ferri (1988) was also known as the siliceous sediment division and is composed of argillite, siliceous argillite, siltstone and cherts, with lesser mafic volcanics, volcaniclastic, sandstone, conglomerate and ribbon chert. This Middle Division seems to correlate best now with the Big Creek Group, which consists of mudstone, siltstone, shale, and fine clastic rocks. The Upper Division of Ferri (1988) is comprised of massive to pillowed basalt and volcanic breccia with minor sequences of argillite and chert. This Upper Division occurs to the north of Germansen Landing

The Upper Paleozoic Wolf Ridge Gabbro (upWC) with diorites and gabbros correlates with unit Wolf Ridge Gabbro of Ferri (1988). These intrusions are very similar in appearance to gabbro/diorite bodies (DTrd) within the middle division of the Slide Mountain Group and are thought to be coeval with them.

The Upper Cretaceous Germansen Batholith comprises foliated hornblende biotite granodiorite, and it commonly contains large potassic feldspar phenocrysts aligned along the foliation.

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Figure 3 Regional Geology

Source: BC Tectonic Assemblage Map

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# VII. REGIONAL MINERALIZATION

In 1870, placer gold was discovered on the Germansen River and later on the Manson River and its tributaries the following year, since then production has been almost continuous. Current placer operations are in operation on Slate Creek near the southeastern portion of the claims and the north bank of the Germansen River across from the Motherlode showing. Intensive prospecting of the area eventually led to the discovery of a number of lode gold and silver occurrences.

Except for a few copper showings within the Takla volcanics, most of the prospects in the area are associated with the Manson Fault zone. Precious metals are found in sulphide-bearing quartz-carbonate veins associated with listwanites along the fault zone, such as the Farrel, Flagstaff, and Motherlode showings, as well as disseminated in altered rocks of the Takla and Slide Mountain groups, such as the QCM showing. The listwanitic alteration is characterized by disseminated and/or porphyroblastic ankerite and pyrite with accompanying sericitization and silicification of the host rocks.

In the immediate map area ultramafic bodies are not identified north of the Omineca River or south of Gaffney Creek, this is also the known extent of lode and placer showings associated with ultramafite bodies. The association of gold bearing veins with listwanites and serpentinized ultramafics in ophiolites of suture zones has long been known and also appears to be the case in the Manson Creek- Germansen landing area.

## VIII. PROPERTY GEOLOGY

Bedrock exposures are scarce and outcrops occur mainly along stream drainages and ridge crests on the property. Average overburden depths are only a few meters in areas of higher elevation, but a thin, even mantle of till and colluvium effectively masks most outcrop (Fox, 1995). Colluvium cover hindered trenching in 1982, only Trench 1, which was 6 to 8 meters in depth, was successful in reaching bedrock.

Ten units have been mapped on the property by Fox (1995) and include:

- 1) Altered Ultramafic rocks;
- 2) Deformed Black Graphitic Phyllite;
- 3) Altered Mafic Volcanic Rocks;
- 4) Deformed Sedimentary Rocks;
- 5) Quartz-carbonate-mariposite assemblage;
- 6) Deformed Black Graphitic Phyllite;
- 7) Feldspar Porphyritic Mafic Volcanic Rocks;
- 8) Mafic Tuffs;
- 9) Altered and Unaltered Mafic Epiclastic Volcanic Rocks; and
- 10) Quartz-Ankeritic Carbonate +/- Pyrite Alteration superimposed on unit 9.

These units generally occur from north (unit 1) to south (unit 9) and have a northwest to west-northwest strike and dips of 30-60 degrees to the SW. In the vicinity of the area drilled by Anaconda in 1983 quartz veins and stringers occur predominantly in a sub vertical to southerly dipping joint set trending northeast to east northeast. Schistocity trends 115-140 degrees, sub parallel to the strike of bedding but dips steeply to the south. Large-scale structures such as major folds and faults have not been defined at the property, but highly deformed graphitic phyllites and sericite-ankerite schists undoubtedly mark the traces of major faults. Many of these faults are considered to be thrust faults (Fox, 1995).

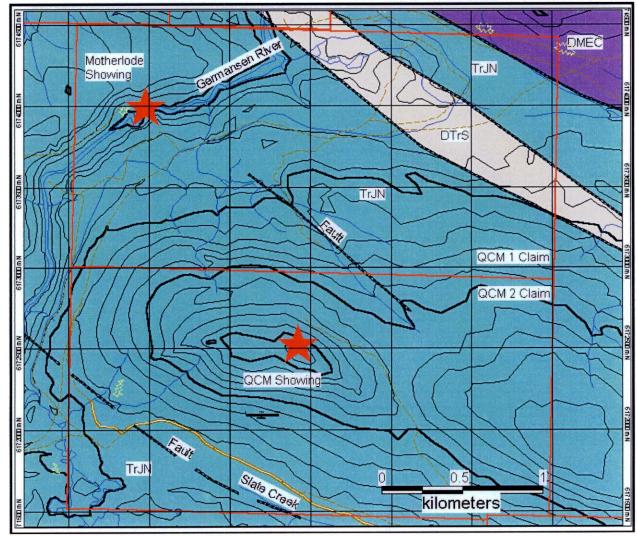


Figure 4 Property geology

### IX. PROPERTY MINERALIZATION AND ALTERATION

#### A. QCM Showing

The principal feature of economic interest within the property is an extensive zone, the QCM showing (Minfile 93N 200), of gold mineralization associated with an area of intense carbonate alteration. The dimensions of the QCM are at least 25 meters to 200 meters wide by 300 meters long; this area is overprinted by a weak stockwork of quartz +/- ankerite +/- pyrite stringers (Fox, 1995) (Figure 2).

In 1983, Anaconda completed a 32-hole percussion drill program that was drilled in three target areas. Twenty-three of the drill holes, totaling 2043 meters, were drilled in the "Central Zone", which is now called the QCM showing. It is thought that more percussion holes may have also been drilled, as a figure in Assessment Report 24349 also shows percussion holes 33 and 34 in the area of the Flag showing, now called the Motherlode or Flagstaff Zone.

Widespread gold enrichment within the quartz-carbonate alteration zone was confirmed by the drilling, with some of the best values occurring in percussion holes 14,18, 22, and 23. These are located 200 meters east-west trending area 50 meters south of Trench 1. Percussion drill hole 14 returned a 36.5 meters section averaging 1.31 g/t gold, drill hole 18 returned a 27.49 meters section averaging approximately 1 g/t gold, drill hole 21 returned a 29 meters section averaging 0.7 g/t gold and drill hole 5 returned a 21 meters section averaging 0.73 g/t gold (Fox, 1995). Nearly all the drill holes returned geochemically anomalous gold values.

Four RC holes were also drilled in 1983 by Anaconda and were located within 50 meters of Trench 1. These holes penetrated quartz-carbonate altered epiclastics of the Takla Group with accompanying quartz veins (Riccio, 1983). Median gold values were 130 ppb in drill hole 4 to 170 ppb in drill hole 1. In drill hole 2, a 5 meter section returned an average of 1.8 g/t gold with a 1 meter section of 3.2 g/t gold. Several one meter sections returned over 1 g/t gold. Generally the gold anomalies coincide with pyrite content and quartz veinlets, suggesting stockwork as opposed to vein mineralization.

Anaconda completed three NQ diameter diamond drill holes totalling 421.8 meters in 1983; this was an attempt to correlate the RC and percussion drill holes as well as to provide some structural information. Detailed logging of the core indicates several generations of quartz veining are present and that gold content generally shows an inconsistent relationship with density of quartz stringers or veins and/or pyrite content. This inconsistent relationship suggests that there is primary gold enrichment in an early generation of pervasive veining in "epiclastic-hosted" or bedded quartz-carbonate, this is followed by a secondary gold enrichment in a later or "overprinted" stockwork of

quartz-pyrite stringers and veins which exhibit haloes of silicification, pyritization and recrystallization developed in the earlier guartz-carbonate host rock (Fox, 1989). Unfortunately the diamond drill core is no longer available for examination (Fox, 1995). There was generally poor agreement in the grades reported by samples from different types of drilling, perhaps in part explainable by a high percentage of lost core through mineralized sections in the diamond drill holes, and the so called "nugget effect" (Fox. 1995). A comparative analysis of gold values obtained from percussion drill hole 83-14 twinned by diamond drill hole DDH-2 shows poor agreement in gold grades. Gold values from the percussion drill hole were significantly higher than values from the diamond drill hole. The reasons for this discrepancy are not fully understood, although it is conceivable that selective enrichment of heavy minerals may have occurred in the cuttings of the percussion hole as a result of contamination of the heavy minerals. The wider sample interval used in the percussion hole could also be expected to have a smoothing effect on the profiled data. Other contributing factors to the discrepancy of gold grades between the percussion drill hole and the diamond drill hole are: better recoveries in the diamond drill hole; slightly different orientations and collar positions; discontinuities in the mineralized zones; and, uncertainties in the statistics of geochemical analyses (Fox, 1989). Reverse circulation and diamond drilling confirmed the gold mineralization, however, they returned more erratic values than the percussion drilling, with samples ranging up to 8.47 g/t gold over a 1 meter interval (Fox, 1995).

Based on the more consistent assays reported by samples from percussion drill holes, Anaconda estimated that there was a zone of mineralization present with dimensions of 300 meters long by up to 130 meters wide averaging 0.6 g/t gold to a depth of 80 meters. Within this zone are numerous high-grade intersections, which are noted above. Other more restricted higher-grade intervals, which returned 2 to 8 g/t gold are also present, suggests that further work may outline significant tonnages of highergrade mineralization (Fox, 1995).

Rock Geochemical sampling of available outcrop suggests a relationship between higher gold assays and quartz +/- pyrite stringers but close inspection of diamond drill hole data indicates that this is not always a consistent relationship. A number of samples from outcrops returned high gold values even when no quartz stringers were noted and some well pyritized samples returned low gold assays.

#### **B.** MOTHERLODE SHOWING

The Motherlode showing (Minfile 93N 024) is located just upstream from the big bend in the Germansen River and is found on both sides of the river (Assessment Report 3956) (Figure 2). This showing is composed of tetrahedrite-chalcopyrite-pyrite bearing quartz veins found within phyllites of the Middle to Upper Triassic Slate Creek Formation, which is part of the Middle Triassic to Lower Jurassic Takla Group. The veins are up to 1 meter in width and strike 120 degrees, dipping 70 degrees to the west. These veins

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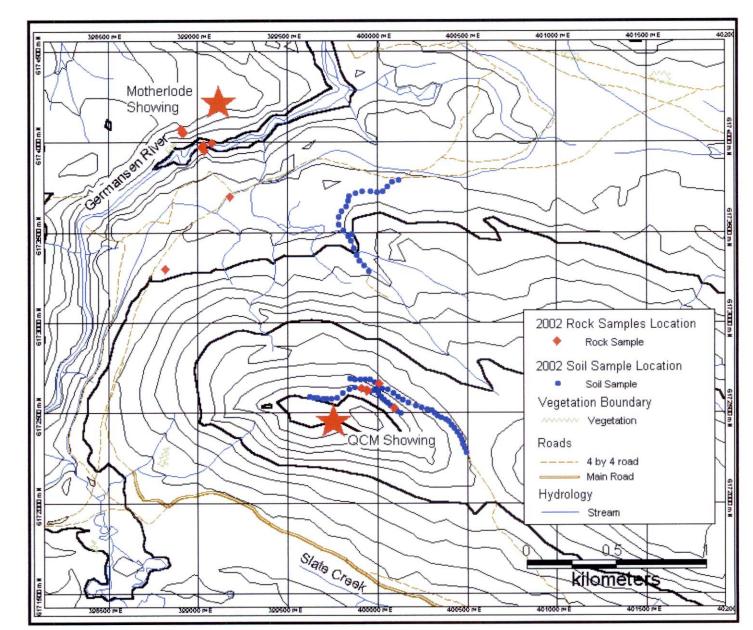
cut across the dominant northwest striking and steeply dipping foliation. The rocks around the veins vary from weakly carbonatized phyllites, containing ankerite porphyroblasts, to mariposite-ankerite-quartz-sericite schists. These rocks are cut by shear zones parallel to the foliation, and close to the showing are in fault contact with carbonatized mafic and ultramafic rocks. These rocks lie within the right-lateral Manson fault zone of probable Cretaceous to Tertiary age. Grab samples assayed 1.68 grams per tonne gold and 267.67 grams per tonne silver (Assessment Report 8956). A review of Assessment Report 24349 indicates that Noranda drilled a diamond drill hole in 1973. Additionally, Anaconda drilled percussion drill holes 33 and 34 in the vicinity, neither of these results have been publicly filed.

