Geological, Geochemical and Prospecting Report Undertaken On The Bug Lake Property

Liard Mining Division
Iskut River Area, British Columbia

Latitude: 56° 41' N
Longitude: 130° 59' W
NTS: 104B/10W & 11E
BCGS: 104 B065, 066

Prepared For:
Newcastle Minerals Ltd. - Operator
Viceroy Resources Ltd. - Owner

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Table of Contents

I. SUMMARY AND RECOMMENDATIONS

The Bug Lake Property is located in north-western British Columbia, approximately 300 kilometers north of the town of Smithers and 2 kilometers east of the past producing Snip Mine. The 900-hectare Bug 1-3 claims were recently optioned by Featherstone Resources Ltd. (now Newcastle Minerals Ltd.) from Viceroy Resource Corporation. When combined with the adjacent Waratah 7 claim, the claim group comprises the 1400 hectare Bug Lake Property.

The styles of mineralization found on the claims are similar to those found at the Snip mine, located two kilometers to the west of the Bug Lake property. Several previous phases of exploration have been carried out which were mainly comprised of geological mapping, trenching, geochemical surveys including heavy mineral, silt, soil and rock, and lesser amounts of prospecting, geophysical surveys (VLF and EM) and 57 diamond drill holes.

Most of the showings examined on the Bug Lake property are narrow, have limited strike extent and exhibit low precious metal grades. Several of these showings have been well explored and do not display any reasonable potential to host an economic precious metal deposit. It is the author's opinion, however, that a number of significant mineral occurrences, as well as geochemical and geophysical anomalies have not been adequately tested or explained; the Bug Lake property's mineral potential is significant enough to warrant further work. The proximity to the Snip deposit, the presence of numerous mineralized occurrences, and the success of the 2002 program are the main factors that support this conclusion. Additionally, outcrop is scarce on the property and a significant deposit could be present, but has not been discovered to date.

Fieldwork conducted during 2002 included 45 person-days prospecting and sampling in the south central portions of the claims; this resulted in an expenditure of $51,182.00. No Notice of Work was required for this work which included further investigation and sampling of previously defined gold in soil anomalies; previous results were confirmed and better delimited. In one of the soil sampling areas, a soil sample returned 11.29 g/t gold and an adjacent rock float sample, which was a semi-massive arsenopyrite quartz vein, returned 69.42 g/t gold. Grab samples in this general also returned elevated values such as 4540 ppb and 15660 ppb gold.

Proposed work for the 2003 field season includes a 4-man fly-camp for ten days prospecting and sampling the relatively underexplored portions of the property and to follow up 2002's exciting new discoveries. This program is estimated to cost $75,000.

II. LOCATION AND ACCESS

The Bug Lake property is situated on the south bank of the Iskut River, only two kilometers east of the past producing Snip Mine and Bronson airstrip. The property is situated within the Liard Mining Division of northwestern British Columbia, approximately 200 miles north of Smithers (Figure 1). The claims are located on map sheet 104B/10W and 11E at latitude 56° 41' north and longitude 130° 59' west.

There are several ways to access the Bug Lake property. One way to access the property is by fixed-wing aircraft from the town of Smithers located 290 kilometers to the southeast and fly to the Bronson Creek airstrip, which is located two kilometer west of the property. From the Bronson Creek airstrip a helicopter is needed to access the property. With minor reconditioning, the Bronson Creek airstrip is capable of accommodating Hercules aircraft and will currently land small twin engine planes. The second method of access is from kilometer 42 on the Eskay Creek mine road, a staging area can be used, with permission from the Eskay Creek Mine. Equipment and personnel can be flown into the property by helicopter; this is approximately a 0.3 hours trip. Access throughout the property, is by helicopter to well placed helipads or by hiking through moderate terrain on previously cut baselines or by a 14-foot aluminum boat based at the camp.

III. TOPOGRAPHY AND PHYSIOGRAPHY

The Iskut River dominates the northern portion of the property. A 200-meter high ridge of hummocky ground with precipitous bluffs and steeply incised drainages characterizes the central part of the claim block. Low, swampy ground, and several small lakes cover the southern part of the property. The southern boundary of the Bug claims occurs at the base of the precipitous Snippaker Ridge. The steep slopes up to Snippaker Ridge contain numerous slide paths that can pose dangerous snow and rock avalanches. The majority of the property is covered by mature spruce and hemlock; however, slide paths below Snippaker Ridge and gullies throughout the claims commonly contain Devil's club and slide alder.

The climate is typified by cold, snowy winters and cool, wet summers. Snow accumulations are up to 1-2 meters near the Iskut River and normally exceed 5 meters at higher elevations. The recommended work season is June to October.

Water for drilling and camp purposes is readily available throughout the property. Other infrastructure elements such as access and power would be difficult to obtain, however, as experienced at the Snip Mine, they can be overcome.

IV. CLAIM DETAILS

The property comprises three 12-unit claims with an area of approximately 900 hectares optioned from Viceroy Resources as well as the adjacent 20 units, 500 hectare, Waratah 7 claim held by Newcastle Minerals (Figure 2).

The Bug 1-3 claims were staked on March 13, 2002 and have not been legally surveyed. The authors reviewed the files at the BCGS website and compiled the relevant claims statistics in Table 1.

Tenure Number	Claim Name	Owner Number	Map Number	Date Staked	Status	Mining Division	Units
392384	BUG 1	127898 100%	104B065	2002/03/13	2003/03/13	9 Liard	12
392385	BUG 2	127898 100%	104B065	2002/03/13	2003/03/13	9 Liard	12
392386	BUG 3	127898 100%	104B066	2002/03/13	2003/03/13	9 Liard	12
222212	Waratah 7	127361 100%	104B066	1982/09/08	2003/09/13	9 Liard	20

Table 1 Bug Lake property claim information.

127898= Viceroy Resources
127361 = Newcastle Minerals

A review of the government records shows that Viceroy Resource Corporation wholly owns the Bug 1-3 claims. A Featherstone press release of April 19, 2002 indicates that the property has been optioned to Featherstone Resources Ltd., which is now called Newcastle Minerals Ltd. Newcastle Minerals Ltd. can earn a 100% interest in the three properties, subject to a 1% net smelter return to Viceroy resource Corporation, by paying $5,000 and issuing 200,000 post-consolidation shares of Newcastle Minerals Ltd. over a period of one year. Newcastle Minerals Ltd. may purchase one-half of the royalty for $500,000.

The above claims were optioned from Viceroy plus an adjacent previous claim held by Newcastle Minerals, the Waratah 7 totaling 20 units, totals the entire Bug Lake property to 56 units.

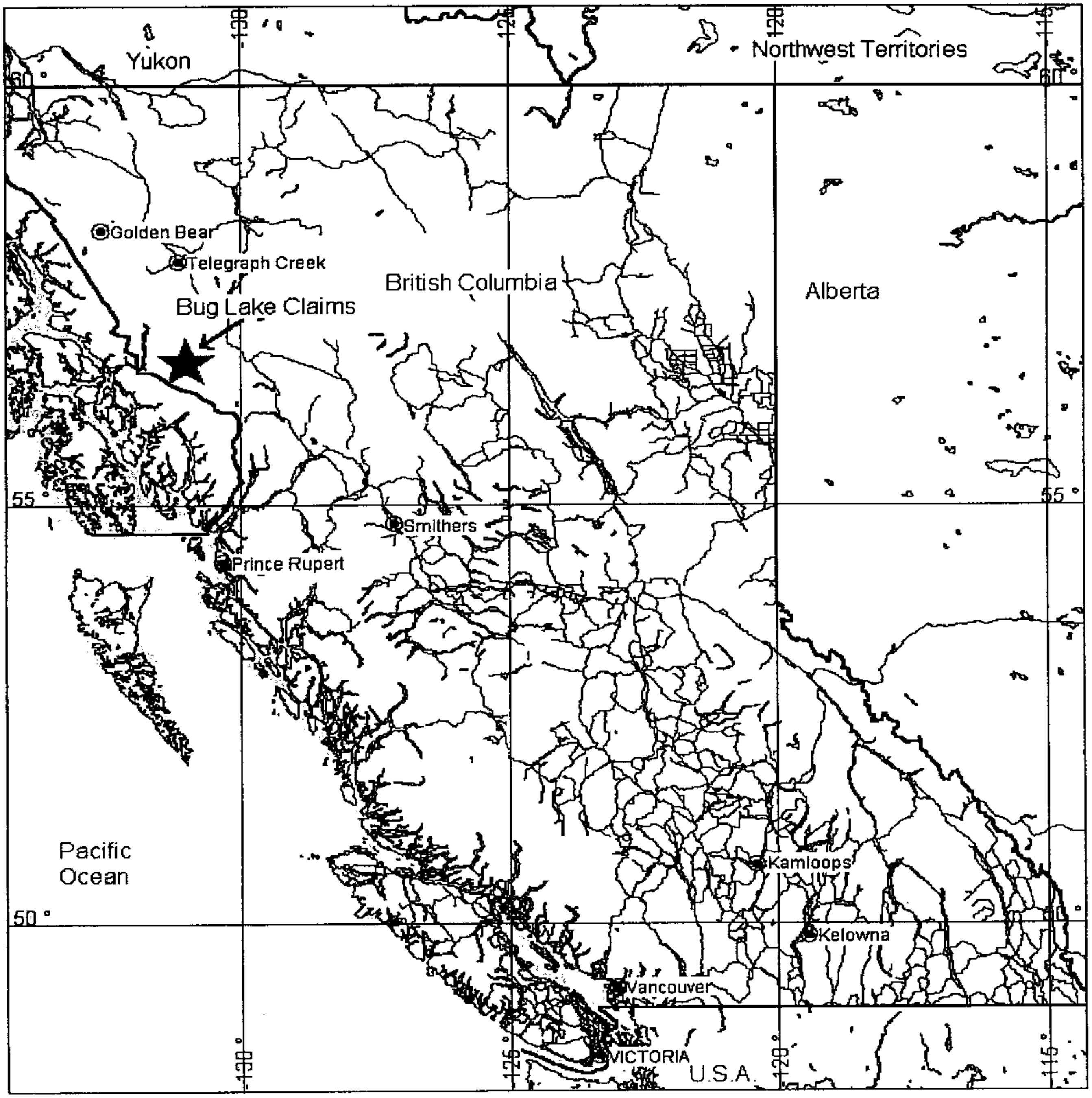


Figure 1 Bug Lake property location map

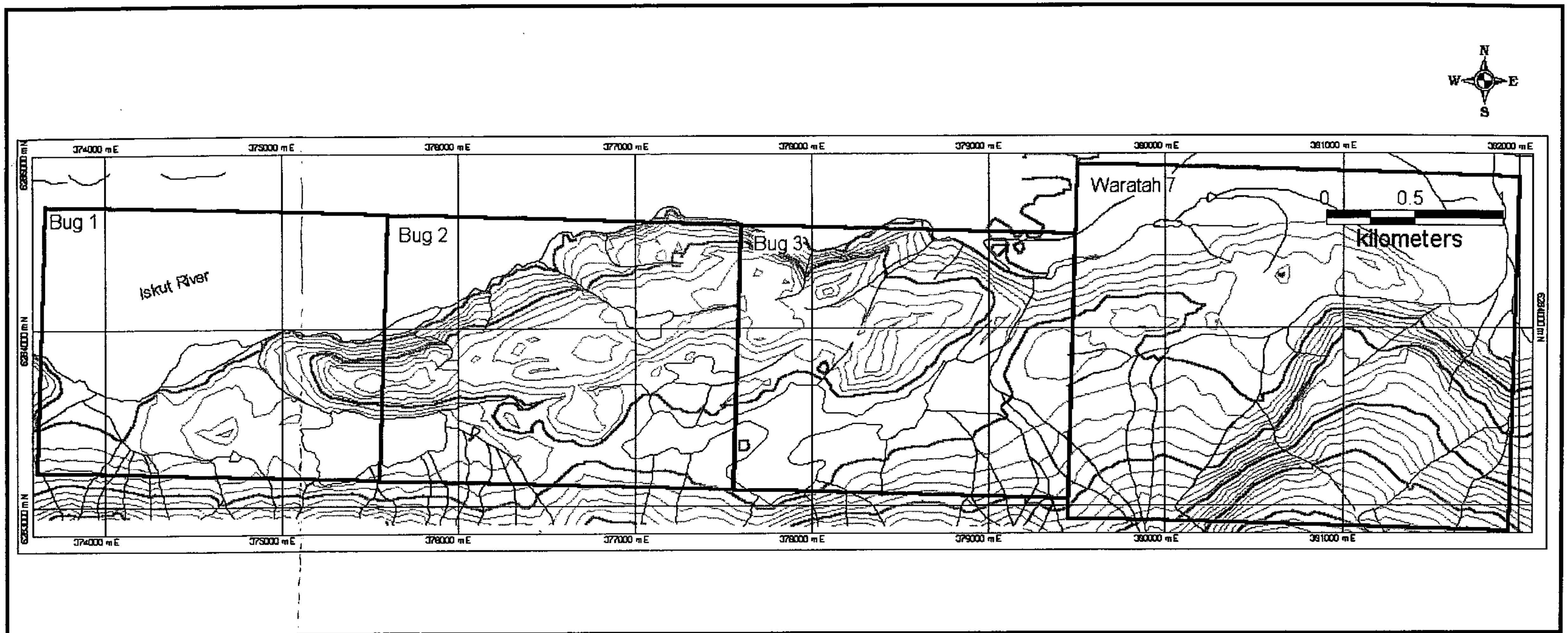


Figure 2 Bug Lake property topography and claims location map.

V. HISTORY

The first recorded work in the Iskut River area was in 1907 by a prospecting party from Wrangell, Alaska, who staked nine claims north of Johnny Mountain. The Iskut Mining Company explored crown-granted claims along Bronson Creek and on the north slope of Johnny Mountain. By 1920, a nine-meter adit had revealed a number of galena-bearing veins and stringers.

In 1954, Hudson's Bay Mining and Smelting located the Pick Axe showing and high-grade gold-silver-lead-zinc float on the open upper slopes of Johnny Mountain. The claims were worked and were subsequently allowed to lapse.

During the 1960's, several major mining companies conducted helicopter-supported reconnaissance exploration programs in their search for porphyry copper-molybdenum deposits. Several claims were staked on Johnny Mountain and in the Bronson Creek area. Cominco Ltd. staked claims over a gold-bearing quartz vein, which was later developed into the Snip Gold Mine, which produced approximately one million ounces of gold.

In 1969, Skyline Explorations staked the Inel property after discovering massive sulphide float originating from the headwaters of the Bronson Creek Glacier. They re-staked the Reg property on Johnny Mountain in 1980. In the following years, Skyline carried out extensive trenching, drilling and underground development of polymetallic veins on both the Reg and Inel properties, defining zones of high gold and silver mineralization. The Johnny Mountain Mine went into production for a brief period during 1989 and 1990. .

Skyline Explorations Ltd first staked the Bug Lake property area in 1982. In 1983, a Skyline-Placer Development joint venture contracted an airborne electromagnetic and magnetic survey (Piroshco, 1996) over the claim area. Skyline then optioned the property to Gulf International Minerals Ltd. (Caulfield and Ikona, 1985) in 1984; they carried out field programs, which included line cutting, trenching, soil sampling and prospecting. Additional linecutting, trenching, and a Pulse-EM survey were completed during 1985. This option was subsequently dropped.

In 1986, Hector Resources Inc. acquired the Jazz claims, which adjoins the present day Bug Lake property to the south, through an option agreement with Skyline Exploration Ltd. In 1987, Hector carried out a program of geological mapping, prospecting, as well as geochemical and geophysical surveys. The program led to trenching and a 15-hole, 610 meter, diamond drill program to evaluate the Golden Spray Zone, which SE of the Waratah 7 claim.

In 1987 and 1988, Skyline (Caulfield, 1987, 1988) optioned the Waratah Property to Tungco Resources Corp., which is approximately coincident with the current Bug Lake property. Tungco conducted line cutting, geochemical, and geophysical surveys, prospecting, trenching and diamond drilling. This work included 33 km of line cutting, 45 km of magnetic and VLF-EM surveys and the excavation of 40 trenches. A total of 1,025 soil, 7 heavy mineral, 4 silt, and 509 rock samples were collected and analyzed. Seventeen gold occurrences were discovered during this program, most of which were investigated by trenching and/or drilling. An Aerodat airborne VLF-EM and magnetic survey was flown over the property during the spring of 1988.

In 1990, Keewatin Engineering (Pegg, 1991) was commissioned to explore the previous Waratah 7 claim, which is now covered by the extreme eastern end of the Bug 3 claim. This work was done for Big M Resources Ltd. as part of an option agreement with Royal Bay Gold Corp., which is formerly Tungco Resources Corp. and the pre-cursor to Featherstone Resources and Newcastle Minerals. The work included geological, geochemical and prospecting surveys, as well as a trenching and diamond drilling program totaling 540 meters in 7 drill holes over the Cooper Zone, which is 2.4 kilometers southeast of the River Showing (Figure 3).

During 1996, Royal Bay Gold Corp. conducted work over portions of the Waratah 7 claim. The objective (Piroshco, 1996) was to evaluate the Cooper Zone and the area southeast of the Cooper Zone to the Golden Spray zone. This work consisted of 5 kilometers of line-cutting, geological mapping, rock sampling including 66 samples, and 100 line meters of trenching, and 4.5 line-kilometers of VLF-EM and magnetometer surveys. A compilation of the previous trenching and drilling is presented below in Table 2

		1987		1988		1990		Total	
Showing Name	Showing #	Trenches	Drilling	Trenches	Drilling	Trenches	Drilling	Trenches	Drilling
Golden Arrow	1	3(T19-T21)						3	
River Vein	2								
No.11	3			1(T35)				1	
Swamp Vein	4	2(T7-8)	6 (251.5m)					2	6 (251.5m)
X-Cut Vein	5	3(T13-15)						3	
Bluff Vein	6	5(T2-T6)	11 (420.7m)		8 (675.1m)			5	19 (1095.8m)
L Helipad	7a	1(T11)						1	
U. Helipad	7b	1(T12)						1	
Mag Vein	8	3(T16-18)						3	
No. 7	9	2(T9-10)	7 (366.3m)		8 (797.6m)			2	15 (1163.9m)
Lake Showing	10	1(T1)						1	
Badger Showing	11			3(T30-32)				3	
No.9	12			2(T33-34)				2	
E.Gold Bug	13			1(T36)				1	
Gold Bug	14	2(T22-23)		3(T24-26)	8 (807.6m)			5	8 (807.6m)
Boot Hill	15			5(T27-28; 37-39)	2 (226.8m)			5	2 (226.8m)
Flare Zone	16			1(T29)				1	
Cooper Zone*	17			T(36-38)		3 (L,M,U)	7 (539.8m)	3	7 (539.8m)
Total	42 Trenches, 57 Drill Holes								

Table 2 Compilation of previous trenching and drilling.

* In 1996, Maple Mark and Royal Bay conducted 100 meters of blast trenching.

VI. REGIONAL GEOLOGY

The Iskut River area lies within the intermontane tectono-stratigraphic belt, one of five parallel, northwest-southeast trending belts, which comprise the Canadian Cordillera. This belt of Permian to Middle Jurassic volcanic and sedimentary rocks defines the Stikinia-Stikine Terrane. This is bounded on the west by the Coast Plutonic Complex and overlapped to the east by younger sediments of the Bowser Basin. This belt has been intruded by at least four episodes of plutonism, from Late Triassic to Oligocene-Miocene. Quaternary and Tertiary bimodal terrestrial volcanic rocks occur to the east of the Bug Lake property and to the west at Hoodoo Mountain.

Most of the Mesozoic rocks have been subjected to regional low-grade greenschist facies metamorphism. The most prominent fault direction is northeast southwest. Some displacement is suggested by the abrupt termination of various lithological units.

The oldest rock assemblage in the local area consists of Paleozoic crinoidal limestone overlying metamorphosed sedimentary and volcanic rocks. Unconformably overlying the Paleozoic limestone unit are Upper Triassic Group island arc volcanics and sediments, referred to informally as the "Snippaker Volcanics". Grove (1981) correlates this assemblage to the Unuk River Formation of the Stewart Complex whereas other writers match this package with the time - equivalent Stuhini Volcanics. Monotis fossils have been recognized on the north slope of Snippaker Peak, two kilometers south of the Bug Lake property, and west of Newmont Lake giving a relative age date of late Triassic. This volcano-sedimentary package hosts the Reg, Snip, and Inel deposits.

Grove (1986) reports an unconformity between Carboniferous and Middle Jurassic strata on both sides of Snippaker Ridge, north of Snippaker Peak. The same unconformable relationship between these major rock units appears to extend from Forrest Kerr Creek west along the Iskut River to its junction with the Stikine River. The most recent interpretation suggests an east-west trending fault along the Iskut River which, like the King Salmon Thrust Fault, pushed up and over to the north.

Following the Iskut River faulting, the entire region was overlain by Middle Jurassic Hazelton Group volcanic sedimentary rocks correlated by Grove (1986) to the Betty Creek Formation. Sub-volcanic orthoclase porphyry stocks, dated as Jurassic by Nagy (1987), occur near all of the significant gold occurrences in the local area and may be genetically related to the mineralization.

VII. REGIONAL MINERALIZATION

Gold bearing deposits in this part of British Columbia are dominantly vein/shear zone deposits of mesothermal to epithermal character (Panteleyev, 1986). They are typified by base metal bearing veins and massive to semi-massive sulphide in strong shear zones. These types of deposits are commonly related, spatially as well as temporally, to nearby Mesozoic intrusions. The association with copper, lead, zinc, arsenic, and zinc bearing minerals is common but a direct relationship has not been verified. In fact, gold can occur in base metal, such as barren pyrite or in quartz-carbonate veins with no visible sulphides. Two of the largest deposits in the area are very dissimilar. At the closed Snip Mine, gold occurs in fractures and along grain boundaries in sulphide-annite, which is a low magnesium biotite, in chlorite-quartz bodies along an east-west trending shear zone. Ribbon quartz veins are also common at the Snip Mine. Rocks in the shear zone exhibit cataclastic textures, where the shear zone is wide, and interfolial folds are developed.

The Skyline deposit, on the other hand, is associated with north-south trending sulphide bearing quartz-potassium feldspar-annite veins. These show less evidence of movement and/or shearing and are more typical vein-lode deposits with strong wall rock alteration.

