BRITISH COLUMBIA

PROSPECTORS ASSISTANCE PROGRAM

MINISTRY OF ENERGY AND MINES

GEOLOGICAL SURVEY BRANCH

PROGRAM YEAR:	2001/2002
REPORT #:	PAP 01-30
NAME:	RICK WALKER

D. TECHNICAL REPORT

BRITISH COLUMBIA
Ministry of Energy and Mines
Energy and Minerals Division

- One technical report to be completed for each project area.
- **Refer to Program Regulations 15 to 17, page 6.**

SUMMARY OF RESULTS

- This summary section must be filled out by all grantees, one for each project area

Information on this form is confidential for one year and is subject to the provisions of the Freedom of Information Act.

Name: Rick Walker   Reference Number: 2001/2002 P51

LOCATION/COMMODITIES

Project Area (as listed in Part A): ______   MINFILE No. if applicable: 082GNW027, 082GNW033

Location of Project Area NTS: 082 G/12   Lat: 49° 34' 40"N   Long: 115° 42' 55"W

Description of Location and Access: Approx. 8 km north of Cranbrook (Detailed Area) to 40 km west of Cranbrook (Regional Study). Access via forest road system from Highway 3/95.

Prospecting Assistants(s) - give name(s) and qualifications of assistant(s) (see Program Regulation 13, page 6):
Kim Wasylowich - 4 years as field assistant, Basic Prospecting Course
Dave Andrews - 20 years as a Prospector

Main Commodities Searched For: Au, ± Cu ± Ag ± Pb ± Zn

Known Mineral Occurrences in Project Area: 082GNW027 - Copper Belt, 082GNW033 (King, Tom, Happy Day)

WORK PERFORMED

1. Conventional Prospecting (area): 700 ha Proximal, Proximal 2/3 claims, Perry Ck Moyie River
2. Geological Mapping (hectares/scale): ______
3. Geochemical (type and no. of samples): 280 soil samples, 7 rock samples, 14 kg sample - concentrate
4. Geophysical (type and line km): 14 line kilometres of VLF-EM
5. Physical Work (type and amount): ______
6. Drilling (no. holes, size, depth in m, total m): ______
7. Other (specify): ______

FEEDBACK: comments and suggestions for Prospector Assistance Program: received

The initial advance of money was ~~[illegible]~~ much later than expected due to an administrative error at the Ministry of Energy and Mines.

The Prospectors Assistance Program has been of considerable assistance to prospectors and other qualified exploration personnel over the years since implemented. It has directly resulted in identification of new mineral occurrences, as subsequently documented in Minfile. The manner in which it has been managed has resulted in at least 1/3 of the grant money going to support services through the grant recipient, including field assistants, analytical laboratories, courier companies (shipping), geochemical/geophysical/drill contractors, etc.

Furthermore, in instances in which properties have been subsequently optioned, the grant monies have been leveraged into subsequent, sometimes financially significant exploration programs. The elimination of the Prospectors Assistance Program is an extremely short-sighted effort to reduce government expenditures, failing to realize the potential revenues that arise from exploration and that could arise from a potentially mineable deposit!

Prospectors Assistance Program Report

for the

Proximal Claims

Fort Steele Mining Division
B.C.G.S. 082 J011
Latitude 50° 07' 30", Longitude 115° 52' 00"

Submitted by:

Richard T. Walker, P.Geo.
656 Brookview Crescent
Cranbrook, BC
V1C 4R5

Submitted: January, 2002

SUMMARY

The program completed emphasized examination of mafic intrusives within the Kitchener Formation as possible hosts for copper mineralization. In addition, given the mineralization within the Kitchener Formation southeast of Highway 3/95, black argillitic horizons within the Kitchener Formation were also considered as a possible locus for mineralization. The exploration model proposed was that magmatic fluids originating from Cretaceous granitic intrusions (i.e Reade Lake Stock, Kiahko Stock, etc), may have enriched meteoric waters having leached metals from Purcell Supergroup strata with progressive heating. As these metal-enriched fluids subsequently rose, suitable host lithologies adequately prepared by faulting may have become mineralized through precipitation of secondary minerals. In addition, physical and chemical barriers may also have localized mineralization, acting as structural traps.

Carbonate-dominated lithologies of the Upper Proterozoic have been block faulted in the St. Mary domain, a fault-bounded structural panel lying between the St. Mary River and Moyie faults and characterized by a series of northeast trending faults (including the Cranbrook Fault). Smaller northwest trending faults sub-divide the domain into a series of fault bounded blocks. Suitable host lithologies proximal and adjacent to these faults may have been mineralized by metal-bearing fluids moving along the fault planes (which acted as fluid conduits). Such lithologies include, but are not limited to: black argillite and/or carbonate-dominated lithologies of the Kitchener and Gateway formations, Moyie (or later) mafic intrusive sills, amygdaloidal basalts of the Nicol Creek Formation and stratigraphic contacts (i.e. Creston - Kitchener contact, Kitchener - Van Creek contact)

A total of 7 lines oriented perpendicular to the trend of either mapped mafic intrusives and/or perpendicular to stratigraphic contacts, as previusly mapped, were utilized to evaluate the current Proximal property. A total of 280 soil samples were taken with stations every 50 metres on lines totaling 14 line kilometres. The objective of the soil sampling program was two-fold: 1) to verify results of the 1967 soil sampling program, and 2) to test stratigraphic and structural horizons considered prospective. Anomalous geochemistry has been previously documented within the immediate area of Proximal claims and is represented by contoured Total Heavy Metals data, much of which is believed to have been copper. However, the possibility exists that gold is present in association with copper, together with lead, zinc and silver as other possible commodities in a polymetallic vein deposit.

In addition to soil samples, 7 rock samples were collected from a series of blast pits and a trench identified on the Proximal claims near an old diamond drill site, waste rock from a dump on a trail near the Eager Hills parking lot and along the trace of the Cranbrook fault. A concentrate was also prepared from a small bulk sample (15 kg) taken from a chalcopyrite-bearing stockwork in gabbro above an old drill site on the Proximal claim.

Finally, a compilation of previous map was briefly checked in the field through a number of traverses and found to be reasonably accurate (for the purposes of the current program). Therefore, after discussion with, and approval from, Dave Terry (Regional Geologist - Cranbrook Office), a VLF survey was completed on the seven soil lines, using stations previously flagged. The purpose was to quantify the signature of structural and stratigraphic contacts with reference to both VLF and geochemistry. Analysis of the resulting data continues and is briefly summarized in this report.

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INTRODUCTION

The proposed program emphasized examination of mafic intrusives within the Kitchener Formation as possible hosts for copper mineralization. In addition, given the mineralization within the Kitchener Formation southeast of Highway 3/95 (Minfile 082GNW027), black argillitic horizons within the Kitchener Formation may also be mineralized. The exploration model is that magmatic fluids originating from Cretaceous granitic intrusions, may have enriched meteoric waters having leached metals from Purcell Supergroup strata with progressive heating. As these metal-enriched fluids subsequently rose, suitable host lithologies adequately prepared by faulting may have become mineralized through precipitation of secondary minerals. In addition, physical and chemical barriers may also have localized mineralization, acting as structural traps.

Carbonate-dominated lithologies of the Upper Proterozoic have been block faulted in the St. Mary domain, a fault-bounded structural panel lying between the St. Mary River and Moyie faults and characterized by a series of northeast trending faults (including the Cranbrook Fault). Smaller northwest trending faults sub-divide the domain into a series of fault bounded blocks. Suitable host lithologies proximal and adjacent to these faults may have been mineralized by metal-bearing fluids moving along the fault planes (which acted as fluid conduits). Such lithologies include, but are not limited to: black argillite (Minfile 082GNW027) and/or carbonate-dominated lithologies of the Kitchener and Gateway formations, Moyie (or later) mafic intrusive sills (as evidenced by Minfile 082GNW033), amygdaloidal basalts of the Nicol Creek Formation and stratigraphic contacts (i.e. Creston - Kitchener contact, Kitchener - Van Creek contact)

Three separate areas on, and adjacent to, the current Proximal property were evaluated by a series of soil samples taken from a total of 7 lines oriented perpendicular to the trend of the mafic intrusives and/or perpendicular to stratigraphic contacts, as mapped by Höy (1984). A total of 280 soil samples were taken with stations every 50 metres on lines totaling 14 line kilometres. The objective of the soil sampling program was two-fold: 1) to verify results of the 1967 Cindy Mines Ltd soil sampling program (Howe 1966), and 2) to test stratigraphic and structural horizons considered prospective. Previously documented anomalous geochemistry within the immediate area of the proposed detailed study is represented by contoured data of Total Heavy Metals, much of which is believed to have been copper. However, the possibility exists that gold is present in association with copper, together with lead, zinc and silver as other possible commodities in a polymetallic vein deposit.

In addition to soil samples, 7 rock samples were collected from a series of blast pits and a trench identified on the Proximal claims near an old diamond drill site, waste rock from a dump on a trail near the Eager Hills parking lot and along the trace of the Cranbrook fault. A concentrate was also prepared from a small bulk sample (15 kg) taken from a chalcopyrite-bearing stockwork in gabbro above an old drill site on the Proximal claim.

Finally, a compilation of previous map data (Höy et al.1994, Höy 1984 and Willars 1966) was briefly checked in the field through a number of traverses and found to be reasonably accurate (for the purposes of the current program). Therefore, after discussion with, and approval from, Dave Terry (Regional Geologist - Cranbrook Office), a VLF survey was completed on the seven soil lines, using stations previously flagged. The purpose was to quantify the signature of structural and stratigraphic contacts with reference to both VLF and geochemistry. Analysis of the resulting data continues and is briefly summarized in this report.

LOCATION AND ACCESS

The property is located approximately 8 km north of the City of Cranbrook in the Eager Hills. The King occurrence (Minfile 082GNW033) is located in the centre of the current Proximal claim block, which is currently in good standing. Minfile 082GNW027 (Copper Belt) is located on the southeast side of the highway and is contained within the Proximal 2 and 3 claims, also currently in good standing (see Map Place map on following page).

The property is located on NTS mapsheet 082G/12, B.C.G.S. mapsheet 082G052, and is centred approximately approximately at:

UTM: 592877 E, 5492261 N, or
Latitude 49° 34' 40" N, Longitude 115° 42' 55" W

The claims can be easily accessed by following Highway 3/95 north out of Cranbrook for approximately 5 km to the Fernie / Fort Steele interchange. Proceed toward Fort Steele for approximately 2 km and turn west (left) immediately north of a gravel pit. At the first fork in the road (approximately 550 m), turn left and then left again at the next fork at approximately 700 m (after the rifle range). The road turns sharply to the south at approximately km 1.7 in the northern portion of the claim block.

The claim can also be accessed by proceeding approximately 1 km west from the Cranbrook interchange along Highway 95A toward Kimberley. After taking the first right turn, proceed approximately 900 m north (past a trailer park - 1st right hand turn) to the second right hand turn. The western boundary of the claim block is approximately 600 m east along this road.

PHYSIOGRAPHY AND CLIMATE

The area within which the claims are located is relatively dry, with sparse underbrush among the older trees. The area is located on Crown land which is subject to cattle grazing during the summer. As a result, much of the undergrowth and smaller trees have been cleared to enhance forage for the cattle. Coniferous trees predominate on the hills, with locally abundant deciduous trees within watercourses and adjacent to small bodies of water.

During the summer months, there is very little water in the various watercourses and smaller bodies of water. Water that is present appears to be alkaline due to evaporation (as evidenced by white evaporite build-ups along the shoreline).

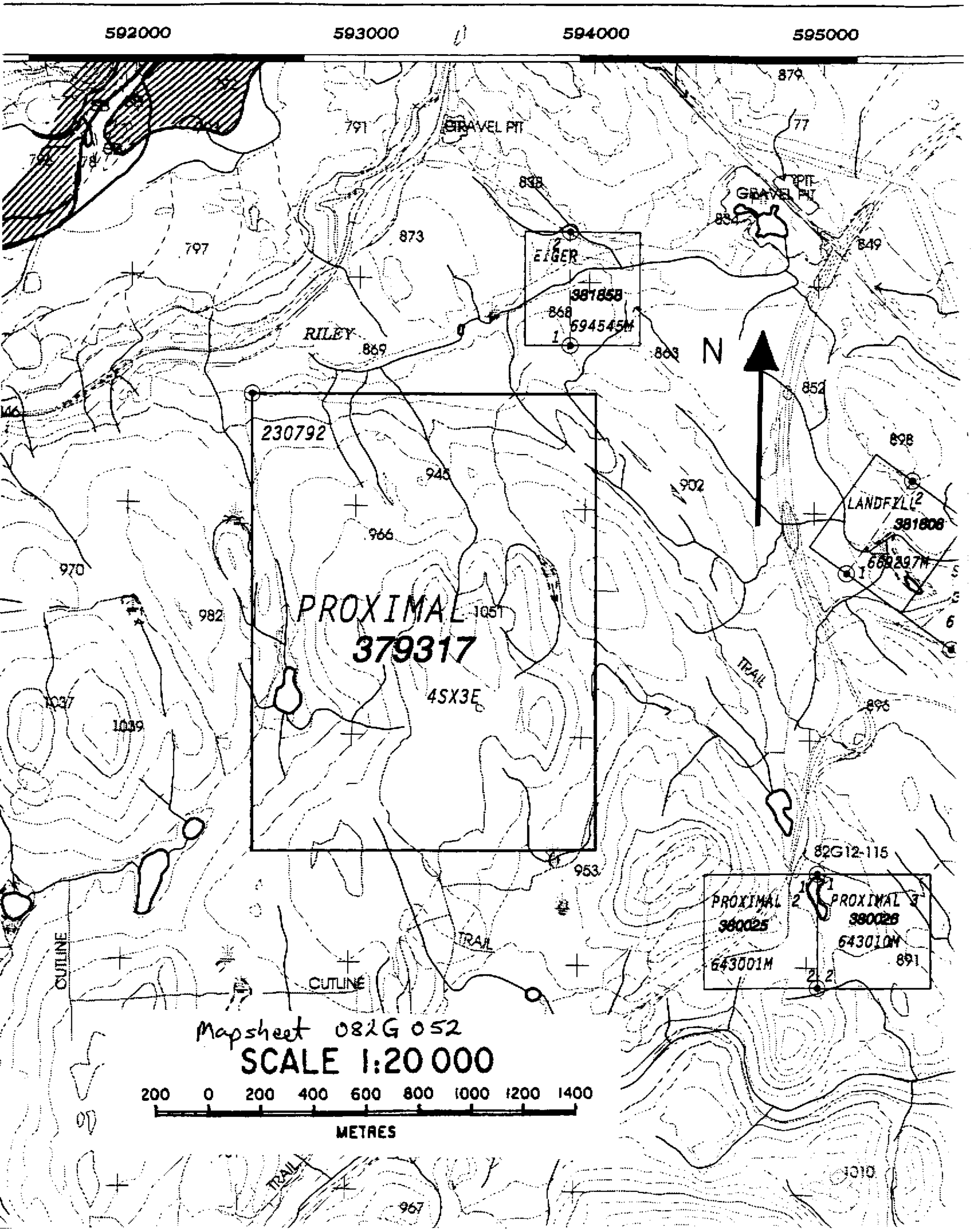
The Eager Hills are a series of eroded, fault bounded blocks, generally having low relief. However, locally, the hills can have high relief exposures (i.e. along Isadore Canyon).

The claims receive relatively low amounts of snow and could be worked year-round if necessary.

CLAIM STATUS

The property consist of 2 2-post and 1 4-post (MGS) claim (see Figure 4), staked in accordance with existing government claim location regulations. Significant claim data has been taken from the Ministry of Energy and Mines Mineral Titles web-page and is summarized below:

Tenure Number	Claim Name	Work Recorded To	Status	Units
379317	PROXIMAL	20020715	Good Standing	12
380025	PROXIMAL 2	20020813	Good Standing	1
380026	PROXIMAL 3	20020813	Good Standing	1



592000
593000
594000
595000
GRAVEL PIT
GRAVEL PIT
EIGER
381858
694545M
RILEY
N
230792
PROXIMAL
379317
4SX3E
LANDFILL
381808
TRAIL
82G12-115
PROXIMAL 2
380025
643001M
PROXIMAL 3
380026
643010M
TRAIL
CUTLINE
CUTLINE
Mapsheet 082G 052
SCALE 1:20 000
200 0 200 400 600 800 1000 1200 1400
METRES
TRAIL

WORK HISTORY

The proposed area has seen limited previous work, only a portion of which has been documented in Assessment Reports. The only work program by industry documented by Assessment Report was undertaken in 1967 and the area has been logged since. Based on limited examination of the area, copper mineralization appears to be hosted by two separate mafic intrusives. These mafic intrusives are present within the Kitchener Formation and contain disseminated and stockwork vein chalcopyrite with secondary malachite and azurite as weathering products. Previously, a diamond drill hole was collared near the Minfile occurrence and the drill collar has since been located. However, the drill collar appears to be located stratigraphically and structurally below one of the mafic intrusives, which has abundant disseminated mineralization. Therefore, this drill hole, which reportedly returned approximately 60 - 80 feet of disseminated and veinlet copper mineralization, only tested the lower mafic intrusive.

A trench, approximately 30 m to the north, is located at the apparent northern (fault) termination of the mafic intrusives. Although both mafic intrusives and host rocks are altered (bleached and silicified), copper mineralization is still readily apparent in the form of secondary malachite and subordinate azurite. However, similar looking exposures of mafic intrusive approximately 200 m south contain no visible mineralization (in the lower mafic intrusive).

Initially a shaft, subsequently followed by a tunnel, was excavated on the current Proximal 2 and 3 claims (the former Copper Belt claims - see Appendix I). These workings exposed oxidized, copper-stained quartz and thin films of native copper.

There is very little information regarding work on the Proximal claim area in the Assessment Reports. The only Assessment Work recorded was completed on behalf of Cindy Mines Ltd in 1967, comprised of a soil geochemical survey (Assessment Report 00945), geological mapping (Assessment Report 00946) and an Induced Polarization survey (Assessment Report 00964). A single hole drill program was apparently undertaken in the 1970's by Walter Lizaherca (?) and regional mapping by Trygve Höy (Preliminary Map 54).

?

The program for Cindy Mines Ltd in 1967 provides limited. The geological mapping (Assessment Report 00946) assumes limited faulting in the resistant lithologies of the uppermost Late Proterozoic and Lower Cambrian. Despite the abundant evidence of faulting and/or shearing in the area (as evidenced by the numerous distinct knobs cored by the resistant lithologies), the units were interpreted as being essentially continuous.