# X. 2002 FIELD PROGRAM

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At QCM Property 15 mandays, including travel was spent in the collection of 17 rock and 77 soil samples, with an expenditure of \$16,050. This work entailed check soil sampling near the QCM and Motherlode showings and an area between the two, along with geological review and rock sampling.

Rock and soil sampling was used in this evaluation of the QCM Property and were collected by trained geological staff to represent the rocks and soils in that particular area. The rock samples were described and put into sealed plastic bags for eventual transfer to Acme Laboratories in Vancouver. The soil samples were put into labeled kraft bags and later put into securely fastened rice sacks. All samples remained in Keewatin Consultants 2002 personnel possession and were later delivered by Bandstra Trucking to Acme Labs in Vancouver. Keewatin personnel have no reason to believe that these samples were tampered with.





# XI. 2002 FIELD PROGRAM RESULTS

Rock sampling results indicate that three samples returned values greater than 1 g/t gold at 2.6, 1.76 and 1.12 g/t gold. Two of these samples were taken from the Motherlode showing along the Germansen River and one sample came from a small guartz vein near the Central Showing.

Soil samples returned exceptionally high gold values with 36 out of the 77 soils returning values greater than 100 ppb gold; the highest value was 4093 ppb gold. For the brief 2002 exploration program, soil samples were taken along the exploration roads and verify the existence of a substantial gold in soils anomaly that was partially outlined in the 1970's. Some of these soils appear to be sourcing an area upslope of the previous drilling and may indicate better potential exists south of the previous drilling.

#### A. QCM SHOWING EXPLORATION RESULTS

A total of 7 rock samples and 54 soil samples were taken in the area of the QCM showing (see Figure 6). The seven rocks samples were taken of predominantly quartz-carbonate veined and altered medium grained sediments (see Appendix III, samples 126732,33, 35,36,38) with sample 126734 a grab sample of a 2-3 cm quartz vein and sample 126737 a quartz-carbonate veined conglomerate. Four of the samples returned values> 300 ppb gold (see Table 2) and all have been described as quartz-carbonated veined arenites with variable amounts and sizes of disseminated pyrite.

AU_PPB	AG	CU	PB	ZN
450	1.0	110.0	-3.0	51
670	1.1	179.0	3.0	64
610	0.8	156.0	-3.0	51
375	0.7	51.0	3.0	57
	450 670 610	450         1.0           670         1.1           610         0.8	450         1.0         110.0           670         1.1         179.0           610         0.8         156.0	450         1.0         110.0         -3.0           670         1.1         179.0         3.0           610         0.8         156.0         -3.0

Table 2 Anomalous Gold Rock sample results from the QCM showing Area

Out of the total of 54 soil samples taken in the QCM area 29 range from 100-500 ppb gold, 1 from 500-1000 ppb gold and two > 1000 ppb gold, all are considered highly anomalous and very encouraging (see Figure 6).

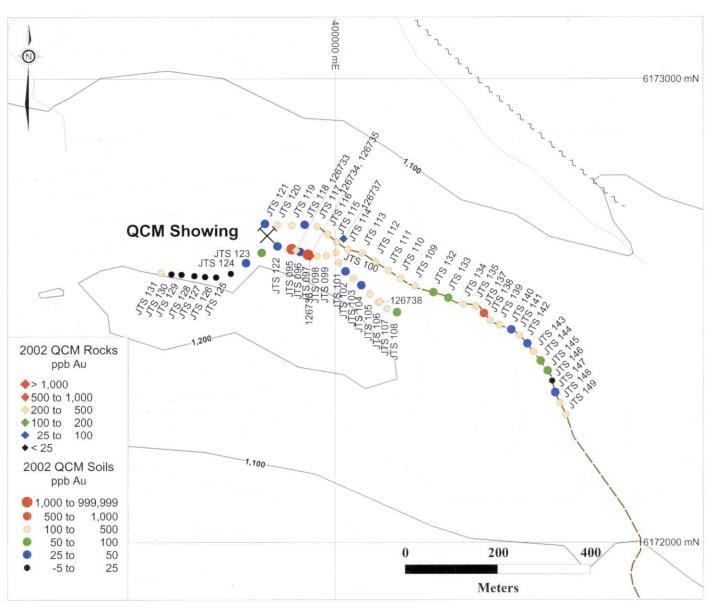


Figure 6 QCM showing area soil and rock sample locations.

#### **B.** MOTHERLODE SHOWING EXPLORATION RESULTS

A total of 9 rock samples were taken in the immediate vicinity of the Motherlode Showing, which was found to be located approximately 400 metres upstream of where located on the Minfile maps. One quartz vein float sample (126743) was also taken approximately 300 metres to the south east along possible strike in a low lying logged off area.

While prospecting for the showing up the Germansen River prominent quartz vein float was noted as one approached the showing and anomalous samples 126691 and 126692 were taken (see Table 3). On both the north and south banks slightly upstream from this point a major quartz vein and large quartz blocks up to 3 metres were noted. This large vein pinches and swells considerably and conforms to the regional schistosity striking northwest and dipping moderately to the southwest.

A skidder trail has been established down the steep canyon banks from the south and has exposed the vein along its strike where it was sampled across in three places over a strike of 15 metres. Samples 126739-126741 varying in width from 0.6 - 1.5 m, these however failed to return any significant results. Sample 126742 was also taken in the area but appears to be from a different generation of veining as it is flat lying and contains tetrahedrite, it returned anomalous values of gold, silver, copper and zinc ( see Table 3).

The Germansen River was forded across to sample the continuation of the Motherlode vein on the north bank. Three samples were taken in this area (126744-746) and they generally returned higher gold values over larger widths then on the south side of the river. These samples were of the main quartz vein (126744) with tetrahedrite and sheared and quartz veined wallrock (samples 126745, 46). Approximately 200 metres on trend to the northwest an active placer operation was noted on a small bench above and is probably exploiting the weathered portions of the Motherlode vein. Road access into this operation must come in from the Germansen Landing mainline road.

SAMPLE_ID	AU_PPB	AG	CU	PB	ZN
126691	2570	487.3	9467.0	11.0	1868
126692	160	2.3	61.0	4.0	49
126742	130	42.4	787.0	5.0	2653
126744	1780	291.2	5586.0	5.0	899
126745	123	7.6	161.0	3.0	77
126746	88	3.2	67.0	99.0	63

Table 3 Anomalous Rock sample results for the Motherlode Showing.

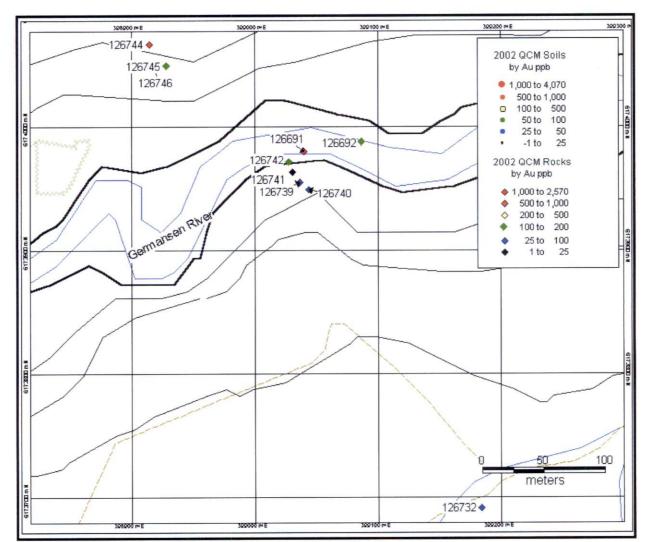


Figure 7 Rock sampling results from the Motherlode Showing area.

#### C. OTHER SOIL SAMPLING RESULTS

A total of 23 soil samples were also taken in an area approximately 500-1000 metres north of the QCM showing and on the possible southeast trend of the Motherlode occurrence (see Figure 8). In this area quartz carbonated rocks were previously mapped and some road construction and previous drilling was conducted. A graphitic shear zone was noted along the road close to the creek and represents a northwest trending fault zone. Samples in this area returned moderately anomalous results (when compared to the highly anomalous soils at the QCM showing) with five samples returning 100-500 ppb gold. Aside from a few outcrops and road cuts exposure is relatively obscured.

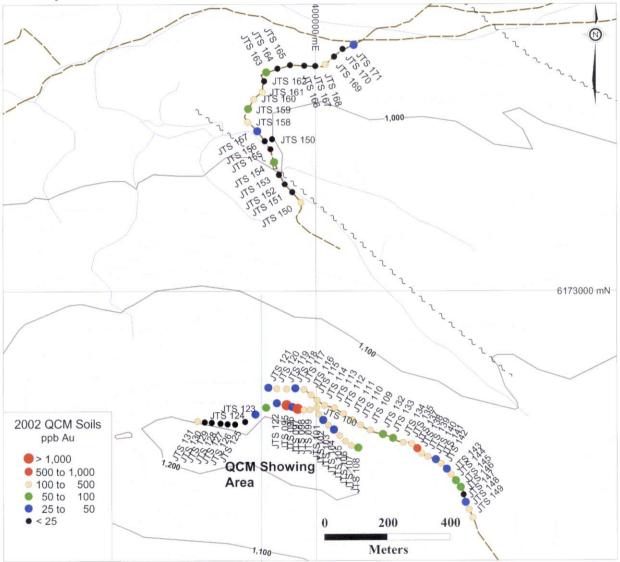


Figure 8 Soil sample results on the QCM property

# XII. RECOMMENDATIONS AND CONCLUSIONS

The exploration of the QCM property is at a moderate stage. It is the opinion of the author that the QCM property is underlain by an extensive and high order gold-in-soil anomaly(s) that has been previously tested by 9 diamond drill holes, at least 32 percussion holes and four reverse circulation holes.

Much of this work however was not filed for assessment credits and as such is not publicly available. Fortunately much of this work however has been summarized in later reports by previous claimholder Mike Fox.

Based on the more consistent assays reported by samples from percussion drill holes, Anaconda estimated that there was a zone of mineralization present with dimensions of 300 m long by up to 130 m wide averaging 0.6 g/t gold to a depth of 80 m. Within this zone are numerous higher-grade intersections. Percussion hole 14 returned a 36.5 m section averaging 1.31 g/t gold, hole 18 returned a 27.49 m section averaging approximately 1 g/t gold, hole 21 returned a 29 meter section averaging 0.7 g/t gold and hole 5 returned a 21 meter section averaging 0.73 g/t gold.

Although numerous programs were conducted over a vast regional area, it appears as if no detailed and systematic program was conducted at the main showing itself. Soil geochemical anomalies outlined in 1972 cannot be correlated with later trenching and drilling conducted in the 1980's. The 1980's geochemical program appears to have excluded the main showing area, yet there appears to be no way for this work to have accurately known the detailed location of the 1970's work. Work by Fox in 1995 appears to be the first time that a detailed grid was constructed over the main showing, and although Fox mapped the area, no geochemistry was conducted.

This brief 2002 field program has confirmed the high tenor of gold in soils at the main showing and at the same time indicated that anomalous soils may be sourcing areas upslope of the previous drilling.