VIII. PROPERTY GEOLOGY

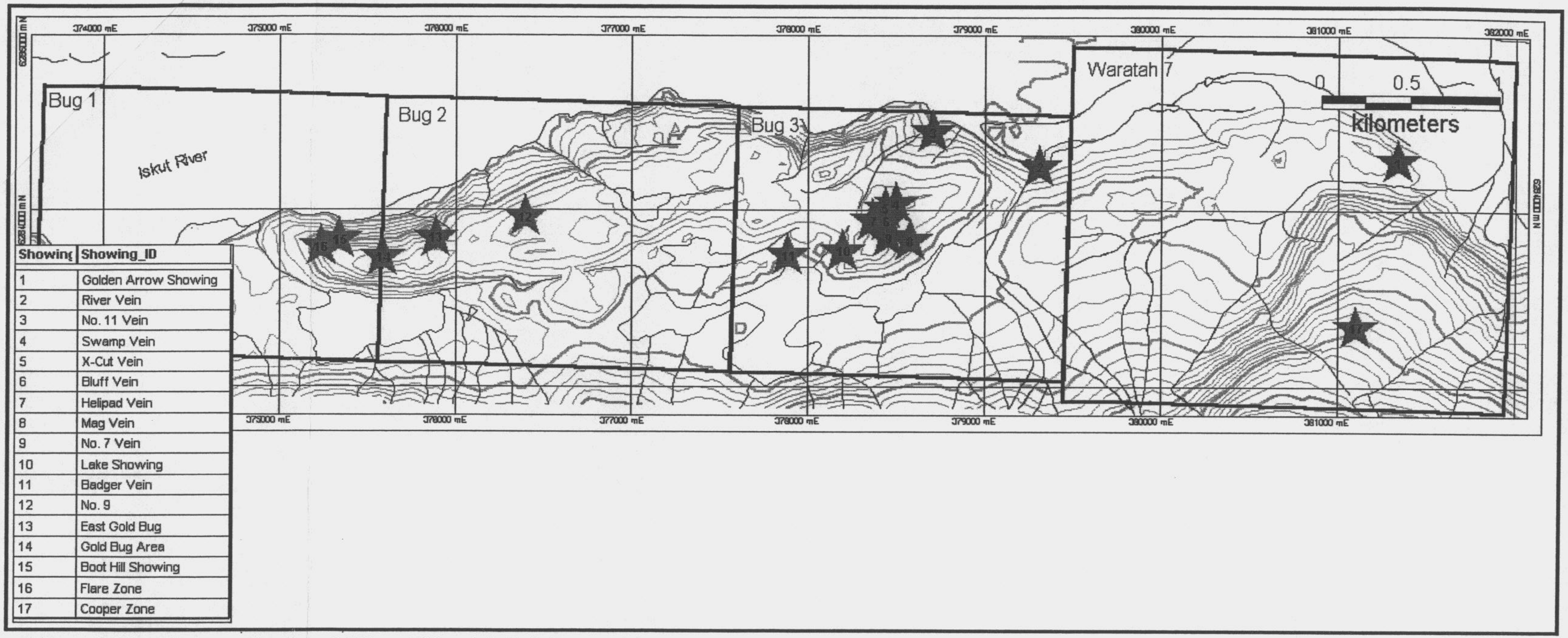
The main stratigraphic unit on the property is the Upper Triassic Stuhini Group (Anderson, 1989 and Alldrick, 1990). This Group is characterized by basic to intermediate volcanics which underlie andesitic volcaniclastics and flows as well as interbedded dark grey siltstone and fine to medium grained greywacke.

The eastern side of the property is commonly underlain by tuffs and flows of andesitic composition. Plagioclase phyric flows which grade into ash to crystal to lapilli tuffs and tuff breccias predominate. These flows contain rounded, monolithic porphyry fragments, up to 45 cm but generally less than 15 cm in diameter and plagioclase phenocrysts, to 7 mm, in a fine grained, dark green-grey matrix. The lapilli tuffs exhibit sub-angular to sub-rounded porphyritic fragments, less than 2cm across, but up to 5cm locally, in a dark green tuffaceous matrix. The crystal tuffs display up to 60% euhedral to anhedral plagioclase phenocrysts, 1 to 3 cm long, in a dark to light green-grey groundmass. The volcanic rock types are commonly interfingered and exhibit gradational contacts A few scattered exposures of black, banded, and argillaceous siltstone were observed within the north-eastern part of the property. Sediments dominate in the northwestern part of the property. The paucity of outcrop and lack of marker units make the correlation of distinctive rock units very difficult.

The volcanic rocks are cut by a number of equigranular monzodiorite to diorite sills, plugs, and dykes. An orthoclase porphyry stock was noted in the northeastern corner of the southeast grid. Pegg (1990) observed locally, narrow aplite dykes.

Propylitic alteration of the volcanic section is widespread, especially within the northeastern part of the property. Locally, silicified pods are associated with shear zones throughout the area. In the Cooper Zone area, which is located just to the east of the Bug 3 claim, ankerite/siderite alteration occurs just west of the trenches.

The eastern part of the property is cut by numerous lineaments and narrow, discontinuous topographic depressions. These commonly trend northeast and northwest and probably reflect underlying faults, shear zones and/of fracture zones. The majority of these gullies trend at 070°, with a lesser number at 150°.



Showing	Showing_ID
1	Golden Arrow Showing
2	River Vein
3	No. 11 Vein
4	Swamp Vein
5	X-Cut Vein
6	Bluff Vein
7	Helipad Vein
8	Mag Vein
9	No. 7 Vein
10	Lake Showing
11	Badger Vein
12	No. 9
13	East Gold Bug
14	Gold Bug Area
15	Boot Hill Showing
16	Flare Zone
17	Cooper Zone

Figure 3 Showings on the Bug 1,2,3 and Waratah 7 claims.

IX. PROPERTY MINERALIZATION

The current British Columbia Minfile listing shows four occurrences, the Chopin (104B097), the Gold Bug (104B295), the Waratah 6 (104B204) and Golden Arrow (104B 296), these have been expanded to below.

Mineralized occurrences on the Bug Lake property are classified into three categories: copper-gold veins, native gold-pyrite, and copper-lead-zinc-silver-gold veins (Caulfield, 1987a). Nearly all of the mineralization does carry ubiquitous, fine-grained disseminations of magnetite and fracture fillings and/or disseminations of pyrite in amounts of trace to 1%. Quartz-carbonate veins and shears commonly have pyrite, with localized chalcopyrite, magnetite, and arsenopyrite (Pegg, 1991). The greatest number of mineralized showings consists of copper-gold veins. Seventeen different showings with significant gold values occur on the Bug Lake property (Figure 3).

The best examples of copper-gold vein mineralization (Pegg, 1990) are the Bluff, Swamp and No. 7 veins (Figure 3). The mineralization consists of pyrite, chalcopyrite magnetite, and arsenopyrite within quartz-chlorite veins. Pegg (1990) reported minor bornite, chalcocite, and native copper. Generally, the gold grade varies in direct proportion to the sulphide content.

A. GOLDEN ARROW (SHOWING #1)

The Golden Arrow showing is a relatively unaltered monzonite intrusion, which hosts 10-30 centimeter wide quartz-chlorite veins mineralized with pyrite and native gold. Wallrock alteration is restricted to a few centimeters on either side of the vein structure and is comprised of chlorite and pyrite. The controlling structure is an east to northeast trending fracture with moderate south dip; it is offset by several northwest-southeast faults with minor right lateral movement. The entire exposed strike length is 30 meters. Three trenches were utilized in the area to expose the showing. Trench 19 returned 4.431 oz/t gold over 0.23 meters in sample 15356. Trench 21 returned 1.554 oz/t gold over 0.33 meters in sample 15368. Sample 15366 returned 0.986 oz/t gold over 0.13 meters. Caulfield (1987a) reported another vein, which assayed 0.671 oz/t gold 125 meters northwest of the Golden Arrow vein. This vein had a dissimilar strike of 135 degrees and dipping 5 degrees to the south. Pegg (1989) recommended further follow up work in the area despite small vein widths and erratic values.

B. RIVER VEIN (SHOWING #2)

The River Vein, which was originally discovered in 1987 and described by Caulfield (1988), is a 2 cm to 25 cm wide quartz-chlorite vein containing pyrite, magnetite, and chalcopyrite. It was reported to be oriented at 140^0-$150^0/45^0$-90^0, exposed for 50 meters and hosted by volcanic agglomerate. Two grab samples collected from the River Vein in 1987 returned 1.074 and 0.110 oz/t gold. Thirteen samples collected south of the vein area, contained values ranging from 0.034 oz/t to 0.135 oz/t gold but across very narrow widths. Two areas of nearby anomalous (60 to 170 ppb) gold-in-soils are also reported.

Investigations in 1990 (Pegg, 1991) revealed sheared and locally gossanous quartz veins which carry 5-7% pyrite, 1-5% magnetite, and trace to 3% chalcopyrite. The mineralization is generally found in the form of small lenses of semi-massive to massive sulphides. At one point, it reaches a width of 35 cm and contains 2 quartz veins, 4 and 6 cm wide. The main showing exposed the structure for a 5-meter strike length. Along strike to the southeast, a narrow, 1 to 2 centimeter wide, quartz vein with minor pyrite and magnetite is present.

Chip samples collected from the main structure revealed very erratic gold values along strike. The chip samples taken across the exposure to the southeast returned only anomalous gold values. Pegg (1991) concluded that the original grab samples were "high-graded" from the narrow quartz veins, resulting in little potential for economic mineralization.

C. No. 11 Vein (Showing #3)

Trench and soil sample results in this area were disappointing (Caulfield, 1988). Three grab samples from this area contained moderately encouraging gold values (up to 0.100 oz/t) but were collected from very narrow veins (0.05-0.10m).

D. Swamp Vein (Showing #4)

In 1987, the Swamp vein was tested by two trenches and six drill holes totaling 251.5 metres. Caulfield (1988) indicated that the poddy auriferous mineralization is discontinuous and erratic both along strike to the southeast and at depth. Trenches 7 and 8 revealed irregular, semi-massive to massive sulphide pods, which vary in width from 30 to 70 cm. The sulfides are comprised of pyrite, >magnetite, and >chalcopyrite. Chip sample results ranged up to 6.251 oz/t gold across 1.90 meters from trench 7 and 1.458 oz/t gold over 0.34 m in trench 8. The best drill intercept was 0.367 oz/t gold over 0.25 m in drill hole H87-14.

Work in 1990 (Pegg, 1991) did not reveal any significant mineralization along strike to the northwest of the Swamp Vein trenches. Only the very narrow, gold-bearing quartz veins, which were previously sampled, were located.

A 0.75m long chip sample from the Swamp vein, which consists of massive pyrite, chalcopyrite and magnetite, assayed 10.07 oz/t gold over 0.75 meters.

E. X-CUT VEIN (SHOWING #5)

The two trenches, which are 11 meters apart, revealed moderate gold values (0.017 and 0.200 over very narrow widths (0.12 and 0.10 m). A third trench encountered 1.03 oz/t gold over 0.25 meters.

F. BLUFF VEIN (SHOWING #6)

Trench and drill testing indicates that the gold mineralization is narrow and erratic; both along strike and down dip. Faulting has broken up the vein structure, at least locally. A drilling program in 1987 (Caulfield, 1987) indicated that the mineralization extended to a depth of 75 m in hole 27. Ten of the 11 holes intersected quartz veining with gold values exceeding 0.200 oz/t gold. A 2.5 m mineralized intersection from one drill hole assayed 8.7 g/t gold. The five drill sections, 25 to 35 m apart, have adequately tested this zone.

G. HELIPAD VEINS (SHOWINGS # 7)

Trenching in 1988 (Caulfield, 1989) revealed narrow (0.15 to 0.40 m) veins with discontinuous gold +/- copper mineralization.

H. MAG VEIN (SHOWING # 8)

Trench sampling results from this zone indicate that significant gold grades, up to 0.207 oz/t over 1.30 m in width and limited strike length. The vein is indicated by a single point, gold-in-soil anomaly which assayed 11,900 ppb gold from a detailed 25 by 25 meter grid. A few soil samples to the south and southeast contained enhanced to anomalous gold values. One grab sample to the northeast contains anomalous gold but over a very narrow width.

I. NO. 7 VEIN (SHOWING # 9)

The No. 7 vein comprises massive lenses of pyrite, chalcopyrite, and magnetite. A 1.0 m sample taken from trench 9 assayed 2.09 oz/t gold, 89.48 g/t silver and 0.41% copper (Caulfield, 1987). This zone has been adequately tested along six drill sections, 18 to 50 meters apart. Five of the six holes intersected the main vein structure. Overall, the gold grades obtained from the drilling were not as high as reported from the trench sampling. The gold mineralization is narrow, erratic and discontinuous both along strike and down dip. The vein was delineated over a strike length of 120 meters. The best drill intersection was 0.173 oz/t gold over 3.00 meters. The soil geochemical results indicate a restricted strike potential.

J. LAKE SHOWING (SHOWING # 10)

Trenching (Caulfield, 1988) indicates erratic, poddy, and faulted mineralization with good to poor gold grades. One high-grade grab sample collected along strike to the south, assayed 0.126 oz/t gold. To the east, one float sample and one grab sample carried enhanced gold values. Gold-in-soil results were low.

K. BADGER VEIN (SHOWING # 11)

Trench results (Caulfield, 1987a) from this zone indicate significant (up to 0.447 oz/t) gold mineralization over a narrow width (0.65m) but over a very limited strike length. Two grab samples and two soil samples from the general area contain anomalous gold values.

L. NO. 9 SHOWING (SHOWING # 12)

The showing area is underlain by andesitic lapilli tuff and agglomerate. Propylitic alteration, especially epidote, is very pronounced in the vicinity of the vein. The zone itself displays extensive but discontinuous silicification, bleaching, fracturing, and limonitic patches. Minor amounts of pyrite were observed throughout the fractured and bleached tuffs within the trenches. In trench #33, a twenty centimeter-wide shear zone composed of oxidized and bleached silicified material contains 2% pyrite. This shear zone was is not present in trench 34, only 14 meters along strike to the southeast.

During 1988, prospecting in the vicinity of gold-in-soil anomalies returned a grab sample which assayed 0.279 oz/t gold. This was collected from a zone reported (Caulfield, 1989) to be 2 meters wide. Two trenches were excavated across this zone and revealed very erratic and discontinuous mineralization. The chip sample results from the trenches did not correlate with those obtained from the grab sample.

During 1990 (Pegg, 1991), the two trenches were re-sampled and their results confirmed the very low values obtained during the previous sampling program. No significant mineralization was noted along strike to the northwest. The soil sample results outline an east-west trending gold anomaly of >200 ppb gold, which extends for approximately 220 meters and is open to the west. Several single-point gold-in-soil anomalies were noted in the general vicinity.

M. EAST GOLD BUG (SHOWING #13)

Chip samples results for a trench indicate low grade and erratic gold values over relatively narrow widths. Gold-in-soil sample results are low.

N. GOLD BUG (SHOWING # 14)

The Gold Bug showing is located on the western side of the Bug Lake property and is reported (Caulfield, 1990) to have a strike length of 60 meters. Mineralization in the zone is composed of semi-massive pyrite, magnetite, and chalcopyrite within quartz-chlorite veins that are characterized by the presence of sphalerite and galena. The lead and zinc mineralization is accompanied by lower gold values, generally between 0.3 to 3.4 g/t. The veins are similar to the copper-gold veins on the Bug 3 claim. A narrow alteration envelope consists of pervasive chlorite-carbonate alteration penetrated by a network of carbonate-quartz-pyrite veinlets adjacent to the vein walls.

An 0.85 meter chip sample from trench 22, taken across a massive sulphide zone (pyrite, magnetite, chalcopyrite), in a quartz-chlorite vein called the Upper Gold Bug vein, assayed 0.30 oz/t gold, 20.4 g/t silver, 0.4% copper, 0.03% lead and 0.86% zinc. One meter along strike to the northwest and southeast, the grades drop off to less than 0.145 oz/t over a similar width. A select grab sample taken from a 20 by 40 cm pod within this vein assayed 20.1 g/t gold, 16.5 g/t silver, 0.4% copper, 0.03% lead and 0.39% zinc (Caulfield, 1990). Samples taken in 1988 (Caulfield, 1990) from trenches in the Gold Bug Zone ranged from 7.37 g/t gold over 0.3 m to 29.7 g/t gold over 0.77 meters.

O. BOOT HILL (SHOWING # 15)

The trenching and drilling generally indicated low-grade veins over narrow widths, although two chip samples from the trenches were of interest. From trench #27, one chip sample, assayed 0.420 oz/ton gold, and 0.96% zinc over a length of 1.10 meters. Trench 38 produced a chip sample that ran 0.148 oz/ton gold, 2.74 oz/ton silver and 1.54% lead over 0.85 meters. The other samples from the trenches did not reflect these grades, nor did the drilling. The drilling could not duplicate the high-grade results from trench 27. This may indicate a discontinuous, poddy style of mineralization.

P. FLARE ZONE (SHOWING #16)

In 1988, trenching (TR-29) on the Flare Vein revealed a 1.7-meter wide quartz +/- chlorite vein hosted by greywacke. The initial grab sample from this vein returned

1.41% zinc, 0.004 oz/ton gold, and 0.17oz/ton silver. Subsequent chip sampling returned values up to 0.89% zinc, 0.10% lead, 0.024 oz/ton gold and 0.60 oz/ton silver across 0.5 meters. A float sample, 1.2 x 0.6 meters in area, was collected 27 meters to the south. It assayed 0.753 oz/ton gold, 4/62 oz/ton silver, 5/24% lead, and 17.90 % zinc.

During 1990, Pegg (1990) re-chip sampled trench #29. The quartz vein is 0.70 meters wide and can be traced for 8 meters along strike. Up to 1% sphalerite and galena, in the form of 0.3 cm wide pods, and minor pyrite, as 3 to 4 cm wide lenses, are concentrated along the margins of the vein. The veining is controlled by a narrow, 2 to 15 centimeter wide shear zone. Narrow quartz-carbonate veining to the east, known as the Boot Hill Zone, returned low to moderate zinc values but background levels of gold.

Q. COOPER ZONE (SHOWING #17)

The Cooper Zone was investigated for a 76 ppb gold-in-soil anomaly. Mineralization is comprised of up to 10% pyrite in fracture fillings, stringers, and pods. The mineralization is associated with quartz veinlets and lenses; the rock host is an andesitic tuff. The entire mineralized zone appears to have a strike of 110-120 degree dip and striking north (Pegg, 1991). Three trenches were blasted; the best results were from the Lower Trench, where 0.717 oz/t gold was returned over a sample length of 2.5 meters. This intersection included 0.50 meters of 3.033 oz/t gold. The Center Trench returned 0.590 oz/t gold over 1.45 meters. This intersection was not entirely exposed due to terrain. The Upper Trench returned 0.443 oz/t gold over 1.0 meter. Seven diamond drill holes were completed on the Cooper Zone. Best results were from drill hole W90-03 which returned 1.009 oz/t gold over 0.45 meters and 0.382 oz/t gold over 0.61 meters. Other positive results were from drill hole W90-02; this returned 0.580 oz/t gold over 0.68 meters. W90-04 also intersected the Cooper Zone returning 0.082 oz/t gold over 1.07 meters. Drill hole W90-1, W90-5, 6 and 7 did not intersect the Cooper Zone (Pegg, 1991). Pegg (1991) concluded from the work that the Cooper Zone was a complex structure, which lacked continuity and depth; it is possible that shallow dipping shears noted in the trenches may terminate or offset mineralization at depth. Detailed correlation studies of the seven drill holes with the surface workings should be completed as well as detailed mapping and prospecting west of the Cooper Zone grid.

X. 2002 FIELD PROGRAM

The Bug claims were staked on March 13, 2002, fieldwork was completed in 2002 over a period of 10 days from September 12th to 20th. The program focused on prospecting, rock sampling, and infill soil geochemistry on previously sampled areas.

The exploration of the Bug Lake property is at an intermediate stage. Several previous phases of exploration have been carried out and mainly comprise geological mapping, trenching, geochemical surveys, and lesser amounts of prospecting, geophysical surveys, and, finally, 57 diamond drill holes. Most of the known showings on the Bug Lake property are narrow and exhibit low-grade precious metals. Several of these showings have been well explored; they do not display any reasonable potential to host an economic precious metal deposit. Many of the showings, geochemical and geophysical anomalies have not been fully evaluated or explained.

Rock and soil sampling was used in this evaluation of the Bug Lake Property and was 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. Soil samples were collected from the B Horizon by use of mattock; field notes were taken of any unusual features. All samples remained in Keewatin Consultants 2002 personnel possession and were later put into securely fastened rice sack and sent via Bandstra Trucking to Vancouver. Keewatin personnel have no reason to believe that these samples were tampered with.

XI. 2002 FIELD PROGRAM RESULTS

Areas that were concentrated on in the 2002 sampling program were, from west to east, the Boot Hill and Flare Zone, the Ridge Grid, the #9 Showing, Gold Bug Area, and the Western to Center baseline areas. Several other areas of interest, designated by past geochemical results plus geophysical results were also prospected and evaluated with soil and/or rock geochemistry. Figures 4 and 5 show rock and soil geochemical gold results over the entire property.

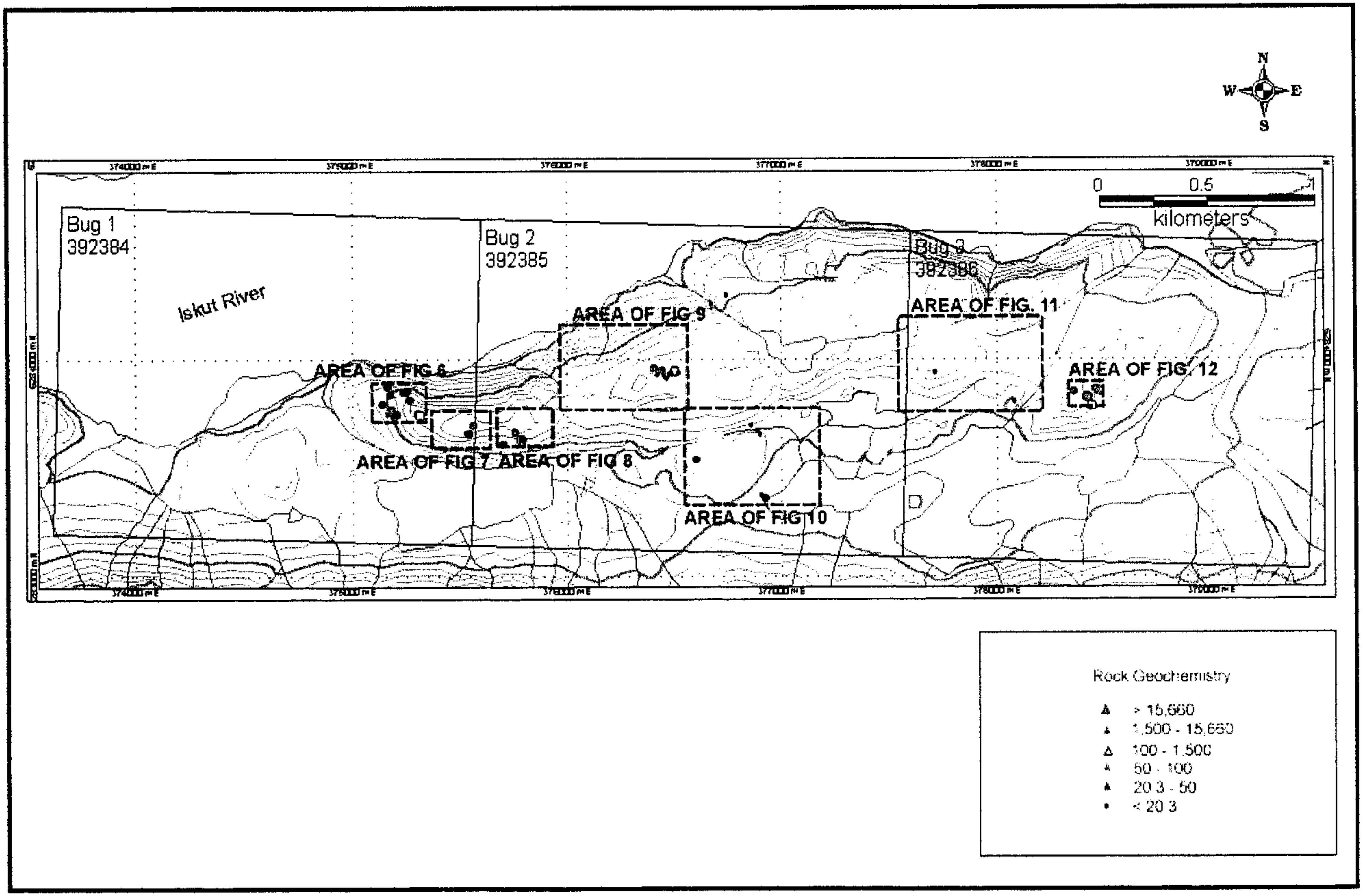


Figure 4 Rock geochemistry results on the Bug 1,2,3 claims.