The results of the soil geochemical survey (Assessment Report 00946) are available only in the form of a contoured map of Total Heavy Metals. The original analytical results were apparently not submitted. A number of geochemically anomalous areas are evident in the contoured data, many immediately east of the main north-south access road through the property. This area coincides with the location of Minfile 082GNW033 (King), copper mineralization in mafic intrusives.

The Induced Polarization survey (Assessment Report 00964) was completed on only three north-south lines, essentially parallel to the structural fabric of the property. As such, they are of limited use as they are located on top of, and test the exposed length of, a mafic intrusive (with reference to Preliminary Map 54 (Höy 1984 - see accompanying Geological Compilation).

A drill program was apparently completed in the 1970's by Walter Lizaherca (?). A drill pad is indeed evident at approximate UTM coordinates 592785 E, 5492425 N. In fact, the only information available to the author at this time is the recollection of Dave Pighin (who apparently logged the hole while employed by Kootenay Exploration Ltd) that it intersected between 60 and 80 feet of mineralized diorite (Kennedy, pers. comm. 2000). In addition, there is a trench (approximately 40 m in length and oriented east-west) at approximate UTM coordinates 592887 E, 5492507 N. The trench appears to be located along a fault which truncates the diorites against highly altered sedimentary strata of the Kitchener Formation.

Finally, the area was mapped by Trygve Höy and the information is contained on his Preliminary Map 54 (1984). Although regional in scale (1:50,000), the map contains more information regarding the presence of faults in the area, together with better information regarding the lithologies in the area. The information from Höy's 1984 map has been enlarged, plotted on the TRIM map for the area and accompanies this report.

REGIONAL GEOLOGY

Stratigraphy

The following has been taken from Höy (1993):

KITCHENER FORMATION

"The Kitchener Formation in the Purcell Mountains is approximately ... 2000 metres in the Kimberley area ... and divisible into a lower and an upper member. The lower member comprises dominantly pale green siltstone and dolomitic siltstone interbedded with rusty to buff-weathering silty or argillaceous dolomite layers typically 1 to 2 metres thick. The siltstone is commonly thinly laminated or consists of graded siltstone-argillite couplets. Mudcracks, lenticular beds, crossbeds, ripple marks and basal scours are common structures. Grey micritic limestone pods occur locally in some siltstone beds. "Dolomite" layers vary from a dark grey, argillaceous or silty dolomite to tan dolomitic siltstone. They are commonly lenticular bedded or contain discontinuous silt lenses.

The upper member of the Kitchener Formation comprises dominantly dark grey argillaceous or silty limestone and dolomite overlain by a succession of calcareous or dolomitic siltstones. Graded beds, with thin dolomite layers capped by either siltstone or dark grey argillite, are common throughout the upper member. Carbonate layers are commonly finely or irregularly laminated, massive, and locally abundant in silty dolomite layers. Calcareous, dolomitic or nondolomitic siltstone layers occur throughout the basal part of the upper member but predominate in the upper part. Siltstone layers are commonly graded with argillite cappings, locally crossbedded, and may have rippled surfaces. Syneresis cracks occur locally, particularly in the upper, more silty section, and mud cracks are uncommon. Thin oolitic layers occur near the base and top of the middle member and occasional layers of stromatolites are present throughout.

The Kitchener Formation records deposition in a carbonate shelf while input of terrigenous clastic material was reduced. Although local mudcracks indicate subaerial exposure, these structures are less abundant than in the northern Hughes Range, suggesting generally deeper water environments in the Purcell Mountains. However, ripple marks, cross laminations, oolitic beds and the occasional stromatolite layers indicate local shallow-water shoal environments.

The contact of the Kitchener Formation with the overlying Van Creek Formation is transitional over many tens of metres. East of Moyie Lake, grey, thin-bedded argillaceous limestone grades upward into intercalated grey siltstone and green to brown silty limestone at the base of the Van Creek. Farther southeast, interbedded dark green, thinly laminated siltstone and pale green dolomitic siltstone occur at the top of the Kitchener. Interbeds of quartzite, mud-chip breccias and mauve and purple siltstones, similar to those in the Van Creek Formation, are common.

VAN CREEK FORMATION

The Van Creek Formation was defined by McMechan et al. (1980) as the succession of siltites and argillites between carbonates of the Kitchener Formation and volcanic rocks of the Nicol Creek Formation. ... The thickness of the formation varies from approximately 200 metres in the northern Hughes Range, to 550 metres in the Skookumchuk area, 790 metres in the Bloom Creek area and 926 metres near Cherry Creek.

The Van Creek Formation comprises dominantly pale to dark green siltstone and argillite, lesser mauve siltstone and occasional layers of quartzite or dolomitic siltstone. Mauve siltstone layers tend to increase upsection, although they are always subordinate to green layers. Dolomitic layers occur near the top of most sections but are uncommon elsewhere in the formation. Units typically weather to a reddish orange or tan colour and small brown rust spots in many layers may be oxidized magnetite grains.

Siltstone layers are generally thin bedded, laminated and commonly graded with argillite tops. Mud cracks, mud-chip breccias, cross laminations, scours and rippled surfaces are abundant locally but not as prevalent as in the green and mauve siltstones of the Creston Formation. Argillite and silty argillite are less abundant; they are thinly laminated, locally mud cracked or cut by syneresis cracks, and may form mud-chip breccias. Thick-bedded, cross laminated quartzite (may) occur near the top ..., but is generally uncommon in the formation.

Coarsening-upward cycles are common. They typically comprise green, finely laminated argillite or silty argillite at the base, overlain by thin-bedded, locally mud cracked siltstone, and capped by thicker bedded, more massive or crossbedded quartzite.

Most of the Van Creek Formation was deposited in a shallow-water environment. Periodic subaerial exposure is indicated by local occurrences of mud cracks and mud-chip breccias. The coarsening-upward cycles may be deltaic deposits, formed as river-dominated deltas extended outward across silty mudflats.

NICOL CREEK FORMATION

The Nicol Creek Formation is a prominent sequence of amygdaloidal basaltic flows, tuffs and interbedded siltstone and sandstone in the southeastern Purcell Mountains, western Rocky Mountains and Clark Ranges. ... The formation thickens southeastwards in the Purcell Mountains, from a few tens of metres of volcanic tuff near Buhl Creek to approximately 550 metres of predominantly basaltic flows at Mount Baker.

The contact of the Nicol Creek Formation with the underlying Van Creek Formation is abrupt, placed at the base of the first lava flow or tuff horizon. Its upper contact with the Gateway Formation is also sharp. ...

Measured sections of the Nicol Creek Formation indicate that it commonly comprises a basal succession of massive, amygdaloidal or porphyritic flows, overlain by a volcaniclastic siltstone and sandstone member, and capped by an upper succession of flows. Where the formation is thin, the middle clastic unit is generally missing. The type section is anomalously thick (608 metres) and includes a number of siltstone sandstone or argillite intervals.

The basal member of the Nicol Creek Formation includes up to 100 metres of flows and minor pillow lavas, flow breccias and lapilli tuff. Tuffs are a very minor component of the formation. A few metres of green, thin-bedded, graded beds up to 1 metre thick are also interbedded with flows. Although usually obscured by lichen growth on outcrops, the beds provide excellent bedding attitudes wherever found.

Lava flows in the lower member typically grade upward from a massive phase through a porphyritic phase and into an amygdaloidal or, less commonly, vesicular phase. Elsewhere, a succession of flows grades upward through many tens of metres from more massive flows at the base to porphyritic flows and amygdaloidal flows at the top. Amygdules are generally quartz and/or chlorite filled; specularite or calcite were noted locally. Pipe amygdules and vesicules are common at the base of many flows and pseudo-bedding and stratigraphic facing may be derived from basalts displaying grading of amygdules. Porphyritic flows are characterized by phenocrysts of altered plagioclase that range in size up to several centimetres.

Volcanic breccias are rare in the Nicol Creek Formation. Some consist of angular purple and green fragments within a homogeneous flesh-coloured, mixed hyaloclastite(?) - silty (?) matrix; these breccias form irregular pods and beds within amygdaloidal basalt flows. They may be quench breccias, which formed as basalt interacted with either water or water-saturated sediments. ...

Volcaniclastic sandstone, siltstone and minor argillite comprise the middle member of the Nicol Creek Formation. The member is typically a few tens of metres thick, but varies from nonexistent in thin exposures to approximately 80 metres in the Bloom Creek section. The sandstones and siltstones are fine to coarse grained, green or, locally, maroon in colour, and commonly contain numerous sedimentary structures indicative of shallow, turbulent water and periodic subaerial exposure. These structures include crossbeds, rip-up clasts and scour marks. Tops of beds may have rippled surfaces, and graded beds, capped by argillite, are locally mud-cracked. Finely laminated, generally pale to dark green silty argillite and less commonly dolomitic argillite also occur in the middle member of the Nicol Creek Formation, but are less abundant than sandstone or siltstone. Lenticular beds, silt scours, mud-chip breccias and mud cracks are common structures in these layers.

The upper member comprises dominantly massive to amygdaloidal flows with occasional intercalated layers of tuff, epiclastic sandstone and siltstone, and volcanic breccia. Porphyritic flows are rare, in contrast with their common occurrence near the base of the lower member. In the type section, green siltstones and sandstones form a large proportion of the upper part of the Nicol Creek Formation and the subdivision into these informal members is not as apparent.

The top of the formation is commonly marked by a thin sequence of green epiclastic sandstone and siltstone. It usually overlies purple amygdaloidal basalt or may form a thin sedimentary layer between two flows. ...

GATEWAY FORMATION

The Gateway Formation comprises dominantly pale green siltstone and minor dolomitic or argillaceous siltstone. In exposures east of the Rocky Mountain Trench it is readily divisible into a lower, predominantly siltstone succession and an upper more dolomitic succession. The lower siltstone succession north of Diorite Creek is 330 to 340 metres thick and comprises thin to medium-bedded, light green, grey or buff siltstone and minor purple argillaceous siltstone. The siltstones are commonly thin bedded and graded, with ripple marks, mud cracks, mud-chip breccias and occasional salt casts throughout. The lower siltstone is overlain by a succession of massive buff dolomite, light green siltstone, and minor thick-bedded grey limestone. This predominantly dolomitic succession is overlain by interlayered red and green siltstone and minor argillite in the transition zone beneath the Phillips Formation".

CAMBRIAN

The following descriptions of the Cranbrook and Eager formations have been taken from Leech (1958):

"The Lower Cambrian Cranbrook formation consists essentially of siliceous quartzite, grit, and conglomerate whose pebbles are mostly quartz and quartzite. Magnesite and dolomite occur locally near the top.

The succeeding Eager formation consists chiefly of shale and limestone, accompanied by siltstone and sandstone near the base. Shale is dominant in the thicker sections. The Eager formation has yielded numerous fossils of later Lower Cambrian age but the upper limit of its age is uncertain. The entire Eager section east of the Rocky Mountain Trench near latitude 50° is Late Lower Cambrian but the upper contact there with the Jubilee formation may be erosional ...".

MESOZOIC INTRUSIVE ROCKS

"... Intrusive rocks within the Purcell Supergroup near the Rocky Mountain Trench include a number of small post kinematic mesozonal quartz monzonite, monzonite and syenitic plutons, numerous small quartz monzonite to syenite dikes and sills probably related to these stocks, and late mafic dikes. The Kiakho and Reade Lake stocks, two of the larger of the mesozonal plutons, cut across and apparently seal two prominent east-trending faults that transect the eastern flank of the Purcell anticlinorium, and hence place constraints on the timing of latest movement on these faults" (Höy 1993).

The petrography of these two stocks are well described by Höy (1993). The key aspect with regard to this proposal are the "... well-defined magnetic anomaly ..." associated with the Reade Lake stock and the "... pronounced aeromagnetic anomaly ..." of the Kiakho stock. A similar pronounced magnetic anomaly is associated with the Mount Skelly pluton (Logan and Mann 2000). Furthermore, the "... St. Mary fault, sealed by the Reade Lake stock, has a complex history of movement ..." for which a "... 94 Ma date on the Reade Lake stock provides the first reliable constraint on the latest movement on the St. Mary fault ...

The Cranbrook fault, cut by the Kiakho stock, is a northeast-trending, north-dipping normal fault that truncates tight north-trending folds and a pronounced metamorphic fabric in its hangingwall west of Cranbrook. The Cranbrook fault ... is itself cut by the Palmer Bar fault, a north-trending normal fault ... The 122 Ma date for the Kiakho stock is probably a reliable intrusive age and therefore constrains movement on the Cranbrook fault and the prominent deformation and regional metamorphism to pre-late Lower Cretaceous"

Structure

The structure of the area is dominated by two major northeast trending faults, the St. Mary fault to the north and the Cranbrook Fault to the south.

> "The St. Mary fault is a right-lateral reverse fault with an estimated displacement of 11 kilometres. The age of this displacement is constrained by a date of 94 Ma on the Reade Lake stock which truncates the fault south of Kimberley. However, minor shearing in the stock along the projection of the fault indicates some post-intrusive movement. ...
>
> West of Cranbrook, tight overturned, variable plunging folds with well-developed axial planar foliation are outlined by units in the upper Aldridge and lower Creston formations. ...
>
> The Cranbrook fault is an east-trending normal fault that is younger than folding associated with initial reverse displacement on the Palmer Bar fault, but is later than normal movement. The Cranbrook fault juxtaposes Creston Formation in its hangingwall against middle Aldridge turbidites. It is cut by the Kiakho stock which has been dated by potassium-argon at 122 Ma. Due to possible excess argon in the hornblendes, this date is interpreted to be a maximum age of emplacement of the stock. ..." (Höy 1993).

The stratigraphy between these two faults have been faulted into a series of discrete blocks by smaller(?) northeast and northwest trending faults. As a result, the upper Late Proterozoic and Lower Cambrian stratigraphy is repeated across these faults. Not much structural detail is evident in the available mapping beyond these faults.

Vein Deposits and Occurrences

The following has been taken from Höy (1993):

> "... Most veins carry pyrite, pyrrhotite, chalcopyrite, galena or sphalerite in a quartz-carbonate gangue. Veins ... are subdivided into three main types, those with copper, those with silver, lead and zinc, and those with gold as their primary commodities. ...
>
> Veins in the overlying upper Purcell rocks may be largely derived from remobilization of metals originally deposited in shallow-water clastic or carbonate facies. ... This disseminated mineralization may be similar to, but far less concentrated than stratabound copper occurrences in arenaceous facies ...
>
> Copper veins carry copper with variable amounts of lead, zinc, silver and gold. ... The principal sulphide minerals are chalcopyrite, pyrite and pyrrhotite; galena and sphalerite occur in numerous veins and tetrahedrite is reported in a few. The principal gangue is quartz, commonly with calcite or siderite. Chlorite and epidote are uncommon, ...

Two groups of copper veins are recognized: those hosted by middle Aldridge or, less commonly, lower Aldridge of Fort Steele rocks and those hosted by clastic rocks of the upper Purcell Supergroup. Many of the veins in the Aldridge Formation occur in shear or fault zones that cut across the lower Purcell stratigraphy. Others are associated with Moyie sills, either in metasediments immediately adjacent to a sill or in vertical fractures in sills ...

A number of other copper vein occurrences are closely associated with small mafic or alkalic stocks or dikes. These include the King showing, hosted by a mafic sill in the Kitchener Formation ...

OTHER VEIN OCCURRENCES

Although many of the copper veins and some of the lead-zinc veins contain minor gold, a number of veins in the Perry Creek area contain gold as their primary commodity. They are gold-quartz veins controlled by northeast-trending faults that cut Creston Formation quartzite and siltstone. Shearing and fracturing are extensive, commonly occurring in a zone several hundred metres wide on either side of the faults. Many of the veins are also associated with mafic dikes. They vary in thickness from a few centimetres to greater than 10 metres. They comprise massive, white to occasionally pink quartz, minor calcite, disseminated pyrite, and occasionally trace chalcopyrite and galena. They are commonly severely fractured or sheared and locally cut and offset by crossfaults. Others cut the prominent schistosity, which suggested ... they formed during and immediately following deformation.

SHEAR-CONTROLLED GOLD DEPOSITS

Significant gold mineralization has been discovered recently in northeast-trending shears in the middle Aldridge Formation on tributaries of the Moyie River 30 kilometres southwest of Cranbrook. The prospect, referred to as the **David** Property, ... is underlain by northeast-trending, west-dipping middle Aldridge siltstones and quartz wackes that are intruded by a number of Moyie sills. These sills locally contain anomalous magnetite concentrations near the mineralized zones. North-northeast-trending shears and faults, including the Baldy Mountain fault which juxtaposes Creston Formation on the west against the Aldridge Formation are prominent in the area.

Gold mineralization, associated with galena and chalcopyrite, occurs in zones of intense silicification within a number of these shear zones. Small crosscutting quartz tension veins and stockwork breccia zones occur within the shears. Although pyritic, these generally have low gold values. Chlorite, pyrite and associated bleaching occur within and marginal to the shears.

One of the zones is 1 to 2 metres thick and has been traced on surface for 950 metres. Drill-hole intersections include 1.5 metres assaying 26.76 grams per tonne gold and 1.8 metres assaying 8.02 grams per tonne gold ...".