Based on the 2002 field program and review of the currently available data, the following recommendations are made:

**1.** The QCM property's mineral potential is significant enough to warrant further work. It is recommended that an initial phase of compilation work be done, which incorporates all of the results obtained from previous work programs. An attempt needs to be made to acquire private reports on the property from either Golden Rule Resources and/or Mike Fox. This necessary compilation work his should be accomplished using a GIS system such as Mapinfo or Arcview.

**2.** Remote sensing analysis should be considered on the area. This could be done using either Landsat7 data or Aster data. Images that should be done are ratios, which

enhance FeOH alteration, as well as silicification and clay alteration. Additionally other images should be include structural analysis, geologic mapping for accurate delineation of the lithologies, and an integrated compilation image including structural, geochemical, geologic, and alteration mapping to delimit the most likely sources of mineralization on the property and thus develop better targets.

**3.** Based upon the results of this compilation and possible remote sensing phase which may lead to the development of new or under explored targets a surface geological and geochemical program is recommended. At the very least this program should focus on the immediate QCM showing area and use Mike Fox's grid as base. Differing geochemical methods may have to be selected for areas underlain by thick till accumulations.

**4.** Contingent upon success of these surface surveys, a more ambitious second phase of exploration should be considered. This would consist of systematic trenching, and light duty exploration drilling of 4-6 drill holes.

**5.** In Table 4 is an estimated budget for \$53,500 based on the proposed Phase 1 exploration; later contingent trenching is estimated at an all-inclusive rate of \$75/ meter with drilling at \$ 200/ meter.

Pre-field Compilation of Previous Data and Reporting	\$15,000.00
Field Labor	
Senior Geologist - \$450/day x 10 days	\$4,500.00
Project Geologist - \$375/ day x 10 days	\$3,750.00
Prospector - \$350/day x 10 days	\$350.00
Geological Assistant - \$300/day x 10 days	\$300.00
Total Labor:	\$8,900.00
Geochemical Analysis	
100 rock samples @ \$25/rock	\$2,500.00
50 overlimit fire assays @ \$10/ sample	\$500.00
500 soil samples @ \$25/sample	\$12,500.00
Rock Shipment	\$200.00
Total Geochemical Analysis:	\$15,700.00
Camp Costs	······
40 mandays total @ \$130/ manday (all inclusive)	\$5,200.00
Communication	\$250.00
Total Camp Costs	\$5,450.00
Transportation	
Mobilization (apportioned with other projects)	\$1,500.00
Truck Fuel	\$500.00
Truck Rental (10 days @ \$75/day)	\$750.00
Demobilization (apportioned with other projects)	\$1,500.00
Total Transportation:	\$4,250.00
Office and Reporting	
Geological Report Writing	\$2,500.00
Drafting, Computer	\$1,000.00
Report copying, plotting, printing, etc.	\$700.00
Total Office and Reporting	\$4,200.00
Total Expenditures	\$53,500.00

#### Table 4: Estimated budget for proposed work.

#### XIII. REFERENCES

- Evans, B.T: Digital Topographic Mapping (DTM) on the QCM 1-5 Claims, Golden Rule Resources, 1991 (Assessment Report 20854)
- Fominoff, P.; Lewis, M: Report on Induced Polarization Survey Manson Creek Project, Sullivan & Rodgers, 1972 (Assessment Report 4246)
- Ferri, Filippo: Energy Mines and Petroleum Resources Exploration in British Columbia, 1988, p. 139-142
- Ferri, Filippo and Melville, David: Energy Mines and Petroleum Resources Geological Fieldwork, 1988, p. 209-220
- Fox, Michael: Structural Geological Report on the gold Property, 1998 (Assessment Report 25471)
- Fox, Michael: Geological Report on the Gold Claims, 1995 (Assessment Report 24349)
- Fox, Michael: Geophysical Report on the QCM claim, Golden Rule Resources, 1989 (Assessment Report 19594)
- Fox, Michael: Geochemical, Geological, Geophysical, Physical Report on the QCM Claims, Golden Rule Resources, 1981 (Assessment Report 9954)
- Fox, Michael: Geochemical, Geological, Geophysical Report on the OPEC Claims, Golden Rule Resources, 1980 (Assessment Report 8956)
- Rodgers, T. Report on the Geology and Geochemistry of the PAD, DOM, BYE and MATT Groups, Manson Creek, Sullivan & Rodgers, 1972 (Assessment Report 4245)
- Riccio, L.: Reverse Circulation Drilling Report on the QCM 1-15 Claims, Manson Creek Project, Anaconda Canada Exploration Ltd., 1983 (Assessment Report 11627)
- Scott, Alan: Geophysical Report on the OPEC Claims, Anaconda Canada Exploration Ltd., 1983 (Assessment Report 11592)
- Scott, Alan and Riccio, L.: Geological, Geochemical, Geophysical and Physical Report on the QCM 1-15 and OPEC 1-10 Claims, Anaconda Canada Exploration Ltd., 19823 (Assessment Report 10746)

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# Appendix 1 Statement of Qualifications

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To Accompany QCM Property Assessment Report, British Columbia, Canada, dated <u>April (1203</u>. I, Adam Travis, B.Sc., of 3579 Lansbury Court, Westbank, British Columbia, Canada, V4T 1C5 do hereby certify that:

- I am a consulting geologist with an office at 3579 Lansbury Court, Westbank, B.C., V4T 1C5.
- I graduated from the University of British Columbia in 1990 and was awarded a B.Sc. in Geology.
- I have practiced my geological profession since 1986 in many parts of Canada, the United States, Mexico and Africa.
- I was present and supervised all aspects of work on the QCM property contained within this report.
- I have gathered my information for this report from government publications, internal company memos, geological field notes and data that are believed to be reliable and accurate.
- Based on company reports and information, an expenditure of \$ 16,050 appears accurate for the 2002 work on the QCM property.
- I hereby grant my permission for Royal County Minerals and Viceroy Resources Ltd. to use this Geological Report for whatever purposes it wants, subject to the disclosures set out in this Certificate.

Signed in Vancouver, British Columbia this  $3^{-1}$  day of  $4p_0$ , 2003.

Signed

A. Travis, BASc.



# Appendix II Statement of Expenditures

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Field Labor (September 24-28, 2002)	
Adam Travis, Senior Geologist - \$450/day x 5 days	\$2,250.00
Don Coolidge, Prospector - \$350/day x 5 days	\$1,750.00
Jan Tindle, Geological Assistant - \$300/day x 5 days	\$1,500.00
Total Labor:	\$5,500.00
Geochemical Analysis (Acme Labs)	
17 rock samples @ \$25/rock	\$425.00
5 overlimit fire assays @ \$10/ sample	\$50.00
77 soil samples @ \$25/ sample	\$1,925.00
Total Geochemical Analysis:	\$475.00
Camp Costs	
15 mandays total @ \$130/ manday (all inclusive)	\$1,950.00
Communication	\$100.00
Total Camp Costs	\$2,050.00
Transportation	
Mobilization (apportioned with other projects)	\$1,700.00
Truck Fuel	\$500.00
Truck Rental (5 days @ \$75/day)	\$375.00
Demobilization (apportioned with other projects)	\$1,700.00
Total Transportation:	\$4,275.00
Office and Reporting	
Jill Moore, report preparation ( 3 day @ \$375/day)	\$1,125.00
Adam Travis, report preparation ( 4 days @ \$450/day)	\$1,800.00
GeoSim Services, drafting, computer	\$500.00
Report copying, plotting, printing, etc.	\$325.00
Total Office and Reporting	\$3,750.00
Total Expenditures	\$16,050.00

#### Table 5 Summary of expenditures by category.

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# Appendix III Rock Sample Descriptions

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The rock sampling program comprised of 17 grab, float and chip samples. The sample locations and descriptions are identified in Table 6.

SAMPLE ID	DATE	EASTING	NORTHING	SAMPLE TYPE	Unit	Description
126691	9/27/02	399040	6173980	float	Quartz Vein	prominent float in river wit tetrahedrite "knots"
126692	9/27/02	399088	6173987	float	Listwanite	quartz veined and carbonated schist with fine grained
126732	9/26/02	399184	6173692	grab	Arenite	ankeritic and minor quartz veined, splotches of rust after pyrite?
126733	9/26/02	399916	6172631	grab	Arenite	carbonated, 10% coarse euhedral pyrite
126734	9/26/02	399946	6172619	grab	Quartz Vein	2-3 cm vein @ 90/48 south x 2 m exposure
126735	9/26/02	399946	6172618	chip	Arenite	0.5 m grab of hangingwall to 734
126736	9/26/02	399945	6172619	chip	Arenite	0.35 m grab of footwall to 734
126737	9/26/02	400018	6172656	float	Conglomerate	carbonate matrix, minor silica
126738	9/27/02	400097	6172520	grab	Arenite	4 m north of PDH 88-20, highly carbonatized with 5-7% pyrite, taken over 2 m area
126739	9/27/02	399037	6173955	chip	Quartz Vein	grab across 1.5 m, gossanous, fractured
126740	9/27/02	399044	6173949	chip	Quartz Vein	5 m southerly of 739, same vein, 60 cm grab across
126741	9/27/02	399031	6173963	chip	Quartz Vein	5 m northerly of 739, same vein, grab across 1 m, veir splits
126742	9/27/02	399029	6173971	chip	Quartz Vein	different vein set, bull white, flat lying, occasiona tetrahedrite "knots"
126743	9/27/02	398824	6173295	float	Quartz Vein	bull white boulders in logged area
126744	9/27/02	398915	6174067	chip	Quartz Vein	north side of river, 2 m grab across, tetrahedrite "knots"
126745	9/27/02	398929	6174049	chip	Arenite	pyritized, carbonated, veined, sample over 2 m
126746	9/27/02		6174047	chip lescriptions.	Schist	3 m grab across, quartz veined stockwork carbonate schist

Table 6 Rock sample locations and descriptions.

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A 26 element analysis package was used	. All assays from the program are listed below
in Table 7. A complete assay table can be	e found in Appendix V.

SAMPLE_ID	AU PPB	AG	CU	PB	ZN
126691	2570	487.3	9467.0	11.0	1868
126692	160	2.3	61.0	4.0	49
126732	68	1.4	83.0	-3.0	68
126733	450	1.0	110.0	-3.0	51
126734	96	-0.3	9.0	-3.0	7
126735	670	1.1	179.0	3.0	64
126736	610	0.8	156.0	-3.0	51
126737	34	0.5	64.0	3.0	50
126738	375	0.7	51.0	3.0	57
126739	49	0.7	21.0	11.0	13
126740	79	3.2	97.0	12.0	84
126741	7	0.3	19.0	4.0	17
126742	130	42.4	787.0	5.0	2653
126743	1	0.3	12.0	9.0	10
126744	1780	291.2	5586.0	5.0	899
126745	123	7.6	161.0	3.0	77
126746	88	3.2	67.0	99.0	63

 Table 7 Analysis of gold, silver, copper, lead, zinc, and arsenic.

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Table 8 includes sample locations as well as economic values from assay tables. A complete geochemical assay is in Appendix V.