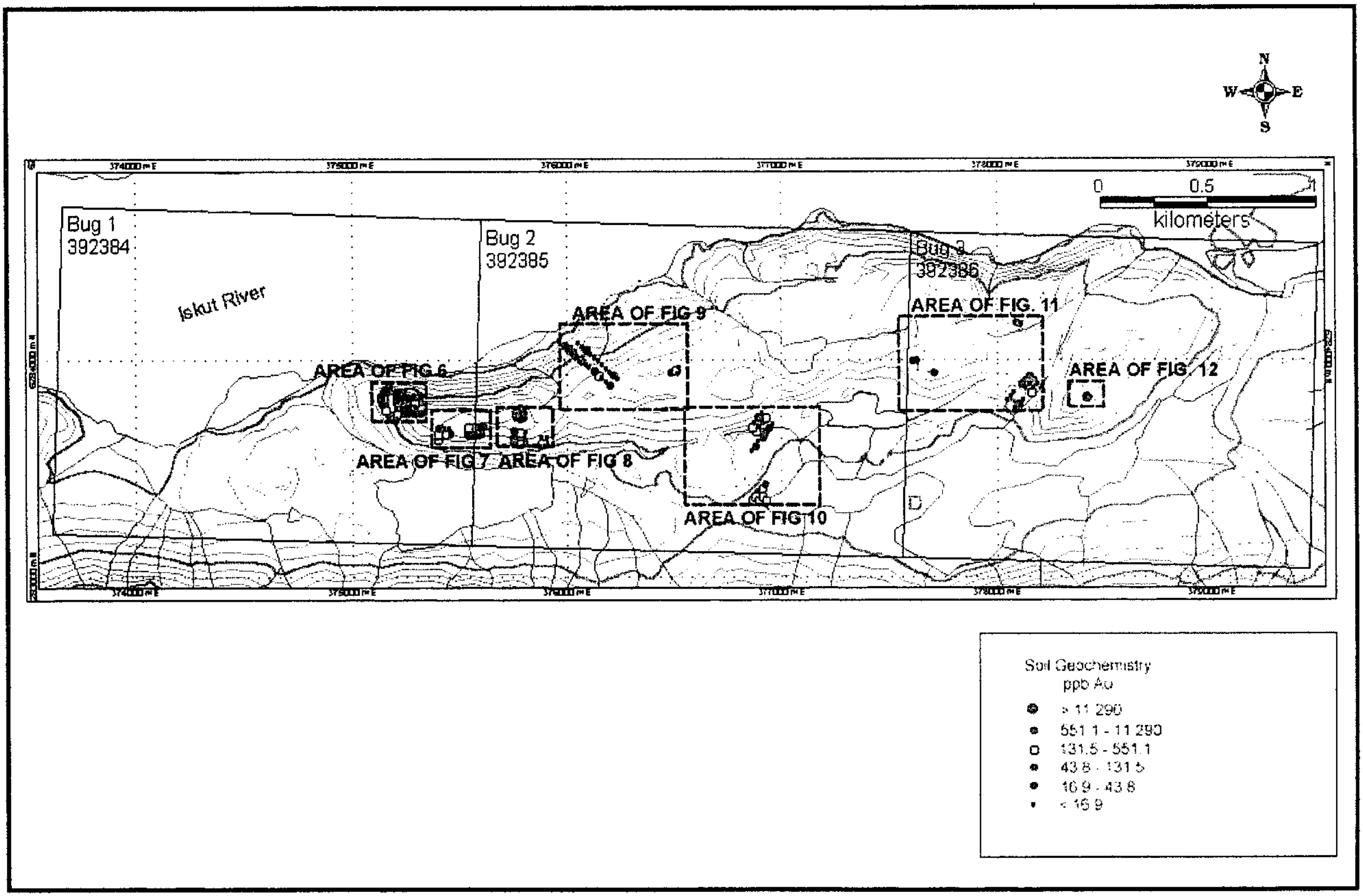


Figure 5 Soil geochemistry results on the Bug 1,2,3 claims.

A. BOOT HILL AND FLARE ZONE

The Boot Hill and Flare Zone area were evaluated by 12 rock samples and 32 soil samples (Figures 6 & 13). New rock results are listed in Table 3. The best rock sample results were 125271 with 3.21 g/t gold, which was a re-sample of rock sample 149924 which returned 0.753 oz/t gold (Table 3). Discrepancy in assay amounts between the two rock samples may be due to nugget effect or material resampled. Thirty meters downslope of rock sample 125271, soil sample 125281 was taken, this sample returned 315.2 ppb gold (Table 4). Additional work in this area is warranted. Sample 125273 returned 1.9 g/t gold, this sample was a quartz carbonate vein with approximately 3% galena and 1% pyrite near old trenches in the Flare zone. The proximal soil sample to rock sample 125273 was 2100E, 1950N, which returned 1430.0 ppb gold (Table 4). Sample 125295 returned 1.51 g/t gold; this sample was a grab of a quartz vein with 1-3% pyrite and 2% galena blebs and approximately 12-20 centimeters in width. Very near to sample 125295, soil sample 125279 was taken; this sample returned 551.1 ppb gold (Table 4). Sample 126682 returned 1.52 g/t gold; this sample was comprised of a quartz-carbonate sericite vein with 0.5% chalcopyrite, 1% fine-grained galena, and 1-3% euhedral pyrite (Table 3). Overall, this area is strongly mineralized with moderate grades in rock samples and soil samples, which illuminate anomalous areas. No geologic model has been presented for this area, and geologic mapping is pending further work. This area should have further exploration work which includes geologic mapping, blast trenching, and continued geochemical work extending to the west in the area of samples 125295 and 125271 as well as infilling previous grids to the south and east.

SAMPLE_ID	DATE	UNIT	AU_PPB	AU_GPT	AG	CU	PB	ZN
125271	Sep-13-2002	Greywacke	3210.0	3.21	85.4	170.0	18193.0	93977
125273	Sep-16-2002	Vein	1900.0	1.9	17.3	951.0	1450.0	14052
125274	Sep-16-2002	Vein	464.2		33.9	264.0	8566.0	21761
125294	Sep-16-2002	Vein	43.5		1.9	545.0	26.0	123
125295	Sep-16-2002	Vein	1510.0	1.51	62.9	64.0	1860.0	10662
125296	Sep-16-2002	Vein	4.9		0.5	24.0	20.0	224
126682	Sep-14-2002	Andesite	1520.0	1.52	35.2	368.0	12011.0	14357
126683	Sep-16-2002	Andesitic Tuff	48.0		1.2	90.0	65.0	82
126684	Sep-16-2002	Andesitic Tuff	20.3		1.0	147.0	33.0	46
126685	Sep-16-2002	Greywacke	48.2		1.2	217.0	19.0	58
126686	Sep-16-2002	Greywacke	49.3		0.9	145.0	12.0	30
126687	Sep-16-2002	Greywacke	33.3		0.7	79.0	8.0	41

Table 3 Flare Zone rock sample results.

SAMPLE_ID	EASTING	NORTHING	AU	AG	CU	PB	ZN
2100E, 1975N	375319	6283769	140.6	1.5	33.2	15.1	213
2100E, 1950N	375319	6283744	1430.0	2.1	202.4	57.0	507
2075E, 2000N	375289	6283796	244.1	0.8	239.5	19.9	162
2000E, 1950N	375211	6283746	249.2	1.4	199.2	105.4	165
125281	375157	6283766	315.2	0.9	273.8	215.0	2447
125279	375140	6283810	551.1	0.4	111.0	91.0	499

Table 4 Flare Zone soil sample results.

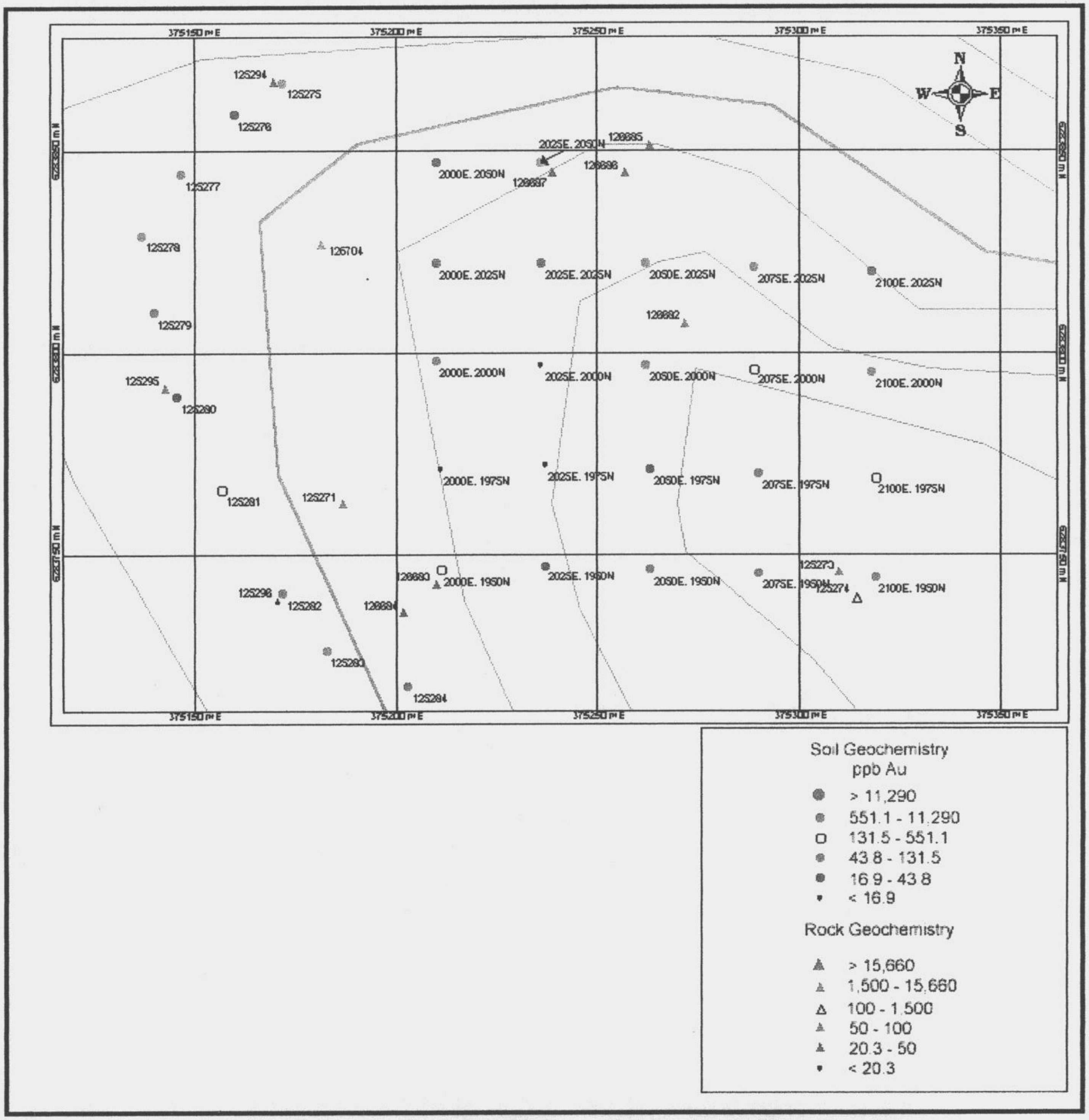


Figure 6 Flare Zone and Boot Hill geochemistry results.
Scale ~ 1:1500 See Figure 13 (Map Pocket) for details

B. RIDGE GRID RESULTS

Previous soil and rock anomalies were sampled in the Ridge Grid area. In the west Ridge Grid area soil sample R100E, 50S, which previously returned 355 ppb gold, was resampled. The new sample, R100E, 50S returned 331.5 ppb gold and confirms the prior result. Seven additional samples were taken in the immediate grid area; the best result was R75E, 75S with 312.8 ppb gold (Figures 7 & 13). No rock samples were taken in this area. Further exploration consisting of prospecting and rock sampling is warranted. Best assay results are highlighted in Table 5.

Sample_ID	Au_ppb	Cu_ppm	Pb_ppm	Zn_ppm
R75E, 75S	312.8	578	42.6	138
R75E, 50S	195.4	104.8	5.3	37
R100E, 50S	331.5	187.7	4.9	56

Table 5 Western Ridge Grid soil sample results.

In the central portion of the Ridge Grid, a previous soil sample located at R250E, 25S returned 760 ppb gold (Caulfield, 1988) (Figures 7 & 13). A duplicate sample taken in 2002 returned 145.8 ppb gold. Twenty-one soil samples and three rock samples were taken in total. The rock samples returned disappointing results, whereas the soil samples continued to return anomalous values. Results are listed in Table 6 for the soil samples.

Sample_ID	Au_ppb	Cu_ppm	Pb_ppm	Zn_ppm
R250E, 25S	145.8	107.2	7.2	112
R225E, 25S	155.6	109.2	10	75
R225E, 12S	131.5	83.8	39.8	134
R212E, 12S	235.6	78.2	5.8	121

Table 6 Central Ridge Grid soil sample results.

On the eastern portion of the Ridge Grid area, 19 soil samples were taken as well as 7 rock samples (Figures 8 & 13). This sampling area follows up soil samples taken by Tungco (Caulfield, 1988), which ranged from 275 to 530 ppb gold. The most favorable results from 2002 exploration work are listed in Table 7. This area remains anomalous, however, 2002 results did not return values quite as high as the previous soil sampling. Continued exploration in this area is recommended, geological mapping and interpretation of the vein structures which exist is necessary as well as trenching of vein structures which appear to be mineralized on surface.

Sample_ID	Au_ppb	Cu_ppm	Pb_ppm	Zn_ppm
R500E, 100S	243.4	24.1	31.8	278
R450E, 75S	277.6	47.1	13.2	162
R450E, 50S	139.3	125.5	19	98
R450E, 100S	253.3	93	45.9	531

Table 7 Central Ridge Grid soil sample results.

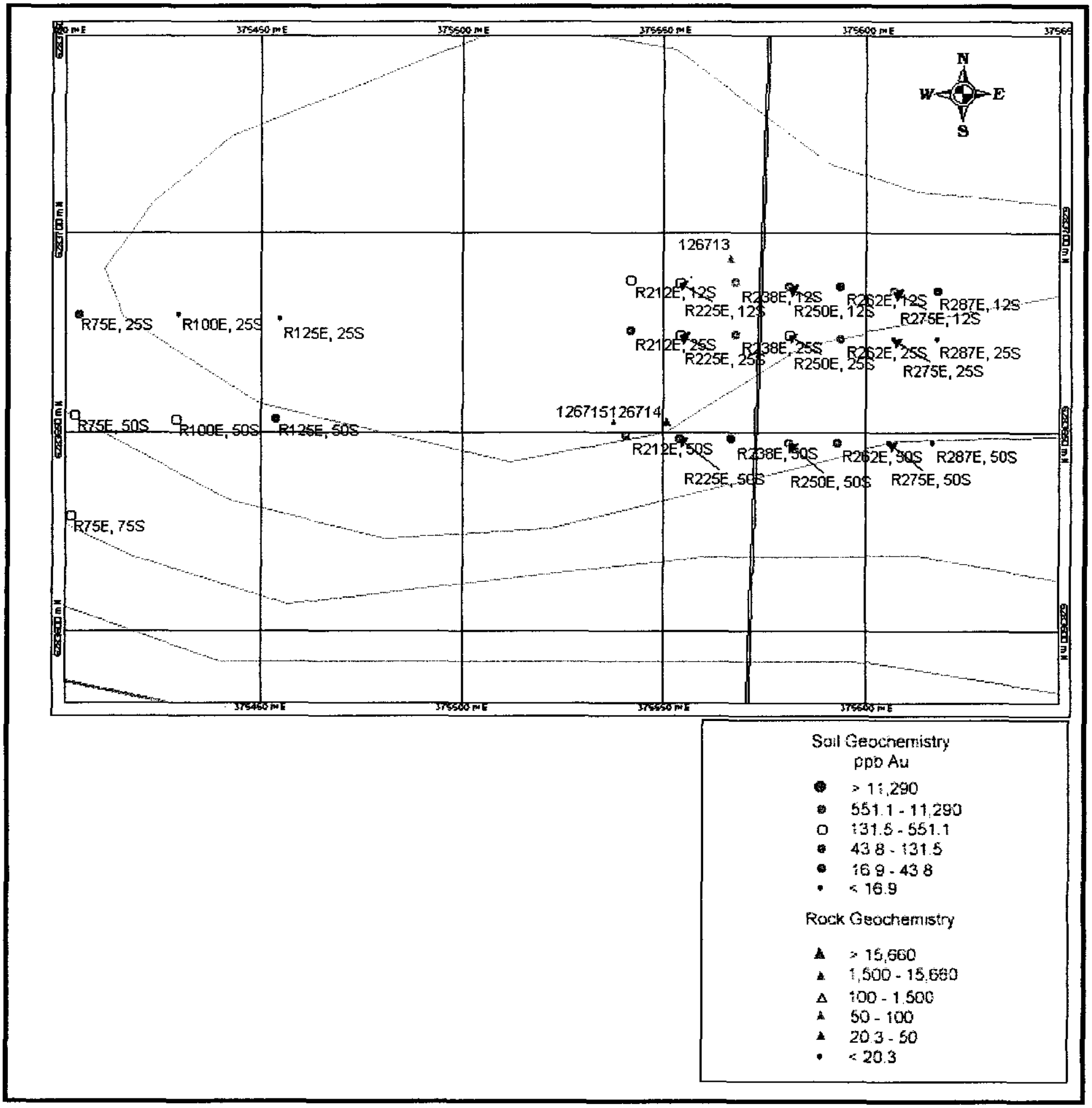


Figure 7 Soil and rock sample results from the western Ridge Grid area.
Scale ~ 1:1500, See Figure 13 (Map Pocket) for Details

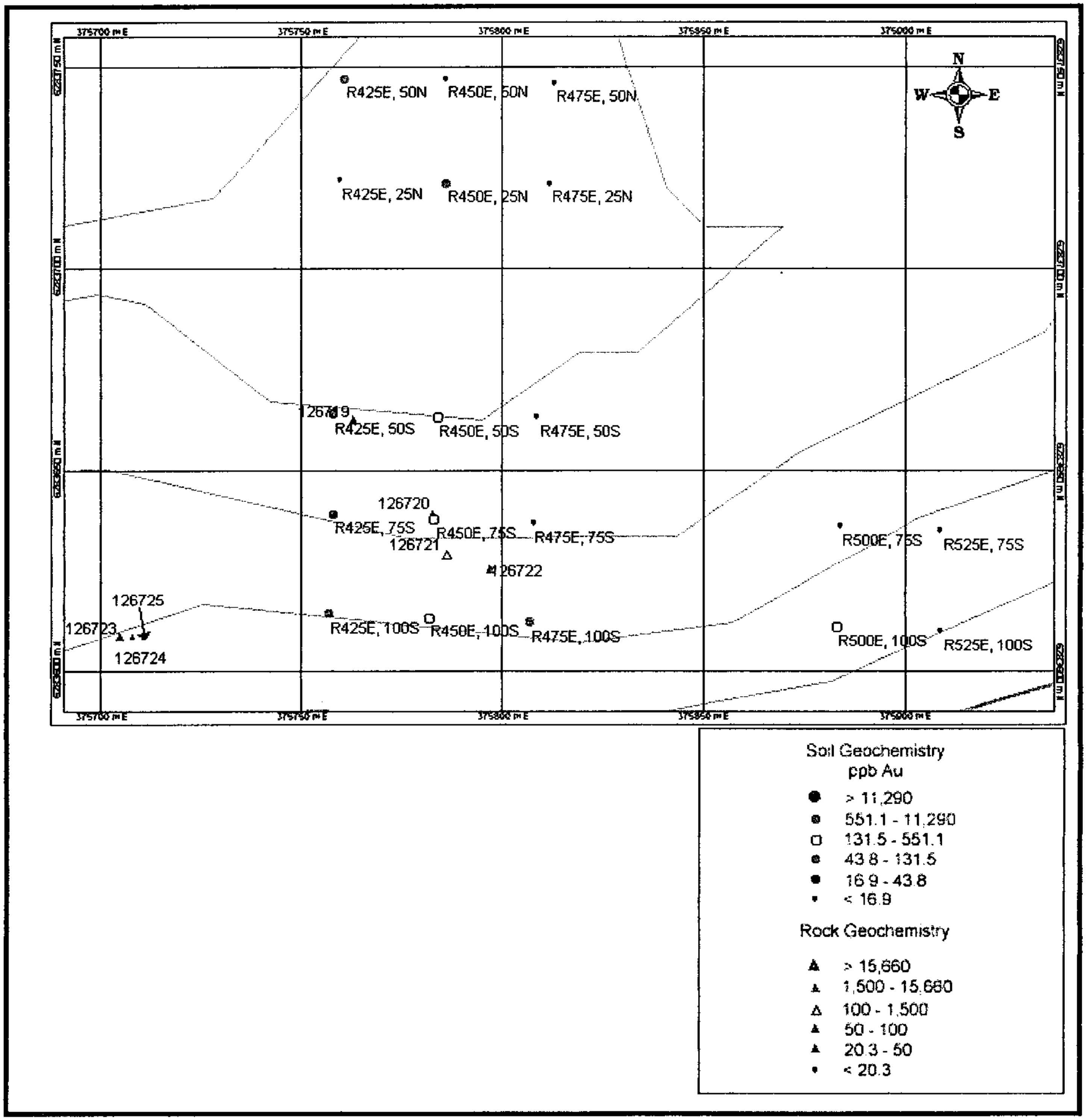


Figure 8 Soil and rock sample results from the eastern Ridge Grid area.
Scale ~ 1:1500, See Figure 13 (Map Pocket) for Details

C. No. 9 Showing

The No. 9 showing area extends for several hundred meters over an area approximately 500 by 500 meters (Figures 9 & 13). Caulfield (1988) reported anomalous soil values, which ranged between 110 to 875 ppb gold. Numerous trenches are also located in this area and previous rock chip samples returned up to 0.279 oz/t gold. Anomalous soil samples were found and resampled as well as infill gridding, at 25 m intervals, was completed in the area (Figures 9 & 13). Results were promising with rock samples 125286 returning 2.15 g/t gold, and 125291 at 3.14 g/t gold. The best soil samples returned 162.5 ppb gold and 166.8 ppb gold (Table 8), this is consistent with previous data recorded by other explorers. This area does have extensive geochemistry, however the soil anomalies remain unexplained. Trenching is required to expose rock in this heavily forested area; this will help define areas possibly underlain by mineralization.