Geology of the Cranbrook Sheet and Sullivan Mine Area

LEGEND

Cambrian

Eager Formation - Shale, Siltstone; Limestone, quartzite

Cranbrook Formation - Quartzite, Conglomerate; Limestone

Proterozoic

Helikian - Purcell Supergroup

Sill - Gabbro or Diorite

Gateway Formation - Green and Mauve Siltstone, Argillite, Quartzite, Stromatolitic Dolomite, silty Dolomite

Nicol Creek Formation - Amygdaloidal and Vesicular Basalt

Volcaniclastic Siltstone and Sandstone

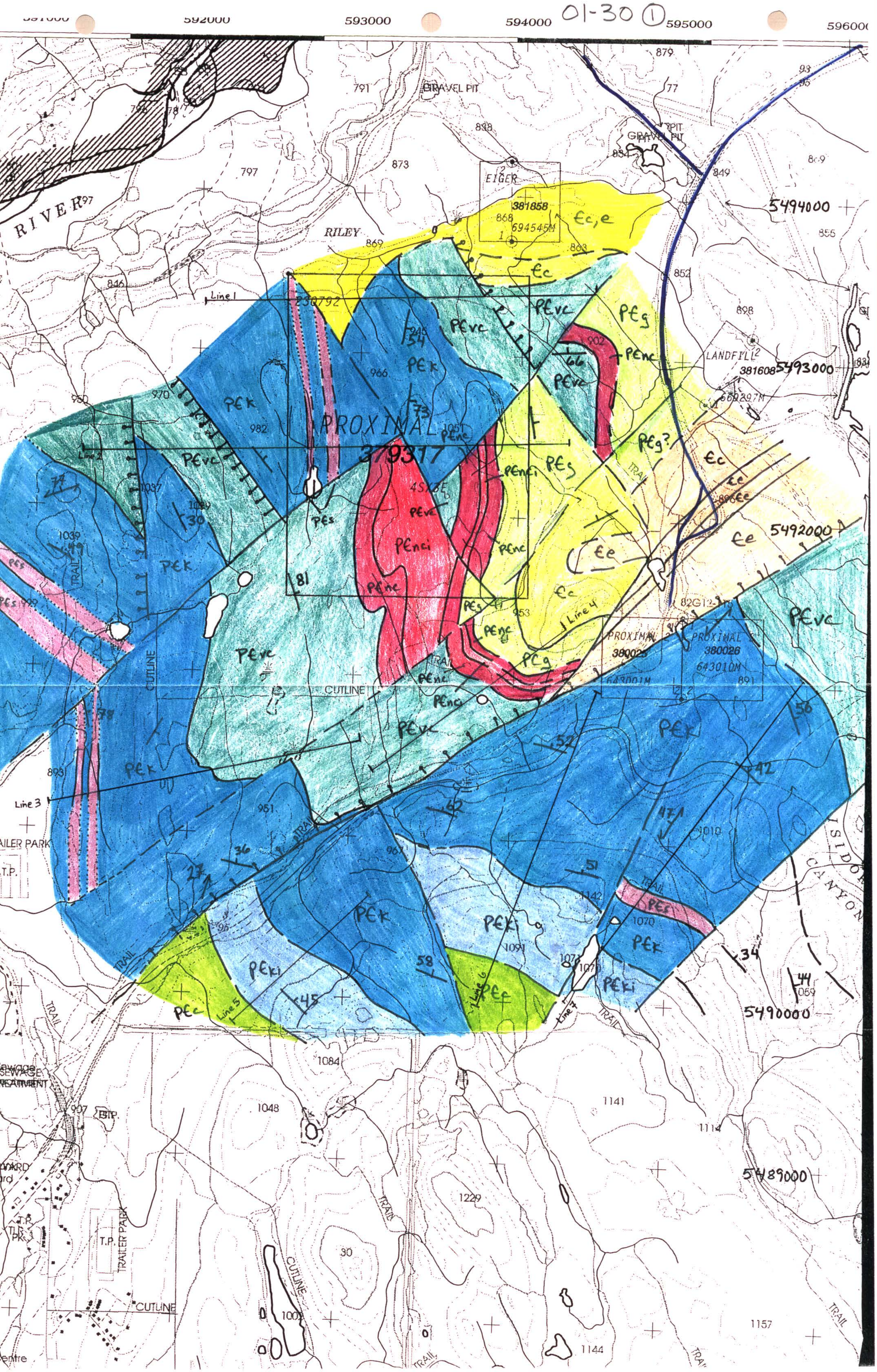
Van Creek Formation - Green and Mauve Siltstone, Argillite; Silty Quartzite

Kitchener Formation - Dolomite, Limestone; in part, Argillaceous and Silty; Argillite, Siltite

Dolomitic Siltstone and Argillite, interlayered with Green Siltstone and Argillite

Creston Formation - Green, Grey, and Mauve Siltstone and Quartzite; White Quartzite; Minor Dolomitic Siltstone at top.

01-30 ①



592000
593000
594000
595000
596000
RIVER
RILEY
GRAVEL PIT
EIGER
381858
694545M
Ɛc,e
Ɛc
PƐvc
PƐg
PƐnc
PƐk
Line 1
Line 2
Line 3
Line 4
Line 5
Line 6
Line 7
PROXIMAL
379317
PƐnci
PƐs
Ɛe
LANDFILL
381608
5494000
5493000
5492000
5490000
5489000
PROXIMAL
380025
643001M
PROXIMAL
380026
643010M
PƐki
PƐc
PƐf
TRAIL
CUTLINE
TRAILER PARK
SEWAGE
ISIDOR CANYON

PROSPECTORS ASSISTANCE PROGRAM

The program was intended to follow-up on limited information available in three brief Assessment Reports for a program completed in 1967 immediately north of Cranbrook (Gedde 1967, Howe 1966, Willars 1966. Despite the proximity of the claims to Cranbrook, the potential suggested by two copper bearing Minfile occurrences hosted by the Kitchener Formation has not been adequately evaluated. An initial program was proposed to test the potential associated with mafic intrusives on currently staked ground (i.e. the Proximal claim). The lower mafic intrusive was reportedly drill tested in the 1970's and resulted in recovery of between 60 and 80 feet of copper mineralized mafic intrusive (Kennedy, pers. comm., 2000). The overlying mafic intrusive also contains disseminated and veinlet mineralization and was apparently not tested. Additional sampling and mapping in this area may result in identification of one or more geochemically anomalous copper ± gold bearing mafic intrusive(s) of suitable size and grade to warrant consideration for subsequent drill testing.

Furthermore, the presence of two other mapped occurrences of mafic intrusive may offer similar potential to host copper ± gold mineralization. The 1967 Cindy Mines program qualitatively analyzed Total Heavy Metals, however, the numerous and widespread anomalies documented in the northern portion of the contoured geochemical data correspond, at least spatially, with mapped mafic intrusives. Therefore, it is believed that the mafic intrusives north of Minfile 082GNW033 were probably mineralized as a result of metal-rich fluids infiltrating mafic intrusives proximal to faults and/or shears in a manner analogous to development a porphyry deposit in which ground preparation is the significant control for subsequent mineralization. The working model for this project proposal is that structural traps and fluid conduits are the dominant control on secondary mineralization. Therefore, the three mapped occurrences of mafic intrusives represent the main copper ± gold exploration objectives of this initial program.

The location of Minfile 082GNW027 within black argillites of the Kitchener Formation is interpreted to offer similar potential for black argillites elsewhere in the formation. Extensive occurrences of the Kitchener Formation occur both within the claim block and the immediately surrounding area. The results of the program were expected to provide sufficient data with which to evaluate the mineral potential of black argillites within the Kitchener Formation. The Proximal 2 and 3 claims were staked to cover Minfile 082GNW027 which was evaluated in a limited manner, together with strata of the Kitchener Formation in the immediate area. The interpreted mineral potential of the claims, ease of access and proximity to Cranbrook with both documented Minfile occurrences and the currently unsubstantiated report of 60 to 80 feet of mineralized mafic intrusive in a previous drill program all suggest interesting results could arise from the proposed detailed program.

A limited regional program was proposed in which the detailed study area above may represent a local case study. It was proposed that intrusion-related gold potential may exist due to the proximity of the Reade Lake, Kiakho and Mt. Skelly stocks to, and within, major local and regional scale faults (i.e. Cranbrook and St. Mary faults, respectively). Anomalous and unusual metal assemblages have been reported in the Moyie and Perry Creek drainages, including bismuth, iron (as magnetite, hematite, siderite, etc), tungsten (both geochemically and as scheelite) and molybdenum. In addition, many gold (± base metals) mineralized vein occurrences are reported in these drainages, the largest of which (the David - Minfile 082FSE108) has 96,000 tonnes of gold grading 13 grams / tonne (uncut) associated with anomalous magnetite-bearing Moyie sills. Although this occurrence is located in the structurally underlying Moyie Block (Höy 1993) and is hosted by strata of the middle Aldridge Formation, it is believed similar potential may exist in the St. Mary domain, dominated by upper Purcell Supergroup stratigraphy from the Creston Formation upward to the Gateway Formation.

The regional study consisted of prospecting and examining vein occurrences described in Minfile and Assessment Reports in both Moyie River (west side) and Perry Creek (east side) drainages. Data arising from both detailed and regional studies were intended to be utilized to evaluate the postulated intrusion-related gold potential in the St. Mary domain, extending from the vicinity of the Running Wolf claims on Wuhun Creek northeast to upper Purcell Supergroup exposures west of Highway 3/95.

A total of 280 soil samples were taken with stations every 50 metres on lines totaling approximately 14 line kilometres. The objective of the soil sampling program was two-fold: 1) to verify results of the 1967 Cindy Mines Ltd soil sampling program, and 2) to test stratigraphic and structural horizons considered prospective. Previously documented anomalous geochemistry within the immediate area of the proposed detailed study is represented by contoured data of Total Heavy Metals, much of which is believed to have been copper. However, the possibility exists that gold is present in association with copper, together with lead, zinc and silver as other possible commodities in a polymetallic vein deposit.

Limited field evaluation of a compilation of geological mapping for the area including and surrounding the claims (Höy et al. 1994, Höy 1984, Assessment Report 00946) was believed to be accurate enough for the preliminary nature of this project. Therefore, the author requested permission from Dave Terry, Regional Geologist - Cranbrook Office, to undertake a VLF survey in place of geological mapping as proposed in the Prospector's Assistance Program application. Upon approval, seven VLF profiles were obtained along the previously sampled (and flagged) soil lines. Approximately 14 line kilometres of VLF data was collected and compared to both geological mapping and geochemical sample results.

RESULTS

Due to an administrative oversight at the Ministry of Energy and Mines, the initial cheque for this Prospectors Assistance Program was not received until early July, with the resulting loss of June for work (as the author was unable to commence sampling until receipt of the money). However, several days of reconnaissance work (no sampling) was completed in the Moyie and Perry Creek drainages in an attempt to identify locations of previous work as documented in Assessment Reports and/or Minfile.

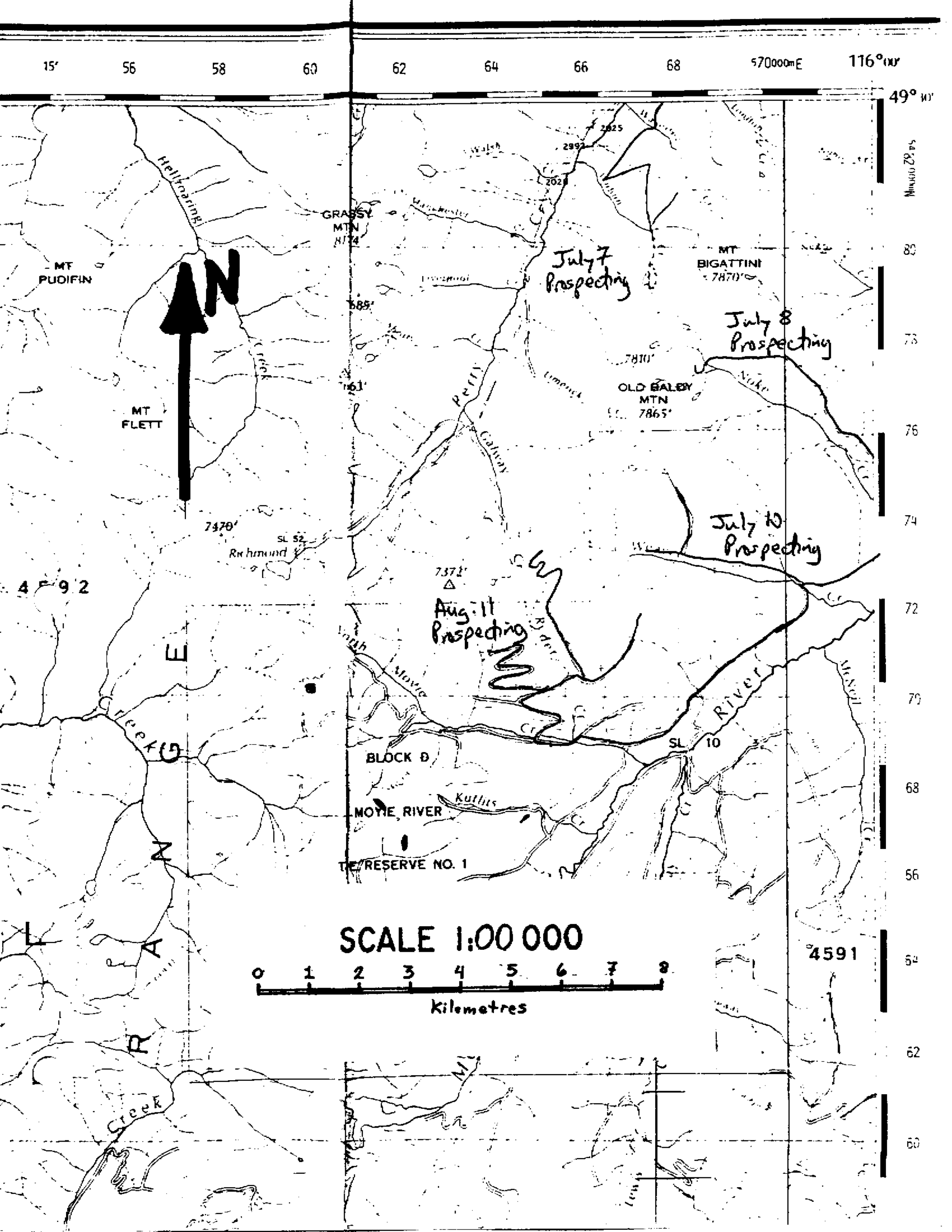
Upon receipt of the first installment of the grant, soil sampling commenced within, and immediately adjacent to, the Proximal claims. A total of 280 soil samples were collected on seven lines (see sample site descriptions in Appendix C).

Prospecting

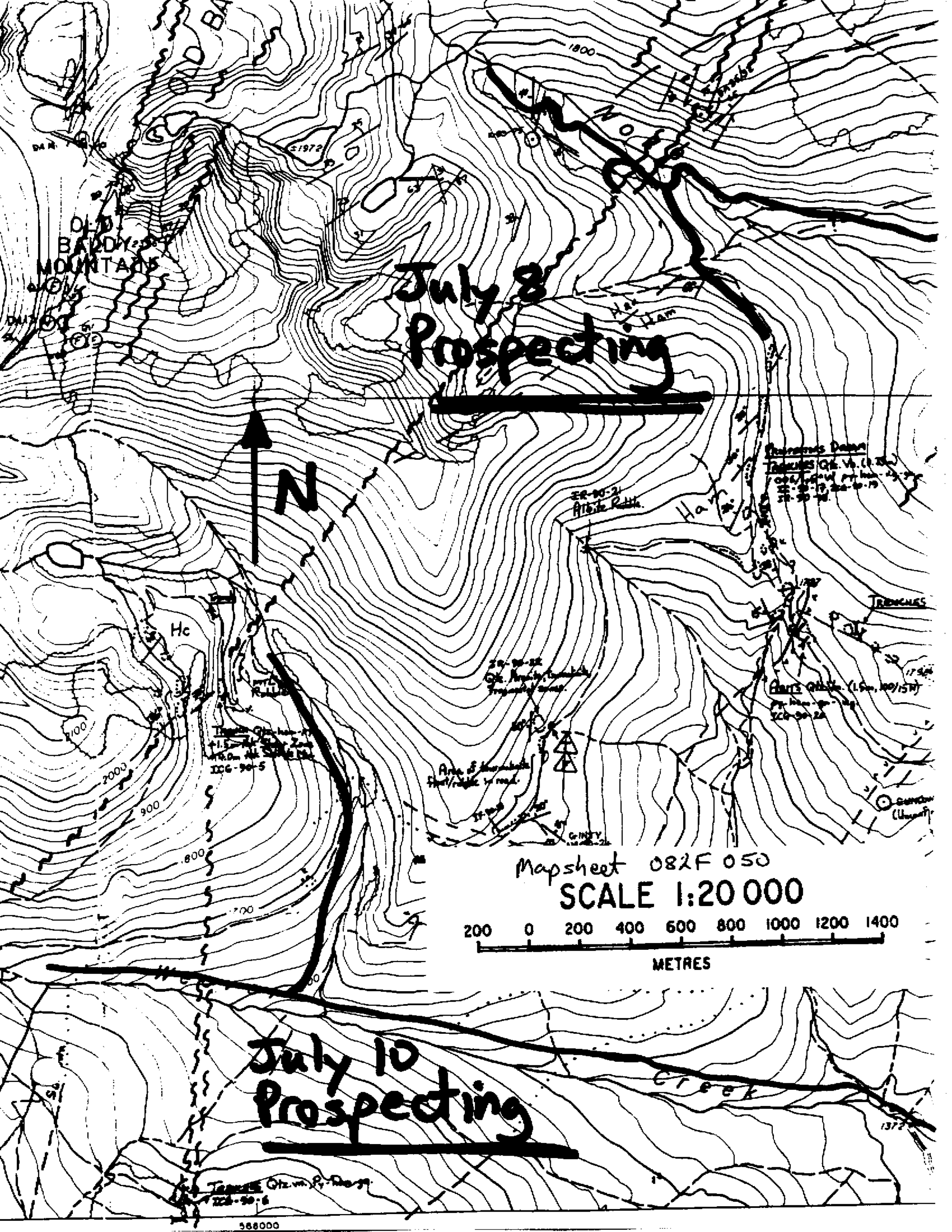
A total of approximately 20 man days were spent prospecting, of which approximately 6.5 man days were spent as part of the Regional Program (Perry Creek and Moyie River) and 13.5 on the Proximal claims and the immediately surrounding area (Detailed Program). The Regional Program was significantly hindered by the late receipt of the initial advance of funds. Initial work emphasized located and examining previously documented Minfile occurrences (i.e. Running Wolf) and evaluating access to areas along mapped faults (i.e. Kiakho Lake area and Ryder Creek / Galway Creek pass). Unfortunately, some Minfile occurrences were not be located (i.e. Running Wolf - 082FSE 095 and RACKI - 082FSE 118). Others, such as Weaver (082FSE 116), were located but not sampled, relying instead on data documented in the Assessment reports. Finally, a number of claims were staked in the period between submission of the Prospectors Assistance program application and the receipt of funds in early July (i.e the Eddy 1-14 claims covering Prospector's Dream area - 082FSE 029 and Weaver - 082FSE 116). These were two important areas identified for both staking and prospecting as part of this project, as initially proposed. by who?

Prospecting on the Proximal claims was undertaken to evaluate the accuracy of previous mapping published for the Proximal claims and area (Höy et al. 1994, Höy 1984 and Willars 1966). The digital data from Höy et al. (1994) was digitally attached to a digital copy of the 082G 052 TRIM map and details added from Höy 1984. Outcrop locations and property geology (Willars 1966) were scanned and rubber sheeted onto the TRIM map using the limited topographic control available to provide an outcrop map of the property. These maps were utilized to evaluate the geological control available for the project and were considered adequate for the preliminary program.