Sample ID	Easting	Northing	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
JTS 095	399906	6172633	2400	2.0	154.6	18.2	68	108
JTS 096	399924	6172627	36	0.4	113,9	4.1	62	37
JTS 097	399941	6172621	4070	1.4	165.4	7.0	77	106
JTS 098	399961	6172618	173	0.3	79.7	4.4	64	33
JTS 099	399981	6172619	224	0.5	106.2	3.5	62	35
JTS 100	400002	6172626	228	0.2	101.0	4.4	66	34
JTS 101	400008	6172604	164	0.2	113.2	3.5	62	34
JTS 102	400022	6172585	46	0.3	74.1	4.7	74	30
JTS 103	400039	6172570	149	0.4	142.0	4.4	68	38
JTS 104	400056	6172555	47	0.2	43.9	4.2	58	20
JTS 105	400075	6172537	250	0.4	57.4	3.5	53	25
JTS 106	400093	6172519	153	0.4	52.3	4.1	54	31
JTS 107	400112	6172505	120	0.2	102.3	4.1	64	39
JTS 108	400133	6172497	62	0.3	101.8	3.7	64	36
JTS 109	400172	6172554	206	0.5	141.3	5.1	72	42
JTS 110	400141	6172570	125	0.4	101.2	3.4	63	30
JTS 111	400115	6172587	127	0.3	112.6	4.0	68	33
JTS 112	400087	6172606	113	0.5	130.5	4.7	73	43
JTS 113	400058	6172625	112	0.3	131.0	4.2	67	42
JTS 114	400027	6172633	420	0.5	142.0	5,4	77	48
JTS 115	400003	6172649	137	0.5	170.6	4.5	76	36
JTS 116	399984	6172666	173	0.5	124.5	4.6	80	43
JTS 117	399961	6172683	143	0.6	103.5	4.8	71	44
JTS 118	399934	6172686	42	0.6	39.6	5.9	93	29
JTS 119	399906	6172685	117	0.2	62.6	2.8	55	28
JTS 120	399875	6172686	464	0.4	94.7	3.8	61	49
JTS 121	399848	6172688	33	0.1	39.3	3.0	67	23
JTS 122	399875	6172639	42	0.2	45.3	3.5	69	28
JTS 123	399841	6172625	80	0.3	43.3	3.8	74	26
JTS 124	399807	6172603	25	0.2	49.8	3.7	68	20
JTS 125	399774	6172580	3	0.2	24.2	5.7	98	7
JTS 126	399742	6172572	2	0.2	25.8	4.9	68	8
JTS 127	399718	6172573	11	0.4	39.7	4.2	56	12

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JTS 130         399645         6172579         24         0.1         54.6         3.2         53         22           JTS 131         399622         6172582         360         0.2         30.5         3.6         68         27           JTS 132         400212         61725840         92         0.3         120.4         4.8         72         34           JTS 133         400244         6172515         135         0.2         90.1         4.6         78         33           JTS 137         4003276         6172515         135         0.2         90.1         4.5         69         311           JTS 137         400321         6172495         556         0.5         93.1         5.5         74         67           JTS 138         400355         6172470         127         0.2         82.0         3.4         62         33           JTS 140         400380         6172470         127         0.2         82.0         3.4         86         233           JTS 144         400445         6172470         127         0.2         82.7         4.8         62         33           JTS 144         4004446         6172393<	JTS 128	399695 6172575	2	0.1	12.9	4.6	52	8
JTS 131         399622         6172582         360         0.2         30.5         3.6         68         27           JTS 132         400212         6172540         92         0.3         120.4         4.8         72         34           JTS 133         400217         6172518         71         0.5         89.7         4.6         78         33           JTS 134         400277         6172511         152         0.5         86.9         3.7         65         30           JTS 135         400304         6172511         152         0.5         86.9         3.7         65         30           JTS 138         400355         6172470         127         0.2         82.0         3.4         52         24           JTS 144         400380         6172440         49         0.5         51.9         5.8         90         16           JTS 1414         400398         6172443         10.2         40.0         3.4         43         18           JTS 144         400415         6172372         55         0.3         59.5         4.6         79         32           JTS 144         400446         6172372         55	JTS 129	399667 6172578	21	0.3	41.4	6.4	92	36
JTS 132         400212         6172540         92         0.3         120.4         4.8         72         34           JTS 133         400244         6172528         71         0.5         89.7         4.6         78         33           JTS 134         400277         6172515         135         0.2         90.1         4.5         669         311           JTS 137         400321         6172495         556         0.5         93.1         5.5         71         677           JTS 138         400325         6172496         249         0.6         109.0         4.3         64         33           JTS 138         400335         6172480         249         0.6         109.0         4.3         64         33           JTS 140         400386         6172440         109         0.3         89.7         4.8         62         33           JTS 144         400415         6172430         41         0.2         40.0         3.4         43         18           JTS 144         400444         617239         63         0.3         66.0         4.2         61         28           JTS 144         4004456         6172372 <td>JTS 130</td> <td>399645 6172579</td> <td>24</td> <td>0.1</td> <td>54.6</td> <td>3.2</td> <td>53</td> <td>22</td>	JTS 130	399645 6172579	24	0.1	54.6	3.2	53	22
JTS 133       400244       6172528       71       0.5       89.7       4.6       78       33         JTS 134       400277       6172515       135       0.2       90.1       4.5       69       31         JTS 135       400304       6172511       152       0.5       86.9       3.7       65       30         JTS 137       400326       6172480       249       0.6       109.0       4.3       64       33         JTS 138       400356       6172470       127       0.2       82.0       3.4       52       24         JTS 140       400386       6172460       49       0.5       51.9       5.8       90       16         JTS 141       400386       6172470       127       0.2       82.0       3.4       52       24         JTS 143       400438       6172470       127       0.2       89.7       4.8       62       33         JTS 143       400436       6172472       55       0.3       89.7       4.8       62       33         JTS 144       400446       6172372       55       0.3       59.5       4.6       79       32         JTS 146	JTS 131	399622 6172582	360	0.2	30.5	3.6	68	27
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	JTS 132	400212 6172540	92	0.3	120.4	4.8	72	34
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	JTS 133	400244 6172528	71	0.5	89.7	4.6	78	33
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	JTS 134	400277 6172515	135	0.2	90.1	4.5	69	31
JTS 138       400335       6172480       249       0.6       109.0       4.3       64       33         JTS 139       400355       6172470       127       0.2       82.0       3.4       52       24         JTS 140       400380       6172460       49       0.5       51.9       5.8       90       16         JTS 141       400396       6172448       109       0.3       89.7       4.8       62       33         JTS 142       400415       6172430       41       0.2       40.0       3.4       43       18         JTS 142       400445       6172303       63       0.3       66.0       4.2       51       28         JTS 144       400446       6172372       55       0.3       59.5       4.6       79       32         JTS 146       400466       6172372       55       0.3       54.6       79       32         JTS 148       400466       6172372       149       0.3       105.3       4.1       70       39         JTS 148       400466       6172372       149       0.3       105.3       4.1       70       39       3.7       65       43	JTS 135	400304 6172511	152	0.5	86.9	3.7	65	30
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	JTS 137	400321 6172495	556	0.5	93,1	5.5	71	67
JTS 140       400380       6172460       49       0.5       51.9       5.8       90       16         JTS 141       400398       6172448       109       0.3       89.7       4.8       62       33         JTS 142       400415       6172430       41       0.2       40.0       3.4       43       18         JTS 143       400429       6172413       136       0.9       128.6       7.8       84       35         JTS 144       400444       6172393       63       0.3       66.0       4.2       51       28         JTS 145       400459       6172372       55       0.3       59.5       4.6       79       32         JTS 146       400469       6172324       48       0.3       44.7       3.9       43       30         JTS 148       400486       6172302       149       0.3       105.3       4.1       70       39         JTS 150       399953       6173282       143       0.2       33.7       4.2       81       27         JTS 150       399856       6173466       11       0.2       59.4       3.9       55       16         JTS 152	JTS 138	400335 6172480	249	0.6	109.0	4.3	64	33
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	JTS 139	400355 6172470	127	0.2	82.0	3.4	52	24
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	JTS 140	400380 6172460	49	0.5	51.9	5.8	90	16
JTS 143       400429       6172413       136       0.9       128.6       7.8       84       35         JTS 144       400444       6172393       63       0.3       66.0       4.2       51       28         JTS 145       400459       6172372       55       0.3       59.5       4.6       79       32         JTS 146       400469       6172349       19       0.1       40.3       4.1       67       18         JTS 147       400475       6172324       48       0.3       44.7       3.9       43       30         JTS 148       400486       6172302       149       0.3       105.3       4.1       70       39         JTS 149       400498       6172276       125       0.1       131.9       3.7       65       43         JTS 150       399953       6173282       143       0.2       33.7       4.2       81       27         JTS 150       399961       6173486       11       0.2       59.4       3.9       53       13         JTS 151       399925       6173340       12       0.1       44.3       3.7       52       13         JTS 153	JTS 141	400398 6172448	109	0.3	89.7	4.8	62	33
JTS 144       400444       6172393       63       0.3       66.0       4.2       51       28         JTS 145       400459       6172372       55       0.3       59.5       4.6       79       32         JTS 146       400469       6172349       19       0.1       40.3       4.1       67       18         JTS 147       400475       6172324       48       0.3       44.7       3.9       43       30         JTS 148       400486       6172302       149       0.3       105.3       4.1       70       39         JTS 149       400498       6172276       125       0.1       131.9       3.7       65       43         JTS 150       399953       6173282       143       0.2       33.7       4.2       81       27         JTS 150       399861       6173486       11       0.2       59.4       3.9       53       13         JTS 151       399925       6173340       12       0.1       64.3       3.7       52       13         JTS 153       399868       6173409       93       0.1       60.1       4.7       76       22         JTS 154       <	JTS 142	400415 6172430	41	0.2	40.0	3.4	43	18
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	JTS 143	400429 6172413	136	0.9	128.6	7.8	84	35
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	JTS 144	400444 6172393	63	0.3	66.0	4.2	51	28
JTS 147       400475       6172324       48       0.3       44.7       3.9       43       30         JTS 148       400486       6172302       149       0.3       105.3       4.1       70       39         JTS 148       400498       6172302       149       0.3       105.3       4.1       70       39         JTS 149       400498       6172276       125       0.1       131.9       3.7       65       43         JTS 150       39953       6173282       143       0.2       33.7       4.2       81       27         JTS 150       399861       6173486       11       0.2       59.4       3.9       53       13         JTS 151       399925       6173314       23       0.1       60.9       3.5       59       16         JTS 152       399901       6173340       12       0.1       44.3       3.7       52       13         JTS 153       399888       6173409       93       0.1       60.1       4.7       76       222         JTS 154       399888       6173454       11       0.4       84.8       5.6       66       18         JTS 156	JTS 145	400459 6172372	55	0.3	59.5	4.6	79	32
JTS 148       400486       6172302       149       0.3       105.3       4.1       70       39         JTS 149       400498       6172276       125       0.1       131.9       3.7       65       43         JTS 150       39953       6173282       143       0.2       33.7       4.2       81       27         JTS 150       399861       6173486       11       0.2       59.4       3.9       53       13         JTS 151       399925       6173314       23       0.1       60.9       3.5       59       16         JTS 152       39901       6173340       12       0.1       44.3       3.7       52       13         JTS 153       399868       6173409       93       0.1       60.1       4.7       76       22         JTS 154       399868       6173454       11       0.4       84.8       5.6       66       18         JTS 155       399856       6173454       11       0.4       84.8       5.6       66       18         JTS 156       399838       6173480       12       0.5       47.1       5.8       78       20         JTS 157 <td< td=""><td>JTS 146</td><td>400469 6172349</td><td>19</td><td>0.1</td><td>40.3</td><td>4.1</td><td>67</td><td>18</td></td<>	JTS 146	400469 6172349	19	0.1	40.3	4.1	67	18