Sample_ID	Au_ppb	Cu_ppm	Pb_ppm	Zn_ppm
125285	28.2	168	69	281
125286	215.3	107	56	148
125291	3140	253	78	710
126688	1780	880	784	842
800S, 1400W	162.5	59.5	10.9	62
1000S, 1625W	166.8	33.9	39.4	212

Table 8 No. 9 soil and rock geochemical results.

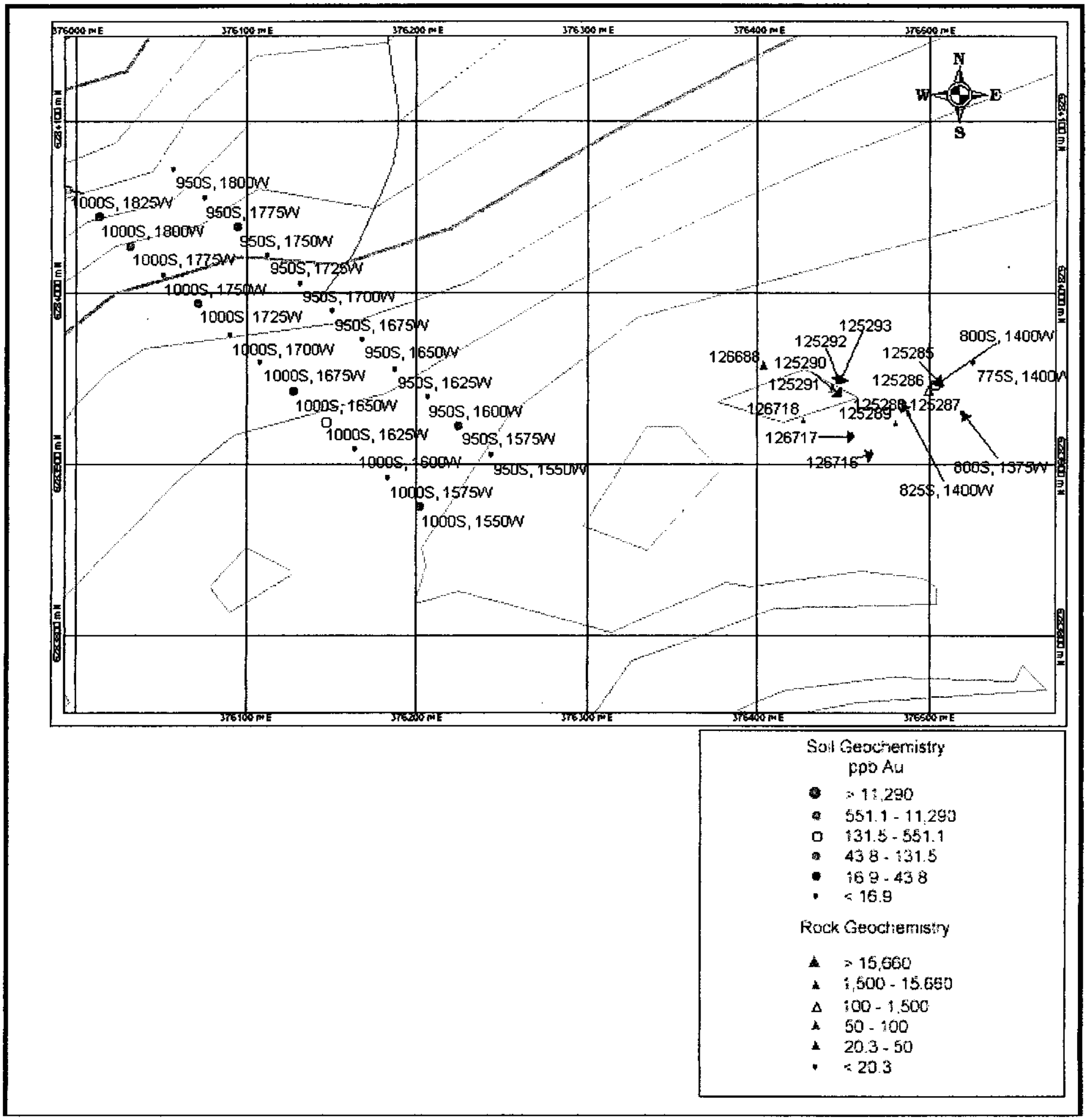


Figure 9 Soil and rock sample results from the No. 9 showing.
Scale ~ 1:3000, See Figure 13 (Map Pocket) for Details

D. Western Base Line -South

On the western end of Bug Lake, several gold in soil anomalies exist from previous exploration (Caulfield, 1988). These anomalies were followed up in 2002 with infill soil gridding, prospecting, and rock sampling (Table 9, Figures 10 & 13). The results were encouraging with similar results to the previous samples. The best results are presented in Table 9. This area contains a relatively unexplored soil anomaly. Continued exploration in this area should consist of additional soil geochemistry, prospecting, rock sampling, and trenching of sample areas with favorable results.

Sample_ID	Au_ppb	Cu_ppm	Pb_ppm	Zn_ppm
975W, 800S	322.9	155.4	30.6	197
975W, 725S	207.7	121.9	30.6	155
925W, 775S	661.6	80.6	20.2	64
775W, 975S	241	55.2	10.1	90
775W, 1050S	307.4	65.7	8.1	108
775W, 1025S	298.6	83	15.8	156
750W, 1025S	232	41.5	8.5	98
750W, 1000S	182.5	100.1	61.1	196
725W, 1000S	161.3	308.6	12.5	125
1000W, 800S	207.3	175.1	15.4	383

Table 9 Western Base Line soil geochemical results.

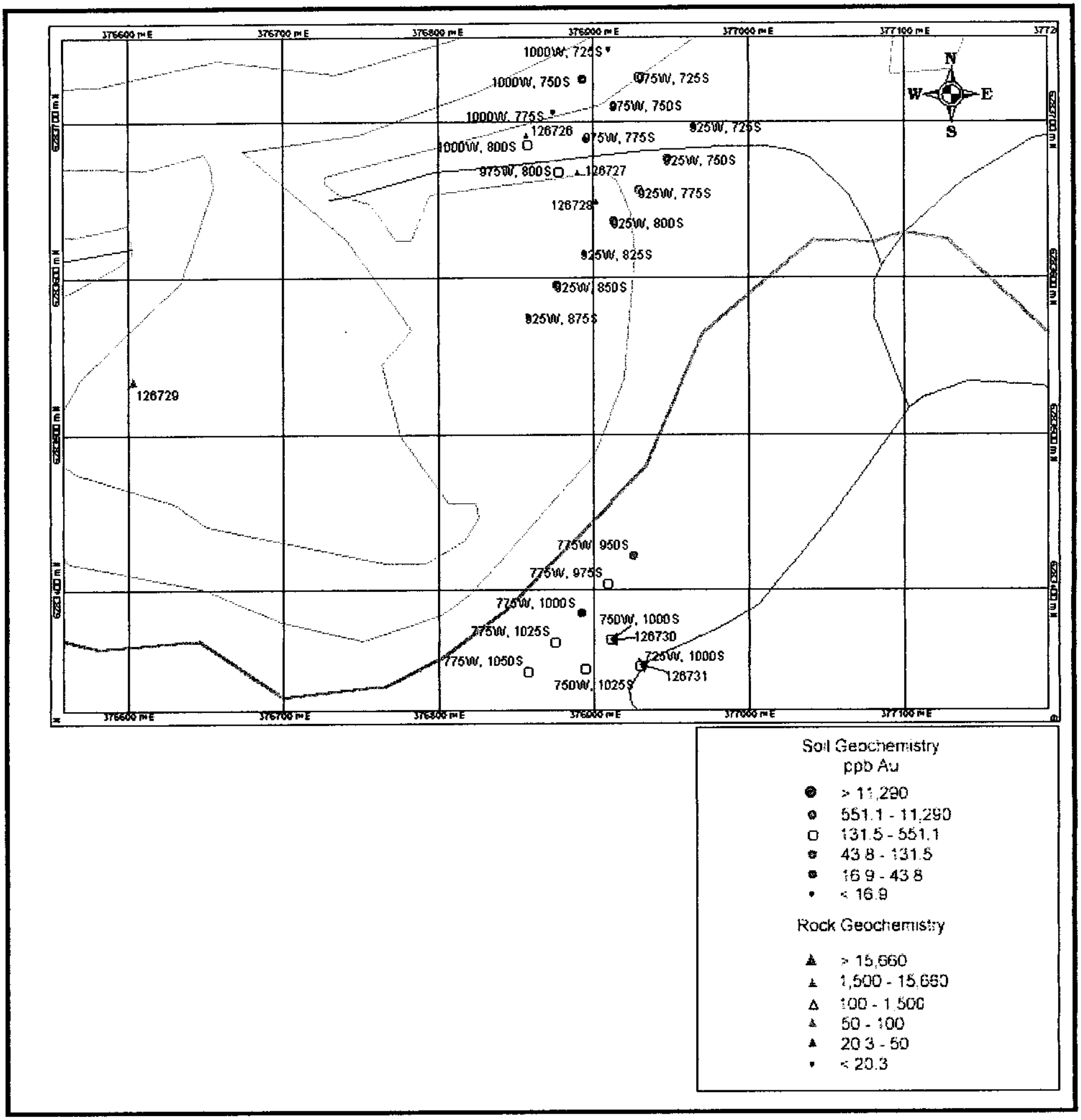


Figure 10 Soil and rock sample results from Western Base Line area - south.
Scale ~ 1:3000, See Figure 13 (Map Pocket) for Details

E. WESTERN BASE LINE – NORTH

Sample B500W, 25S follows up a 930 ppb gold soil anomaly (Table 10, Figures 11 & 13). From the 2002 program, B500W, 25S returned 630.9 ppb gold. This immediate area has intense amounts of tree blowdown, and exploration in this area is difficult. It is recommended cut lines be prepared to facilitate future access. This soil anomaly area should be geologically mapped and trenched in appropriate areas. Sample 125272 is a quartz vein float, which was found in the area. Insignificant geochemical results were obtained from this sample, although it is recorded in field notes that this sample was highly weathered. The quartz was vitreous with strong hematization, boxwork after sulfides, and vein fragments were approximately 12-20 cm in width. The presence of veining could indicate mineralizing events in the area in local structures; therefore, this area should be revisited.

Sample_ID	Au_ppb	Cu_ppm	Pb_ppm	Zn_ppm
B500W, 25S	630.9	68.2	18.7	152
B350W, 50N	601.5	60.2	20.6	78
A175W, 125N	167.3	39.1	75.1	193

Table 10 Western Base Line soil geochemical results.

Sample B350W, 50N follows up a 380 ppb gold soil anomaly (Table 10, Figure 11). The follow-up sample returned a higher result of 601.5 ppb gold. This area remains geologically interesting as strong faulting exists and quartz microveinlets exist in proximal rocks. This area is in a tree blowdown area and trails need to be cut. Geological mapping of structures and lithologies would also assist in exploration efforts, as well as hand trenching and prospecting.

Sample A175W, 125N follows up an area, which recorded 830 ppb gold and 260 ppb gold in soil samples (Table 10, Figures 11 & 13). From the 2002 field program, the highest soil sample that was obtained returned 167.3 ppb gold. The area was heavily prospected with no obvious source found to explain the anomalous soils. The higher soil samples should be investigated further by small hand trenches to attempt in determining the source of the anomalies that exist in this area. Although the anomalies are not consistent or repeatable, they do exist, to some degree, and further exploration efforts may divulge the source of the anomalies.

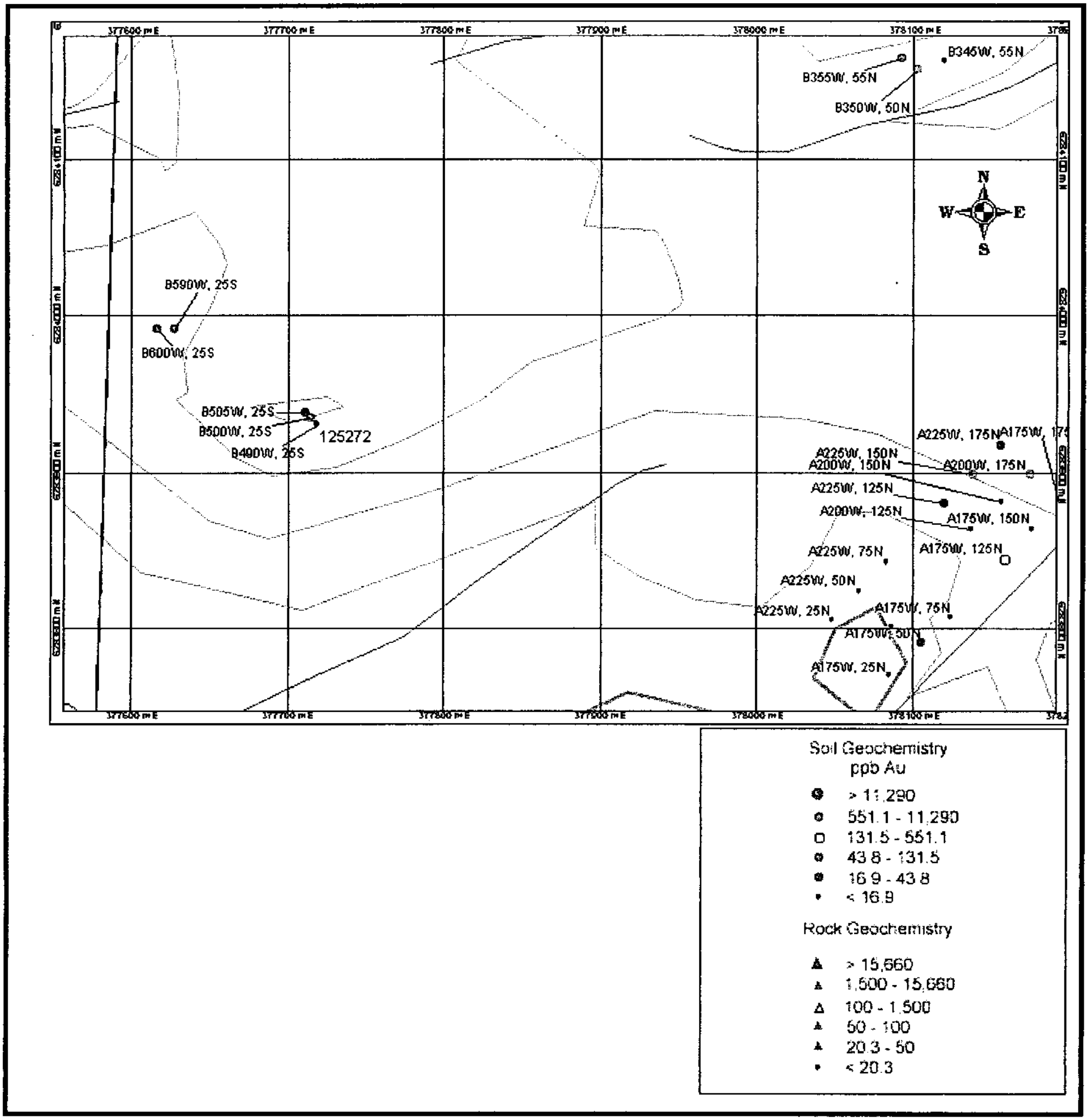


Figure 11 Soil and rock sample results from Western Base Line area - north.
Scale ~ 1:3000, See Figure 13 (Map Pocket) for Details

F. CENTER BASE LINE EXPLORATION RESULTS

The Center Base Line hold promising anomalies with results up to 69.42 g/t gold in rock sample 126710 (Table 11, Figures 12 & 13). This area was prospected based on a previous sample, which returned 2060 ppb gold in soils from 1988 sampling. This sample was not followed up until 2002, and attests to the relative dearth of exploration made on the claims. This area has seen some exploration in adjacent areas, which are evidenced by clear cuts and possible drill stations; however, no exploration follow up was found in the immediate area. Deeper digging of the anomalous site and re-sampling returned a highly anomalous 11.29 g/t gold from the soil sample and 69.42 g/t gold from an adjacent rock float sample of semi-massive arsenopyrite quartz vein (Table 11,Figures 12 & 13). This rock float sample was located just below the root and moss cover, however, further hand trenching, which was limited, failed to locate the source in the underlying bedrock. Other grab samples in the area returned anomalous results. Numerous gullies in the area most likely represent underlying structures, these may host gold enriched veins. Blast trenching and continued investigation in the area is highly recommended.

Sample_ID	Au_ppb	Ag_ppm	Cu_ppm	Pb_ppm	Zn_ppm
126705	165	3.7	4110	308	762
126706	408.1	3.8	983	53	445
126707	15660	6.4	120	119	91
126708	4540	38	2542	30	434
126709	90.3	1.1	175	12	99
126710	69420	51.5	5926	279	761
126711	2220	12.1	3143	35	191
126712	31.3	-0.3	14	-3	34
L350N, 100E	11290	3.7	346.3	31.2	101

Table 11 Soil and rock geochemical results from the Center Base Line.

XII. RECOMMENDATIONS AND CONCLUSIONS

The Bug Lake property's mineral potential is significant enough to warrant further work. The 2002 field program has demonstrated that focused, systematic sampling of relatively underexplored previous anomalies can return significant results. Investigations of anomalous soil sample results taken primarily in 1988 have generally returned similar values, which range up to 662 ppb gold. These soil sample results are highly significant however most times no obvious surface source other than a gulley feature was found to account for the anomalous soils. In one case in the center baseline area, a re-sample of a previous soil sample site returned a highly significant 11.29 g/t gold, with an adjacent rock float sample returning 69.42 g/t gold. Limited hand stripping of nearby moss covered outcrop however failed to expose mineralization. Areas such as these highlight the fact that blast trenching or some form of portable drilling and very thorough prospecting is required to test overburden covered areas.

1. It is recommended that a thorough phase of compilation work be done, which incorporates and integrates all of the results obtained from previous work programs. This necessary compilation work should be accomplished using a GIS system such as Mapinfo or Arcview. This compilation will likely lead to: the identification of targets that have not been fully investigated to date; accurate prioritizing of targets according to geochemical assay values, structure, favorable geology, geophysics and other exploration criteria; as well as creation of a clear picture of the mineralization that exists on the Bug Lake property and its potential to hold an economic deposit.

2. Part of the GIS compilation work should be compiling and analyzing aeromagnetic data which exists as well as VLF data. For example, it has been noted that magnetite is associated with several of the showings. Airborne magnetic anomalies represent excellent targets and warrant a thorough follow-up. Exploration targets could be developed from this work and integrated with geochemical and geologic data.

3. Remote sensing analysis should be done 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.

4. Anomaly follow-up should be done after GIS analysis of the property; this will allow a priority rating of targets to be developed and a more efficient use of time and resources while on the ground at the Bug Lake property. This work should consist of a wellequipped crew to establish cut-lines to allow easier access and minimize helicopter expenditures, people capable of conducting blast trenches and geological staff to thoroughly investigate the anomalous areas.

5. Contingent upon the results of the following Phase I program a Phase II program of diamond drilling of the trenched targets may be warranted and is estimated to cost $200 per meter (all inclusive).

6. Proposed Phase 1 Budget

Pre-field Compilation of Previous Data and Reporting	$15,000.00
Field Labor	
Senior Geologist - $450/day x 14 days	$6,300.00
Project Geologist - $375/ day x 14 days	$5,250.00
Prospector - $350/day x 14 days	$4,900.00
Geological Assistant - $300/day x 14 days	$4,200.00
Total Labor:	$20,650.00
Geochemical Analysis (Acme Labs)	
200 rock samples @ $25/rock	$5,000.00
50 overlimit fire assays @ $10/ sample	$500.00
200 soil samples @ $ 25/ soil	$5,000.00
Rock Shipment (Bandstra)	$250.00
Total Geochemical Analysis:	$10,750.00
Camp Costs	
56 person-days total @ $130/ person-day (all inclusive)	$7,280.00
Communication	$250.00
Total Camp Costs	$7,530.00
Transportation	
Mobilization (apportioned with other projects)	$2,000.00
Helicopter (206) 10 hours @$1,000 / hr	$10,000.00
Truck Fuel	$500.00
Truck Rental (10 days @ $75/day)	$750.00
Demobilization (apportioned with other projects)	$2,000.00
Total Transportation:	$13,250.00
Office and Reporting	
Geological Report Writing	$5,000.00
Drafting, Computer	$2,000.00
Report copying, plotting, printing, etc.	$820.00
Total Office and Reporting	$7,820.00
Total Expenditures	$75,000.00

Table 12 Phase 1 Budget

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APPENDIX I Statement of Qualifications

I, J. A. Moore, of 39147-3695 W. 10th Ave. Vancouver, V6R 4P1, in the Province of British Columbia, Canada, do hereby certify:

- I graduated in 1996 from Prescott College in Prescott, Arizona, U.S.A, with a B.A. in Environmental Geology. I completed a postgraduate degree at Rhodes University in Grahamstown, South Africa. I was admitted to the degree of M.Sc. in Mineral Exploration in 2002.
- Since 1991, I have been involved in the exploration and exploitation of precious metals and diamonds in British Columbia, NWT, Central America, the eastern shields of South America, and West Africa.
- The information, conclusions, and recommendation in this report are based on collaboration of other professional colleagues involved with various aspects of exploration on the property and in review of the literature stated in the bibliography. I have prepared this report on behalf of Keewatin Consulting 2002.
- This report may be used for the development of the property, provided that, no portion will be used out of context in such a manner as to convey meanings different from that set out in the whole.
- I am unaware of any material fact or material change with respect to the technical matter of this report that might cause the technical report to be inaccurate or misleading.
- Consent is hereby given to the company for which this report was prepared to reproduce the report or any part of it for the purposes of development of the property, or facts relating to the raising of funds by way of a prospectus and/or statement of material facts.

Signed in Vancouver, British Columbia this 25 day of September 2003.

Signed ___________________
J.A. Moore, M.Sc.

I, Adam Travis, B.Sc., of 3579 Lansbury Court, Westbank, British Columbia, Canada, V4T 1C5 do hereby certify that:

1. I am a consulting geologist with an office at 3579 Lansbury Court, Westbank, B.C., V4T 1C5.
2. I graduated from the University of British Columbia in 1990 with a B.Sc. Geology.
3. I have practiced my geological profession since 1986 in many parts of Canada, the United States, Mexico and Africa.
4. I was present and supervised all aspects of work on the Bug Lake property contained within this report.
5. 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.
6. Based on company reports and information, an expenditure of $ 51,182.00 appears accurate for the 2002 work on the Bug Lake property.
7. I do not hold shares in Viceroy Resources or Newcastle Minerals.
8. I hereby grant my permission for Viceroy Resources Ltd. or Newcastle Minerals to use this Geological Report for whatever purposes it wants, subject to the disclosures set out in this Certificate.

Signed in Westbank, British Columbia this 26th day of September, 2003.

Signed _______________

Adam Travis, B.Sc.

APPENDIX II Statement of Expenditures

I, J. A. Moore, as agent for Keewatin Consulting 2002, do solemnly declare that work was completed on the Bug 1-3 claims and Waratah 7 claim this September, 2003. An outline of expenditures is listed in Table 13.

I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of the Canada Evidence Act.

Declared before me at Vancouver in the Province of British Columbia this 25th day of September, 2003.

J. A. Moore
Exploration Geologist

I, A. Travis, as agent for Keewatin Consulting 2002 Ltd., do solemnly declare that work was completed on the Bug 1-3 claims and Waratah 7 claim this September, 2003. An outline of expenditures is listed in Table 13.

I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of the Canada Evidence Act.