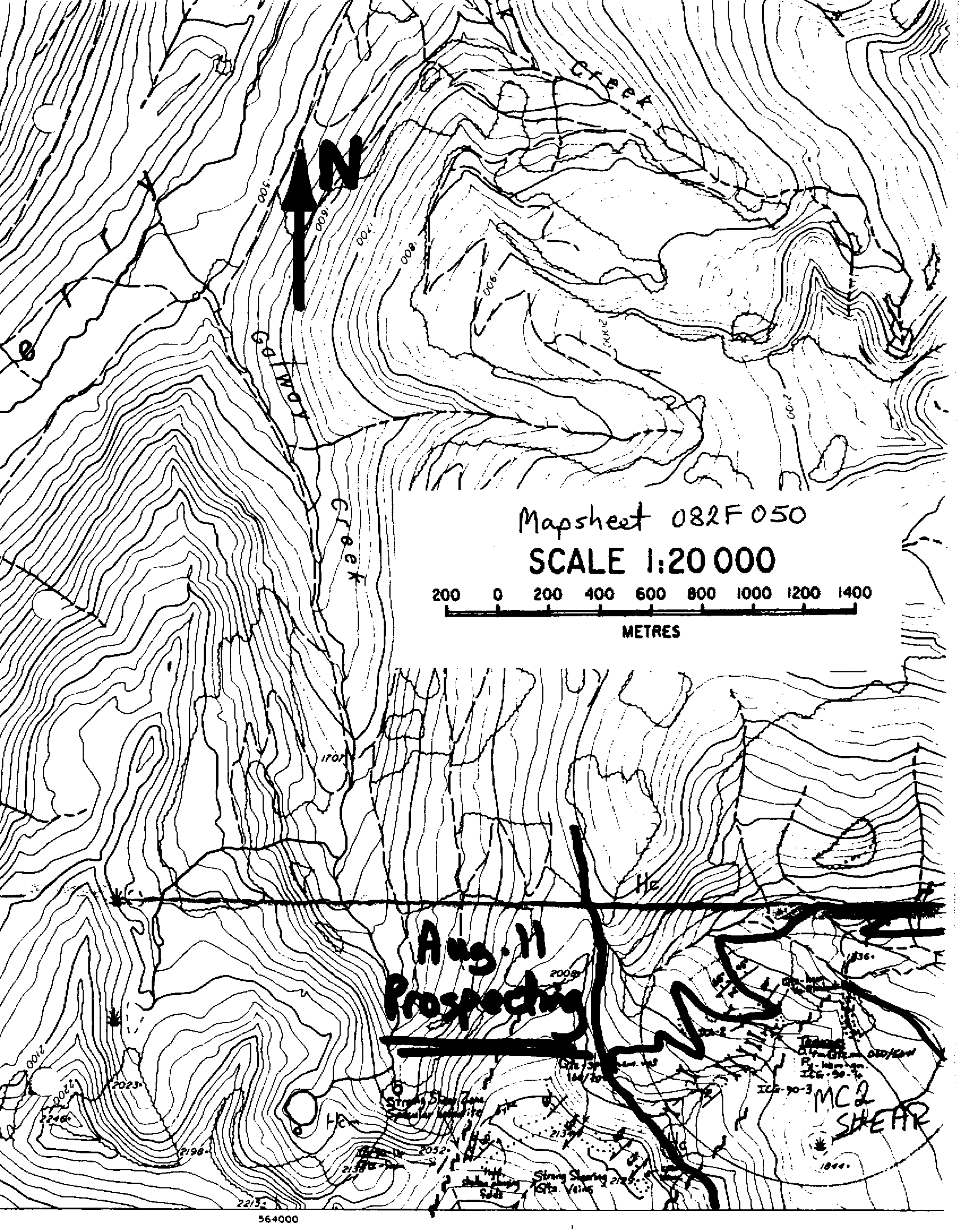
In addition, some work was completed to GPS some access roads and trails into the property (in the Eager Hills) and to examine some specific mapped occurrences pertinent to the project (i.e. the mapped mafic intruive occurrences at the south end of Line 5, the Eager Formation north of Line 3, etc.). This was undertaken as preliminary work for the subsequent soil sampling program in an attempt to identify mineralized occurrences associated with the 1966 Total Heavy Metal geochemical map (Howe 1966). Although some blast pits were located (i.e. Line 5), no significant mineralization was located and the soil sampling was completed as proposed.

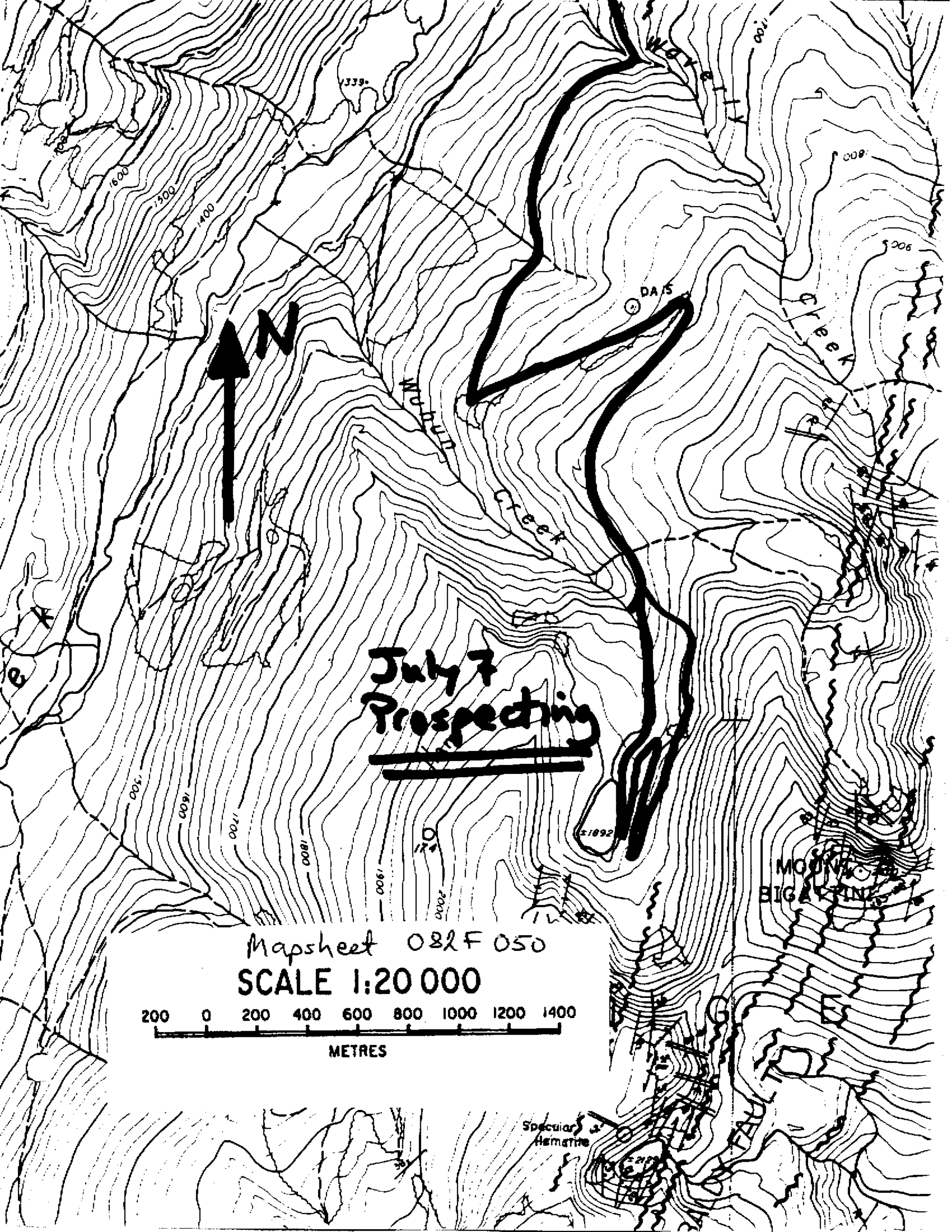


15'
56
58
60
62
64
66
68
570000mE
116°00'
49°10'
80
78
76
74
72
70
68
66
64
62
60
MT PUDIFIN
GRASSY MTN
MT FLETT
MT BIGATTINI
7870'
OLD BALDY MTN
7865'
7810'
7470'
7371'
SL 52
Richmond
SL 10
BLOCK D
MOYIE RIVER
TIE RESERVE NO. 1
4592
4591
Perry
Galbay
Moyie
River
Kutlits
Creek
Ryder
July 7 Prospecting
July 8 Prospecting
July 10 Prospecting
Aug. 11 Prospecting
N
SCALE 1:00 000
0 1 2 3 4 5 6 7 8
Kilometres



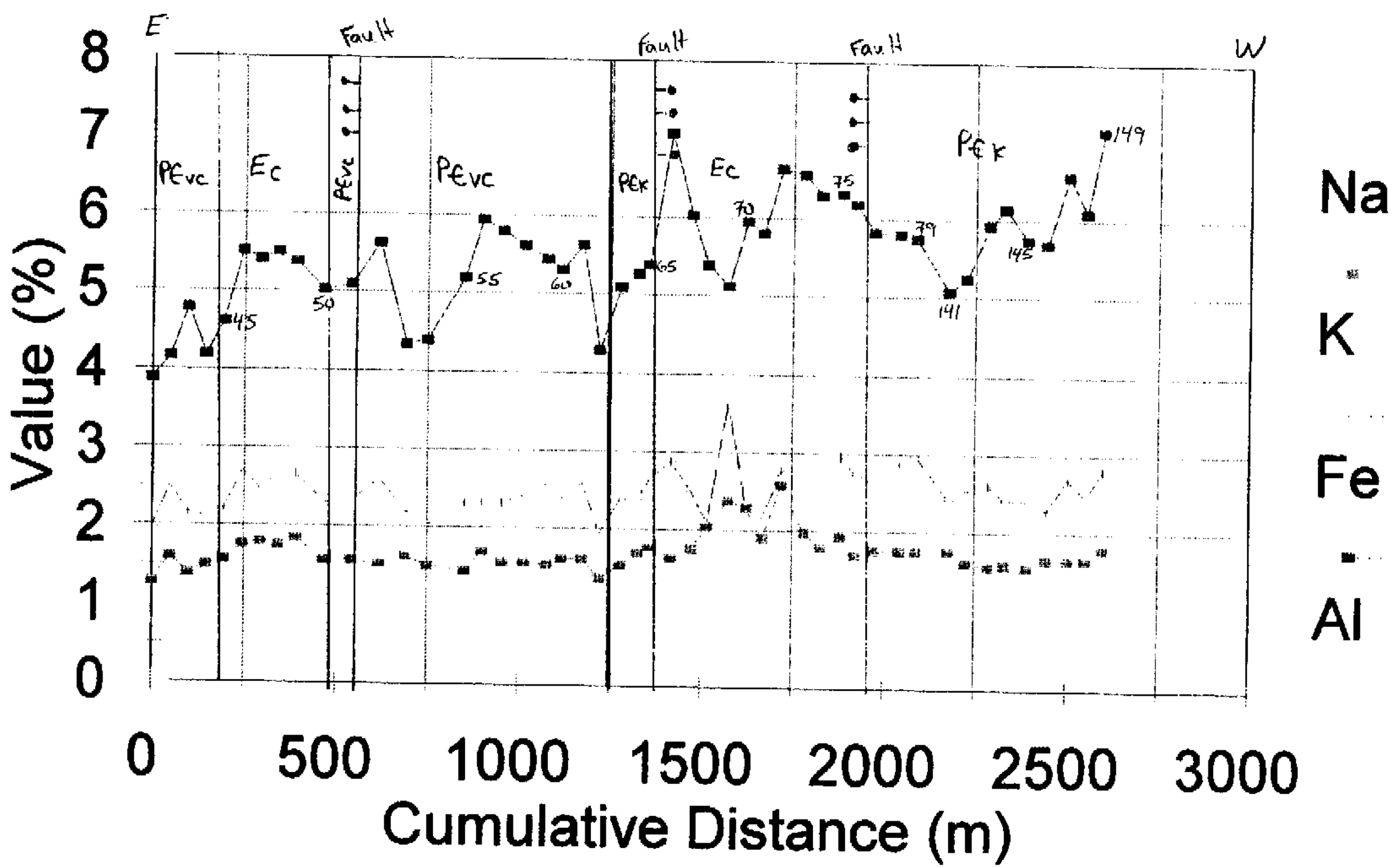
July 8
Prospecting
N
July 10
Prospecting
Mapsheet 082F 050
SCALE 1:20 000
200 0 200 400 600 800 1000 1200 1400
METRES
1800
2000
1900
1800
Creek
TRENCHES
Albite Rubble
588000


Creek
Creek
Mapsheet 082F050
SCALE 1:20 000
200 0 200 400 600 800 1000 1200 1400
METRES
1701
Aug. 11
Prospecting
MC2
SHEAR
2023
2246
2198
2213
2052
1844
564000



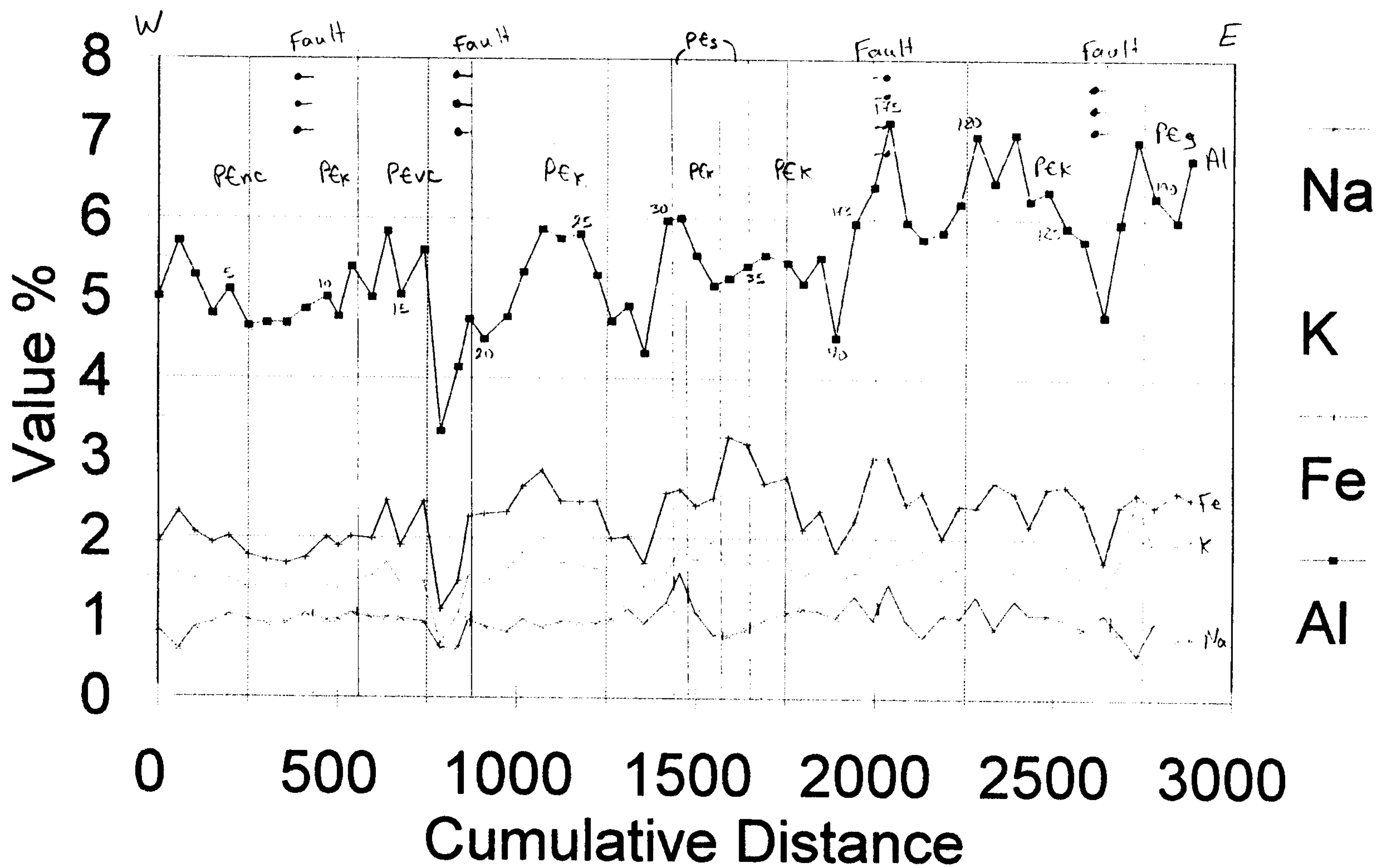
N
Wahun Creek
Waverly Creek
DA 15
July 7 Prospecting
Mapsheet 082F050
SCALE 1:20 000
200 0 200 400 600 800 1000 1200 1400
METRES
MOUNT BIGATTINI
Specular Hematite