JTS 149       400498       6172276       125       0.1       131.9       3.7       65       43         JTS 150       399953       6173282       143       0.2       33.7       4.2       81       27         JTS 150       399861       6173486       11       0.2       59.4       3.9       53       13         JTS 151       399925       6173314       23       0.1       60.9       3.5       59       16         JTS 152       399901       6173340       12       0.1       44.3       3.7       52       13         JTS 153       399883       6173371       14       0.1       54.6       4.4       53       17         JTS 154       399868       6173409       93       0.1       60.1       4.7       76       22         JTS 155       399856       6173454       11       0.4       84.8       5.6       66       18         JTS 156       399838       6173454       11       0.4       84.8       5.6       66       18         JTS 157       399814       6173511       31       0.2       91.5       9.5       171       140         JTS 158       <	JTS 147	400475 6172324	48	0.3	44.7	3.9	43	30
JTS 150       399953       6173282       143       0.2       33.7       4.2       81       27         JTS 150       399861       6173486       11       0.2       59.4       3.9       53       13         JTS 150       399925       6173314       23       0.1       60.9       3.5       59       16         JTS 152       399901       6173340       12       0.1       44.3       3.7       52       13         JTS 153       399863       6173371       14       0.1       54.6       4.4       53       17         JTS 154       399868       6173409       93       0.1       60.1       4.7       76       22         JTS 155       399856       6173454       11       0.4       84.8       5.6       66       18         JTS 156       399838       6173480       12       0.5       47.1       5.8       78       20         JTS 157       399814       6173511       31       0.2       82.4       4.8       143       94         JTS 158       399784       6173582       70       0.2       136.8       5.3       143       7         JTS 160 <td< td=""><td>JTS 148</td><td>400486 6172302</td><td>149</td><td>0.3</td><td>105.3</td><td>4.1</td><td>70</td><td>39</td></td<>	JTS 148	400486 6172302	149	0.3	105.3	4.1	70	39
JTS 150       399861       6173486       11       0.2       59.4       3.9       53       13         JTS 151       399925       6173314       23       0.1       60.9       3.5       59       16         JTS 152       399901       6173340       12       0.1       44.3       3.7       52       13         JTS 153       399883       6173371       14       0.1       54.6       4.4       53       17         JTS 154       399868       6173409       93       0.1       60.1       4.7       76       22         JTS 155       399856       6173454       11       0.4       84.8       5.6       66       18         JTS 156       399838       6173480       12       0.5       47.1       5.8       78       20         JTS 157       399814       6173541       498       0.2       91.5       9.5       171       140         JTS 158       399784       6173541       498       0.2       91.5       9.5       171       140         JTS 159       399785       6173582       70       0.2       136.8       5.3       143       7         JTS 160	JTS 149	400498 6172276	125	0.1	131.9	3.7	65	43
JTS 151       39925       6173314       23       0.1       60.9       3.5       59       16         JTS 152       39901       6173340       12       0.1       44.3       3.7       52       13         JTS 153       399883       6173371       14       0.1       54.6       4.4       53       17         JTS 154       399868       6173409       93       0.1       60.1       4.7       76       22         JTS 155       399856       6173454       11       0.4       84.8       5.6       66       18         JTS 156       399838       6173480       12       0.5       47.1       5.8       78       20         JTS 157       399814       6173511       31       0.2       82.4       4.8       143       94         JTS 158       399784       6173541       498       0.2       91.5       9.5       171       140         JTS 159       399785       6173614       174       0.1       99.4       4.1       74       9         JTS 160       399803       6173637       338       0.3       41.4       5.0       57       17         JTS 161 <td< td=""><td>JTS 150</td><td>399953 6173282</td><td>143</td><td>0.2</td><td>33.7</td><td>4.2</td><td>81</td><td>27</td></td<>	JTS 150	399953 6173282	143	0.2	33.7	4.2	81	27
JTS 152       399901       6173340       12       0.1       44.3       3.7       52       13         JTS 153       399883       6173371       14       0.1       54.6       4.4       53       17         JTS 154       399868       6173409       93       0.1       60.1       4.7       76       22         JTS 155       399856       6173454       11       0.4       84.8       5.6       66       18         JTS 156       399838       6173480       12       0.5       47.1       5.8       78       20         JTS 157       399814       6173511       31       0.2       82.4       4.8       143       94         JTS 158       399784       6173541       498       0.2       91.5       9.5       171       140         JTS 159       399785       6173582       70       0.2       136.8       5.3       143       7         JTS 160       399803       6173614       174       0.1       99.4       4.1       74       9         JTS 161       399830       6173637       338       0.3       41.4       5.0       57       17         JTS 162	JTS 150	399861 6173486	11	0.2	59.4	3.9	53	13
JTS 153       399883       6173371       14       0.1       54.6       4.4       53       17         JTS 154       399868       6173409       93       0.1       60.1       4.7       76       22         JTS 155       399856       6173454       11       0.4       84.8       5.6       66       18         JTS 156       399836       6173454       11       0.4       84.8       5.6       66       18         JTS 156       399838       6173480       12       0.5       47.1       5.8       78       20         JTS 157       399814       6173511       31       0.2       82.4       4.8       143       94         JTS 158       399784       6173541       498       0.2       91.5       9.5       171       140         JTS 159       399785       6173582       70       0.2       136.8       5.3       143       7         JTS 160       399803       6173614       174       0.1       99.4       4.1       74       9         JTS 161       399830       6173637       338       0.3       41.4       5.0       57       17         JTS 162	JTS 151	399925 6173314	23	0.1	60.9	3.5	59	16
JTS 154       399868       6173409       93       0.1       60.1       4.7       76       22         JTS 155       399856       6173454       11       0.4       84.8       5.6       66       18         JTS 156       399838       6173480       12       0.5       47.1       5.8       78       20         JTS 157       399814       6173511       31       0.2       82.4       4.8       143       94         JTS 158       399784       6173541       498       0.2       91.5       9.5       171       140         JTS 159       399785       6173582       70       0.2       136.8       5.3       143       7         JTS 160       399803       6173614       174       0.1       99.4       4.1       74       9         JTS 161       399830       6173637       338       0.3       41.4       5.0       57       17         JTS 162       399836       6173672       16       0.8       66.4       7.4       92       15         JTS 163       399843       6173699       80       0.2       37.0       5.3       86       16	JTS 152	399901 6173340	12	0.1	44.3	3.7	52	13
JTS 155       399856       6173454       11       0.4       84.8       5.6       66       18         JTS 156       399838       6173480       12       0.5       47.1       5.8       78       20         JTS 157       399814       6173511       31       0.2       82.4       4.8       143       94         JTS 158       399784       6173541       498       0.2       91.5       9.5       171       140         JTS 159       399785       6173582       70       0.2       136.8       5.3       143       7         JTS 160       399803       6173614       174       0.1       99.4       4.1       74       9         JTS 161       399830       6173637       338       0.3       41.4       5.0       57       17         JTS 162       399836       6173672       16       0.8       66.4       7.4       92       15         JTS 163       399843       6173699       80       0.2       37.0       5.3       86       16	JTS 153	399883 6173371	14	0.1	54.6	4.4	53	17
JTS 156       399838       6173480       12       0.5       47.1       5.8       78       20         JTS 157       399814       6173511       31       0.2       82.4       4.8       143       94         JTS 158       399784       6173541       498       0.2       91.5       9.5       171       140         JTS 159       399785       6173582       70       0.2       136.8       5.3       143       7         JTS 160       399803       6173614       174       0.1       99.4       4.1       74       9         JTS 161       399830       6173637       338       0.3       41.4       5.0       57       17         JTS 162       399836       6173672       16       0.8       66.4       7.4       92       15         JTS 163       399843       6173699       80       0.2       37.0       5.3       86       16	JTS 154	399868 6173409	93	0.1	<u>6</u> 0.1	4.7 <sub>1</sub>	76	22
JTS 157       399814       6173511       31       0.2       82.4       4.8       143       94         JTS 158       399784       6173541       498       0.2       91.5       9.5       171       140         JTS 159       399785       6173582       70       0.2       136.8       5.3       143       7         JTS 160       399803       6173614       174       0.1       99.4       4.1       74       9         JTS 161       399830       6173637       338       0.3       41.4       5.0       57       17         JTS 162       399836       6173672       16       0.8       66.4       7.4       92       15         JTS 163       399843       6173699       80       0.2       37.0       5.3       86       16	JTS 155	399856 6173454	11	0.4	84.8	5.6	66	18
JTS 158       399784       6173541       498       0.2       91.5       9.5       171       140         JTS 159       399785       6173582       70       0.2       136.8       5.3       143       7         JTS 160       399803       6173614       174       0.1       99.4       4.1       74       9         JTS 161       399830       6173637       338       0.3       41.4       5.0       57       17         JTS 162       399836       6173672       16       0.8       66.4       7.4       92       15         JTS 163       399843       6173699       80       0.2       37.0       5.3       86       16	JTS 156	399838 6173480	12	0.5	47.1	5.8	78	20
JTS 159       399785       6173582       70       0.2       136.8       5.3       143       7         JTS 160       399803       6173614       174       0.1       99.4       4.1       74       9         JTS 161       399830       6173637       338       0.3       41.4       5.0       57       17         JTS 162       399836       6173672       16       0.8       66.4       7.4       92       15         JTS 163       399843       6173699       80       0.2       37.0       5.3       86       16	JTS 157	399814 6173511	31	0.2	82.4	4.8	143	94
JTS 160       399803       6173614       174       0.1       99.4       4.1       74       9         JTS 161       399830       6173637       338       0.3       41.4       5.0       57       17         JTS 162       399836       6173672       16       0.8       66.4       7.4       92       15         JTS 163       399843       6173699       80       0.2       37.0       5.3       86       16	JTS 158	399784 6173541	498	0.2	91.5	9.5	171	140
JTS 161       399830       6173637       338       0.3       41.4       5.0       57       17         JTS 162       399836       6173672       16       0.8       66.4       7.4       92       15         JTS 163       399843       6173699       80       0.2       37.0       5.3       86       16	JTS 159	399785 6173582	70	0.2	136.8	5.3	143	7
JTS 162         399836         6173672         16         0.8         66.4         7.4         92         15           JTS 163         399843         6173699         80         0.2         37.0         5.3         86         16	JTS 160	399803 6173614	174	0.1	99.4	4.1	74	9
JTS 163 399843 6173699 80 0.2 37.0 5.3 86 16	JTS 161	399830 6173637	338	0.3	41.4	5.0	57	17
	JTS 162	399836 6173672	16	0.8	66.4	7.4	92	15
JTS 164         399879         6173712         2         0.3         10.7         6.0         44         7	JTS 163	399843 6173699	80	0.2	37.0	5.3	86	16
	JTS 164	399879 6173712	2	0.3	10.7	6.0	44	7]