Declared before me at ~~Vancouver~~ Keewatin in the Province of British Columbia this 26th day of Sept, 2003.

A. Travis
Exploration Geologist

Field Labor (September 12- 23, 2002)	
Adam Travis, Senior Geologist - $450/day x 10.5 days	$4,725.00
Jill Moore, Project Geologist - $375/ day x 11.5 days	$4,313.00
Don Coolidge, Prospector - $350/day x 11.5 days	$4,025.00
Jan Tindle, Geological Assistant - $300/day x 11.5 days	$3,450.00
Total Labor:	$16,513.00
Geochemical Analysis (Acme Labs)	
54 rock samples @ $25/rock	$1,350.00
12 overlimit fire assays @ $10/ sample	$120.00
159 Soil Samples @ $20/sample	$3,180.00
Rock Shipment (Bandstra)	$106.50
Total Geochemical Analysis:	$4,756.50
Camp Costs	
45 person-days total @ $130/ person-day (all inclusive)	$5,850.00
Communication	$250.00
Total Camp Costs:	$6,100.00
Transportation	
Mobilization (apportioned with other projects)	$2,000.00
Helicopter (206 V IH) 15 hours @$1,000 / hr	$15,000.00
Truck Fuel	$100.00
Truck Rental (11.5 days @ $75/day)	$862.50
Demobilization (apportioned with other projects)	$2,000.00
Total Transportation:	$19,962.50
Office and Reporting	
Jill Moore, report preparation (2 days @ $375/day)	$750.00
Adam Travis, report preparation (3 days @ $450/day)	$1,350.00
GeoSim Services, drafting, computer	$1,500.00
Report copying, plotting, printing, etc.	$250.00
Total Office and Reporting	$3,850.00
Total Expenditures	$51,182.00

Table 13 Summary of expenditures by category.

APPENDIX III 2002 Rock and Sample Descriptions

SAMPLE ID	SAMPLER	DATE	EASTING	NORTHING	SAMPLE TYPE	UNIT	DESCRIPTION
125271	J.M.	Sep-13-02	375187	6283762	Grab	Greywacke	Resample of old 149924 rock sample which ran 0.753 of an ounce
125272	J.M.	Sep-15-02	377719	6283931	Float	Quartz Vein	Quartz vein float coming from underneath tree stump. White, strong hematization, 12 cm thick, sulfide pseudomorphs less than 5%. 930ppb soil anomaly
125273	J.M.	Sep-16-02	375310	6283745	Grab	Vein	Quartz carbonate vein with approximately 3% galena and 1% pyrite, fine grained strong carbonate alteration
125274	J.M.	Sep-16-02	375314	6283739	Grab	Vein	Quartz carbonate vein with approximately 3% galena and 1% pyrite, fine grained strong carbonate alteration
125285	J.M.	Sep-17-02	376507	6283947	Float	Siltstone	Weakly pyritized greywacke at anomalous soil sample site. 1-2% pyrite.
125286	J.M.	Sep-17-02	376499	6283943	Grab	Siltstone	Grab sample from hand trench, siltstone with 1-2% pyrite, occasional small blebs of pyrite 2-3 cm in width. Weak foliation
125287	J.M.	Sep-17-02	376521	6283929	Float	Greywacke	Medium to coarse grained, 1-2%pyrite, grab from small excavation.
125288	J.M.	Sep-17-02	376488	6283929	Float	Greywacke	Taken in gully feature. Small 1-2 m veinlets and 1-2% pyrite.
125289	J.M.	Sep-17-02	376481	6283923	Float	Quartz Vein	Sample found in overturned tree root on the line. Quartz is white and 5x15 cm in size. Approximately 1% pyrite, weakly gossanous. No source located.
125290	J.M.	Sep-17-02	376448	6283940	Float	Greywacke	Moderately silicified weakly pyritized, <1%, greywacke, taken at 300pb sample site.
125291	J.M.	Sep-17-02	376444	6283943	Float	Siltstone	Shear zone rocks found in tree stump, small veinlets, weak shistosity, and 1-2% pyrite. Historical sample 358250 nearby.
125292	J.M.	Sep-17-02	376447	6283948	Chip	Quartz Vein	Quartz vein. Strikes 175 and dipping 76 degrees to the northeast with approximately 1-2% pyrite. Moderate hematization.
125293	J.M.	Sep-17-02	376447	6283947	Chip	Quartz Vein	Same as 125292, check sample.
125294	J.M.	Sep-16-02	375170	6283867	Grab	Vein	Approximately 1cm width pyrite vein in greywacke, 1-3% pyrite disseminated throughout, moderately silicified.
125295	J.M.	Sep-16-02	375143	6283791	Float	Vein	Quartz vein with 1-3% pyrite and 2% galena blebs, approximately 12-20 cm in width, larger 30x15 cm size boulders around.
125296	J.M.	Sep-16-2002	375171	6283738	Float	Vein	Quartz vein with 1% pyrite and strong chloritization. Moderate hematization of the greywacke host rock but weak pyrite.
126680	D.C.	Sep-12-02	378087	6283801	Grab	Mudstone	Grab over 0.3m. 1-2% pyrite on fractures: .01mm calcite veinlets.

SAMPLE ID	SAMPLER	DATE	EASTING	NORTHING	SAMPLE TYPE	UNIT	DESCRIPTION
							trace chalcopyrite in orange rusty carbonate rind. Located 5m upslope from Au soil at base of bluff.
126682	D.C.	Sep-14-02	375272	6283807	Chip	Andesite	.15m chip. Qtz carbonate sericite vein. Vein Structure trends 072/ dip 60 SE. 0.5% chalcopyrite, 1% fine grained galena, 1-3% euhedral pyrite.
126683	D.C.	Sep-16-02	375210	6283742	Chip	Andesitic Tuff	2cm qtz-carbonate vein fine grained disseminated pyrite, trace chalcopyrite. Located at the top of 080 trending gully approximately 5m south of 200E/1950N
126684	D.C.	Sep-16-02	375202	6283735	Chip	Andesitic Tuff	Bottom of gully in shear. 078/80NE. 2cm qtz carbonate vein with 2% clustered disseminated pyrite, weak chlorite.
126685	D.C.	Sep-16-02	375263	6283851	Grab	Greywacke	Weak gossan,1% pyrite on fracture plane.
126686	D.C.	Sep-16-02	375257	6283844	Grab	Greywacke	Weak gossan, 1% pyrite, located 20m NE of soil station 2025E/ 2025N
126687	D.C.	Sep-16-02	375239	6283844	Grab	Greywacke	1m chip. Weak red -orange gossan, 1-2% pyrite. 6x1m exposure on steep north facing slope on rim. Located 5m SE of soil station n 2025E/ 2050N.
126688	D.C.	Sep-17-02	376404	6283956	Chip	Andesite	0.2m chip. Qtz -sericite pyrite zone. Silicious with fine grained 1-2% disseminated pyrite.
126689	D.C.	Sep-18-02	376750	6284285	Float	Andesite	2cm bull qtz with chlorite slicks.
126690	D.C.	Sep-18-02	376675	6284250	Chip	Andesite	0.15m chip. 0.2m bull qtz vein 158/36SW. Partially formed 2-3cm crystals. No alteration or visible sulphides in either the vein or the wall rock.
126704	A.T.	Sep-15-02	375182	6283827	Chip	Greywacke	7 cm chip in tr#88-29; sphalerite, galena & pyrite in N-trending shear within pyritic greywacke
126705	A.T.	Sep-15-02	378443	6283786	Grab	Andesitic tuff	Crystal tuff. 5 cm width, 120degree trending fracture. Trace chalcopyrite, 1-3% pyrite, trace malachite.
126706	A.T.	Sep-15-02	378478	6283850	Grab	Andesitic tuff	110 degree trending gossanous zone, with 5% magnetite, 1-3% pyrite, over 1 m exposure
126707	A.T.	Sep-15-02	378478	6283847	Grab	Andesitic tuff	Same location as 126706, quartz rich portion of the rock, 20 cm by 30 cm pod in shear zone, trace galena?, 5% magnetite and 1-3% pyrite.
126708	A.T.	Sep-15-02	378462	6283855	Grab	Andesitic tuff	110 degree/50NE trending 1/2 meter wide shear zone, gossanous patches in pods, related to acute angle intersecting structures,

SAMPLE ID	SAMPLER	DATE	EASTING	NORTHING	SAMPLE TYPE	UNIT	DESCRIPTION
							pyrite knots up to 1 cm, magnetite 3-5%
126709	A.T.	Sep-15-2002	378430	6283815	Grab	Andesitic tuff	Gossanous outcrop above 2060 ppb soil site. 30 cm chip across pyritic (1%) as clusters
126710	A.T.	Sep-15-02	378427	6283816	Float	Vein	3x10cm vein float in soil pit of gossanous quartz vein with up to 10% arsenopyrite, only piece found. More trenching required in this area.
126711	A.T.	Sep-15-02	378423	6283821	Grab	Andesitic tuff	125 degree trending gossanous structure over 1 m, minor quartz veining and strongly sulfides rotten zones of rock, fresher rock shows 3% pyrite.
126712	A.T.	Sep-15-02	378362	6283845	Float	Quartz Vein	Abundant quartz vein float in gully near overturned tree root. Variably buggy, chlorite, no sulfides noted. Gully trends east-west.
126713	A.T.	Sep-16-02	375567	6283693	Grab	Monzonite	Pyritic chloritized granitic intrusion with 3-5% euhedral fine grained disseminated pyrite,
126714	A.T.	Sep-16-02	375551	6283652	Grab	Monzonite	Possibly greywacke?, bleached, foliated, 3-5% pyrite, biotite alteration
126715	A.T.	Sep-16-02	375538	6283652	Grab	Greywacke	bleached, foliated as 714, darker green brown biotitic with 3-5% pyrite.
126716	A.T.	Sep-17-02	376467	6283906	Float	Andesitic Tuff	Subcrop from tree root along trend of gully, quartz veined epidote altered, trace 1% pyrite and trace 1% chalcopyrite. Fine grained.
126717	A.T.	Sep-17-02	376456	6283916	Grab	Quartz Vein	Quartz veined sediment? tuff? Quartz veins up to 5 cm, no sulfides present.
126718	A.T.	Sep-17-02	376427	6283925	Float	Andesitic Tuff	Intensely silicified, bleached, altered, pyritized with 1-3% pyrite. Located under tree root.
126719	A.T.	Sep-18-02	375763	6283662	Grab	Intrusive	Gossanous, subcrop under tree root, pyritized 1-3% and bleached. Intrusive?
126720	A.T.	Sep-19-02	375783	6283639	Grab	Intrusive	Gossanous, subcrop under tree root, pyritized 1-3% and bleached. Intrusive? Old sample site, ??58265 and ??58266
126721	A.T.	Sep-19-02	375786	6283629	Grab	Greywacke	Greywacke?, Gossanous, subcrop under tree root, pyritized, 1-3% fine grained disseminated pyrite.
126722	A.T.	Sep-19-02	375797	623625	Grab	Greywacke	Gossanous, subcrop under tree root. Biotitic, darker in color. Pyritized with 1-3% fine grained disseminated pyrite.
126723	A.T.	Sep-19-02	375705	6283608	Grab	Intrusive	Approximately 3-5% pyrite with trace chalcopyrite? Strongly gossanous and occurring in unvegetated kill zone.

SAMPLE ID	SAMPLER	DATE	EASTING	NORTHING	SAMPLE TYPE	UNIT	DESCRIPTION
126724	A.T.	Sep-19-02	375708	6283608	Grab	Intrusive	Same unit as previous sample. Gossanous with a 2 cm quartz vein with fibrous mineral. Wollastonite?? 3-5% fine grained pyrite occurring in blebs and disseminated.
126725	A.T.	Sep-19-02	375711	6283608	Grab	Intrusive	Same unit as previous sample. Fine-grained carbonate-quartz veinlets occurring throughout. Approximately 3-5% pyrite with trace magnetite occurring in pods with pyrite.
126726	A.T.	Sep-20-02	376858	6283690	Grab	Andesitic Tuff	Minor silicification, quartz veining, epidote alteration. Approximately 1% pyrite and 1% magnetite. North side of prominent 80 degree trending gully.
126727	A.T.	Sep-20-02	376891	6283666	Grab	Feldspar Porphyry	Gossanous, minor quartz veining and silicification. Approximately 1% pyrite.
126728	A.T.	Sep-20-02	376902	6283648	Grab	Feldspar Porphyry	Fractured, silicified, trace pyrite. North side of 110 degree gully.
126729	A.T.	Sep-20-02	376604	6283533	Float	Andesitic Tuff	Talus below bluffs, moderate iron carbonate alteration with 1-3% pyrite. Old sample tag DR-04
126730	A.T.	Sep-20-02	376911	6283368	Grab	Monzonite	Sample from soil pit. Gossanous, pyritic, 1-3%.
126731	A.T.	Sep-20-02	376930	6283352	Float	Andesitic Tuff	Gossanous, quartz veined, 1-3% pyrite, trace magnetite.

Table 14 Sample locations and descriptions.

APPENDIX IV 2002 Rock Sample Results

SAMPLE_ID	AU_PPB	AG	CU	PB	ZN
125271	3210.0	85.4	170.0	18193.0	93977
125272	4.8	0.3	45.0	40.0	152
125273	1900.0	17.3	951.0	1450.0	14052
125274	464.2	33.9	264.0	8566.0	21761
125285	28.2	1.3	168.0	69.0	281
125286	215.3	1.1	107.0	56.0	148
125287	6.6	0.6	74.0	7.0	89
125288	3.0	-0.3	5.0	10.0	58
125289	1.5	-0.3	10.0	12.0	67
125290	6.3	0.5	101.0	8.0	58
125291	3140.0	12.6	253.0	78.0	710
125292	4.6	0.5	77.0	6.0	37
125293	5.2	1.1	198.0	5.0	46
125294	43.5	1.9	545.0	26.0	123
125295	1510.0	62.9	64.0	1860.0	10662
125296	4.9	0.5	24.0	20.0	224
126680	4.5	1.3	442.0	6.0	340
126682	1520.0	35.2	368.0	12011.0	14357
126683	48.0	1.2	90.0	65.0	82
126684	20.3	1.0	147.0	33.0	46
126685	48.2	1.2	217.0	19.0	58
126686	49.3	0.9	145.0	12.0	30
126687	33.3	0.7	79.0	8.0	41
126688	1780.0	10.8	880.0	784.0	842
126689	7.7	0.4	241.0	15.0	52
126690	2.9	-0.3	8.0	5.0	11
126705	165.0	3.7	4110.0	308.0	762
126706	408.1	3.8	983.0	53.0	445
126707	15660.0	6.4	120.0	119.0	91
126708	4540.0	38.0	2542.0	30.0	434
126709	90.3	1.1	175.0	12.0	99
126710	69420.0	51.5	5926.0	279.0	761
126711	2220.0	12.1	3143.0	35.0	191
126712	31.3	-0.3	14.0	-3.0	34
126713	91.2	0.9	83.0	13.0	34
126714	28.1	0.4	82.0	6.0	31
126715	9.1	0.3	45.0	-3.0	41
126716	15.6	0.3	94.0	9.0	89
126717	7.7	0.3	53.0	9.0	55
126718	-0.2	0.3	49.0	11.0	373
126719	44.1	0.5	105.0	-3.0	15

SAMPLE_ID	AU_PPB	AG	CU	PB	ZN
126720	5.7	0.3	71.0	7.0	59
126721	418.7	0.7	114.0	5.0	24
126722	39.5	0.3	49.0	-3.0	94
126723	25.9	0.8	135.0	18.0	64
126724	10.2	0.4	87.0	4.0	15
126725	11.0	0.9	47.0	39.0	3055
126726	4.2	-0.3	96.0	6.0	114
126727	1.0	-0.3	72.0	53.0	151
126728	-0.2	-0.3	3.0	4.0	35
126729	56.9	0.6	234.0	6.0	79
126730	5.9	-0.3	61.0	11.0	77
126731	29.7	0.3	171.0	3.0	96

Table 15 Analysis of Au, Ag, Cu, Pb, Zn, and As

APPENDIX V 2002 Acme Lab Certificates

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

[redacted] 90[redacted] ccr[redacted] ed [redacted]

GEOCHEMICAL ANALYSIS CERTIFICATE

Keewatin Consultants PROJECT Bug Lake File # A204062 Page 1

900 - 475 Howe St., Vancouver BC V6C 2B3 Submitted by: Jill Moore

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
SI	<1	6	<3	3	<.3	<1	<1	5	.02	<2	<8	<2	<2	2	<.5	<3	3	<1	.09	<.001	<1	1	<.01	4	<.01	<3	.01	.47	<.01	<2	<.2
125271	1	170	18193	93977	85.4	30	30	1583	6.48	16697	<8	<2	2	161	1261.0	99	7	74	3.28	.113	2	20	1.39	96	.13	<3	1.67	.01	1.35	<2	2359.8
125272	4	45	40	152	.3	8	2	176	1.20	32	<8	<2	<2	1	1.7	<3	<3	1	.01	.004	<1	35	.01	4	<.01	<3	.03	<.01	<.01	16	4.8
125273	<1	951	1450	14052	17.3	51	30	3943	9.01	19147	<8	<2	2	318	134.2	91	9	40	6.76	.047	5	12	2.67	50	.05	<3	1.03	.01	.55	<2	1394.5
125274	<1	264	8566	21761	33.9	27	25	2876	7.64	9299	<8	<2	3	446	246.3	55	8	56	6.71	.079	4	19	2.59	103	.11	<3	1.48	.01	1.03	<2	464.2
125285	3	168	69	281	1.3	3	13	448	3.32	103	<8	<2	3	59	2.6	5	<3	24	1.43	.133	6	3	.61	89	.18	<3	1.47	.01	1.35	<2	28.2
125286	1	107	56	148	1.1	3	8	530	4.15	49	<8	<2	2	36	1.1	3	8	29	.39	.119	4	7	.70	144	.17	3	1.50	.03	.99	<2	215.3
125287	<1	74	7	89	.6	3	9	748	3.53	13	<8	<2	2	27	.6	<3	3	36	.64	.125	8	3	.98	111	.16	<3	1.78	.03	.82	4	6.6
125288	1	5	10	58	<.3	2	3	499	1.58	3	<8	<2	2	14	<.5	<3	5	19	.16	.072	8	7	.32	180	.02	<3	.82	.05	.42	3	3.0
125289	2	10	12	67	<.3	4	5	428	1.68	11	<8	<2	<2	57	.5	<3	5	26	.44	.185	5	18	.43	34	.04	<3	.70	.04	.24	8	1.5
125290	1	101	8	58	.5	5	11	595	3.50	7	<8	<2	<2	23	<.5	<3	4	55	.43	.149	9	8	.88	178	.12	<3	1.49	.07	.66	2	6.3
125291	11	253	78	710	12.6	18	17	1113	7.13	211	<8	<2	2	95	5.2	<3	8	39	1.46	.120	6	14	.46	62	.02	<3	1.03	.03	.33	<2	2340.3
125292	3	77	6	37	.5	7	4	333	1.68	5	<8	<2	<2	22	<.5	<3	3	17	.17	.050	6	26	.40	32	.02	<3	.69	.03	.19	12	4.6
125293	2	198	5	46	1.1	4	5	445	1.68	2	<8	<2	<2	33	<.5	<3	3	15	.34	.047	5	24	.38	35	.04	<3	.68	.02	.28	11	5.2
125294	2	545	26	123	1.9	62	43	726	9.51	28	<8	<2	2	41	1.2	<3	5	193	.73	.221	5	78	3.02	69	.23	<3	2.54	.01	.88	5	43.5
125295	3	64	1860	10662	62.9	20	14	880	3.72	10	<8	<2	<2	49	166.7	5	107	135	1.21	.097	2	46	1.56	121	.12	3	1.60	.02	.72	<2	2201.7
125296	3	24	20	224	.5	31	10	909	2.49	73	<8	<2	<2	238	2.1	<3	4	54	3.24	.079	2	41	1.36	76	.11	<3	1.44	.02	.63	9	4.9
126680	1	442	6	340	1.3	25	18	1289	4.73	31	<8	<2	<2	126	3.0	3	4	70	3.31	.143	6	22	1.77	61	.01	<3	2.39	.03	.27	4	4.5
126682	4	368	12011	14357	35.2	38	22	285	6.23	29795	<8	<2	2	32	145.7	92	3	21	.74	.105	3	22	.16	58	.04	<3	.58	.01	.42	<2	1257.2
126683	<1	90	65	82	1.2	35	20	986	6.67	131	<8	<2	<2	1281	1.1	6	3	71	8.65	.132	4	23	1.46	110	.14	<3	1.60	.02	1.30	2	48.0
126684	<1	147	33	46	1.0	20	14	1746	5.36	57	<8	<2	<2	1944	1.0	3	<3	70	12.13	.087	3	21	1.43	77	.10	<3	1.25	.01	.42	<2	20.3
126685	1	217	19	58	1.2	37	23	614	4.43	13	<8	<2	<2	289	.5	<3	5	84	7.55	.147	4	39	1.04	79	.16	<3	1.33	.03	1.05	2	48.2
RE 126685	1	213	18	55	1.1	35	22	597	4.32	14	<8	<2	<2	276	<.5	3	<3	82	7.36	.144	3	39	1.01	76	.16	<3	1.29	.03	1.08	3	55.6
126686	1	145	12	30	.9	57	43	254	5.77	31	<8	<2	<2	64	<.5	3	8	78	.68	.194	7	48	.91	48	.21	<3	1.00	.08	.49	3	49.3
126687	1	79	8	41	.7	48	30	471	6.15	24	<8	<2	<2	71	<.5	<3	3	120	.75	.200	8	50	2.29	96	.25	<3	2.19	.05	2.01	2	33.3
126688	13	880	784	842	10.8	6	32	282	7.80	<2	<8	<2	3	14	16.0	<3	20	13	.21	.118	4	11	.31	64	.09	3	.94	.01	.43	<2	1406.3
126689	2	241	15	52	.4	4	7	418	1.82	<2	<8	<2	<2	28	<.5	<3	3	20	.25	.042	2	22	.47	43	.08	<3	.70	.03	.25	6	7.7
126690	4	8	5	11	<.3	6	1	119	.54	3	<8	<2	<2	1	<.5	<3	<3	1	.02	.002	<1	34	.02	4	<.01	<3	.04	<.01	.01	17	2.9
126704	7	152	3066	45264	73.1	23	25	2710	5.46	22	<8	<2	2	369	735.7	7	142	123	12.14	.090	9	39	1.40	16	.03	<3	1.41	.01	.07	3	1026.8
126705	2	4110	308	762	3.7	13	40	1467	5.89	38	<8	<2	<2	148	7.0	3	6	65	3.86	.098	2	11	1.49	93	.11	<3	1.89	.02	.24	<2	165.0
126706	2	983	53	445	3.8	6	8	460	11.96	79	<8	<2	2	13	2.4	<3	3	82	.31	.167	3	6	1.19	91	.02	<3	1.90	.01	.33	2	408.1
126707	4	120	119	91	6.4	4	1	234	6.83	101	<8	9	<2	3	<.5	3	9	33	.06	.035	<1	23	.31	46	.01	<3	.58	<.01	.16	11	15177.9
126708	5	2542	30	434	38.0	4	12	740	11.46	50	<8	3	2	5	.6	<3	10	89	.12	.138	3	14	.83	58	.02	<3	2.00	.01	.26	2	3059.7
126709	1	175	12	99	1.1	13	21	1339	7.66	29	<8	<2	<2	39	.8	<3	4	128	1.75	.199	5	10	2.30	70	.19	<3	3.05	.02	.28	<2	90.3
126710	2	5926	279	761	51.5	5	152	219	32.35	99999	<8	73	4	30	4.0	59	35	265	.02	.052	4	7	<.01	73	.07	<3	.46	.03	.29	<2	60159.0
STANDARD DS4	6	121	29	149	.5	33	11	789	3.28	23	<8	<2	4	30	4.7	6	6	72	.51	.090	16	154	.57	140	.09	<3	1.63	.04	.16	4	25.0