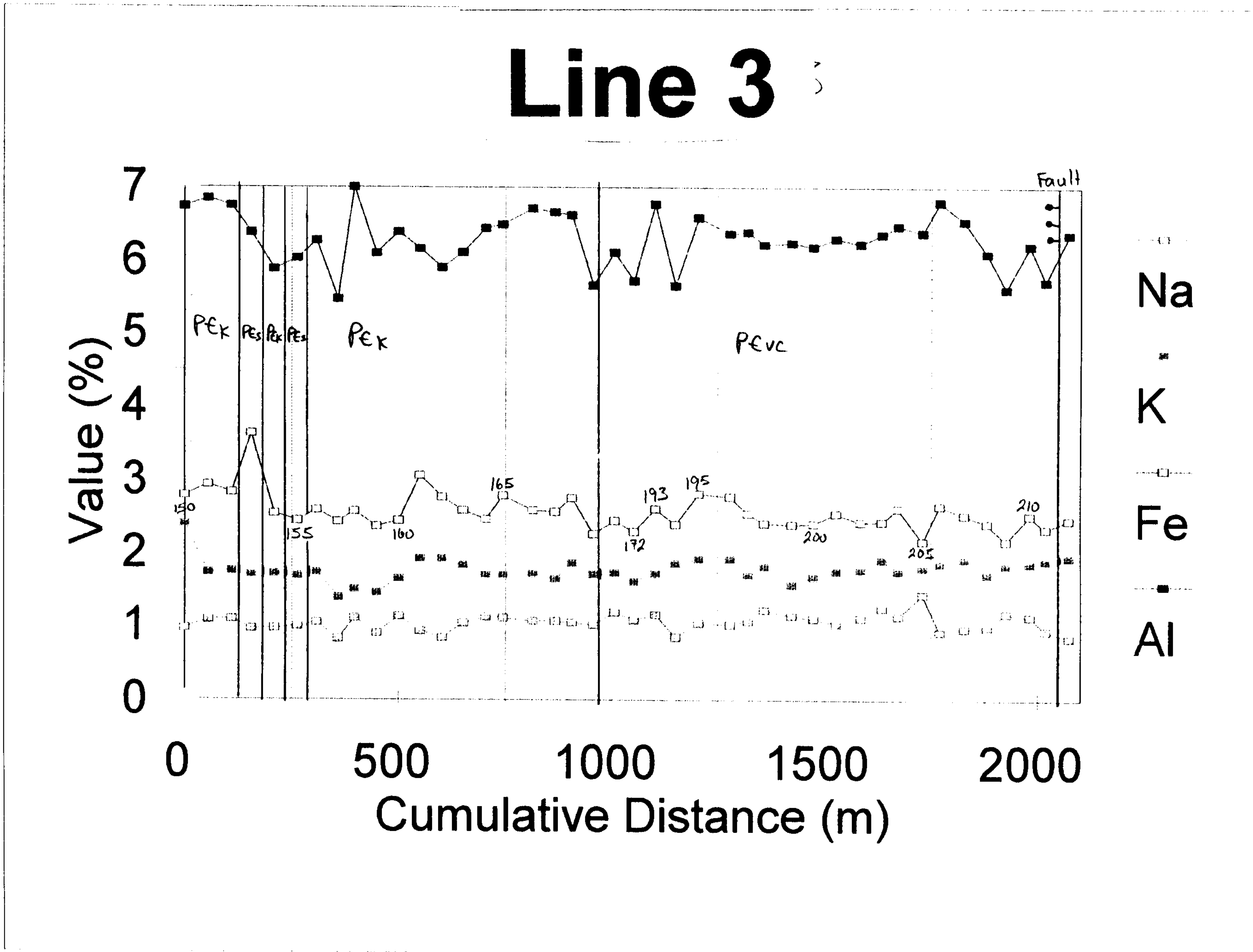
Line 1



E
Fault
Fault
Fault
W
PЄvc
Єc
PЄvc
PЄvc
PЄk
Єc
PЄk
45
50
55
60
65
70
75
79
141
145
149
Value (%)
0
1
2
3
4
5
6
7
8
0
500
1000
1500
2000
2500
3000
Cumulative Distance (m)
Na
K
Fe
Al

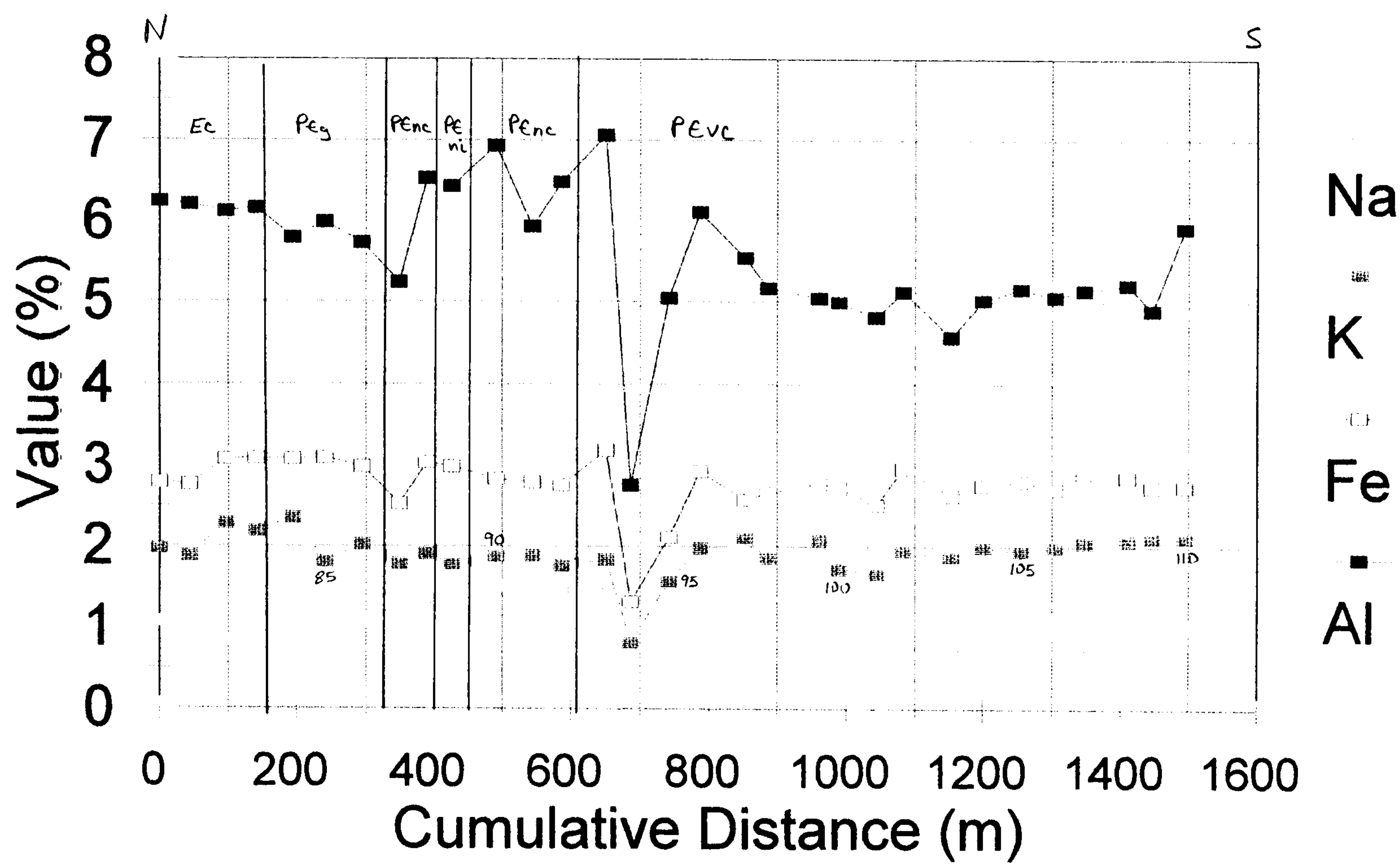
Line 2 ?


W
E
Fault
Fault
PЄs
Fault
Fault
PЄrc
PЄk
PЄvc
PЄr
PЄr
PЄk
PЄk
PЄg
Al
Fe
K
Na
Value %
Cumulative Distance
0
1
2
3
4
5
6
7
8
0
500
1000
1500
2000
2500
3000
Na
K
Fe
Al



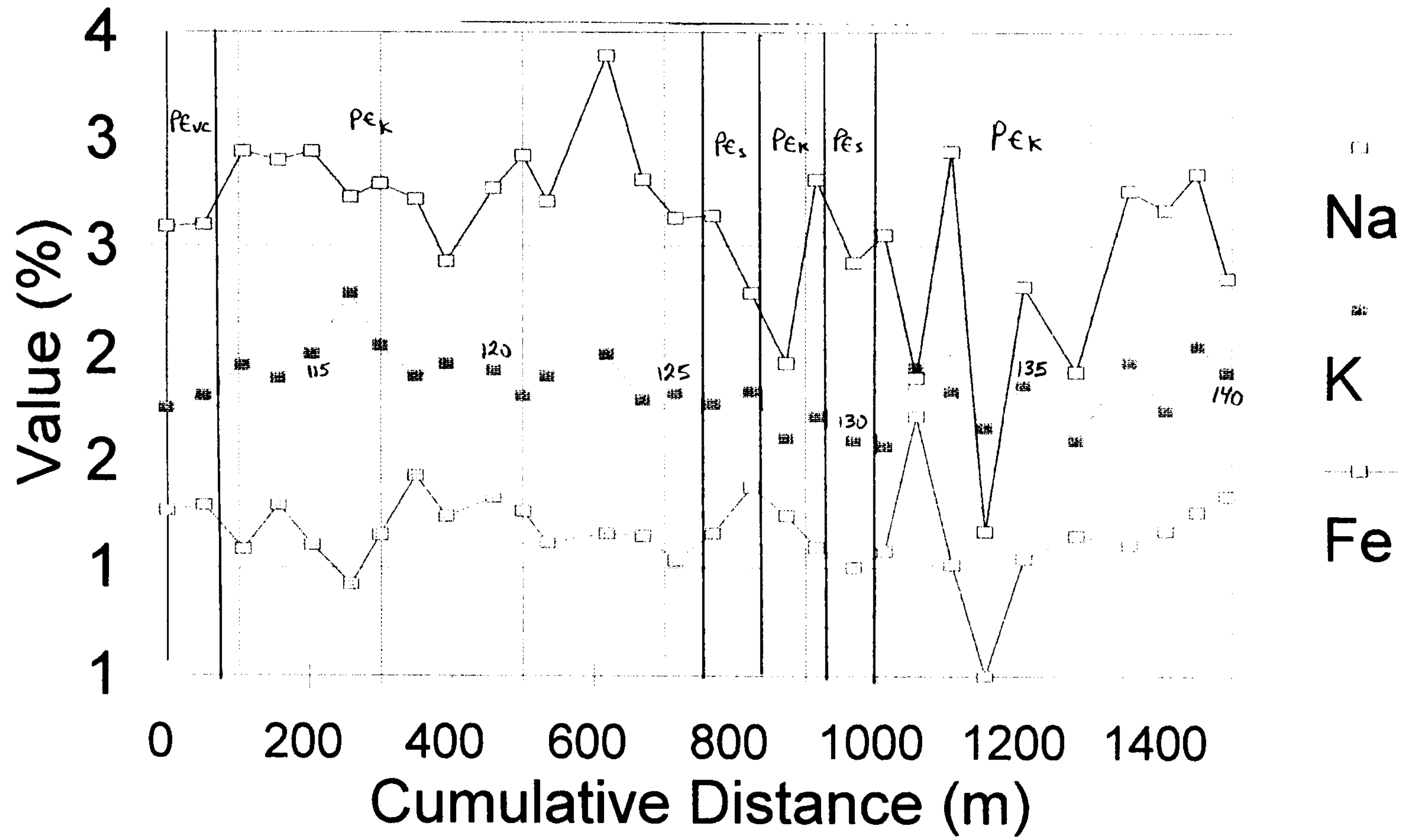
Line 3
Value (%)
Cumulative Distance (m)
Na
K
Fe
Al
Fault
PЄk
PЄs
PЄk
PЄs
PЄk
PЄvc
150
155
160
165
172
193
195
200
205
210

Line 4

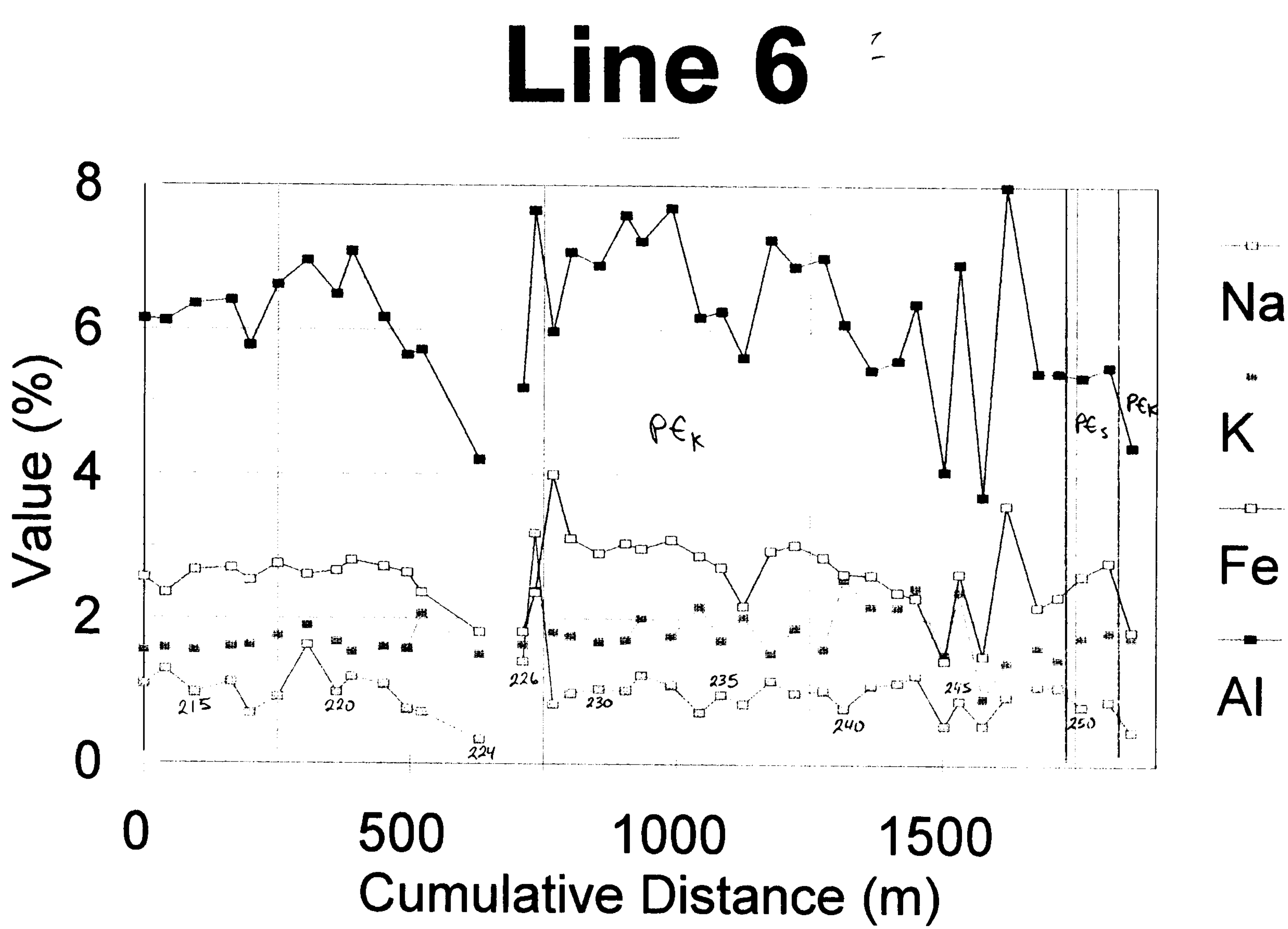


N
S
Value (%)
0
1
2
3
4
5
6
7
8
0
200
400
600
800
1000
1200
1400
1600
Cumulative Distance (m)
Ec
Peg
PEnc
PE ni
PEnc
PEvc
85
90
95
100
105
110
Na
K
Fe
Al

Line 5

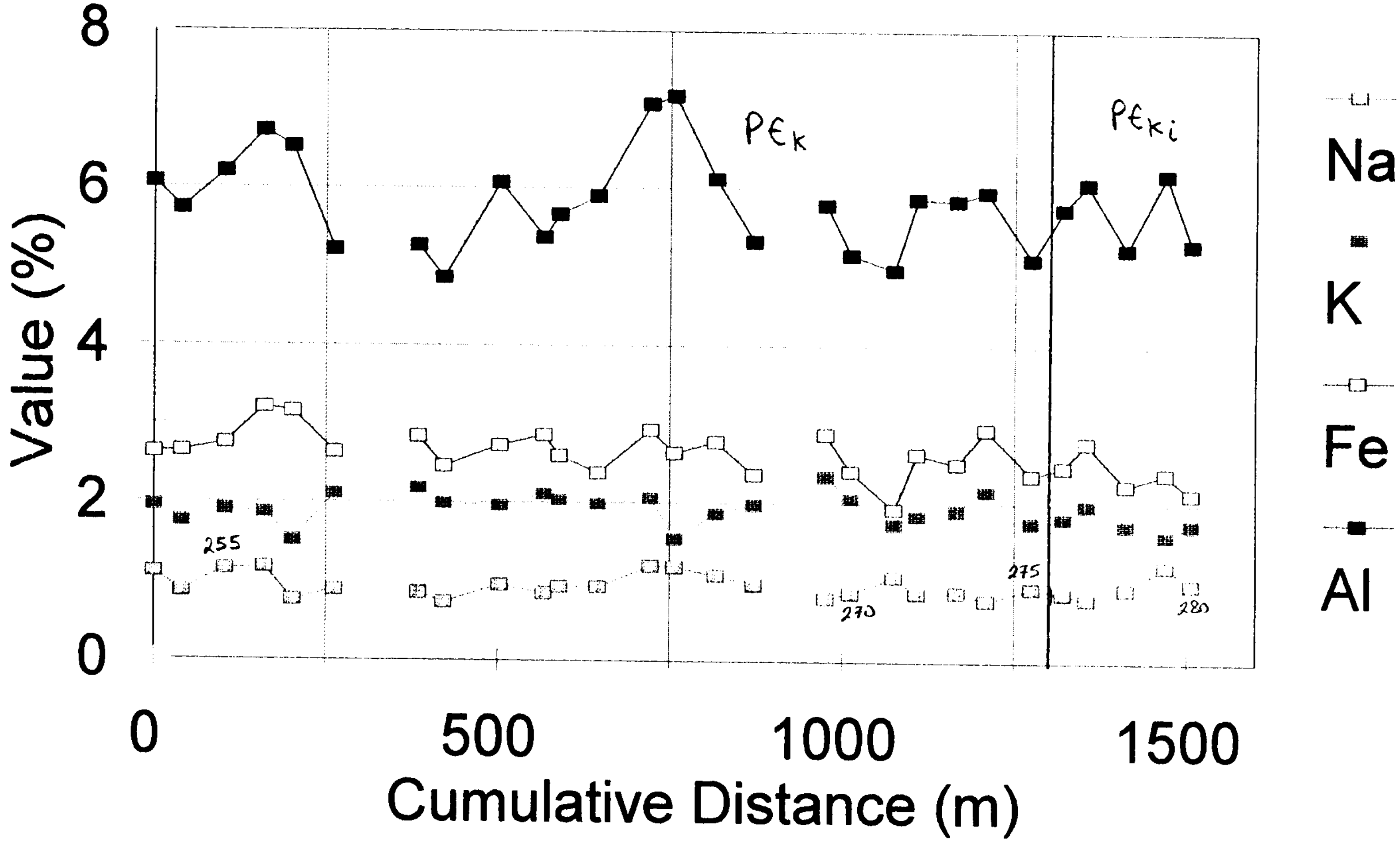


4
3
3
2
2
1
1
Value (%)
0
200
400
600
800
1000
1200
1400
Cumulative Distance (m)
Na
K
Fe
Pεvc
Pεk
Pεs
Pεk
Pεs
Pεk
115
120
125
130
135
140



Line 6
Value (%)
8
6
4
2
0
0
500
1000
1500
Cumulative Distance (m)
Na
K
Fe
Al
215
220
224
226
230
235
240
245
250
pЄk
pЄs
pЄk

Line 7



8
6
4
2
0
Value (%)
0
500
1000
1500
Cumulative Distance (m)
PЄk
PЄki
255
270
275
280
Na
K
Fe
Al

Soil Sampling

A total of 280 soil samples were taken on 7 soil lines, comprising approximately 14 line kilometres. The samples were submitted for four acid digestion, followed by the Group 1EX ICP analytical package offered by Acme Analytical Laboratories Ltd of North Vancouver. The addition of Ga in the analyses and a slightly reduced rate was negotiated for the package, resulting in some savings for the program.
All samples were taken from the B-horizon and limited notes were taken at each sample site (see Appendix C). The samples were placed into Kraft bags and dried prior to shipping. Coordinates (UTM) were taken for most sample sites to facilitate subsequent plotting of the data. For a number of sample sites, accurate GPS coordinates could not be obtained and were estimated from surrounding sites (see Appendix C).