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JTS 165	399919	6173723	5	0.2	16.0	6.3 6	69 6	
JTS 166	399964	617372	1 17	0.1	71.5	4.1	83	17
JTS 167	399999	617372	0 3	0.1	21.2	5.0	50	8
JTS 168	40003	617372	5 138	0.1	24.4	7.1	47	21
JTS 169	400059	617375	0 -1	0.1	16.0	4.5	46	9
JTS 170	400086	617377	4 6	0.1	20.2	5.9	124	8
JTS 171 Table 8	40012 <sup>2</sup> Soil samp		6 28 ns and maj		111.9 t assay re	7.0 sults.	64	24

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Keewatin Consultants PROJECT OCM File # A204193

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	٧	Ca	P	La	Cr	Mg	Ba	Ti	В	Al	Na	ĸ	W	Au*
	ppm	ppm	ppm	ppm	ррп	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ррт	%	%	ppm	ppm	*	ррт	%	ppm	%	%	%	ppm	ppb
<b>S</b> 1	<1	1	5	3	<.3	1	<1	4	.02	7	<8	<2	<2	3	<.5	<3	<3	<1	. 12<	.001	<1	3	<.01	3	<.01	<3	.01	.46	.01	<2	.7
126691	1	9467	11	1868 4	487.3	13	13		2.33	741	<8	3	<2	325	38.4	5941	5	13		.080	1		1.61	26	.01	<3	.16	.09	.05		2632.8
126692	1	61	4	49	2.3	67		1113		7	<8	<2	<2	666	.6	30	<3	19		.042	1		3.06	48	.01	<3	.21	.07	.10	<2	160.4
126732	<1	83	<3	68	1.4	48		1129		2	<8	<2	<2	100	<.5	10	<3	23		.065	2		3.47	14	.01	<3	.49	.08	.18	<2	68.1
126733	<1	110	<3	51	1.0	12	21	1376	5.45	. 23	<8	<2	<2	230	<.5	<3	<3	18	3.14	.142	د	5	,83	72	.01	3	.35	.08	.17	<2	449.8
126734	2	9	<3	7	<.3	2	2	148	.55	3	<8	<2	<2	22	<.5	<3	<3	2	.17	.070	1	42	.01	4	<.01	<3	.07	.05	.01	<2	96.0
126735	1	179	3	64	1.1	15		1709		12	<8	<2	2	152	<.5	<3	<3	15		.148	4	6	,66	76	.01	3	. 39	.04	.21	<2	1120.6
126736	<1	156	<3	51	.8	13		1551		4	<8	<2	2	211	<.5	<3	<3	19	3.24		3	8	.95	72	.01	<3	.44	.07	.23	<2	610.0
126737	1	64	3	50	.5	13	14			14	<8	<2	<2	205	<.5	<3	্র		13.57		3	15	.85	60	.03	<3	.63	.03	.11	<2	34.0
. 126738	<1	51	3	57	• (	13	20	1142	5.01	4	<8	<2	<2	214	<.5	<3	<3	24	3.57	.102	2	8	.99	65	.02	<3	.44	.08	.24	<2	374.7
126739	22	21	11	13	.7	7	4	98	1.78	33	<8	<2	<2	38	<.5	6	<3	5	.20	.091	5	30	.02	9	.01	<3	.27	.22	.02	<2	49.0
126740	13	97	· 12	84	3.2	25	14	755		47	<8	<2	<2	192	.7	82	<3	18		.101	1			42	.01	<3	.26	.09	.08	<2	78.7
RE 126740	13	99	11	84	3.2	26	14	759		. 47	<8	<2	<2	194	.7	84	<3	17		.100	2	13		43	.01	<3	.26	.10	.08	<2	76.4
126741	4	_19	4	17	.3	8	4	318	.73	7	<8	<2	<2	94	_<.5	6	<3	6		.033	1	45	.42	9	.01	<3	.08	.05	.02	<2	
126742	3	787	5	2653	42.4	9	5	252	1.13	66	<8	<2	<2	126	33.3	492	<3	3	1.05	.015	<1	23	.57	9	<.01	<3	.05	.03	.02	<2	129.7
126743	2	12	9	10	.3	2	<1	27	.22	2	<8	<2	<2	1	<.5	3	<3	2	.01	.002	<1	46	<.01	1	<.01	<3	.01	<.01	<.01	<2	.9
126744	4	5586	5	899 2	291.2	1	1	63	.30	417	<8	<2	<2		16.3		<3	<1		.004	<1	23	.08	-	<.01	<3	.01	.01	<.01	<2	1759.2
126745	1	161	3	77	7.6	38	17	1206		22	<8	<2	<2	790	1.0	117	<3	19		.035	1		3.27		<.01	<3	.14	.04	.08	<2	122.5
126746	1	67	99	63	3.2	33	17			31	<8	<2	<2	499	.6	34	<3	15		.077	1		2.82	56	.01	3	.32	.05	.15	<2	88.4
STANDARD DS4	7	121	31	156	.4	34	12	822	3.08	21	<8	<2	- 4	30	4.8	5	- 4	73	.54	.091	- 16	159	.62	145	.09	<3	1.67	.04	. 18	5	26.9

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES. UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM. ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB - SAMPLE TYPE: ROCK R150 60C AU\* IGNITED, ACID LEACHED, ANALYZED BY ICP-MS. (10 gm) Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED:

OCT 1 2002 DATE REPORT MAILED: OU 15/02 SIGNED BY. C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of the analysis only.

<b>AA</b>							:o.) <u>:eew</u>	ati:	<u>n Cc</u> 900	nsu	lta	HEM nts e St.,	PR	OJE	CT	<u>0</u> C	<u>:M</u>	Fi	le	# i	A20	。 419		P	age	1							4	
IPLE#	Mo ppm		Pb ppm		_		Co ppm		Fe %		U ppm		Th ppm						Ca %		La ppm	Cr ppm											Tl ppm	
s 095 s 096	1.8 .8 1.5	154.6 113.9 165.4	18.2 4.1 7.0	68 62 77	2.0	23.9 24.5 25.8	58.9 21.4 44.4	1787 716 1234	1.74 14.29 4.74 11.18 5.09	107.5 36.7 106.4	.4 .3 .4	35.5 4093.0	1.9 1.8	73 33 46	.3 .1 .3	2.9 .7 2.2	.3 .1 .2	33 57 47	.53 .53 .43	.212 .111 .138	16 11 10	14.9 28.8 18.1	.11 .56 .27	79 66 89	.009 .052 .010	<1 1 <1	1.96 1.26 1.40	.003 .007 .005	.02 .06 .05	.3. .1. .2.	05 2 03 1 03 1	21.1 · 10.4 · 15.6 ·	<.1 .2 <.1<.0 <.1<.0	23 05 05
5 101 5 102	1.0 1.2 .8	101.0 113.2 74.1	4.4 3.5 4.7	66 62 74	.2 .2 .3	23.9 23.2 24.9	18.9 17.2 18.8	570 525 549	4.55 4.81 4.57 4.38 5.52	34.1 33.8 29.6	.4 .3 .3	228.2 163.7 46.2	1.7 1.8	3 21 30	.1 .1 .2	.8 .7 .7	.1 <.1 .1	61 60 71	.44 .36 .46	.095 .082 .075	12 9 10	29.8 30.4 32.7	.59 .57 .61	99 85 94	.052 .050 .058	1 1 2	1.49 1.48 1.66	.011 .009 .008	.08 .08 .07	.1 . .1 . .2 .	.02 .01 .02	7.8 · 6.6 · 7.4 ·	.1<.0 <.1<.0 <.1<.0 <.1<.0 <.1<.0	05 05 05
s 106 s 107	1.0 .8 .7	57.4 52.3 102.3	3.5 4.1 4.1	53 54 64	.4 .4 .2	13.2 16.2 24.3	12.6 17.1 22.0	362 539 758	4.19 4.08 4.58 5.69 5.28	24.6 31.3 39.0	.2 .3 .4	249.9 152.8 120.3	) 1.1 3 1.4 3 2.2	19 19 16	.1 .2 .1	.6 .7 .7	.1 .1 .1	68 67 64	.28 .35 .49	.058 .045 .094	8 9 12	37.9 24.1 27.6 29.1 30.2	.36 .45 .62	90 96 103	.029 .032 .057	2 2 1	1.35 1.50 1.50	.008 .006 .009	.05 .05 .07	.1 . .2 . .1 .	.03 .02 .03 1	4.4 6.2 10.4	<.1<.( <.1<.( .1<.( <.1<.( <.1<.(	05 05 05
JTS 110 S 111	1.0 1.0 1.0	101.2 102.4 112.6	3.4 3.5 4.0	63 63 68	.4 .4 .3	24.2 23.8 25.4	17.9 17.7 21.9	443 441 697	5.77 4.92 4.73 5.14 5.86	29.6 28.7 33.1	.2	125.2 140.7 127.3	2 1.7 7 1.6 5 1.9	15 15 17	.2 <.1 .1	.7 .7 .7	.1 .1 .1	74 72 75	.43 .41 .38	.060 .061 .074	9 8 10	32.9 32.1	.75 .74 .64	76 79 101	.066 .058 .057	1 1 2	1.78 1.78 1.91	.012 .011 .008	.06 .05 .06	.2. .2. .2.	.01 .02 .02	6.7 6.6 7.7	<.1<.( <.1<.( <.1<.( <.1<.( <.1<.(	05 05 05
s. 114 s. 115	1.0 .9 1.2	142.0 170.6 124.5	5.4 4.5 4.6	77 76 80	.5 .5 .5	25.8 25.9 23.7	25.3 23.2 25.5	811 912 981	5.14 6.51 5.03 5.08 5.83	48.4 35.8 42.8	.4 .3 .3	420.2 137.2 173.2	2.0 21.8 21.6	18 31 89	.1 .1 .2	.7 1.2 .9	.1 .1 .1	66 67 52	.41 .60 1.38	.096 .107 .122	12 11 10	31.0 32.1 24.6	.56 .70 .54	75 83 58	.052 .067 .051	1 1 2	1.48 1.41 1.15	.005 .010 .007	.06 .07 .07	.2 . .2 . .1 .	.03 1 .04 1 .03	11.1 12.5 9.8	.1<.( <.1<.( .1<.( .1<.(	05 05 05
s 118 s 119 s 120 s 121 s 122	.9 1.1 .8	62.6 94.7 39.3	2.8 3.8 3.0	55 61 67	.2 .4 .1	12.5 18.8 18.7	12.2 16.4 16.9	183 314 439	5.99 4.11 5.20 4.17 4.35	27.7 48.8 22.9	.2 .2 .2	117.3 464.3 32.5	5 1.1 5 1.3	<1 7 5	.2 .1 .2	.6 .7 .4	.1 .1 .1	64 58 71	.22 .27 .35	.043	8 9 8	29.7 23.5 21.7 30.9 26.6	.31 .34 .57	65 97 101	.022 .034 .048	1 1 2	1.29 1.16 1.74	.006 .004 .006	.04 .06 .06	.2 . .2 . .2 .	.01 .02 .01	4.3 5.3 4.8	.1<.( <.1<.( <.1<.( <.1<.( <.1<.(	05 05 05
s 123 s 124 s 125 s 126 s 127	.8 .5 .5	49.8 24.2 25.8	3.7 5.7 4.9	68 98 68	.2 .2 .2	18.7 26.7 23.9	16.0 15.4 13.0	473 482 708	4.48 4.18 3.33 3.37 3.29	20.4 7.3 8.0	.2 .3 .4	25.2 3.2 2.2	2 1.3 2 1.6 2 1.7	26 38 45	.2 .2 .2	.4 .3 .3	.1 .1 .1	86 82 78	.39 .55 .63	.054 .037 .046	8 8 8	28.0 33.7 41.6 51.7 39.0	.58 .78 .76	124 91 80	.073 .123 .083	1 2 1	1.65 1.86 1.51	.006 .008 .006	.05 .04 .04	.1 . .1 . .2 .	.03 .01 .03	4.9 4.4 5.7	.1<.1 <.1<.1 <.1<.1 <.1<.1 <.1<.1	05 05 05
ANDARD D	6.9	125.1	32.0	157	.3	35.1	11.9	801	3.18	23.7	6.3	27.	1 3.8	27	5.4	5.0	5.1	77	.55	.097	17	156.8	.59	145	.088	2	1.76	.033	. 17	4.1.	.27	3.7	1.1<./	05
andard is	STAN	G U	roup PPER	LIMI	TS -	AG,		G, ₩ :	ACHED   = 100   <u>Sar</u>	PPM; M	ю, со		SB,	BI, 1	ΓH, L	J & B	:= 2	,000	PPM;	Cυ,	PB,	ZN, N												