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: SEP 25 2002 **DATE REPORT MAILED:** Oct 7/02 **SIGNED BY** .... D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data FA

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
G-1	1	<1	<3	42	<.3	5	4	578	1.82	2	<8	<2	5	63	<.5	<3	<3	40	.45	.085	7	15	.56	266	.14	<3	.86	.07	.52	2	.3
126711	1	3143	35	191	12.1	5	10	606	14.91	457	<8	<2	3	21	1.0	<3	6	116	.33	.128	5	10	1.30	64	.12	<3	2.30	.02	.31	<2	1455.0
126712	3	14	<3	34	<.3	4	2	493	.80	91	<8	<2	<2	7	<.5	<3	<3	4	.02	.011	4	25	.16	181	<.01	<3	.21	.01	.05	12	31.3
126713	1	83	13	34	.9	43	13	277	4.60	75	<8	<2	2	185	<.5	<3	<3	91	.65	.238	6	84	.87	90	.21	<3	.97	.05	.25	3	91.2
126714	1	82	6	31	.4	49	15	307	3.04	9	<8	<2	<2	56	<.5	<3	<3	68	.52	.164	6	58	.98	109	.17	3	1.24	.08	.96	2	28.1
126715	1	45	<3	41	.3	46	17	491	3.52	7	<8	<2	<2	59	<.5	<3	<3	85	.60	.176	6	46	1.75	207	.21	3	1.99	.07	1.76	2	9.1
126716	1	94	9	89	.3	4	19	841	2.35	5	<8	<2	2	158	<.5	<3	<3	34	1.47	.137	7	6	.79	104	.15	3	1.47	.07	.41	<2	15.6
126717	5	53	9	55	.3	8	6	378	1.90	<2	<8	<2	<2	13	<.5	<3	<3	33	.29	.090	4	30	.46	75	.14	<3	.75	.02	.16	9	7.7
126718	2	49	11	373	.3	2	7	870	2.97	<2	<8	<2	4	58	3.2	<3	<3	66	1.98	.138	11	5	.90	68	.16	<3	1.14	.08	.15	<2	<.2
126719	2	105	<3	15	.5	55	15	259	2.54	5	<8	<2	2	102	<.5	<3	<3	41	1.52	.182	7	27	.13	51	.20	<3	.50	.06	.25	3	44.1
126720	1	71	7	59	.3	57	18	483	3.58	2	<8	<2	<2	57	<.5	<3	<3	84	.80	.225	7	62	2.15	222	.23	<3	2.12	.05	1.34	2	5.7
RE 126720	1	69	3	56	<.3	55	18	472	3.46	<2	<8	<2	<2	56	<.5	<3	<3	82	.78	.217	7	60	2.03	216	.23	<3	2.06	.05	1.31	<2	2.8
126721	<1	114	5	24	.7	28	20	309	7.11	2	<8	<2	2	44	<.5	<3	<3	66	.37	.182	5	34	.98	189	.25	3	1.36	.05	.79	<2	418.7
126722	<1	49	<3	94	.3	52	21	823	5.37	2	<8	<2	<2	44	<.5	<3	<3	148	.54	.183	5	97	3.91	404	.26	<3	3.70	.05	2.13	<2	39.5
126723	2	135	18	64	.8	46	29	458	4.88	14	<8	<2	<2	89	<.5	<3	5	113	1.10	.248	8	44	1.35	108	.28	3	1.48	.06	1.40	3	25.9
126724	2	87	4	15	.4	23	22	394	3.30	3	<8	<2	<2	626	<.5	<3	<3	88	.81	.143	5	29	.47	53	.21	<3	1.13	.06	.37	5	10.2
126725	1	47	39	3055	.9	25	15	1582	4.31	23	<8	<2	2	134	23.7	3	<3	152	4.97	.214	7	33	2.61	192	.24	<3	2.80	.05	2.42	<2	11.0
126726	1	96	6	114	<.3	5	15	996	3.44	<2	<8	<2	3	116	<.5	<3	<3	48	1.91	.149	8	5	1.20	115	.15	3	1.71	.07	.47	2	4.2
126727	2	72	53	151	<.3	6	10	595	3.10	<2	<8	<2	2	30	<.5	<3	<3	22	.61	.098	10	11	.47	77	<.01	<3	.91	.04	.27	<2	1.0
126728	1	3	4	35	<.3	1	4	913	1.19	<2	<8	<2	3	56	<.5	<3	<3	10	.54	.078	17	4	.04	675	<.01	<3	.34	.05	.24	<2	<.2
126729	1	234	6	79	.6	12	49	1116	6.01	29	<8	<2	2	313	.5	<3	<3	86	4.69	.234	8	16	1.61	207	.08	<3	2.00	.02	.75	5	56.9
126730	1	61	11	77	<.3	15	15	898	4.43	11	<8	<2	2	13	<.5	<3	<3	43	.19	.129	10	15	.84	54	<.01	3	1.23	.02	.29	<2	5.9
126731	1	171	3	96	.3	23	14	1096	3.73	6	<8	<2	2	63	<.5	<3	<3	49	1.50	.158	10	16	.67	144	.14	<3	1.40	.04	1.21	<2	29.7
STANDARD DS4	7	128	29	151	<.3	33	12	801	3.05	21	<8	2	5	29	4.7	6	5	73	.53	.093	17	158	.57	149	.09	4	1.67	.04	.16	4	24.6

Sample type: ROCK R150 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data FA

ACME ANALYTICAL LABORATORIES LTD. ... (ISO 9002 Accredited Co.)

ASSAY CERTIFICATE

Keewatin Consultants PROJECT Bug Lake File # A204062R

900 - 475 Howe St., Vancouver BC V6C 2B3 Submitted by: Adam Travis

SAMPLE#	Au** gm/mt
125271	3.21
125273	1.90
125291	3.14
125295	1.51
126682	1.52
126688	1.78
126707	15.66
126708	4.54
126710	69.42
126711	2.22
RE 126711	2.09
STANDARD AU-1	3.35

GROUP 6 - PRECIOUS METALS BY FIRE ASSAY FROM 1 A.T. SAMPLE, ANALYSIS BY ICP-ES.
- SAMPLE TYPE: ROCK PULP

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: NOV 8 2002 **DATE REPORT MAILED:** Nov 15/02 **SIGNED BY**............D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data FA

[redacted] 9002 Accredited Co.)

ASSAY CERTIFICATE

Keewatin Consultants PROJECT Bug Lake File # A204063R

900 - 475 Howe St., Vancouver BC V6C 2B3 Submitted by: Adam Travis

SAMPLE#	Au** gm/mt
FL 2100E 1950N	1.43
3+50N 1+00E	11.29
STANDARD AU-1	3.35

GROUP 6 - PRECIOUS METALS BY FIRE ASSAY FROM 1 A.T. SAMPLE, ANALYSIS BY ICP-ES.
- SAMPLE TYPE: SOIL PULP

DATE RECEIVED: NOV 8 2002 **DATE REPORT MAILED:** Nov 15/02 **SIGNED BY** .... D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

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GEOCHEMICAL ANALYSIS CERTIFICATE

Keewatin Consultants PROJECT Bug Lake File # A204063 Page 1

900 - 475 Howe St., Vancouver BC V6C 2B3 Submitted by: Jill Moore

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Hg ppm	Sc ppm	Tl ppm	S %	Ga ppm
G-1	1.3	2.9	3.5	48	<.1	4.0	4.3	579	1.81	1.1	3.2	1.1	6.1	81	<.1	<.1	.2	41	.58	.109	7	12.5	.59	250	.119	2	.92	.105	.57	2.4	.03	4.7	.3	<.05	5
A 225W 175N	1.3	8.1	8.0	34	.1	2.6	3.4	159	2.74	1.5	.2	23.9	.7	5	.1	.5	.3	147	.05	.017	7	7.5	.13	28	.104	1	1.08	.002	.04	<.1	.06	2.5	.1	<.05	14
A 225W 150N	1.8	59.1	8.8	59	.1	5.8	11.6	278	6.11	5.6	.2	65.1	1.0	10	<.1	.4	.4	188	.05	.069	7	6.7	.67	284	.041	1	2.39	.004	.13	.2	.05	5.5	.1	<.05	15
A 225W 125N	3.3	49.5	13.0	49	.8	4.3	4.2	117	1.72	7.9	.5	25.5	.5	12	.4	.3	.4	56	.07	.024	16	7.2	.18	122	.039	1	1.26	.009	.06	.2	.07	2.1	.1	<.05	11
A 225W 75N	5.9	26.7	37.4	122	1.3	6.0	4.0	496	8.87	22.2	2.2	13.4	17.8	5	.6	.7	.6	52	.05	.112	21	22.1	.05	43	.134	2	6.52	.017	.04	.8	.39	2.3	.1	<.05	51
A 225W 50N	5.3	107.9	35.9	120	.3	19.7	15.9	476	7.03	30.3	.8	12.8	4.3	10	.7	2.7	.3	83	.06	.096	12	20.5	.35	55	.040	<1	4.41	.009	.03	.3	.16	3.3	.1	<.05	15
A 225W 25N	4.0	31.7	21.2	74	.8	6.4	3.9	191	4.99	19.7	.5	7.3	4.4	8	.2	.7	.4	80	.06	.157	10	18.9	.13	48	.089	1	2.29	.013	.04	.4	.10	2.2	.1	<.05	26
A 200W 175N	2.7	155.8	13.9	49	.1	7.3	11.1	981	3.99	9.9	1.0	55.1	.2	14	.1	.3	.5	88	.16	.167	8	13.6	.39	46	.053	1	2.67	.012	.05	.2	.22	2.8	.1	<.05	11
A 200W 150N	12.5	23.4	20.6	71	<.1	3.0	2.1	228	7.84	22.4	.5	5.2	2.2	6	.3	1.2	.9	375	.03	.095	17	16.7	.05	29	.371	1	1.29	.007	.03	.6	.13	1.4	<.1	<.05	58
A 200W 125N	3.0	57.7	53.3	183	.4	3.9	8.4	241	4.23	20.2	.2	8.1	.8	5	.3	.8	.3	98	.06	.046	5	5.9	.76	74	.153	1	1.78	.007	.05	.1	.05	2.8	.1	.06	10
A 175W 175N	.6	10.9	8.9	40	.1	4.9	5.5	970	2.14	.9	.3	9.3	.2	28	.1	.2	.1	79	.21	.077	4	7.7	.34	38	.135	1	1.10	.015	.09	<.1	.08	2.5	.1	<.05	10
A 175W 150N	4.9	32.9	14.8	88	<.1	21.8	4.4	315	4.95	11.3	1.8	8.7	5.6	6	.1	.7	.3	61	.06	.082	12	45.1	.35	33	.139	1	4.61	.010	.03	.6	.27	3.6	.1	<.05	18
A 175W 125N	6.0	39.1	75.1	193	.4	10.7	5.0	265	7.91	33.6	.4	167.3	1.1	8	.5	.9	.5	120	.05	.092	7	25.8	.28	46	.116	1	2.02	.005	.04	.3	.10	2.5	.1	<.05	17
A 175W 75N	8.9	103.8	111.2	222	.8	13.3	25.2	1753	7.73	162.7	.8	15.1	1.3	15	1.4	1.1	.4	108	.11	.133	13	26.5	.41	80	.066	1	3.41	.006	.04	.3	.23	4.5	.1	<.05	12
A 175W 50N	3.8	84.1	62.3	303	1.6	20.0	14.3	1534	5.63	27.7	.8	21.4	1.6	16	1.4	.8	.4	60	.18	.086	13	18.9	.40	58	.044	<1	2.27	.016	.06	.4	.17	2.8	.1	<.05	16
A 175W 25N	4.5	33.6	25.3	106	.1	11.5	5.9	258	6.14	21.9	1.3	11.3	7.6	10	.9	.7	.5	50	.06	.060	16	23.3	.28	33	.110	1	4.43	.010	.04	.8	.26	2.5	.1	<.05	26
RE A 175W 25N	4.7	33.4	25.0	103	.2	11.5	5.7	249	5.89	22.1	1.3	11.8	7.6	10	1.0	.8	.5	47	.06	.058	16	21.6	.27	34	.105	1	4.63	.010	.03	.9	.25	2.5	.1	<.05	26
B 600W 25S	5.2	138.9	40.6	78	.9	7.6	15.9	921	9.03	22.7	.5	34.7	2.4	7	.3	.7	2.0	158	.08	.109	9	15.4	.51	82	.111	<1	2.98	.007	.06	.6	.14	5.4	.1	<.05	14
B 590W 25S	7.3	99.6	20.0	152	.1	13.8	4.3	350	5.49	16.6	7.7	20.5	21.0	3	.3	.8	.4	25	.04	.048	48	19.0	.16	54	.120	1	5.72	.034	.08	1.1	.16	5.0	.1	<.05	27
B 505W 25S	3.9	88.5	57.7	100	.9	8.4	23.1	1820	4.87	72.6	.4	29.4	.7	7	.3	.5	.6	88	.11	.234	7	12.5	.30	34	.034	<1	2.00	.006	.05	.2	.16	3.1	.1	<.05	10
B 500W 25S	2.5	68.2	18.7	152	.8	17.0	13.8	1258	5.02	173.1	.4	630.9	1.7	6	.3	.5	.6	109	.05	.215	6	23.8	.58	47	.051	1	2.98	.005	.07	.3	.18	4.1	.2	<.05	12
B 490W 25S	6.0	72.9	10.1	94	<.1	17.5	4.4	1069	5.39	12.2	1.6	11.1	9.2	3	.2	.5	.3	33	.04	.136	21	28.8	.21	24	.074	1	8.22	.010	.03	.8	.39	4.2	.1	<.05	22
B 355W 55N	4.6	94.7	26.7	80	.5	10.1	16.3	695	6.15	30.5	1.0	20.6	3.3	6	.3	.9	.2	118	.05	.129	10	21.8	.30	52	.104	1	4.69	.006	.02	.4	.24	4.6	<.1	<.05	12
B 350W 50N	3.9	60.2	20.6	78	1.2	8.7	7.6	355	4.51	20.2	.6	601.5	.9	7	.4	.7	.3	92	.05	.068	8	14.1	.27	40	.092	<1	2.07	.008	.03	.4	.18	2.7	<.1	<.05	12
B 345W 55N	3.8	92.5	21.9	226	.1	25.9	12.1	549	6.28	22.2	2.0	8.0	8.9	6	.6	.8	.4	71	.04	.093	17	28.8	.27	62	.129	<1	5.80	.011	.04	.6	.26	3.4	.1	<.05	20
D 950S 1800W	5.4	32.3	22.9	105	.1	11.9	8.4	563	4.68	12.1	.5	10.0	1.4	15	.3	.4	.3	84	.26	.058	9	30.7	.47	136	.144	1	1.45	.021	.08	.4	.09	1.9	.1	<.05	15
D 950S 1775W	1.5	21.6	11.8	58	.2	3.6	8.3	314	2.27	6.6	.3	8.0	.5	15	.3	.2	.4	52	.10	.061	4	6.2	.40	82	.131	<1	1.09	.008	.26	.1	.07	1.3	.2	<.05	9
D 950S 1750W	1.6	19.4	6.7	60	.1	4.6	9.0	333	2.82	4.5	.4	34.1	1.2	22	.2	.1	.1	57	.17	.202	4	8.9	.52	111	.189	1	1.40	.007	.18	.2	.06	1.2	.1	<.05	9
D 950S 1725W	4.7	32.5	11.1	39	<.1	3.6	2.0	311	4.70	9.0	1.6	9.9	4.8	6	.2	.3	.2	45	.09	.101	12	18.4	.08	35	.121	1	4.05	.013	.04	.7	.31	2.3	.1	<.05	20
D 950S 1700W	1.3	30.9	9.5	65	.2	4.2	6.5	381	2.03	2.4	.5	5.8	.5	25	.2	.1	.2	36	.16	.065	4	6.4	.44	61	.106	<1	1.26	.016	.15	.1	.11	1.1	.1	<.05	7
D 950S 1675W	4.3	38.5	25.5	252	.2	14.0	9.2	781	4.53	16.9	3.2	7.3	8.5	6	.6	.7	.4	36	.07	.055	44	15.6	.26	73	.113	<1	3.36	.020	.07	.5	.18	3.1	.1	<.05	19
D 950S 1650W	1.9	16.3	12.6	41	.3	2.4	3.0	219	1.17	1.4	.2	3.0	.3	17	.2	.2	.2	36	.10	.025	6	5.7	.19	70	.075	<1	.87	.012	.07	.2	.05	1.1	.1	<.05	9
D 950S 1625W	4.8	27.8	16.8	139	.1	12.3	4.4	525	4.25	9.8	2.4	7.3	5.4	5	.2	.6	.3	34	.06	.077	25	17.9	.19	46	.087	<1	3.13	.018	.07	.6	.18	1.8	.1	.06	21
D 950S 1600W	5.4	7.5	13.7	40	<.1	4.1	.9	84	4.34	7.3	.4	12.9	2.4	3	.2	.6	.4	80	.02	.030	8	17.5	.06	31	.128	<1	1.06	.009	.03	.2	.07	1.1	<.1	.07	29
D 950S 1575W	4.8	88.8	29.8	250	1.3	19.9	15.0	592	6.73	13.1	1.0	66.1	7.0	14	.6	.4	.5	67	.13	.062	11	25.4	.67	73	.134	1	4.29	.015	.09	.3	.15	2.7	.1	<.05	19
STANDARD DS4	6.4	124.8	32.7	158	.3	32.5	11.7	796	3.10	22.6	6.2	30.7	3.7	32	5.1	5.1	5.5	75	.52	.090	16	155.1	.57	141	.090	2	1.64	.034	.18	3.9	.28	3.9	1.1	.07	6

GROUP 1DA - 10.0 GM SAMPLE LEACHED WITH 60 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 200 ML, ANALYSED BY ICP-MS.
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.
- SAMPLE TYPE: SOIL SS80 60C Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: SEP 25 2002 **DATE REPORT MAILED:** Oct 8/02 **SIGNED BY** C.L.......D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data ✓ FA ____