No highly anomalous areas were identified from the soil survey, however, a number of spot high were recorded. Of note, the lower limit of detection for gold in the package utilized was 4 ppm. The intent was to re-assay samples for which highly anomalous Ag, Cu, Bi, As and/or Sb were returned. Several samples were re-analyzed on the basis of elevated copper and/or proximity to the documented mineralization at the old drill site, however, these returned disappointingly (and surprisingly) low values for gold ($\leq$1.5 ppb). The biggest surprise of the program was the general lack of anomalous base and precious metals in an area which had previously been documented as highly anomalous for Total Metals (albeit using a qualitative method).

Copper

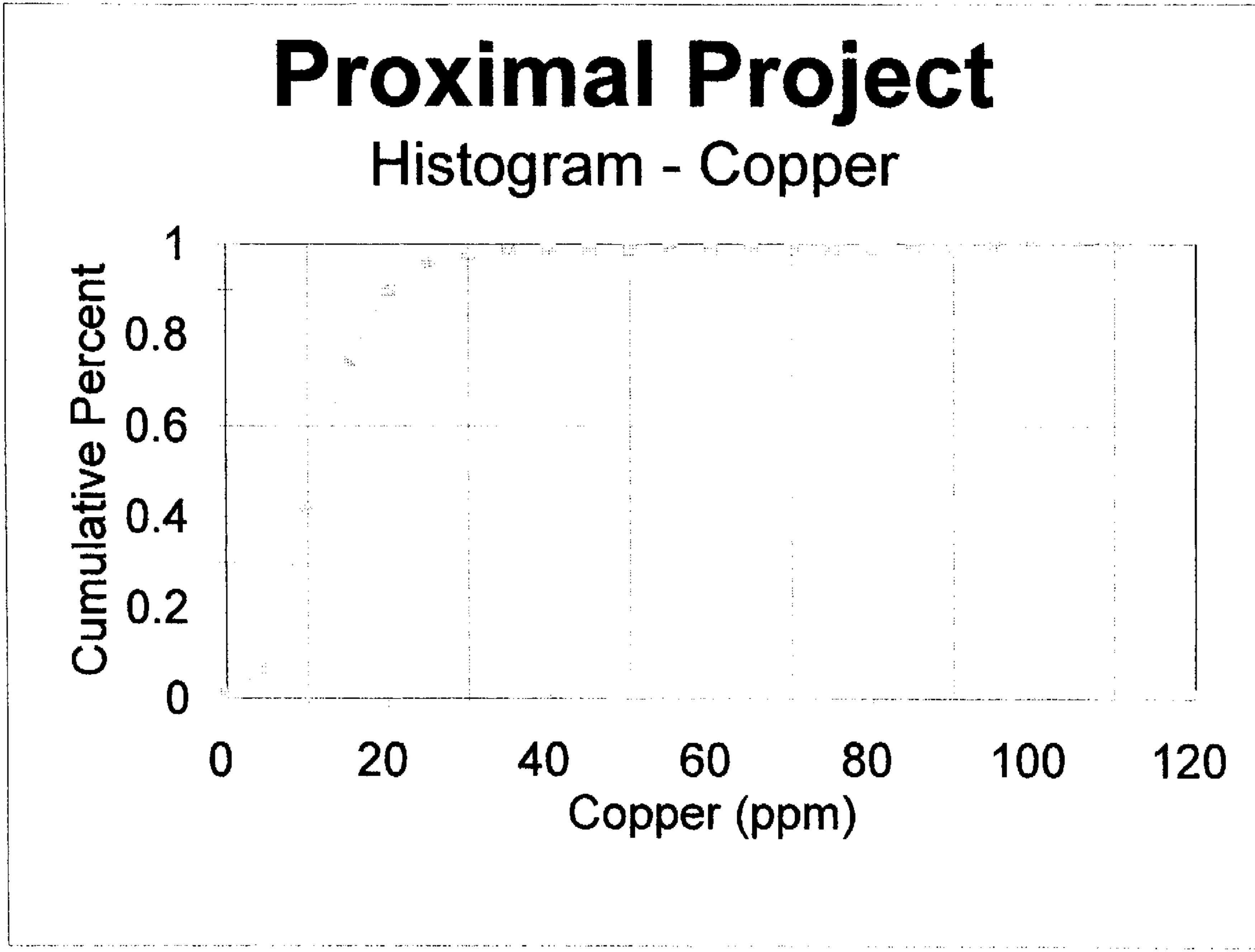
The maximum value documented for copper was 111 ppm, taken on Line 1 east of the chalcopyrite-bearing gabbros previously drilled. The mean value (Figure) was 17.44 and the standard deviation was 10.39. Generally, a value of 30 ppm has been used as the background value for the Precambrian strata of the Purcell Supergroup (Kennedy, pers. comm. 2001). A similar value would apparently be acceptable for the purposes of the Proximal project.

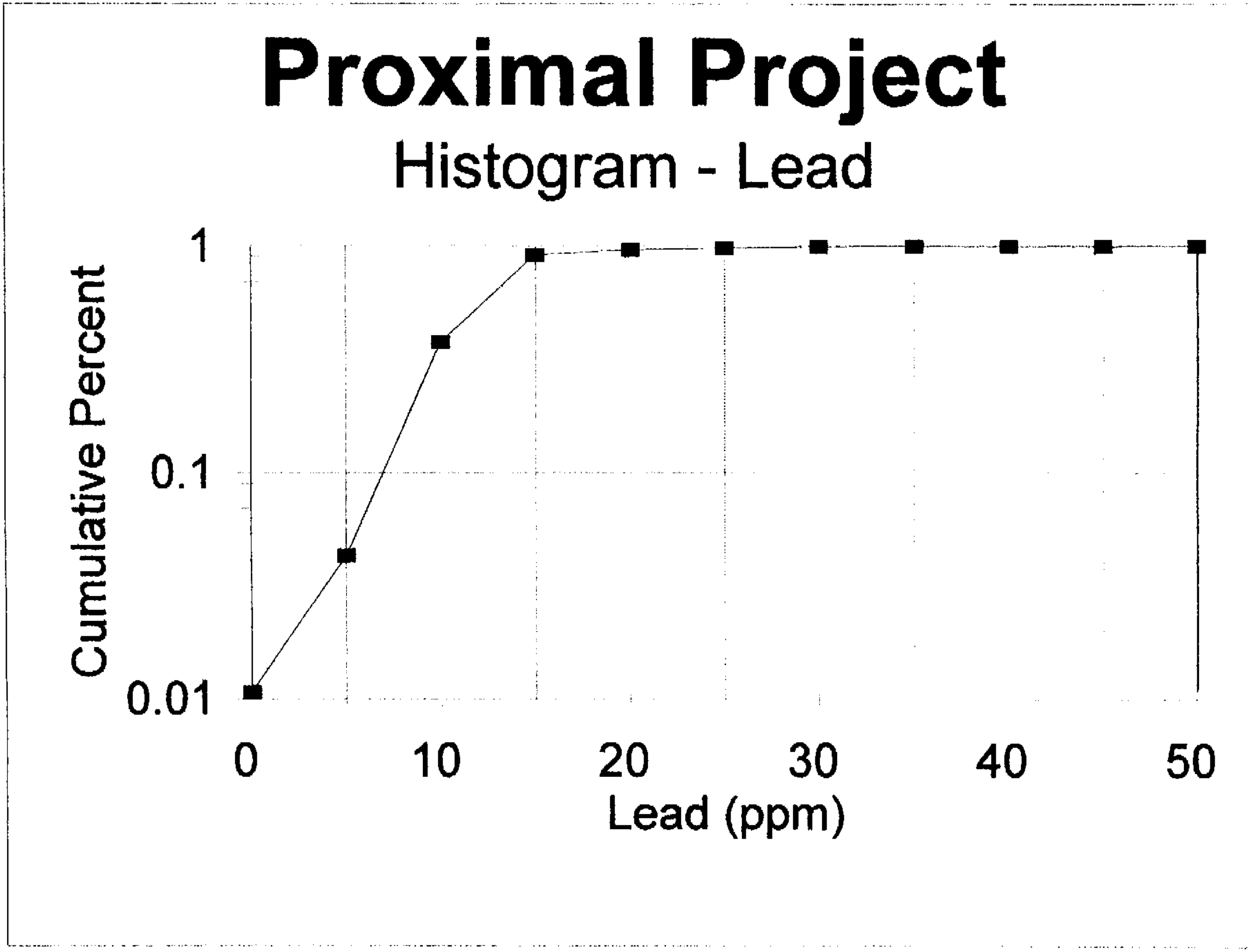
Lead

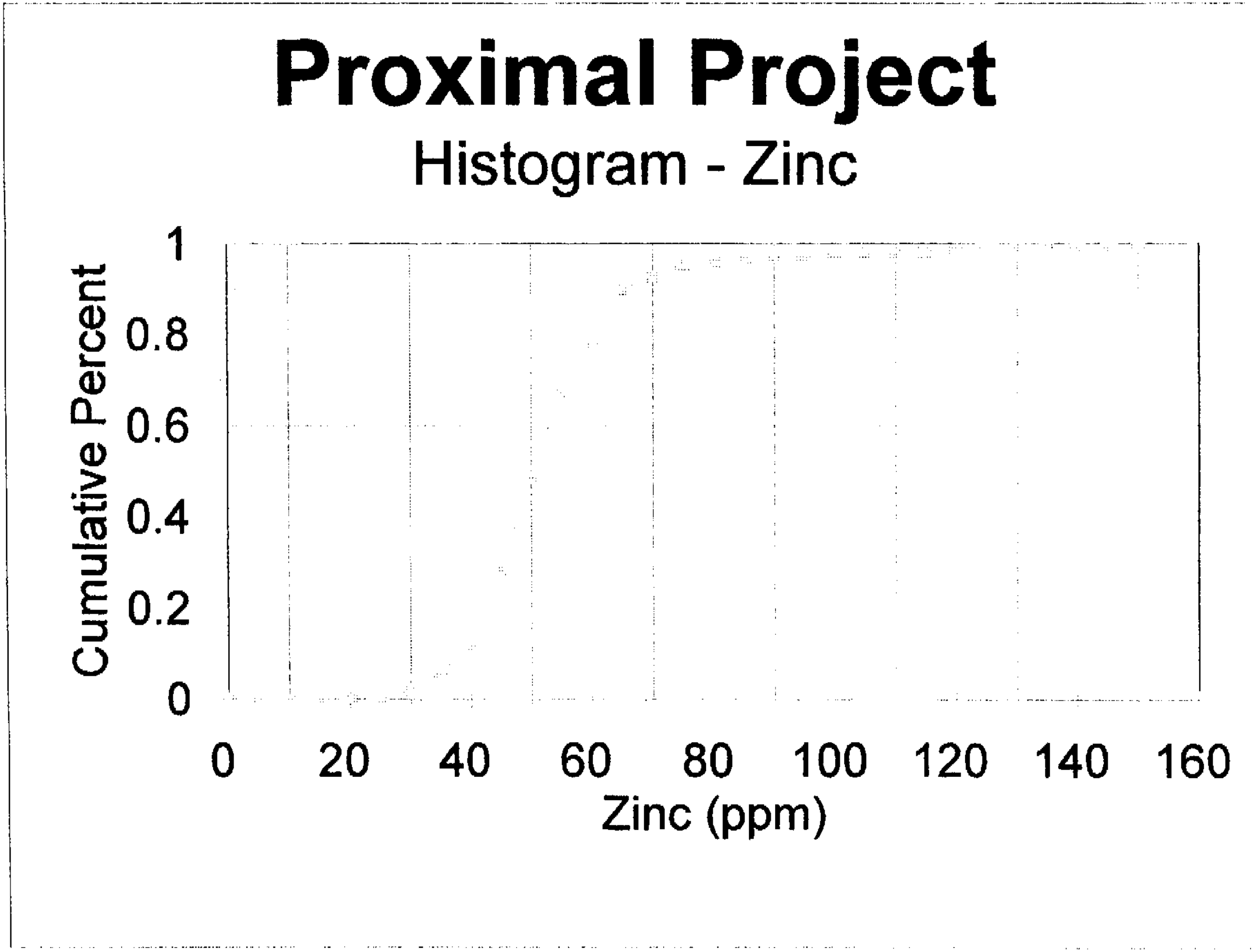
The maximum value for lead was 54 ppm, with a mean of 15.77 and a standard deviation of 4.79. A threshold value of approximately 30 ppm would be indicated from the histogram for lead (Figure). The results of the soil sampling program suggest the upper Purcell Supergroup to Lower Cambrian stratigraphy are lead deficient relative to the underlying Aldridge and Creston formations (based on regional studies in which a threshold of 45 ppm is typically utilized (Kennedy, pers. comm. 2001)).

Zinc

The histogram for zinc is interesting in that there are very few values lower than 25 ppm. This represents an, as yet, unexplained skew (perhaps an artifact of the data). As a result, the maximum value is 235 ppm, with a mean of 57.64 and a standard deviation of 18.14. With reference to Figure , the threshold value would appear to be approximately 90 ppm. This is lower than the value of approximately 120 to 140 ppm, typically utilized for the Aldridge Formation, which is tentatively


Proximal Project
Histogram - Copper
Cumulative Percent
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
120
Copper (ppm)


Proximal Project
Histogram - Lead
Cumulative Percent
1
0.1
0.01
0
10
20
30
40
50
Lead (ppm)



Proximal Project
Histogram - Zinc
Cumulative Percent
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
120
140
160
Zinc (ppm)

interpreted as possible evidence for the presence of elevated zinc in the upper Purcell Supergroup to Lower Cambrian strata of the Eager Hills area.

Discussion

The primary objective of the soil sampling program was to quantitatively identify anomalous base and precious metal areas on, and adjacent to, the existing Proximal claims associated, predominantly, with stratigraphic contacts (a number of structural contacts were tested by the program as well). In this regard, the soil sampling program returned extremely disappointing results. No contiguous sequential anomalies were identified along the soil lines.

The soil program, however, has provided a good orientation survey, which was a subordinate secondary objective. Preliminary review of the data (see Figures) documents results which appear to differ between stratigraphic units and, in some cases, with structural elements.

For instance, on the profile for Line 2 (Figures), the following are noted:

Between approximately 750 and 900 m (in the hanging wall of the fault), elevated Ca and Mg are evident in association with depressed Al, K, Na, Fe, Ni, Co and Cr. These observations may be indicative of alteration associated with the local presence of the fault (as a control to fluid movement). The mobilization of Ni, Co and Cr in this preliminary interpretation is surprising as they are not generally considered to constitute mobile elements in a siliciclastic and carbonate dominated sequence.

At station 187 (in a fault zone) - there is again elevated Ca and Mg with depressed Fe, Ni, Co and Cr with slightly depressed K. Again, possible evidence of alteration associated with fluid with the same caveat for Ni, Co and Cr as mentioned above.

Station 188 and 189 (in the hanging wall of the fault), there is elevated Fe, K, Al, Ni, Cr and slightly elevated Co with depressed Na. Once again, possible evidence of fluid movement.

Station 173 to 175, elevated Al, Fe and Na is apparently evident

On Line 3 in the basal portion of the Van Creek Formation, there is a marked geochemical anomaly apparent in which Na, K, Fe, Al, Ni, Co, Cr and Rb are depressed, whereas Ca, Mg and Sr are elevated. This **may** represent a local geochemical signature for the base of the Van Creek Formation.

Using the geological map, future work will focus on assigning the geochemical results to a number of stratigraphic and structural elements to determine if geochemical identification and differentiation is possible for the Proximal area.

Rock Sampling Program

A total of 40 rock samples had been proposed in the initial application, for which the majority were intended to be recovered from Minfile occurrences along Perry Creek and the Moyie River. However, the combined effects of late receipt of the initial advance funds and a number of claims (the Eddy 1-14 claims) resulted in a deficit of samples from these areas.

On July 8, a 5 gallon pail of strongly oxidized and bleached (silicified) material was taken from the west side of Highway 95 at the access for the Eager Hills parking lot. The sample was processed using a Gold Wheel and reduced to **Concentrate 1** (collected by processing the entire sample and comprised of the material passing upward to the central hole). **Concentrate 2** represents the fine fraction (less than 20 mesh) and **Concentrate 3** represents the coarse fraction (between +20 and +5 mesh). The oversize material was retained.

Based on an initial evaluation of the results for Concentrates 1 to 3, there is evidence of strong alteration potassic ($K \leq 4.97\%$) associated with manganese (≤ 4846 ppm) and possible gold (7 ppm) and silver (≤ 1.0). These concentrates provide qualified encouragement in that there is no highly anomalous precious metals but further work is justified to pursue the limited anomalies documented.

On September 3, Drew Andrews collected sample 1, which consisted of a 4 kg sample of the chalcopyrite-bearing gabbro immediately above, and east of, the site of the previous drilling. Mr Andrews crushed and pulverized the sample to pass through a 100 mesh screen. The resulting sample was concentrated on a flotation table resulting in "1 container of (copper-bearing) metal concentrate, 1 container of tailings, 2 samples of gold, 2 samples of silver and 1 sample of refined ore".

Samples 1.1 and 1.2 were derived from the same 3 kg fraction. Sample 1.1 consists of 3 kg of refined ore from which approximately 1 gram (or less) of "silver / gold concentrate resulted. Sample 1.2 is the resulting "gold concentrate", amounting to <1 gram.

Sample 1.3 (this programs **Concentrate 4**) consists of 46 g of refined (crushed, pulverized, and screened (100 mesh)) ore.

Samples 1.4 and 1.5 are the concentrates resulting from processing a 1 kg fraction of the original 4 kg sample. Processing sample 1.4 resulted in "<1 g of silver/gold concentrate" and sample 1.5 in "<1 g of gold".

Sample 1.6 (this programs **Concentrate 5**) consists of a "copper concentrate" from processing the original 4 kg of processed mafic intrusive material.