Keewatin Consultants PROJECT QCM FILE # A204194

ACHE ANALYTICAL																																ACME ANALY	TIČAL
SAMPLE#	Mo ppm			Zn ppm p		Ni ppm	Co ppm		Fe %		U ppm			Sr ppm p					Ca %		La opm	Cr ppm			⊺i %pp							τl s ≫pπ %	
JTS 128	.7 1.0 .7	41.4 54.6	4.6 6.4 3.2	52 92 53	.1 .3 * .1 2	8.2  3.0 26.3	5.1 20.7 21.2	164 907 328	2.47 5.48 3.87	7.6 35.6 21.8	.2 .1 .3	1.5 2.3 21.3 23.7 360.3	1.2 .9 1.6	13 29 21	.2 .5 .1	.3 .3 .5	.1 .1 .1	78 92 74	.58 .22 .44 .40 .44	.056 .067 .050	7 8 8	25.0 20.4 36.3	.21 .22 .61	52 . 111 . 99 .	074 < 013 <	1 .8 1 1.4 1 1.9	6 .004 0 .004 5 .007	.03 07 7.07	.3 .2 .2	.01 .03 .03	2.2 < 5.0 < 5.2 <	.2<.05 .1<.05 .1<.05 .1<.05 .1<.05	6 5
JTS 133 JTS 134 JTS 135	.8 1.0 .7	89.7 90.1 86.9	4.6 4.5 3.7	78 69 65	.5 2 .2 2 .5 2	22.0 24.2 21.7	20.0 19.7 15.8	701 658 521	4.92 5.08 4.68	33.0 31.0 29.7	.4 .6 .5	71.0 134.5 152.4	1.3 1.6 1.9	51 35 37	.2 .2 .1	.6 .7 .6	.1 .1 .1	66 66 59	.72 .64 .59	.060 .065 .082	10 12 10	36.0 35.2 36.5	.71 .67 .61	80 . 87 . 64 .	.075 .056 .059 .074 .045 <	2 1.4 1 1.4 1 1.1	6 .010 9 .010 4 .009	) .06 ) .07 ) .04	.2 .1 .2	.05 .05 .06	9.4 < 11.4 < 11.9 <	,1<.05 ,1<.05 ,1<.05 ,1<.05 ,1<.05	4 4 3
JTS 138 JTS 139 JTS 140	.9 .8 1.6	51.9	3.4 5.8 4.8	52 90 62	.2 2 .5 .3 2	22.1	14_2 19_0 18_8	392 865 620	3.98 4.21 4.95	23.6 15.7 33.0	.4 .6 .3	249.3 126.5 48.6 109.2 152.2	1.9 1.1 1.2	10 50 43	.1 .6 .2	.6 .4 .6	.1 .1 .1	69 72 64	.60 .78 .76	.056 .049 .080	11 11 10	36.1 35.1 26.8 33.7 34.0	.64 .40 .71	65 . 96 . 46 .	.087 .037 .065	1 1.3 2 1.5 1 1.1	9.008	9.03 5.04 3.04	.2 .2 .2	.03 .06 .07	8.4 6.9 10.0	<.1<.05 <.1<.05 <.1<.05 <.1<.05 <.1<.05	4 5 4
	.6 ' 1.1 1.0	66.0 59.5	7.8 4.2 4.6	84 51 79	.9 .3 .3	23.3	27.1 14.3 21.5	1786 374 411	6.18 5.07 5.30	34.6 27.6 32.4	1.1 .6 .4	41.3 136.2 62.5 55.1 19.1	.8 1.0 1.7	132 53 23	.6 .1 .2	.5 .5 .5	.1 .1 .1	57 1 70 76	91 .58	.126 .046 .043	13 8 8	29.2 40.9 27.9 34.8 38.1	.61 .52 .54	128 100 113	.029 .046 .057	3 1.5 1 1.4 2 2.0	9.007 5.008 7.008 0.008 3.008	8.04 5.05 5.03	.1 .2 .2	.09 .03 .03	10.2 6.4 5.8	<.1<.05 <.1 .06 <.1<.05 <.1<.05 <.1<.05	4 5 5
JTS 147 JTS 148 JTS 149 JTS 150	1.0 .9 1.1	131.9 33.7	4.1 3.7 4.2	70 65 81	.3 i .1 i .2	22.3	16.8 20.7 12.6	533 576 207	5.15 5.59 4.88	38.6 43.3 27.3	.4 .4 .2	47.8 149.4 125.2 142.9 10.6	1.9 2.1 1.3	3 14 19	.1 .1 .1	.7 .7 .5	.1 .1 .1 1	66 64 00	.56	.072 .040	11 10 9	22.0 30.2 31.9 28.4 39.0	.54 .56 .32	69 84 107	.077 .064 .044	1 1.2 1 1.5 1 1.7	1 .005 9 .008 4 .007 5 .008 2 .008	8.04 7.05 6.03	.2 .1 .2	.05 .04 .03	10.4 8.5 4.6	<.1<.05 <.1<.05 <.1<.05 <.1<.05 <.1<.05	4 4 7
JTS 153 JTS 154 JTS 155	1.2 1.6 1.4	54.6 60.1	3.7 4.4 4.7	52 53 76	.1 2	22.2	11.4 14.2 20.8	286 316 444	3.39 3.75 4.48	12.8 17.0 21.6	.2 .2 .3	23.1 11.7 14.2 93.4 11.2	1.2 1.1 1.6	13 12 10	.2	1.5 1.3 1.7	.1 .1 .1	79 92 85	.43 .44 .44	.037 .093	7 7 7	44.5 38.4 39.3 43.2 34.0	.59 .66 .61	57 89 102	.095 .103 .097	2 1.3 2 1.7 1 1.6	1.008	5 .09 7 .04 8 .04	.2 .2 .2	.03 .02 .02	4.0 · 4.6 4.7 ·	.1<.05 .1<.05 .1<.05 .1<.05 .1<.05	5 6 5
JTS 157	1.4 2.7 .9	82.4 91.5 136.8	4.8 9.5 5.3	143 171 143	.2 :	25.5 34.7 20.0	24.3 24.4 23.2	1611 476 621	9.21 8.69 5.65	93.6 140.4 6.9	1.2 1.3 1.0	12.2 31.0 498.0 70.4 174.0	1.2 .6 1.3	18 7 38	1.2 <sup>-</sup> .5 2 .5	1.6 2.7 .8	.1 .5 .1	41 30 34	.35 .08 .59	.123 .153 .072	10 10 8	35.2 10.6 9.3 14.8 9.2	.08 .09 .25	128 89 54	.002 .007 .007	2 .7 2 .6 2 1.1	5.004 3.002 7.004	4 .07 2 .06 4 .05	.2 .3 .2	.03 .02 .03	10.4 2.6 12.5	.1<.05 <.1<.05 <.1<.05 <.1<.05 .1<.05	2 2 3
STANDARD DS4	6.8	121.0	31.5	158	.3	32.5	11.6	790	3.11	23.8	6.4	30.2	3.7	29	5.1 4	4.9 5	.0	74	.55	.094	16	156.1	.57	144	.094	2 1.6	7.03	3.16	3.8	.28	3.6	1.1 .06	6

Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of the analysis only.

Data

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#### ACHE ANALYTICAL SAMPLE# Сu Pb Zn Ag Ni Со Mn Fe As U Au Th Sr Cd Sb Bi V Ca P La Cr Mg Ba Τi В AL Na K W Hoj Sc TL S Ga Мо maga maga % 2 % ppm mag mag mag mag mag mag dag % ppm ppm % ppm 2. % mod % mod mod mod mod % DDM nnm Maa maa maa maa ppm ppm 1.0 2.6 2.2 38 <.1 3.8 3.5 464 1.69 <.5 1.9 1.2 4.5 87 .1 <.1 .1 36 .57 .091 7 12.0 .46 205 .111 1 .88 .122 .44 3.1<.01 3.0 .2<.05 5 6-1 1.1 41.4 5.0 57 .3 23.8 15.9 423 4.17 16.8 .5 338.0 1.2 25 .2 1.1 .1 70 .35 .032 5 34.2 .49 98 .028 1 1.44 .005 .03 .2 .02 5.7 <.1<.05 5 JTS 161 1 1 66.4 7.4 92 .8 27.0 20.3 1845 4.08 14.8 .6 16.3 1.0 69 1.3 1.0 .1 62 1.05 .034 6 32.9 .56 91 .027 4 1.50 .007 .03 .1 .02 6.9 < 1<.05 5 **JTS 162** 1.2 37.0 5.3 86 .2 16.0 17.6 330 4.19 15.5 .2 80.4 1.0 23 .3 .7 .1 56 .29 .028 5 20.4 .29 74 .006 <1 1.31 .005 .02 .1 .01 3.9 <.1<.05 4 JTS 163 1.2 10.7 6.0 44 .3 10.8 6.2 150 2.80 6.6 .2 1.6 1.6 15 .2 .7 .1 99 .21 .022 7 37.1 .33 52 .072 1 1.19 .007 .02 .3 .01 1.8 <.1<.05 6 **JTS 164** 2 1.73 .007 .03 .1 .01 3.9 .1<.05 JTS 165 5 16.0 6.3 69 .2 16.4 12.0 843 2.91 6.4 .3 5.3 1.3 35 .3 .4 .1 76 .50 .013 7 36.4 .65 101 .070 6 .9 71.5 4.1 83 .1 8.2 17.1 554 5.48 17.4 .1 17.0 1.0 36 .3 .5 .1 38 5 10.2 .13 68 .004 .48 .053 1 .74 .005 .06 .2 .02 5.6 <.1<.05 2 JTS 166 .6 21.2 5.0 50 .1 12.1 10.3 258 2.70 7.9 .2 2.5 1.3 19 .1 .3 .1 75 .30 .024 7 27.0 .46 65 .067 1 1.21 .005 .04 .3 .02 2.3 <.1<.05 **JTS 167** 6 .7 24.4 7.1 47 .1 10.7 12.6 240 4.11 20.6 .2 138.1 1.1 29 .3 .3 .1 95 .31 .039 8 19.8 .42 84 .006 <1 1.50 .005 .09 .2 .01 4.1 <.1<.05 JTS- 168 6 5 38.5 .51 58 .090 1 1.29 .006 .02 .3 .01 2.4 <.1<.05 1.0 16.0 4.5 46 .1 15.6 9.1 271 3.06 8.9 .2 <.5 1.2 18 .3 .5 .1 89 .31 .032 JTS 169 6 .9 16.3 4.6 48 .1 15.2 8.9 273 3.10 8.7 .3 2.3 1.1 17 .3 .5 .1 86 .30 .032 5 38.1 .52 60 .088 1 1.31 .006 .02 .2 .01 2.5 <.1<.05 RE JTS 169 - 6 1.2 20.2 5.9 124 .1 15.4 12.8 335 3.25 7.8 .3 5.8 1.9 16 .5 .4 .1 90 .29 .141 7 36.4 .47 89 .065 1 1.65 .008 .03 .3 .01 3.0 <.1<.05 7 JTS 170 1.4 111.9 7.0 64 .1 18.6 15.7 363 3.80 23.8 .2 28.3 1.5 21 .2 .3 .1 75 .37 .045 7 29.9 .41 94 .031 <1 1.56 .006 .03 .2 .02 4.0 <.1<.05 JTS 171 <sup>°</sup> 6 STANDARD DS4 6.3 121.0 30.5 158 .3 34.4 11.4 774 3.05 23.1 6.0 28.1 3.6 27 5.4 4.7 5.0 75 .51 .089 15 157.5 .58 142 .086 2 1.66 .035 .15 4.0 .27 3.6 1.0<.05 ٨

Page 3

Data 🏊

Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of the analysis only.

GROUP 6 - PRE - SAMPLE TYPE DATE RECEIVED: NOV 8 2002 DATE REPORT MA		OM 1 A.T. SAMPLE, A			<u> </u>
- SAMPLE TYPE	: ROCK PULP				<u></u>
		$\land$	NALISIS BI ILP-ES.		
	ALIBUS /V// 12/06	SIGNED BY	Г,	LEONG. J. WANG: CERT	IFIED B.C. ASSAYERS
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	<u>Reewaciii</u> 900	- 475 Howe St., Vancouver	<u>)JECT QCM</u> File BC V6C 2B3 Submitted by	# A204194R : Adam Travis		
· ·		SAMPLE#	Au** gm/mt	······································		
		JTS 095 JTS 097 STANDARI	2.40 4.07 AU-1 3.36			
		PRECIOUS METALS BY FIRE AS YPE: SOIL PULP	_	D		
DATE RECEIVED: NOV 8	2002 DATE REPORT	MAILED: NOV13/	02 SIGNED BY	D. TOYE, C.LEONG,	J. WANG; CERTIFIED	B.C. ASSAYERS
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# Appendix VI Acme Lab Procedures

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## METHODS AND SPECIFICATIONS FOR ANALYTICAL PACKAGE GROUP 1D & 1DX - ICP & ICP-MS ANALYSIS – AQUA REGIA

ACME

Analytical Process

Vegetation

Ash at

475°C

Re-split

<u>Re-analyze</u>

Data

Verification

Rock and Core

Label, Crush & Pulverize to -150

mesh

No

Is data of

acceptable

guality?