ACME ANALYTICAL

Keewatin Consultants PROJECT Bug Lake FILE # A204063

ACME ANALYTICAL

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Hg ppm	Sc ppm	Tl ppm	S %	Ga ppm
G-1	1.3	2.1	2.2	39	<.1	4.0	4.0	503	1.76	1.8	2.9	<.5	5.3	71	<.1	<.1	.2	41	.56	.115	7	11.9	.52	232	.122	3	.86	.070	.50	2.6	<.01	2.6	.3	<.05	5
D 950S 1550W	3.6	39.3	70.0	401	1.0	16.2	11.3	354	4.63	25.1	1.4	2.4	6.3	18	2.2	.7	.4	54	.33	.054	21	19.5	.36	107	.100	2	3.45	.012	.06	.5	.15	3.0	.1	<.05	19
D 1000S 1825W	2.9	85.3	12.8	125	.5	14.6	12.4	583	5.47	9.7	.2	57.1	.7	13	.4	.4	.3	113	.12	.070	3	33.8	.99	96	.234	1	2.17	.011	.09	.2	.06	3.6	.1	<.05	11
D 1000S 1800W	23.7	214.1	31.9	193	.2	9.7	23.6	775	6.27	21.1	.4	32.1	2.0	13	.2	.5	.2	79	.25	.090	6	13.0	1.04	112	.211	1	2.94	.010	.16	.2	.07	2.2	.1	<.05	9
D 1000S 1775W	6.0	277.5	38.1	335	.5	31.4	13.8	870	5.57	15.9	5.0	45.7	11.5	4	.6	.7	.5	49	.06	.055	77	30.7	.60	103	.151	1	3.59	.018	.10	.7	.08	3.9	.2	<.05	21
D 1000S 1750W	7.1	12.7	26.0	91	.4	8.2	4.7	334	6.32	17.1	1.0	6.6	4.9	6	.3	.7	.5	98	.03	.043	20	23.7	.12	66	.184	1	2.00	.011	.03	.6	.14	2.0	.1	<.05	43
D 1000S 1725W	3.5	47.9	20.4	111	.9	8.2	5.1	421	4.46	16.2	1.2	73.8	3.1	11	.6	.4	.3	57	.16	.092	14	16.9	.29	89	.105	1	3.79	.008	.05	.4	.24	2.6	.1	<.05	17
D 1000S 1700W	5.3	18.7	18.0	112	.3	7.6	3.7	283	4.41	15.5	2.9	4.3	14.0	3	<.1	.6	.3	16	.03	.063	17	14.4	.06	50	.079	1	5.69	.022	.05	1.1	.30	2.7	.1	<.05	20
D 1000S 1675W	4.4	25.0	26.3	94	.8	6.8	3.9	276	6.77	21.6	1.2	9.8	6.3	7	.3	.6	.3	56	.06	.067	14	22.6	.16	66	.125	<1	4.99	.009	.02	.6	.27	2.3	.1	<.05	23
D 1000S 1650W	4.1	29.0	33.8	98	2.7	5.3	3.8	340	4.36	19.1	1.4	29.1	5.3	7	.1	.4	.3	43	.05	.062	12	17.8	.12	66	.072	1	3.39	.010	.03	.4	.35	2.5	.1	<.05	17
D 1000S 1625W	2.7	33.9	39.4	212	.6	9.2	7.2	576	5.79	700.9	1.0	166.8	2.4	9	1.0	.7	.6	65	.12	.126	9	26.9	.31	56	.115	1	3.33	.006	.03	.3	.29	2.4	.1	<.05	16
D 1000S 1600W	2.8	34.0	48.7	226	1.7	13.2	8.8	451	6.54	41.3	1.0	14.6	6.5	8	.3	.6	.5	76	.09	.086	10	26.4	.33	70	.160	<1	3.93	.011	.03	.5	.21	2.9	.1	<.05	19
D 1000S 1575W	2.9	71.3	21.6	326	1.0	10.9	17.5	897	6.98	135.4	.6	6.0	1.8	8	.8	.6	.4	115	.17	.127	5	28.0	.90	106	.125	1	3.84	.004	.10	.1	.13	3.7	.1	<.05	10
D 1000S 1550W	1.2	42.3	6.5	90	.5	16.5	18.4	647	6.62	2.3	.4	26.7	.9	27	.2	.3	.1	214	.22	.069	3	27.0	1.71	50	.351	<1	2.72	.009	.04	.2	.09	3.5	<.1	<.05	15
FL 2000E 2050N	2.9	28.5	51.0	330	.6	26.3	9.9	295	7.65	37.5	.5	27.7	2.3	12	.9	.9	1.4	109	.11	.097	6	50.6	.41	69	.156	1	2.69	.007	.05	1.2	.08	2.5	.2	<.05	17
FL 2000E 2025N	2.2	71.3	25.4	290	1.2	27.9	11.4	465	6.96	26.0	.4	18.6	1.3	14	.4	.6	1.0	142	.14	.080	6	66.4	1.15	64	.284	<1	2.82	.009	.10	.9	.06	2.2	.1	<.05	12
FL 2000E 2000N	.7	191.2	110.1	1863	.6	34.3	65.4	2089	9.82	6.1	.4	90.3	1.3	10	.7	1.3	4.7	146	.10	.047	24	88.1	2.61	57	.544	<1	4.07	.004	.44	1.1	.08	4.9	.4	<.05	9
FL 2000E 1975N	3.5	45.3	47.5	109	.7	20.8	7.2	131	8.59	38.5	.5	14.6	2.2	7	.4	1.5	1.8	167	.04	.054	7	58.0	.42	55	.357	<1	2.53	.007	.04	.9	.08	2.3	.2	<.05	20
FL 2000E 1950N	1.8	199.2	105.4	165	1.4	70.1	44.3	2262	12.03	197.2	.4	249.2	3.1	20	.7	7.3	2.4	113	.11	.137	15	50.8	2.35	55	.185	<1	3.13	.004	.28	.4	.08	9.8	.6	.14	8
FL 2025E 2050N	2.0	76.8	14.7	186	.3	24.2	10.5	393	5.94	25.6	.3	113.1	1.2	24	.7	.9	2.6	154	.24	.101	7	59.6	1.90	118	.249	<1	2.89	.010	.38	1.4	.05	2.9	.2	.08	12
FL 2025E 2025N	2.1	100.1	42.8	458	.5	29.5	10.4	428	7.48	75.0	.5	26.3	1.3	17	.6	1.0	1.8	127	.24	.120	5	78.8	1.17	69	.249	<1	2.38	.008	.08	.9	.06	2.7	.1	<.05	10
FL 2025E 2000N	3.9	45.3	14.6	268	.4	39.9	11.1	342	5.77	24.3	.5	5.9	2.6	15	1.1	.8	1.0	69	.14	.172	7	59.0	.65	107	.115	<1	3.14	.009	.05	.8	.11	2.4	.1	<.05	11
FL 2025E 1975N	2.8	28.8	22.0	268	1.4	28.5	10.8	471	5.24	21.0	.8	14.1	4.6	15	.6	.6	.8	76	.14	.176	14	40.9	.53	89	.141	<1	2.96	.013	.06	.9	.07	2.8	.2	<.05	20
FL 2025E 1950N	1.6	106.7	21.2	139	.6	47.3	21.3	363	6.92	42.8	.3	30.4	1.6	10	.7	2.7	1.6	137	.10	.066	4	57.5	1.19	101	.296	<1	2.60	.006	.08	.4	.05	4.1	.2	<.05	9
RE FL 2025E 1950N	1.5	113.2	22.7	140	.5	46.0	21.6	361	7.25	43.0	.3	25.5	1.6	10	.7	2.8	1.6	154	.10	.069	4	61.0	1.27	106	.306	<1	2.69	.005	.08	.4	.05	4.3	.2	<.05	9
FL 2050E 2025N	3.0	113.3	75.6	453	1.4	31.4	11.1	648	6.38	32.7	.8	97.5	3.5	17	.8	1.1	2.9	84	.17	.150	10	63.5	1.11	87	.234	<1	2.91	.012	.19	1.8	.10	3.4	.2	.06	13
FL 2050E 2000N	3.3	94.9	584.2	676	4.1	47.6	14.0	929	5.63	124.5	1.7	68.1	6.1	19	2.1	3.7	2.1	77	.25	.169	17	50.7	1.20	85	.163	<1	3.56	.017	.19	1.6	.17	4.0	.3	<.05	14
FL 2050E 1975N	3.1	39.5	160.5	768	2.9	26.9	12.2	1520	5.74	394.9	1.4	22.7	5.8	15	5.7	2.6	1.2	49	.17	.261	27	30.2	.65	134	.136	1	3.36	.019	.14	.7	.15	2.6	.2	<.05	17
FL 2050E 1950N	1.4	141.2	12.9	197	1.3	75.8	36.5	1093	7.58	77.0	.7	70.6	3.8	19	2.1	3.1	1.4	158	.20	.117	20	78.6	2.12	104	.195	<1	3.50	.005	.09	.2	.09	9.0	.3	<.05	10
FL 2075E 2025N	2.6	106.5	18.0	208	.9	40.4	20.8	457	5.67	84.6	1.2	61.2	5.0	19	.8	1.3	1.5	88	.13	.128	15	55.4	.93	102	.166	1	3.13	.014	.31	1.1	.05	3.9	.3	.08	15
FL 2075E 2000N	1.1	239.5	19.9	162	.8	48.8	35.1	825	8.59	31.1	.6	244.1	1.8	33	.9	2.3	2.0	205	.40	.216	17	117.9	2.63	208	.368	<1	3.78	.008	1.11	.8	.05	12.0	.5	<.05	12
FL 2075E 1975N	2.1	80.5	15.6	291	.9	18.3	12.5	735	6.84	38.3	.6	48.8	2.1	18	1.3	1.3	2.7	75	.21	.291	12	43.3	1.01	116	.178	2	2.34	.010	.09	.3	.13	3.0	.1	<.05	9
FL 2075E 1950N	3.2	48.9	32.2	737	7.3	112.8	14.6	1151	5.04	44.9	1.2	49.5	4.3	12	1.9	.7	.9	67	.14	.176	8	55.2	.61	72	.163	1	3.95	.009	.07	.6	.21	3.1	.4	<.05	14
FL 2100E 2025N	1.3	36.3	14.9	135	.3	28.6	5.4	301	6.92	36.9	.3	24.7	.7	15	.2	1.9	1.2	186	.17	.104	3	79.6	1.90	124	.302	<1	2.98	.008	.13	.6	.04	1.8	.1	<.05	14
FL 2100E 2000N	6.4	53.5	82.7	472	.5	33.2	10.3	543	7.02	330.6	.5	88.5	2.1	16	1.3	2.0	43.2	160	.17	.266	6	60.0	1.31	60	.168	1	2.59	.009	.06	5.1	.06	3.1	.1	<.05	17
STANDARD DS4	6.7	124.1	31.6	152	.3	33.0	12.2	826	3.10	23.6	6.4	29.7	3.5	28	5.5	5.1	5.2	73	.53	.092	15	156.1	.52	154	.089	1	1.66	.032	.16	4.0	.27	3.7	1.1	.07	6

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

Data FA

ACME ANALYTICAL

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Hg ppm	Sc ppm	Tl ppm	S %	Ga ppm
G-1	1.4	2.4	2.9	42	<.1	3.8	4.0	522	1.76	<.5	2.9	<.5	4.7	70	<.1	<.1	.2	39	.56	.111	7	12.9	.53	231	.114	2	.81	.072	.56	2.5	.03	2.0	.3	<.05	4
FL 2100E 1975N	4.8	33.2	15.1	213	1.5	29.8	5.5	565	5.49	39.0	1.6	140.6	9.1	7	.3	.8	1.1	20	.10	.137	27	26.4	.17	83	.100	3	5.27	.030	.09	1.3	.15	2.1	.1	<.05	18
FL 2100E 1950N	1.7	202.4	57.0	507	2.1	58.5	17.0	648	7.45	527.3	.4	1963.6	1.1	23	.6	2.0	4.1	108	.24	.105	7	89.4	1.85	113	.260	1	3.05	.007	.49	.4	.09	2.9	.3	<.05	8
R 75N 425E	1.4	48.9	6.1	94	.2	32.0	17.5	314	5.68	4.0	.4	12.7	.8	23	.1	.3	.1	188	.30	.097	4	49.3	1.21	125	.465	1	2.44	.010	.10	.2	.04	2.1	.1	<.05	13
R 75N 450E	5.4	319.4	19.2	414	.6	35.5	17.8	538	9.00	8.3	.4	29.6	1.3	5	.6	.2	.9	329	.08	.088	3	93.7	1.63	64	.606	<1	3.40	.006	.06	.3	.08	4.6	<.1	<.05	19
R 75N 475E	1.7	64.8	7.1	87	.1	21.6	13.8	804	4.89	.7	.5	4.6	1.3	17	.1	.1	.2	143	.23	.177	5	41.7	1.31	98	.253	1	2.46	.023	.14	.4	.05	2.4	.1	<.05	11
R 50N 425E	4.6	172.8	26.5	171	.6	25.7	16.8	523	9.21	9.6	.4	49.5	1.3	9	.5	.6	2.8	294	.10	.297	4	56.1	1.12	155	.241	<1	3.04	.006	.06	.3	.07	4.5	.1	<.05	18
R 50N 450E	1.5	78.2	8.1	150	.4	33.2	17.5	537	6.95	3.4	.6	8.2	2.7	7	.2	.3	.2	199	.10	.108	7	61.2	1.52	109	.387	1	5.29	.007	.09	.3	.13	5.5	.1	<.05	14
R 50N 475E	4.5	34.4	14.3	144	.3	19.9	9.2	485	6.20	17.5	1.8	7.4	10.3	7	<.1	.5	.3	69	.08	.137	18	37.4	.41	60	.187	1	5.66	.013	.05	.9	.24	3.1	.1	<.05	23
R 25N 425E	4.8	17.4	17.4	181	.5	14.1	5.7	408	5.89	11.3	1.6	2.6	8.3	3	<.1	.5	.4	65	.04	.101	14	34.0	.27	54	.186	<1	5.19	.014	.06	.6	.24	3.3	.1	<.05	23
R 25N 450E	3.8	27.4	16.0	73	1.0	9.5	7.5	563	3.90	15.3	1.1	36.4	3.5	9	.3	.4	.4	74	.10	.103	21	22.6	.25	56	.200	<1	1.71	.017	.04	.7	.13	1.8	.1	<.05	20
R 25N 475E	1.8	42.3	13.1	149	.4	32.8	16.4	772	7.73	15.3	.8	3.1	2.5	13	.4	.2	.2	190	.17	.123	7	75.9	1.25	95	.275	<1	4.56	.007	.06	.4	.18	4.5	.1	<.05	15
R 75E 25S	2.5	95.0	7.7	120	.4	35.7	12.7	259	8.18	27.0	.4	48.9	1.4	20	1.2	1.1	2.4	136	.11	.221	5	80.2	.79	89	.229	<1	2.39	.007	.08	20.1	.09	2.0	.1	<.05	11
R 75E 50S	.9	104.8	5.3	37	.3	8.3	3.7	209	6.97	13.8	.3	195.4	.8	27	.1	1.0	3.3	132	.05	.141	4	58.4	1.23	73	.388	<1	1.82	.006	.66	1.3	.04	1.8	.3	.23	7
R 100E 25S	1.5	52.6	2.6	104	.2	29.7	10.6	337	6.78	14.3	.3	13.7	1.0	26	.4	.9	.9	142	.19	.278	5	71.2	1.76	270	.278	<1	3.70	.010	.26	.5	.06	2.1	.1	.08	9
R 100E 50S	1.1	187.7	4.9	56	.2	29.9	9.4	383	7.81	25.4	.2	331.5	.5	24	<.1	.8	5.2	158	.29	.167	5	83.6	2.03	95	.239	<1	2.43	.011	1.09	1.2	.02	3.8	.5	.49	9
RE R 100E 50S	1.3	191.0	5.1	55	.2	31.1	9.9	408	7.58	25.8	.1	470.4	.5	28	<.1	.9	5.2	155	.31	.174	5	80.8	2.06	93	.232	<1	2.53	.009	1.10	1.3	.03	3.8	.5	.49	9
R 125E 25S	3.6	85.5	49.2	305	.5	58.0	22.3	656	7.34	8.6	.9	7.3	3.9	15	.3	.6	1.0	172	.17	.213	32	144.2	2.57	165	.303	<1	4.82	.011	.36	.5	.10	4.5	.2	<.05	14
R 125E 50S	.9	85.3	31.6	168	.6	33.1	17.9	597	7.66	18.0	.2	16.9	.8	27	.3	.6	2.3	160	.27	.224	4	73.1	2.48	170	.237	<1	3.45	.009	.36	.9	.03	3.8	.3	<.05	12
R 500E 75S	4.7	24.6	20.7	127	.2	14.1	7.6	1053	4.88	18.5	1.7	5.2	6.1	14	.4	.4	.3	51	.20	.158	22	23.3	.24	57	.114	<1	3.75	.014	.04	.6	.20	2.0	.1	<.05	23
R 500E 100S	5.2	24.1	31.8	278	.8	25.1	8.1	483	5.94	33.1	1.7	243.4	9.4	10	.7	.6	.5	42	.20	.120	22	23.1	.29	69	.122	1	3.94	.020	.10	.8	.14	2.1	.2	<.05	24
R 525E 75S	2.3	76.9	36.8	210	.4	51.5	17.1	848	6.82	31.9	1.3	14.9	3.7	11	.4	.6	.2	123	.19	.147	21	66.2	.78	103	.135	<1	3.69	.007	.15	.3	.13	4.6	.3	<.05	15
R 525E 100S	1.3	43.4	13.1	174	.1	59.7	20.5	816	7.08	27.6	.4	11.2	1.9	13	.3	.4	.2	196	.17	.077	5	116.3	2.06	86	.309	<1	3.85	.008	.05	.3	.07	5.3	.1	<.05	19
R 12S 212E	3.1	78.2	5.8	121	.3	59.9	13.2	458	5.74	24.7	.2	235.6	1.1	40	.2	.8	2.1	98	.25	.386	5	99.8	1.65	80	.183	<1	2.68	.007	.28	19.7	.05	1.8	.2	<.05	9
R 12S 225E	1.9	83.8	39.8	134	.6	47.0	11.5	551	6.92	60.0	.3	131.5	1.1	32	.4	1.6	3.3	136	.12	.520	4	86.9	1.28	80	.188	<1	2.69	.005	.15	1.4	.09	2.2	.1	.09	9
R 12S 238E	4.9	30.6	25.4	47	.4	9.0	4.9	466	7.26	22.2	.9	52.9	4.0	6	.3	.6	1.2	141	.03	.496	14	46.8	.29	49	.180	<1	2.49	.009	.05	1.9	.16	2.0	.1	<.05	40
R 12S 250E	5.4	22.0	17.5	128	.6	15.4	6.3	316	5.18	11.0	3.2	18.9	12.0	2	.1	.5	1.2	44	.04	.125	18	40.5	.16	53	.123	1	6.32	.023	.06	.7	.23	3.0	.1	<.05	22
R 12S 262E	.8	27.0	7.5	111	.2	43.5	16.8	913	5.08	10.7	.2	25.4	.5	19	.5	.3	.3	171	.23	.188	4	72.1	2.37	188	.229	1	3.12	.010	.28	.4	.04	2.6	.2	<.05	14
R 12S 275E	1.4	59.6	18.0	138	.5	57.8	18.1	627	5.99	18.7	.2	66.7	.9	12	.2	.5	.5	158	.16	.137	4	104.5	1.68	89	.233	<1	3.22	.010	.14	.4	.08	3.0	.2	<.05	12
R 12S 287E	3.8	52.1	14.1	106	.9	16.8	10.1	612	5.33	32.5	1.4	17.0	5.5	11	.4	.5	.3	84	.12	.151	13	29.2	.38	118	.109	1	3.52	.032	.07	.6	.17	2.8	.1	<.05	18
R 25S 212E	1.5	48.3	11.5	113	.2	32.7	18.9	649	7.10	11.7	.3	30.2	1.3	21	.4	.4	.9	168	.19	.260	5	73.7	1.97	95	.188	<1	3.54	.007	.08	.4	.07	2.3	.1	<.05	14
R 25S 225E	1.5	109.2	10.0	75	.5	43.8	15.1	324	6.57	23.7	.5	155.6	1.6	37	.5	1.4	3.1	91	.16	.144	11	97.0	1.06	120	.174	<1	2.18	.008	.34	.4	.06	2.4	.3	.17	7
R 25S 238E	.8	128.3	37.9	234	.5	113.3	25.9	1198	7.78	45.9	.1	59.0	.4	25	.5	.8	1.9	163	.38	.293	3	169.8	3.12	124	.218	<1	3.77	.006	.94	.4	.04	2.5	.3	<.05	10
R 25S 250E	2.2	107.2	7.2	112	.3	72.8	27.2	583	6.49	18.9	.7	145.8	2.8	12	.1	.7	.6	145	.14	.103	10	104.5	2.04	162	.233	<1	4.18	.019	.23	1.6	.10	3.6	.2	<.05	15
R 25S 262E	2.8	138.1	10.5	144	.3	97.7	35.8	724	8.25	31.6	.3	65.8	1.0	16	.7	.7	.7	195	.22	.267	4	174.0	2.00	261	.259	<1	3.76	.009	.22	.4	.08	7.7	.2	<.05	10
STANDARD DS4	6.9	123.9	33.4	153	.3	33.1	12.1	781	2.99	22.4	6.4	30.3	3.6	28	5.3	5.2	5.5	71	.54	.098	17	155.1	.57	152	.089	1	1.64	.034	.17	4.0	.28	3.7	1.2	.07	6

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

Data FA ____

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Hg ppm	Sc ppm	Tl ppm	S %	Ga ppm
G-1	1.5	2.6	2.4	42	<.1	4.3	3.9	534	1.81	.8	3.1	1.2	5.0	74	<.1	<.1	.2	38	.53	.103	7	13.8	.54	232	.123	1	.93	.108	.58	2.2	.01	4.1	.4	<.05	5
R 25S 275E	.7	69.2	3.2	143	.2	43.9	30.5	990	8.57	8.5	.3	2.9	1.1	27	.2	.2	<.1	290	.29	.306	6	80.4	2.75	284	.356	<1	4.88	.006	.49	.4	.05	5.1	.3	.06	14
R 25S 287E	1.5	84.6	4.0	164	.2	47.1	22.8	465	5.96	9.5	.4	6.3	1.4	19	.2	.2	.3	172	.18	.122	8	87.4	1.54	197	.326	<1	3.86	.013	.36	.2	.07	3.1	.2	<.05	13
R 50S 212E	1.5	42.0	4.7	61	.2	24.4	13.4	815	5.16	5.3	.2	53.7	.7	28	.2	.3	.9	101	.21	.280	4	67.3	1.21	87	.145	<1	2.45	.007	.08	.3	.07	1.4	.1	<.05	9
R 50S 225E	2.3	47.0	10.8	105	.1	40.1	16.6	514	6.80	24.1	1.0	29.8	4.0	15	.3	.6	.7	123	.13	.265	18	73.5	1.55	104	.203	1	4.03	.008	.20	.5	.14	2.7	.2	<.05	16
R 50S 238E	4.6	27.6	18.9	151	.4	25.8	9.7	444	5.50	14.6	3.2	23.9	12.3	4	.4	.6	.5	41	.04	.085	26	33.0	.33	64	.121	<1	5.59	.018	.07	.7	.21	3.6	.2	<.05	22
R 50S 250E	3.1	136.7	9.5	108	.9	96.4	27.1	360	7.36	28.6	.6	105.7	2.0	21	.6	.8	1.3	137	.13	.102	9	132.5	1.50	120	.299	<1	3.75	.006	.37	.3	.09	4.0	.3	.07	9
R 50S 262E	1.3	90.4	9.1	141	.3	38.8	24.4	796	7.17	14.3	.9	17.0	3.4	16	.3	.5	.2	227	.21	.121	12	57.6	2.43	132	.293	<1	4.46	.007	.13	.3	.08	6.1	.2	<.05	17
R 50S 275E	1.1	65.0	11.9	186	.3	35.2	27.3	820	7.57	10.2	.4	6.4	1.5	26	.3	.4	.2	225	.28	.213	6	55.0	2.35	110	.217	<1	4.07	.005	.06	.4	.05	3.2	.1	<.05	16
R 50S 287E	4.0	18.9	15.1	92	.1	18.5	6.6	384	6.59	10.7	1.2	6.6	6.1	11	.2	.4	.4	78	.18	.142	21	37.9	.31	98	.180	<1	3.61	.023	.06	.6	.12	2.3	.1	<.05	26
R 50S 425E	2.0	48.5	10.8	54	.3	7.3	5.2	276	5.69	7.3	.5	20.9	1.5	25	.4	.5	.7	139	.09	.236	8	35.9	.64	86	.278	<1	1.75	.010	.13	.5	.08	2.1	.1	.09	13
R 50S 450E	.9	125.5	19.0	98	.6	12.6	8.9	401	6.97	4.6	.5	139.3	1.4	13	.3	.3	.2	136	.09	.163	4	31.5	1.26	38	.233	<1	3.61	.006	.04	.3	.16	2.0	.1	<.05	11
R 50S 475E	5.4	12.7	18.7	98	<.1	5.8	2.0	255	6.13	15.2	1.9	11.5	9.9	2	.1	.6	.4	37	.02	.089	19	22.1	.11	26	.133	<1	6.56	.014	.04	1.0	.18	2.2	.1	<.05	25
RE R 50S 475E	5.6	13.1	18.1	98	<.1	6.6	1.9	264	6.18	15.3	1.9	6.9	9.8	3	.2	.5	.4	39	.02	.091	20	23.1	.11	27	.139	1	7.02	.014	.04	1.0	.21	2.2	.1	<.05	25
R 75S 75E	.9	578.0	42.6	138	2.7	261.5	153.7	1525	12.32	61.7	.2	312.8	.6	39	1.1	1.4	4.0	67	.64	.119	7	125.9	1.50	57	.158	<1	2.64	.006	.61	.2	.05	4.0	.7	.24	5
R 75S 425E	6.4	19.4	20.6	81	.1	15.3	4.1	171	6.12	15.3	.5	25.3	2.1	8	.2	.7	.8	123	.04	.217	8	47.0	.57	75	.269	<1	2.44	.009	.05	.6	.07	1.7	.1	<.05	22
R 75S 450E	2.9	47.1	13.2	162	.2	26.0	9.6	390	6.51	14.1	1.0	277.6	5.0	10	.3	.6	8.2	104	.08	.250	12	59.1	1.22	59	.217	<1	3.75	.010	.05	.7	.10	1.7	.1	<.05	18
R 75S 475E	.9	4.3	7.8	42	<.1	1.9	2.7	249	1.42	1.7	.5	1.1	.8	51	.2	.1	.1	28	.10	.051	4	5.0	.27	82	.095	<1	.99	.005	.12	.1	.06	1.2	.2	<.05	8
R 100S 425E	.5	189.3	70.5	1166	1.4	95.0	70.6	946	8.03	47.5	.3	52.0	1.1	21	1.2	.5	1.1	178	.19	.067	15	85.2	3.38	95	.299	<1	4.47	.005	.49	.2	.04	4.4	.4	<.05	15
R 100S 450E	1.1	93.0	45.9	531	.5	70.3	23.8	1088	6.84	7.4	.3	253.3	1.2	22	2.1	.5	1.0	139	.19	.163	6	100.4	1.99	92	.323	<1	3.76	.005	.15	.2	.04	3.3	.2	<.05	11
R 100S 475E	1.2	33.1	50.5	369	.7	36.9	15.4	877	5.19	7.5	.3	54.1	.9	13	1.0	.4	.5	122	.16	.128	4	71.7	1.44	51	.203	<1	2.72	.007	.09	.2	.06	2.6	.2	<.05	13
1000W 725S	.6	122.7	6.8	170	.2	5.5	22.0	909	4.69	3.5	.6	1.4	1.1	40	.1	.2	.2	70	.28	.088	4	4.6	1.38	91	.285	<1	2.35	.008	.18	.2	.05	2.1	.1	<.05	7
1000W 750S	5.0	128.2	16.3	108	.9	6.9	16.0	1921	4.88	9.1	1.4	26.0	1.8	13	.3	.3	.9	50	.15	.147	12	13.3	.40	46	.117	1	3.21	.015	.06	.2	.21	2.2	.1	<.05	13
1000W 775S	3.5	83.5	9.1	162	.1	8.3	15.9	2054	4.77	6.2	1.2	13.9	1.9	26	.2	.2	.2	46	.27	.080	17	10.6	.80	104	.150	<1	2.40	.023	.15	.2	.16	1.7	.2	<.05	12
1000W 800S	2.8	175.1	15.4	383	.8	8.9	19.2	1733	5.32	7.6	.6	207.3	.6	21	.4	.2	.7	56	.28	.132	7	9.1	1.21	62	.120	<1	2.55	.007	.16	.1	.16	2.4	.1	<.05	8
975W 725S	4.6	121.9	30.6	155	.2	9.3	19.0	1663	6.13	9.5	1.0	207.7	1.3	17	.5	.2	.6	62	.28	.123	8	12.8	.55	55	.131	<1	2.48	.011	.09	.1	.15	1.9	.1	<.05	10
975W 750S	5.3	138.2	14.2	229	.6	21.4	7.3	2187	4.59	9.4	2.6	76.8	3.2	22	.7	.4	.6	36	.56	.084	52	23.5	.33	111	.126	1	2.97	.014	.07	.2	.17	2.8	.2	<.05	19
975W 775S	3.0	53.7	7.5	114	.1	5.5	10.7	570	3.65	4.4	.7	3.0	1.1	30	.4	.2	.2	49	.22	.065	10	8.0	.64	72	.214	<1	1.70	.013	.20	.1	.04	1.6	.1	<.05	10
975W 800S	4.0	155.4	30.6	197	.5	23.5	22.1	787	5.04	20.1	3.3	322.9	9.0	6	.7	.6	1.3	43	.07	.044	33	21.1	.34	79	.131	<1	3.78	.018	.07	.8	.16	3.9	.2	<.05	18
925W 725S	3.6	85.4	12.9	96	.3	12.3	2.5	133	2.70	17.6	2.6	12.9	2.3	8	.4	.4	.3	17	.08	.074	43	16.1	.18	54	.076	<1	3.87	.014	.05	.6	.15	1.3	.1	.06	19
925W 750S	4.5	55.8	12.3	75	.7	3.2	9.6	563	5.98	14.9	1.0	18.0	1.7	25	.2	.2	.7	95	.08	.071	11	10.6	.56	53	.080	<1	2.63	.010	.06	.3	.14	2.5	.1	.06	17
925W 775S	4.5	80.6	20.2	64	1.0	5.9	5.2	155	6.54	6.0	.6	661.6	2.0	5	.2	.5	5.0	55	.02	.051	8	12.3	.14	42	.045	<1	1.83	.005	.02	.4	.16	1.4	.1	<.05	14
925W 800S	2.0	112.8	15.4	103	1.6	6.7	12.4	464	6.09	4.5	1.0	24.0	2.0	9	.2	.4	1.2	142	.11	.081	15	14.9	.94	91	.123	<1	3.27	.008	.09	.2	.14	4.2	.1	<.05	14
925W 825S	5.5	14.0	16.3	78	.3	4.6	2.4	238	5.36	8.1	2.0	6.0	7.3	3	.1	.5	.4	46	.03	.048	20	18.3	.15	28	.144	<1	4.11	.014	.04	.4	.21	1.6	.1	<.05	32
925W 850S	4.2	140.9	23.0	196	.6	15.0	29.3	1272	11.34	69.2	2.5	30.5	5.5	8	.5	1.7	.4	131	.05	.182	28	14.5	1.03	66	.118	<1	2.96	.010	.08	.3	.20	7.4	.1	<.05	12
STANDARD DS4	6.6	121.7	32.8	153	.3	34.4	11.3	806	3.18	22.0	7.2	29.9	3.5	31	5.2	4.7	5.7	71	.54	.089	16	160.6	.58	147	.095	1	1.67	.034	.17	3.9	.29	3.8	1.2	.07	6