Sample 1.7 (this programs **Concentrate 6**) constitutes the tailings from the original 4 kg sample.

These samples resulted in very strong copper values (≈ 3700 ppm), demonstrating a copper concentrate can be produced very easily from the chalcopyrite-bearing mafic intrusive. In addition, lead (≤ 4518 ppm) and limited silver (≤ 1.8 ppm) are, apparently, also present. The samples were also assayed for gold and platinum group elements, resulting in a maximum of 15 ppb gold (Concentrate #4) and a single palladium value above the detection limit (2 ppb for Concentrate #5).

Finally, a total of seven rock samples were taken from the Proximal claims. Sample Prox-01-01 is a mineralized grab sample from a blast pit in the chalcopyrite-bearing mafic intrusive above and immediately east of the old drill site. A value of approximately 0.5% copper was returned, together with 0.7 ppm Ag, 3 ppb platinum and 2 ppb palladium.

Samples Prox-01-02 to 06 were all taken from an apparent waste dump located approximately 20 metres north of the Eager Hills parking lot. There are approximately 10 - 15 m^3 of moderately oxidized, bleached angular material alongside an old trail. It was probably locally derived from a short adit or blast trench located to the west. Four separates were recovered representing slight variations in the rock fragments present (i.e. malachite / azurite present, presence of manganese staining, strongly bleached (silica ± potassic alteration). Two of the samples returned strongly anomalous copper ($\leq$ 2.1%), with elevated manganese ($\leq$2166 ppm) and iron (13.71%), with or without silver (<0.6 ppm). Of the five samples submitted, four were associated with weakly anomalous gold (<19 ppb).

Finally, Prox-01-07 was a highly oxidized (strongly orange coloured) sample taken from alongside Highway 95 approximately 25 metres north of the Eager Hills access on the west side of the highway. The sample documents the presence of highly anomalous manganese (3472 ppm), iron (7.1%) and slightly anomalous silver (0.5 ppm).

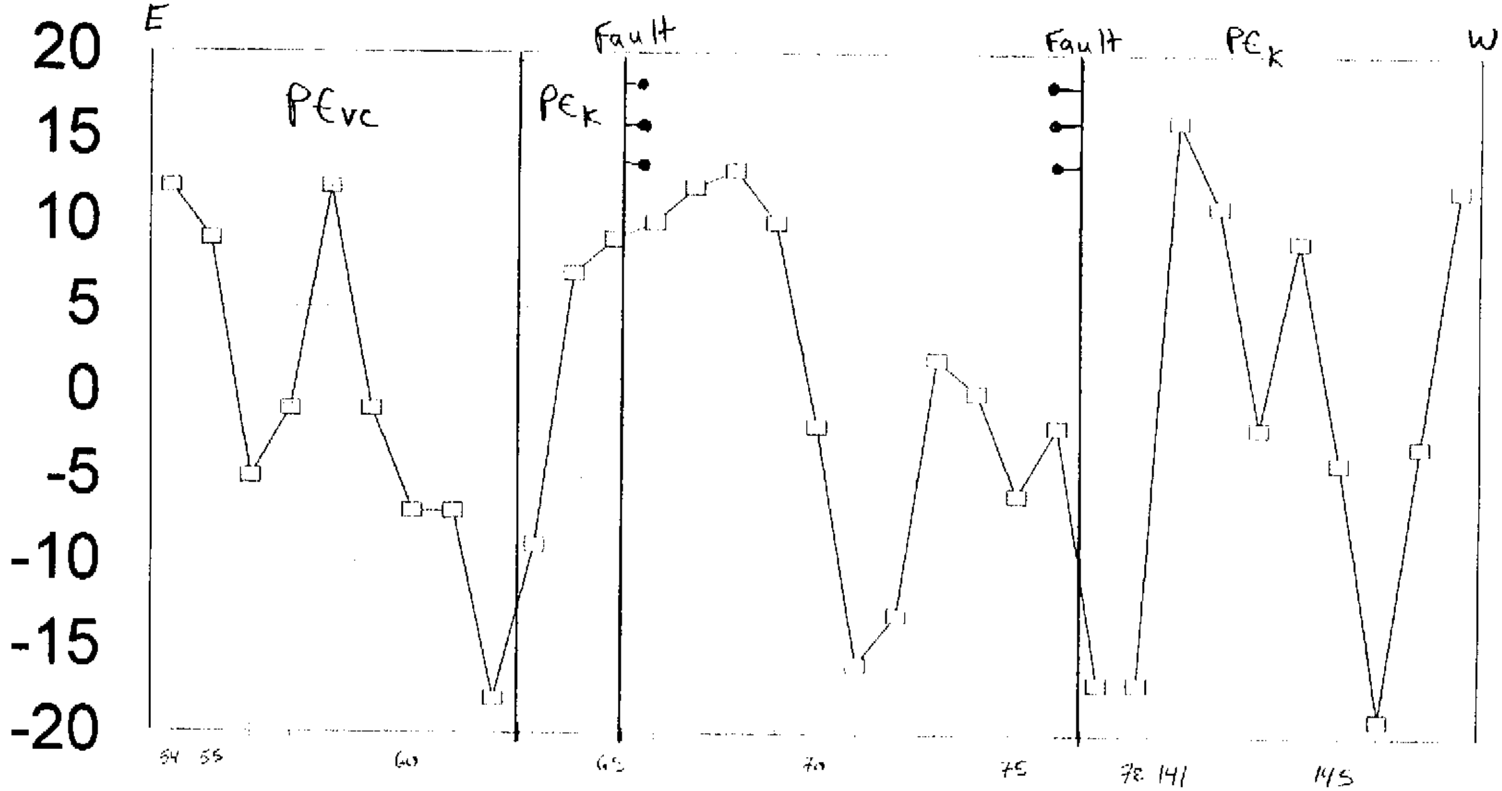
The presence of copper is well established both visually and geochemically on and/or adjacent to the Proximal claims, specifically, the mineralized mafic intrusive (082GNW 033 - King), the copper-bearing workings associated with Copper Belt (082GNW 027) and the waste dump by the Eager Hills parking lot (approximately 500 metres south-southwest of the Copper Belt). Weakly anomalous gold has also been documented in association with both copper mineralization and altered fault zones. Further work is required to evaluate the copper + gold potential, but grab samples bearing 2.1% copper with the presence of weakly anomalous gold is interpreted to support the original hypothesis proposed in the Prospectors Assistance Program application.

VLF

As a result of initial prospecting on the Proximal claims, the geological mapping available was considered adequate for the purposes of the project. Therefore, a proposed change in the project was approved by Dave Terry (Regional Geologist - Cranbrook Office) to undertake a VLF survey of the property instead of geological mapping as originally proposed. A Sabre Model 27 VLF-EM Receiver was utilized for the 10 days spent undertaking the survey, allowing measurement of the in-phase component of the field but not the quadrature. Further complicating collection and interpretation of the results (initiated after Oct. 6) were several days of data collection with highly active Field Strength, interpreted to result from military VLF traffic associated with action pending against Afghanistan. In fact, the VLF survey of Line 4 was aborted on both Oct. 7 and 8 due to the inability to get a stable Field Strength between individual stations. Similarly, the Field Strength was active during collection of data on other lines and so the data is somewhat suspect due to Field Strength fluctuations, in some instances quite dramatic (see Appendix E for VLF data).