Yes

Receive Samples

Sort and Log Samples

Soils, Sediments

Oven Dry at 60°C

Label and Sieve samples

to -80 Mesh

Weigh 0.5 g into test tubes, add duplicates and

reference material to the

sample sequence

Add Aqua Regia acid

mixture to test tubes and

digest in boiling (>95°C)

water bath for 60 minutes.

Calibration standards and reagent blanks added to

sample sequence.

Sample solutions analysed

by ICP-ES or ICP-MS

LIMS system corrects data

for interferences and drift.

Operator inspects Raw

Data

ICP data and other

requested analyses

combined as a final

Analytical Report

Verification and

Certification by a BC

Certified Assayer

ANALYTICAL LABORATORIES LTD.

### Comments

### Sample Preparation

Soil or sediment is dried (60°C) and sieved to -80 mesh (-177  $\mu$ m). Vegetation is dried (60°C) and pulverized or ashed (475°C). Moss-mats are dried (60°C) and sieved to yield -80 mesh sediment. Rock and drill core is jaw crushed to 70% passing 10 mesh (2 mm), a 250 g riffle split is then pulverized to 95% passing 150 mesh (100  $\mu$ m) in a mild-steel ring-and-puck mill. Pulp splits of 0.5 g are weighed into test tubes.

### Sample Digestion

A 2:2:2 solution of concentrated ACS grade HCl, HNO<sub>3</sub> and de-mineralised H<sub>2</sub>O (modified Aqua Regia) is added to each sample to leach for one hour in a hot water bath (>95°C).

### Sample Analysis

Group 1D: solutions aspirated into a Jarrel Ash AtomComp 800 or 975 ICP emission spectrometer are analysed for 30 elements: Ag, Al, As, Au, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sr, Th, Ti, U, V, W, Zn.

*Group 1DX*: solutions aspirated into a Perkin Elmer Elan6000 ICP mass spectrometer are analysed for 36 elements: Ag, Al, As, Au, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, *Ga, Hg*, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, *S*, Sb, *Sc*, *Se*, *Tl*, Sr, Th, Ti, U, V, W, Zn.

### Quality Control and Data Verification

An Analytical Batch (1 page) comprises 34 samples. QA/QC protocol incorporates a sample-prep blank (SI or G-1) carried through all stages of preparation and analysis as the first sample, a pulp duplicate to monitor analytical precision, a -10 mesh rejects duplicate to monitor sub-sampling variation (drill core only), two reagent blanks to measure background and aliquots of in-house Standard Reference Materials like STD DS4 to monitor accuracy.

Raw and final data undergo a final verification by a British Columbia Certified Assayer who signs the Analytical Report before it is released to the client. Chief Assayer is Clarence Leong, other certified assayers are Dean Toye and Jacky Wang.

Document: Method and Specifications for Group 1D&1DX.doc	Date: Feb 4, 2003	Prepared By: J. Gravel
852 East Hastings Street + Vancouver +	British Columbia	· CANADA · VEA 100

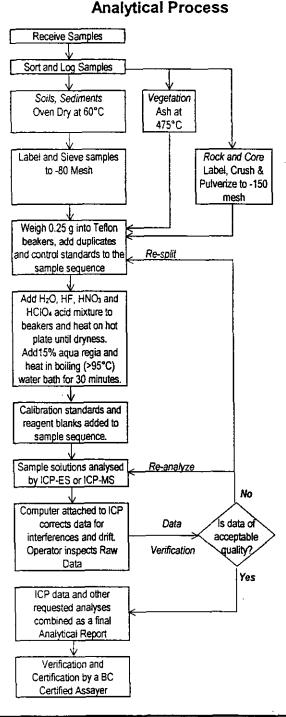
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### METHODS AND SPECIFICATIONS FOR ANALYTICAL PACKAGE GROUP 1E & 1EX - ICP ANALYSIS – TOTAL DIGESTION



### Comments

### Sample Preparation

Soil or sediment is dried (60°C) and sieved to -80 mesh (-177 Im). Vegetation is dried (60°C) and pulverized or ashed (475°C). Moss-mats are dried (60°C), pounded and sieved to yield -80 mesh sediment. Rock and drill core is jaw crushed to 70% passing 10 mesh (2 mm), a 250 g aliquot is riffle split and pulverized to 95% passing 150 mesh (100 Im) in a mild-steel ring-and-puck mill. Aliquots of 0.25 g are weighed into Teflon beakers. QA/QC protocol requires inserting two duplicates of pulp to measure analytical precision, a coarse (10 mesh) rejects duplicate to measure method precision (trench and drill core samples only) and an aliquot of in-house reference material STD DST3 to measure accuracy in each analytical batch of 34 samples.

### Sample Digestion

The 4-Acid solution of 18:10:3:6 H<sub>2</sub>O-HF-HClO<sub>4</sub>-HNO<sub>3</sub> (ACS grade) is added to each sample, heated to furning on a hot plate and taken to dryness. The residue is dissolved in dilute (15%) aqua regia of 2:2:2 HCl-HNO<sub>3</sub>-H<sub>2</sub>O (ACS grade) heated in a boiling water (>95°C) bath for 30 minutes. QA/QC protocol requires simultaneous digestion of two regent blanks randomly inserted in each batch.

### Sample Analysis

*Group 1E*: sample solutions are aspirated into a Jarrel Ash AtomComp 800 or 975 ICP emission spectrograph to determine 35 elements: Ag, Al, As, Au, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, La, Mg, Mn, Mo, Na, Nb, Ni, P, Pb, Sb, Sc, Sr, Th, Ti, U, V, W, Y, Zn, Zr.

**Group 1EX:** sample solutions are aspirated into a Perkin Eimer Elan 6000 ICP mass spectrometer to determine 41 elements: Ag, Al, As, Au, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cu, Fe, *Hf*, K, La, *Li*, Mg, Mn, Mo, Na, Nb, Ni, P, Pb, *Rb*, S, Sb, Sc, Sr, *Ta*, Th, Ti, U, V, W, Y, Zn, Zr.

### Data Evaluation

Raw and final data from the ICP-ES undergoes a final verification by a British Columbia Certified Assayer who then signs the Analytical Report before it is released to the client. Chief Assayer is Clarence Leong, other certified assayers are Dean Toye and Jacky Wang.

Document: Method and Specifications for Group 1E & 1EX.doc

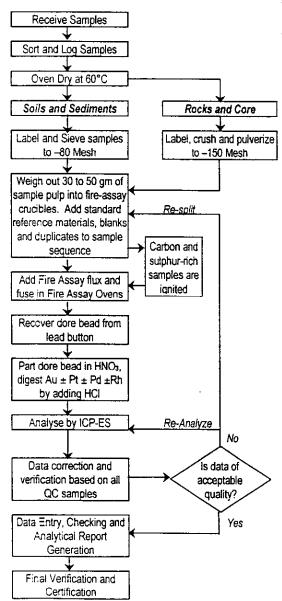
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### METHODS AND SPECIFICATIONS FOR ANALYTICAL PACKAGE GROUP 3B - PRECIOUS METALS BY FIRE GEOCHEM

### **Analytical Process**



### Comments

### Sample Preparation

Soils and sediments are dried (60°C) and sieved to -80 mesh ASTM (-177 m). Rocks and drill core are crushed and pulverized to 95% -150 mesh ASTM (-100  $\mu$ m). Splits of 30 gm (client may select 50 gm option) are weighed into fire assay crucibles. Quality control samples comprising blanks, duplicates and reference materials Au-S, Au-R, Au-1 or FA-100S (in-house standard reference materials) added to each batch of 34 samples monitor background, precision and accuracy, respectively.

### Sample Digestion

A fire assay charge comprising fluxes, litharge and a Ag inquart is custom mixed for each sample. Fusing at 1050°C for 1 hour liberates Au, Ag, Pt and Pd. For Rh > 10 ppb, a Au inquart is used. After cooling, lead buttons are recovered and cupeled at 950°C to render Ag  $\pm$ Au  $\pm$ Pt  $\pm$ Pd or Au  $\pm$ Pt  $\pm$ Pd  $\pm$ Rh dore beads. Beads are weighed then leached in hot, conc. HNO<sub>3</sub> to dissolve Ag leaving Au ( $\pm$  PGE) sponges. Concentrated HCl is added to dissolve the sponges. Au inquart beads (Rh analysis) are dissolved in Aqua Regia.

#### Sample Analysis

Au, Pt, Pd and Rh are analysed in sample solutions by ICP-AES (Jarrel Ash AtomComp model 800 or 975). Rh can be determined quantifiably up to 10 ppb from a Ag inquart fusion digestion, however a Au inquart must be used to accurately determine higher concentrations.

### **Data Evaluation**

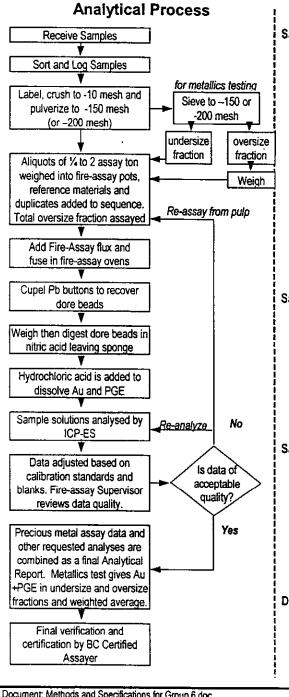
Data is inspected by the Fire Assay Supervisor then undergoes final verification by a British Columbia Certified Assayer who signs the Analytical Report before release to the client. Chief Assayer is Clarence Leong, other certified assayers are Dean Toye and Jacky Wang.

Document: Methods and Specifications for Group 3B.doc



### **ISO 9002 REGISTERED**

## METHODS AND SPECIFICATIONS FOR ANALYTICAL PACKAGE GROUP 6 - PRECIOUS METAL ASSAY



### **Comments**

### **Sample Preparation**

Rock and drill core is jaw crushed to 75% passing 10 mesh (1.7 mm), a 250 g aliquot is riffle split and pulverized to 95% passing 150 mesh (100 µm) in a mild-steel ring-and-puck mill (pulverizing to 95% passing 200 mesh is available), Splits of ¼ (7.3 g) to 2 (58.4 g) assay tons are weighed into fire assay crucibles. QA/QC protocol includes inserting into each batch of 34 samples: two analytical blanks (background), a pulp duplicate (analytical precision), a rejects duplicate (method precision for drill core samples only) and two in-house reference material aliquots of either STD Au-1, STD Ag-2 or STD FA-10R (accuracy), Results are in imperial (oz/t) or metric (om/mt) measure. For metallics assaying, a 500+ g split is pulverized and sieved to 150 or 200 mesh. Oversize material is assayed in total. A 1 or 2 assay ton aliquot of the undersize material is also assayed.

### Sample Digestion

A fire assay charge comprising fluxes, litharge and a Ag inquart is custom mixed for each sample. A Au inquart is used for quantitative Rh analysis. Fusing at 1050°C for 1 hour liberates Au, Ag, Pt, Pd and Rh. The Pb button is recovered after cooling and cupeled at 950°C to render a Ag (± Au, Pt, Pd, Rh) dore bead. After weighing, the bead is parted in HNO<sub>3</sub> then digested by adding HCI. Au inquart beads (Rh analysis) are dissolved in Agua Regia.

### Sample Analysis

The solutions are analyzed by ICP-ES (Jarrel Ash Atom-Comp model 800 or 975) to determine Au, Pt, Pd and Rh. Au or PGEs over 1 oz/t are determined by gravimetric finish. Ag is determined both by fire assay and wet assay with values > 10 oz/t reported from fire assay and values <10 oz/t reported from the wet assay. Metallic Assay reports give concentrations of Au  $\pm$ PGEs in the oversize fraction, the undersize fraction and the calculated weighted average of these fractions.

#### **Data Evaluation**

Raw and final data undergoes a final verification by a British Columbia Certified Assayer who then signs the Analytical Report before it is released to the client. Chief Assayer is Clarence Leong, other certified assayers are Dean Toye and Jacky Wang.

Document: Methods and Specifications for Group 6.doc Date: August 2002 Prepared By: J. Gravel

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