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

Data FA

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Hg ppm	Sc ppm	Tl ppm	S %	Ga ppm
G-1	1.3	2.2	2.0	44	<.1	4.0	4.5	568	1.87	<.5	3.4	<.5	5.6	64	<.1	<.1	.2	42	.55	.111	7	11.9	.54	231	.120	3	.88	.061	.49	2.4	.01	2.1	.3	<.05	4
925W 875S	2.0	147.4	17.9	160	.5	6.3	31.4	1844	8.97	8.8	1.4	5.1	2.4	9	.3	.8	.2	166	.14	.186	17	9.0	1.54	50	.136	1	2.98	.003	.04	.1	.17	7.8	.1	<.05	10
775W 950S	4.7	69.4	11.3	137	.5	23.0	7.2	423	5.42	42.5	1.5	55.8	5.3	6	.3	.4	.5	55	.04	.069	14	43.6	.45	48	.131	1	4.26	.010	.06	.7	.21	2.7	.1	<.05	16
775W 975S	4.0	55.2	10.1	90	.8	51.5	8.4	531	5.77	30.2	.5	241.0	1.2	7	.3	.2	.3	85	.10	.079	5	122.4	.49	37	.107	1	2.64	.003	.05	.3	.16	3.2	.1	<.05	8
775W 1000S	3.8	75.3	22.3	122	.9	52.0	14.2	671	6.87	5.8	.3	33.5	.8	4	.2	.2	.5	177	.05	.076	2	126.7	.92	59	.183	1	3.39	.005	.08	.2	.14	4.4	.1	<.05	10
775W 1025S	2.4	83.0	15.8	156	1.0	40.2	12.8	564	6.01	14.7	.4	298.6	1.0	10	.5	.3	.8	102	.10	.124	3	65.7	.84	55	.168	1	3.18	.007	.05	.3	.13	2.0	.1	<.05	10
775W 1050S	1.5	65.7	8.1	108	1.0	4.9	9.4	541	5.03	6.5	.4	307.4	.9	16	.3	.2	.4	129	.19	.096	5	11.8	.95	56	.238	1	2.46	.005	.11	.5	.10	2.4	.1	<.05	9
750W 1000S	6.3	100.1	61.1	196	.6	23.7	23.9	1285	10.20	59.9	.8	182.5	1.3	9	.5	1.2	1.3	57	.06	.140	11	16.2	.17	39	.051	2	1.56	.005	.04	.5	.19	2.5	.1	<.05	16
750W 1025S	1.0	41.5	8.5	98	.3	6.6	12.2	825	4.89	7.4	.3	232.0	.5	22	.3	.1	.3	184	.25	.113	4	8.8	1.28	62	.262	1	1.92	.008	.13	.3	.08	4.7	.1	<.05	13
725W 1000S	2.7	308.6	12.5	125	.5	64.5	19.9	466	7.99	23.7	.3	161.3	1.3	10	.2	1.0	1.2	140	.06	.073	4	130.0	.99	61	.247	1	2.56	.006	.19	.2	.13	5.4	.2	<.05	11
3+50N 1+00E	5.1	346.3	31.2	101	3.7	7.0	2.3	172	5.17	1463.4	2.9	9603.3	6.4	2	.1	1.1	14.4	29	.02	.078	29	15.2	.11	26	.110	1	4.19	.012	.03	.6	.26	2.4	.1	<.05	23
L7+75S 14+00W	17.4	24.6	18.4	78	<.1	4.2	3.0	293	6.92	12.5	.6	8.2	2.2	19	.1	.4	.4	117	.44	.079	12	13.2	.14	69	.287	1	1.33	.014	.05	.5	.09	1.0	.1	<.05	32
L8+00S 14+00W	3.5	59.5	10.9	62	.9	2.1	5.7	288	5.51	15.0	.2	162.5	1.6	5	.1	.4	.2	77	.04	.044	4	5.5	.51	70	.112	1	2.41	.004	.12	.1	.08	1.9	.2	<.05	10
L8+00S 13+75W	6.3	16.7	19.5	180	.2	11.4	4.4	476	5.55	15.0	6.2	4.3	16.8	2	<.1	.6	.4	21	.05	.052	31	15.1	.12	52	.114	1	4.98	.038	.09	.9	.13	2.9	.1	<.05	29
L8+25S 14+00W	1.4	47.9	9.3	82	.4	3.3	11.1	595	6.57	5.9	.3	19.8	1.6	7	.2	.3	.3	81	.08	.046	3	5.3	1.00	75	.221	<1	2.98	.006	.10	.1	.11	2.0	.1	<.05	13
125275	.8	181.4	49.2	175	.6	14.6	12.7	741	8.80	22.5	.2	117.1	.6	34	.3	.9	2.6	184	.44	.236	6	78.7	2.19	95	.198	<1	2.33	.009	1.22	1.1	.04	3.4	.6	.63	9
125276	2.3	104.5	14.2	107	.5	18.7	15.2	442	6.10	33.7	.5	26.3	1.5	23	.5	.7	1.4	138	.22	.136	7	45.0	1.15	101	.210	<1	2.55	.011	.18	1.3	.06	2.3	.2	.06	11
125277	1.8	52.7	27.8	75	.6	9.5	5.9	188	7.26	30.7	.2	46.9	.6	21	.3	1.1	2.1	195	.20	.166	3	50.4	.88	138	.299	<1	1.95	.008	.07	1.1	.04	2.1	.1	<.05	12
125278	1.6	122.4	17.5	189	.4	32.7	18.8	419	7.29	60.5	.3	49.1	1.0	19	.7	1.0	1.7	168	.22	.077	4	69.9	1.53	86	.333	1	2.77	.009	.19	4.3	.06	2.6	.2	<.05	11
RE 125278	1.8	126.6	18.1	189	.4	34.1	18.0	407	6.80	65.6	.3	31.9	.9	20	.6	1.0	2.0	169	.21	.086	4	70.5	1.58	87	.336	1	3.10	.008	.20	4.3	.06	2.5	.2	<.05	11
125279	1.2	111.0	91.0	499	.4	40.2	29.5	780	8.32	22.8	.3	551.1	1.0	17	.7	.8	1.8	206	.18	.119	4	68.0	2.04	117	.372	1	3.40	.007	.09	2.3	.06	3.2	.2	<.05	12
125280	1.8	132.4	28.5	183	.6	14.7	9.4	443	6.89	13.4	.3	31.4	1.2	27	1.1	.5	2.1	158	.18	.128	6	49.8	1.69	112	.263	<1	2.62	.012	.44	2.7	.04	2.6	.3	.10	10
125281	1.5	273.8	215.0	2447	.9	61.2	47.0	1579	10.38	516.2	.2	315.2	.8	41	12.3	4.0	3.1	190	.70	.164	8	65.1	2.33	143	.249	<1	2.88	.007	.86	.9	.12	6.2	.5	.11	10
125282	1.7	181.9	80.1	599	.7	56.0	40.7	1563	10.37	253.6	.3	90.3	1.3	62	3.2	3.3	2.2	221	.64	.179	11	58.8	2.66	128	.219	1	3.21	.005	.71	.3	.05	7.8	.7	<.05	11
125283	1.7	163.3	89.0	402	.6	39.8	32.2	954	8.61	145.0	.1	44.3	.5	61	9.6	2.0	2.2	228	.62	.211	5	55.4	2.39	325	.253	<1	2.97	.008	.85	.3	.02	4.6	.5	.17	11
125284	1.8	143.0	30.6	316	.4	60.9	40.9	1763	6.69	135.5	.2	43.8	.5	65	5.2	2.0	1.4	136	.89	.199	6	52.6	1.81	199	.159	1	2.18	.010	.52	.4	.04	2.8	.4	.11	7
STANDARD DS4	6.6	123.5	30.1	153	.3	32.8	12.3	779	3.02	24.7	6.5	29.3	3.8	29	5.1	5.1	5.4	74	.56	.089	16	158.0	.53	140	.093	2	1.66	.032	.16	4.1	.27	3.6	1.1	.06	6

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

Data ___ FA ___

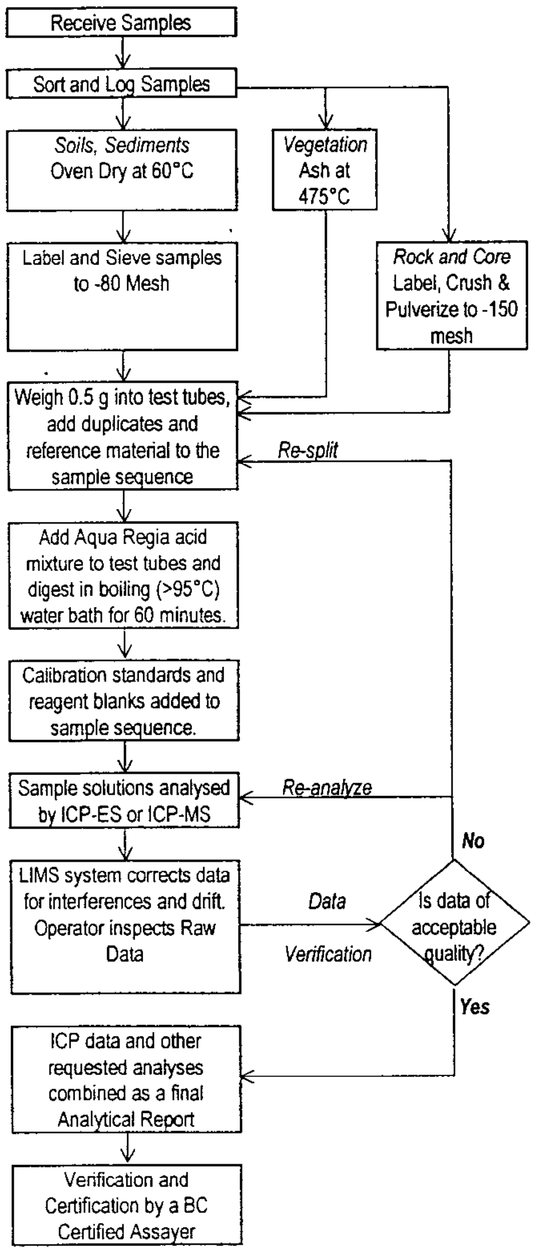
APPENDIX VI Acme Lab Procedures

ACME ANALYTICAL LABORATORIES LTD.

ISO 9002 REGISTERED

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

Analytical Process



Comments

Sample Preparation

Soil or sediment is dried (60°C) and sieved to -80 mesh (-177 μm). 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 μm) 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_3 and de-mineralised H_2O (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

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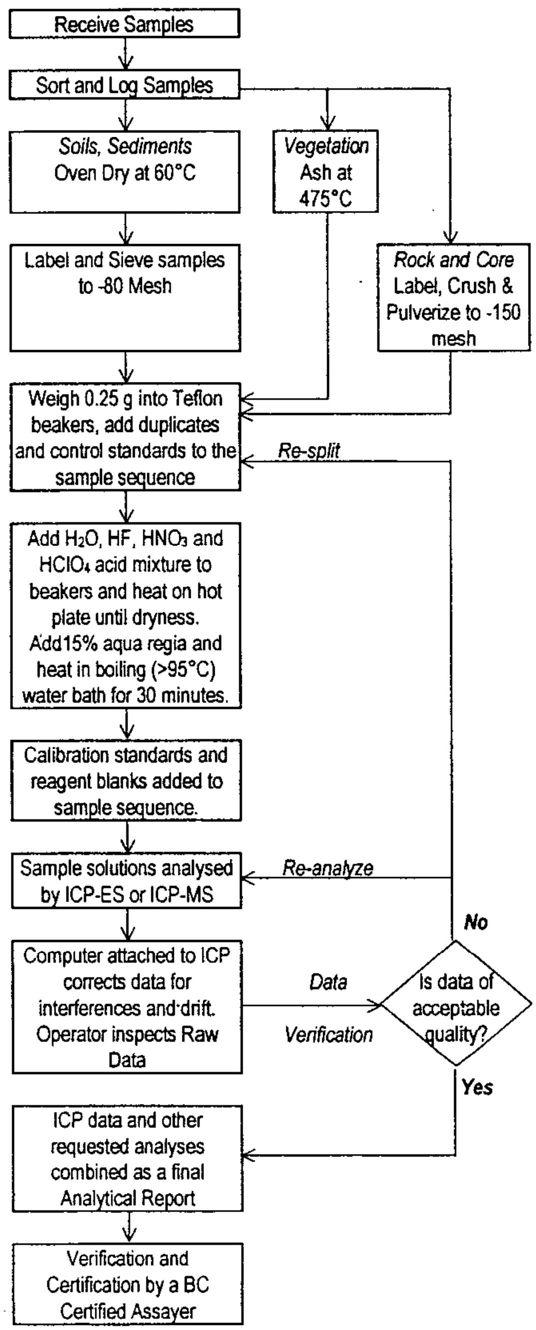
METHODS AND SPECIFICATIONS FOR ANALYTICAL PACKAGE
GROUP 1E & 1EX - ICP ANALYSIS – TOTAL DIGESTION

Analytical Process



Comments

Sample Preparation

Soil or sediment is dried (60°C) and sieved to -80 mesh (-177 µm). 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 µm) 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_2O-HF-$HClO_4$-HNO_3 (ACS grade) is added to each sample, heated to fuming on a hot plate and taken to dryness. The residue is dissolved in dilute (15%) aqua regia of 2:2:2 HCl-HNO_3-H_2O (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 Elmer 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.

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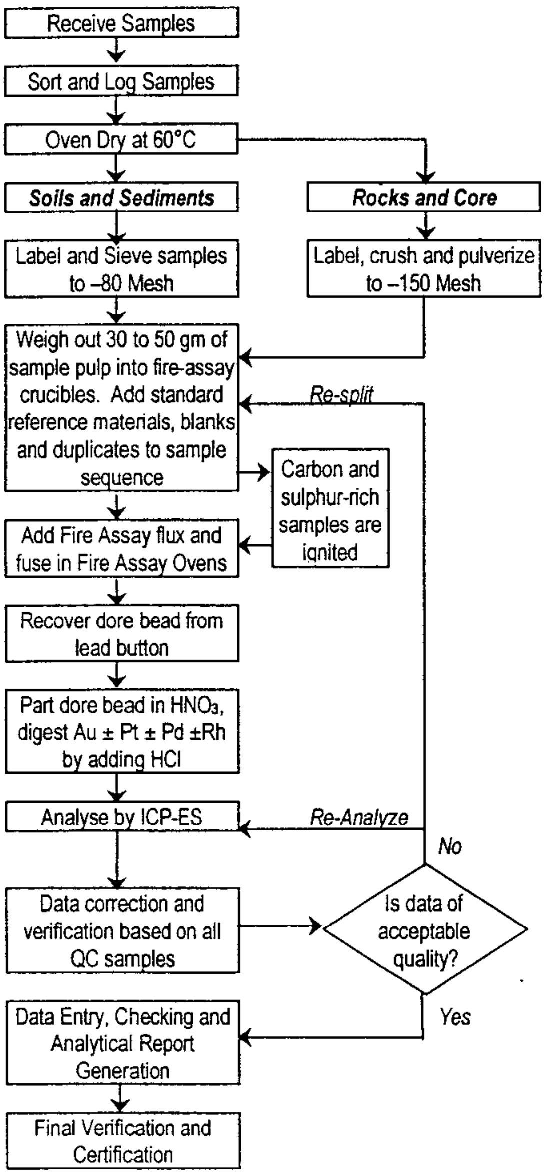
METHODS AND SPECIFICATIONS FOR ANALYTICAL PACKAGE GROUP 3B - PRECIOUS METALS BY FIRE GEOCHEM

Analytical Process



Comments

Sample Preparation

Soils and sediments are dried (60°C) and sieved to -80 mesh ASTM (-177 µm). Rocks and drill core are crushed and pulverized to 95% -150 mesh ASTM (-100 µm). 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 ±Au ±Pt ±Pd or Au ±Pt ±Pd ±Rh dore beads. Beads are weighed then leached in hot, conc. HNO_3 to dissolve Ag leaving Au (± 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.

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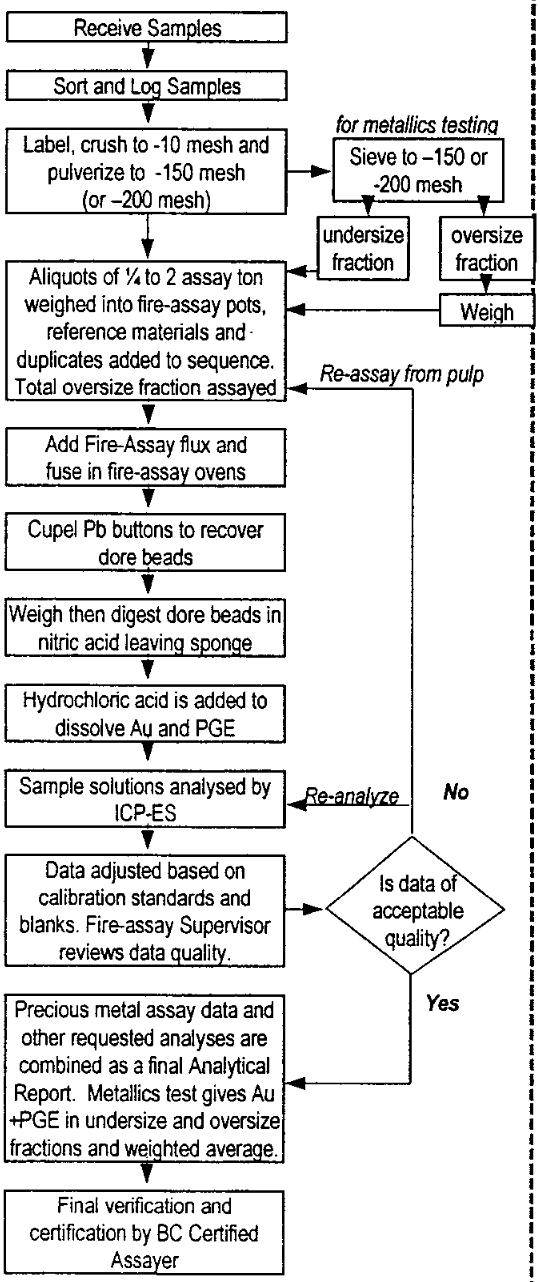
ISO 9002 REGISTERED

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

Analytical Process



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 (gm/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_3 then digested by adding HCl. Au inquart beads (Rh analysis) are dissolved in Aqua 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 ±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

375000 mE
375500 mE
376000 mE
376500 mE
377000 mE
377500 mE
378000 mE
378500 mE
379000 mE
6284500 mN
6284000 mN
6283500 mN
6283000 mN
N
ISKUT RIVER
BUG 1
BUG 2
BUG 3
AREA OF FIG 6
AREA OF FIG 7
AREA OF FIG 8
AREA OF FIG 9
AREA OF FIG 10
AREA OF FIG. 11
AREA OF FIG. 12
LEGEND
126680 = 4.5 : 1.3 : 442 : 6 : 340
Sample Number = Au(ppb) : Ag (ppm) : Cu(ppm) : Pb(ppm) : Zn(ppm)
Rock Sample
Soil Sample
Swamp
Fault
Outcrop
0
500 m
Newcastle Minerals Ltd
BUG LAKE PROPERTY
2002 WORK
DATE: Sept. 2003
SCALE: 1:5000
NTS: 104B/10W & 11E
FIGURE NO: 13