VLF Survey Data

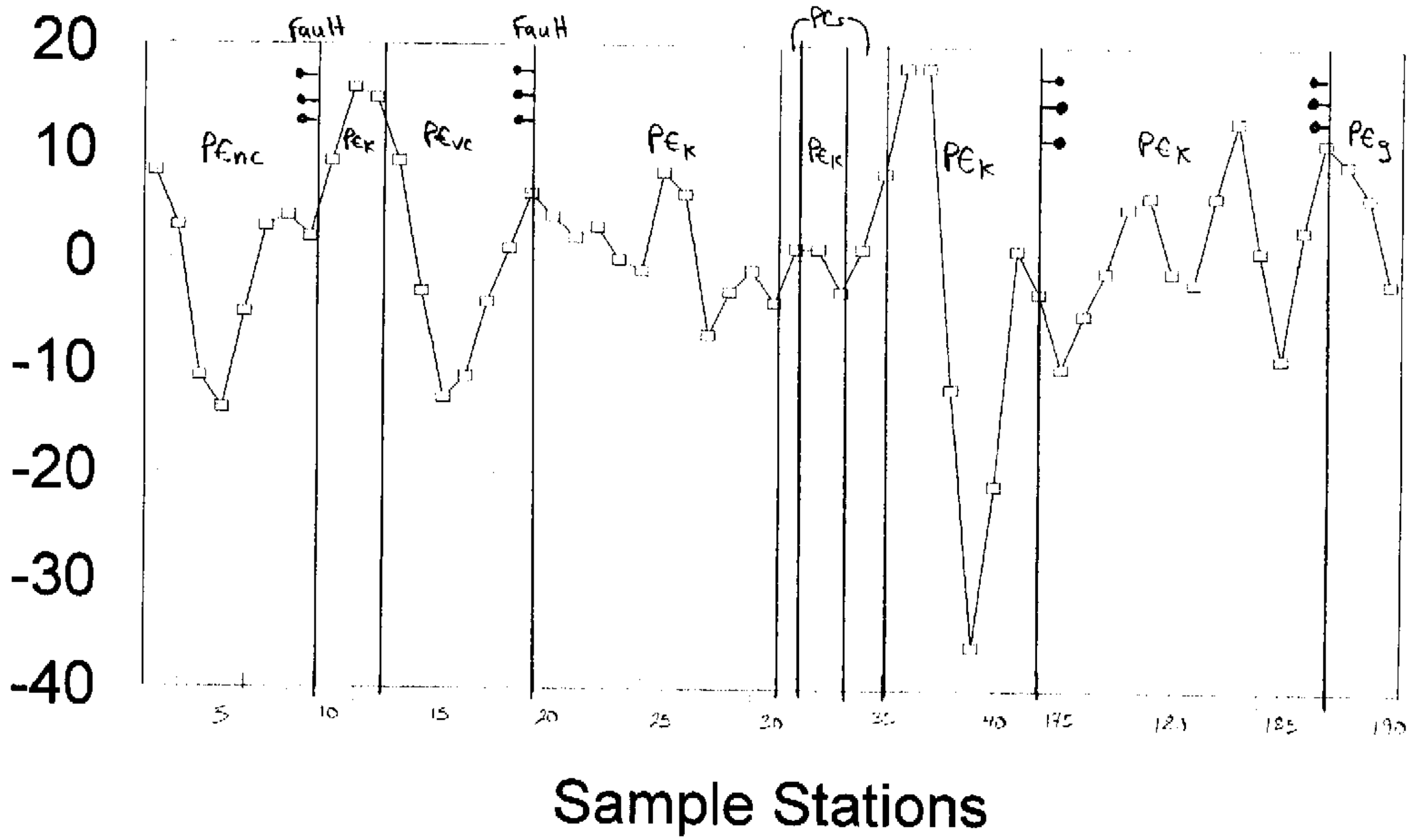
Line 1



Sample Stations

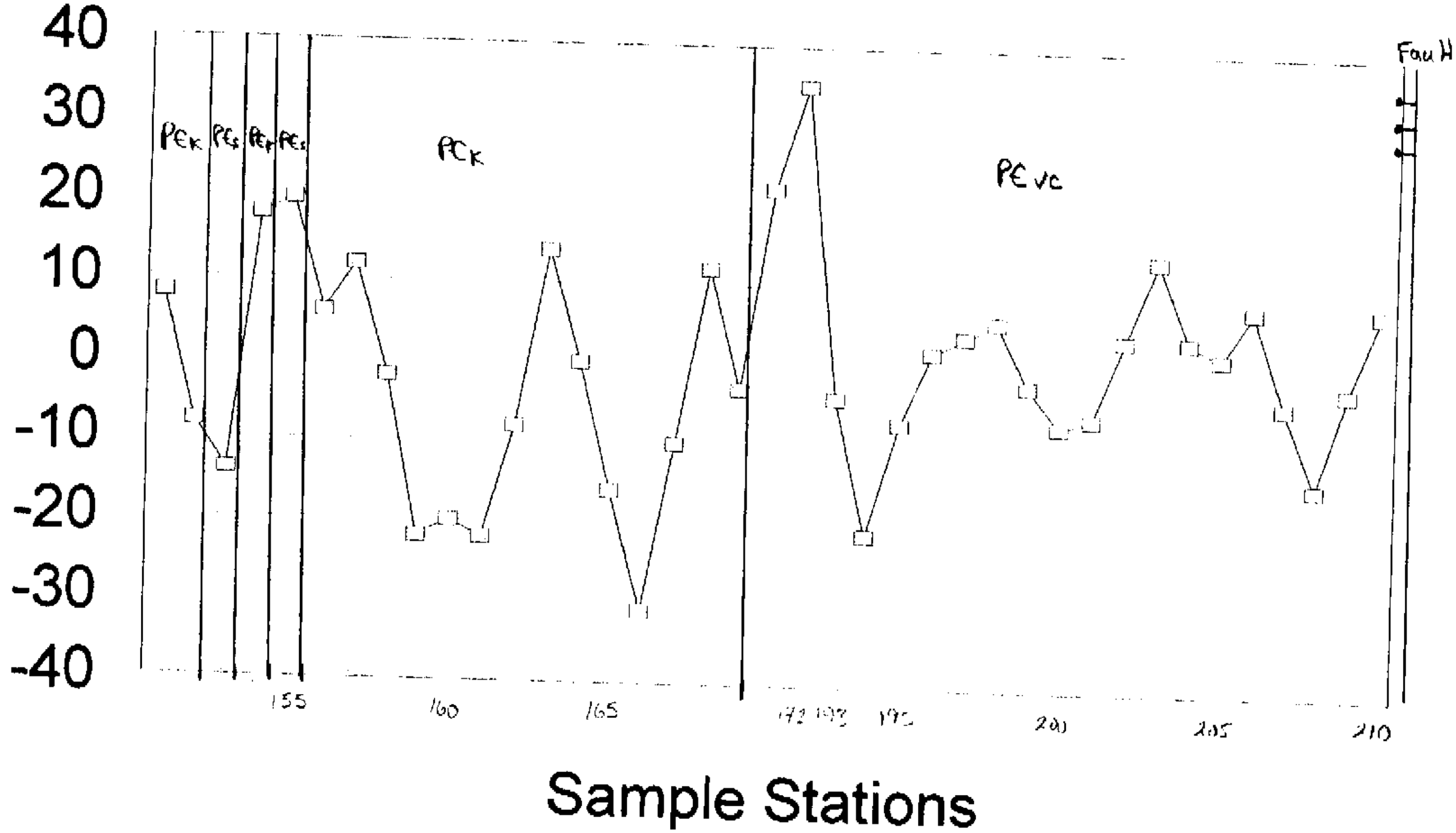
VLF Survey Data

Line 2



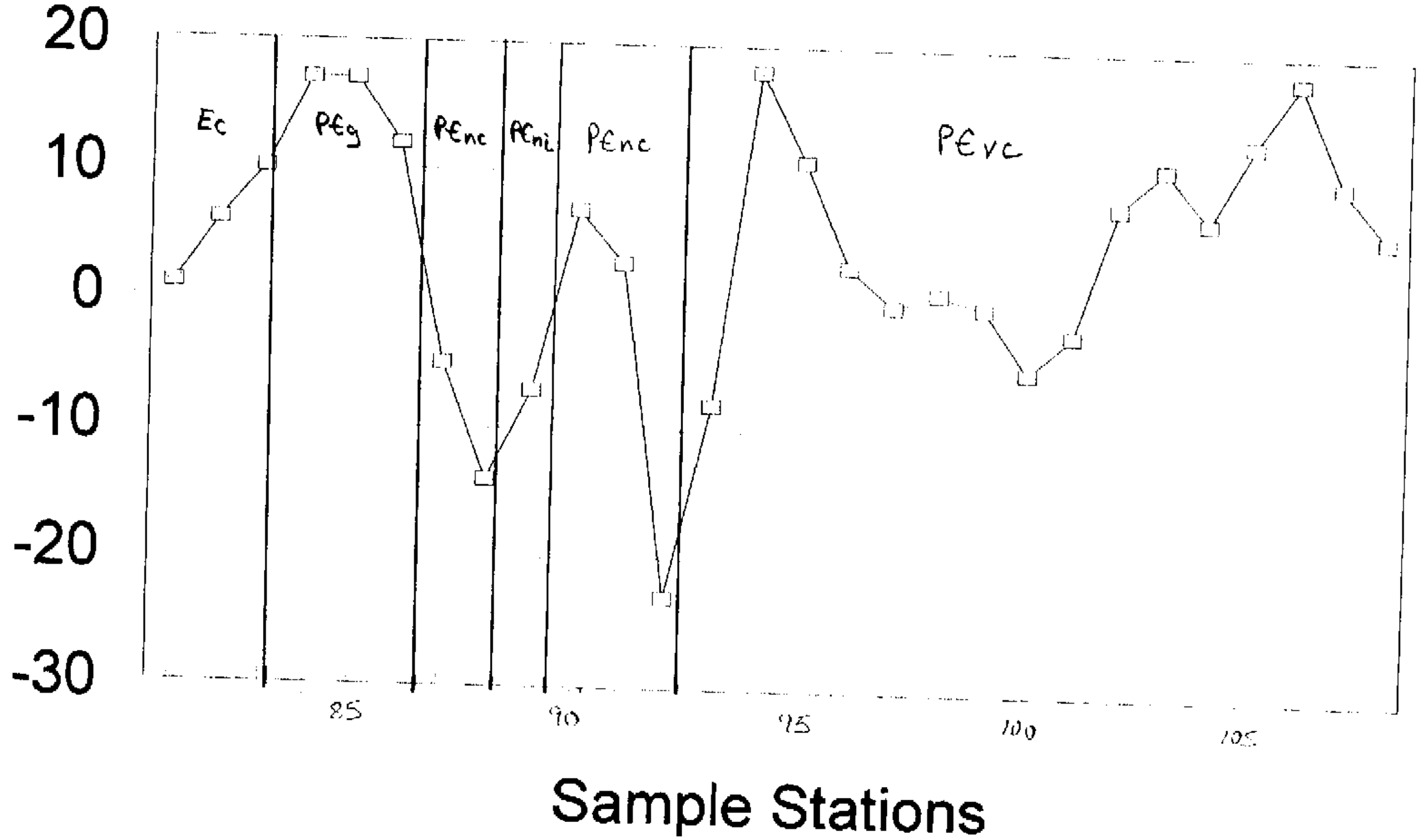
VLF Survey Data

Line 3



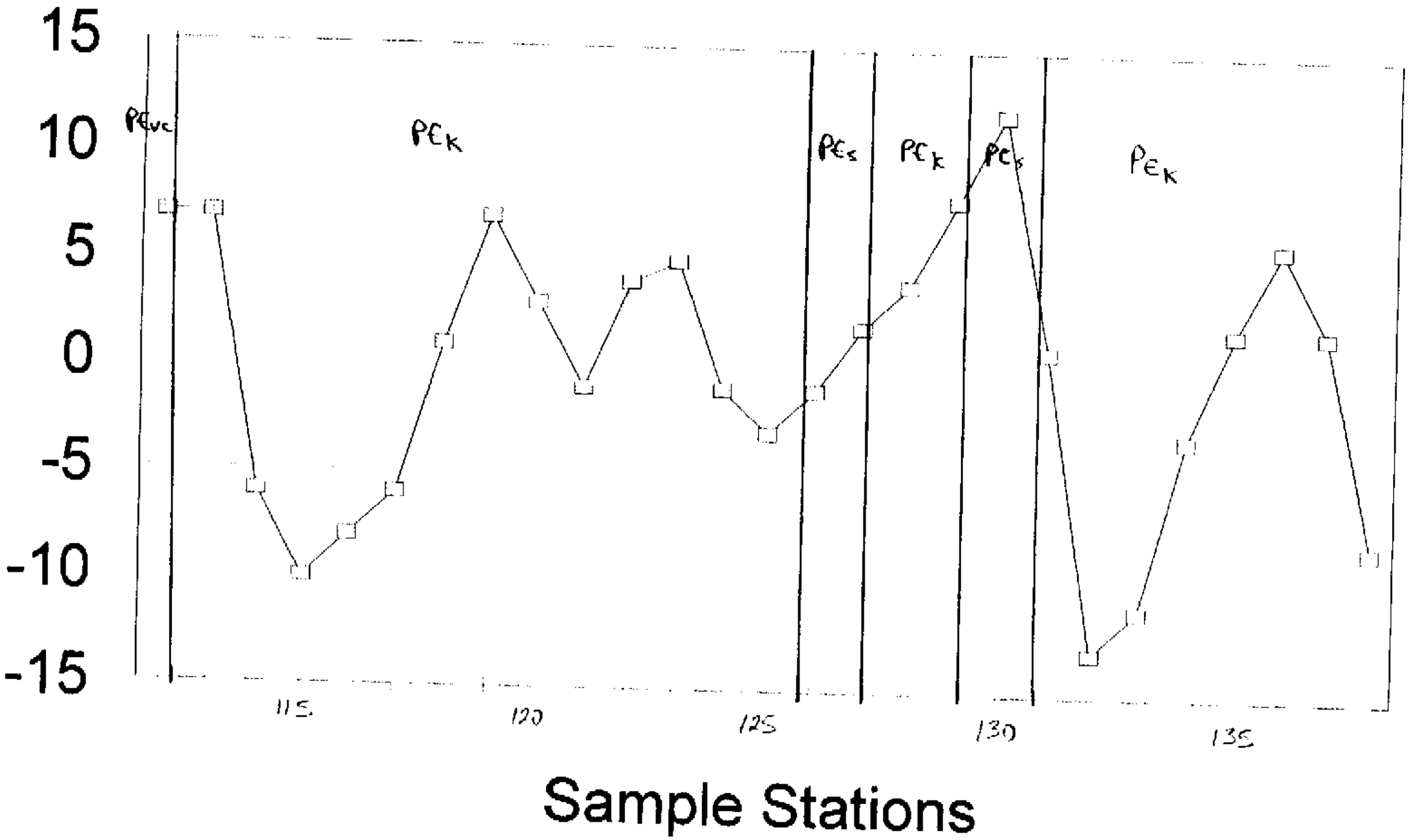
VLF Survey Data

Line 4



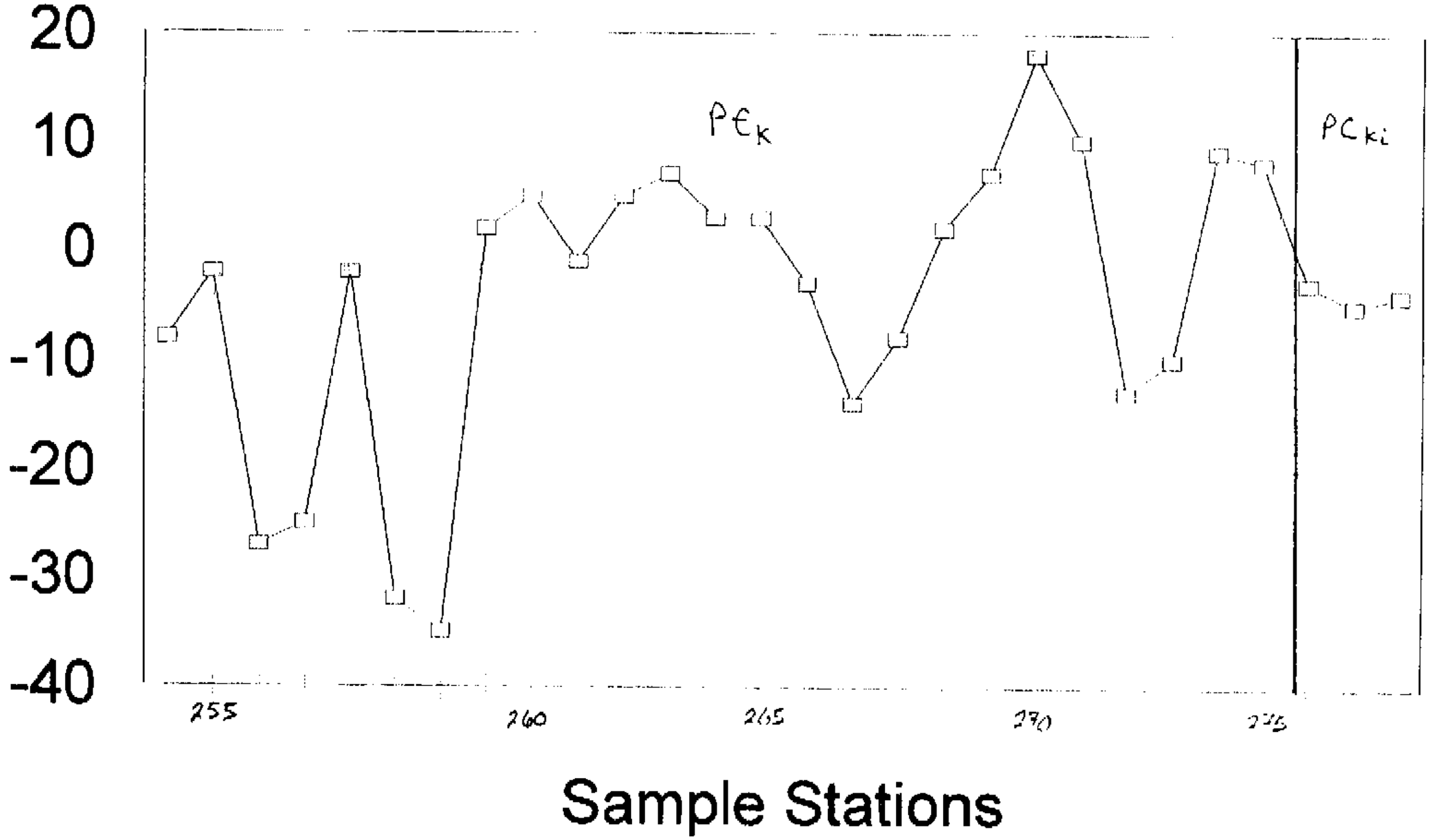
VLF Survey Data

Line 5



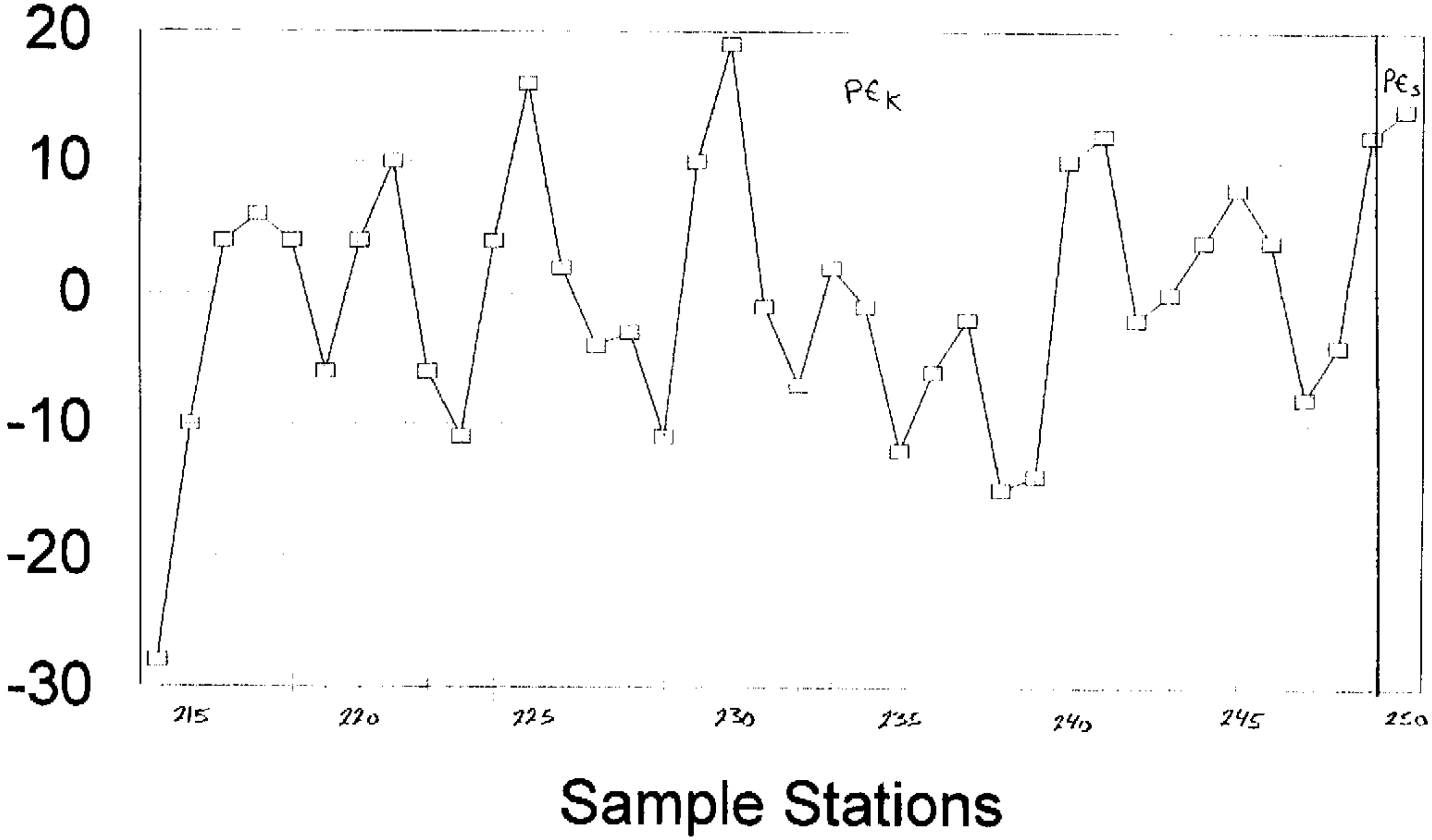
VLF Survey Data

Line 6



VLF Survey Data

Line 7



The resulting data was Fraser Filtered and plotted in a series of profiles (Figures). Geological contacts (stratigraphic and structural) have been plotted on the figures for interpretive purposes.

Some general observations arising from the data are as follows:

- Local VLF highs appear to be associated with the footwalls of fault zones with some notable exceptions evident (i.e. Line 1 faults).

- There appears to be a pronounced VLF high near the base of the Van Creek Formation (above the stratigraphic contact with the Kitchener Formation (i.e. Lines 1 and 3

- The stratigraphically lowest mafic intrusive in the Kitchener appears to be associated with a VLF high (i.e. Lines 2, 3 and 5)

Further work is required with the VLF profiles and data to properly evaluate the results.

EXPLORATION MODEL

From the observations and interpretations presented above, it is interpreted there may have been limited movement on at least two of the major faults in the region surrounding the existing Proximal claims during emplacement of the Reade Lake and Kiakho stocks, specifically, the Cranbrook and St. Mary faults. The faults were sealed by these intrusions, thus constraining the age of their latest movement. By extension, it is interpreted that magmatic fluids and both formation waters (if any) and meteoric waters permeated the fluids and utilized them as conduits for fluid movement.

Heat Source

It is proposed that Cretaceous age monzonitic to syenitic intrusions, including the Reade Lake, Kiakho and Mt. Skelly stocks, provided local heat sources. As these magmas crystallized, incompatible elements would have partitioned into the vapour phase and been liberated from the intrusions.

Fluid Conduits

The many faults mapped in the area could have acted as fluid conduits, if present during intrusion, crystallization and subsequent cooling of the magma. As the Kiakho stock seals the Cranbrook fault and the Reade Lake stock similarly seals the St. Mary fault, they pre-date the intrusions. Furthermore, there is evidence for limited late stage movement on the St. Mary fault subsequent to intrusion in that deformation is evident in the Reade Lake stock along the projection of the St. Mary fault. Furthermore, the Moyie fault, like the St. Mary fault has been interpreted to have been periodically re-mobilized. Therefore, it is interpreted that if the major faults in the area are documented or reasonably interpreted to have been active in the Cretaceous, a logical interpretation is that splays and conjugate faults may also have been similarly active. Movement on these faults, even if simply dilational, would provide favourable conduits for fluid movement, both magmatic and meteoric.

Convection Cell(s)

Given the above assumptions, local convection cells were probably initiated during intrusion of the magmas and subsequently continued for millions of years as the magmas cooled. Meteoric waters are interpreted to have leached metals from host rocks as they were progressively heated with depth, eventually reaching a point when they would rise to the surface, inevitably precipitating metals as they cooled. Magmatic waters would have contributed incompatible elements and other metals to the convecting fluids.

Therefore, lead, zinc and iron, for example, may have been contributed through leaching of the Aldridge Formation. Similarly, copper and silver may have been leached from the Creston Formation with more exotic metals contributed by the quartz monzonites. This may provide an initial means by which veins having a magmatic component might be identified. Specifically, veins having "... a metal assemblage which variably combines gold with Bi, W, As, Mo, Te, and/or Sb, and typically has a low base metal concentration .." may represent a contribution from magmatic fluids analogous to intrusion-related gold systems (Lang et al. 2000).

Alternatively, mineralization associated with the Moyie sills (as well as sills in the upper Purcell Supergroup) have been interpreted as hypabyssal intrusions emplaced while the host sediments were still unlithified (Höy 1993). The convection model proposed herein might further enrich pre-existing mineralization produced by Höy's Sill Model.

Factors Contributing to Mineralization

In a simple convection model, the theory holds that fluids begin precipitating metals as they cool. However, other factors may provide barriers to fluid movement or otherwise initiate or enhance metal enrichment. Rising mineralized fluids, upon encountering these proposed barriers, are expected to have "pooled" along the stratigraphic and/or structural base of one or more of these proposed barriers and therefore to be prospective for potential mineralization.

Physical Barriers

Physical barriers are those which could be considered to impose impermeable limits to upward fluid movement such as gabbroic and/or dioritic sills. Possible examples include Moyie Sills and similar intrusives described in the upper Purcell Supergroup such as the paired intrusives mapped in the Eager Hills. Metal enrichments have been described for the Moyie Sills throughout the Aldridge Formation, typically comprised of pyrrhotite ± chalcopyrite.

Another example of a possible physical barrier would be the Nicol Creek volcanics in which an amygdaloidal basalt might provide an impermeable barrier to fluid movement and/or a suitable porous host lithology.

Chemical Barriers

Chemical barriers or impediments to fluid movement could be expected where fluids in equilibrium with silicates (derived from a silica-rich magma and moving through clastic dominated sediments) comes into contact with carbonate lithologies, effectively a pH/Eh barrier. Due to disequilibrium reactions at the silicate / carbonate sediment interface, mineralization might be preferentially enriched in carbonate dominated lithologies. Therefore, the Kitchener Formation may represent a regional horizon along which mineralization might be hosted, either preferentially along the contact or within the strata comprising the formation itself.

Furthermore, mineralized fluids which have passed through, and equilibrated with, the Kitchener Formation encounter another potential pH/Eh barrier at the Kitchener / Van Creek contact. Therefore, the upper Purcell Supergroup stratigraphy is considered potentially prospective for secondary replacement and/or vein type deposits.

Finally, close attention to the relationship of iron-bearing phases (i.e. hematite, magnetite, siderite, ferroan dolomite, etc) to associated mineralization could be a valuable tool for qualitatively identifying and evaluating potential Eh barriers.

Summary

Replacement and/or vein deposits arising as a result of fluid movement driven by intrusions is not a new idea by any means. However, recent work on intrusion-related (or Pogo-type) deposits (Lang et al. 2000, Logan 2000, Logan and Mann 2000, Smith et al. 1999) may provide a new perspective with which to view veins and small deposits previously identified in the East Kootenays. A review of Assessment Reports and Minfile occurrences reveals the following:

The following is a tabulation of Minfile occurrences documenting a metal assemblage which may be consistent with the above proposed exploration model.

Occurrences with Hematite and/or magnetite

Minfile 082FSE087 - Headwaters of Perry Creek - "A few of these quartz stringers carry up to per cent hematite and minor chalcopyrite".

Minfile 082FSE114 (Cooper) - headwaters of Kamma Creek - mention of hematite and specular hematite.

Minfile 082FSE117 (Buck) - west side of Moyie River drainage - occurrence of magnetite-hematite breccia

Minfile 082FSE108 (David) - west side of headwaters of Moyie River - with reference to Moyie Sills on the property which "... locally contain anomalous magnetite concentrations near the mineralized zones"

Possible Intrusion-related Gold Metal Suite

Assessment Report 15, 649 - "Gold shows a high correlation with Cu, Mo, Fe, Ag, Bi and Pb"
Anomalous tungsten present in drill sludges analyzed.

Minfile 082FSE003 (Cariboo) - "A 4.3-metre sample assayed 0.34 per cent lead, 0.68 per cent zinc, 1.17 per cent tungsten and 0.022 per cent equivalent uranium" (Note: possible carbonatite identified on property).

Minfile 082FSE112 (Bear) - "Mineralization discovered as a result of prospecting and soil sampling on the Bear property consists of minor malachite and bornite associated with semi massive magnetite within a gabbro of the Proterozoic Moyie intrusions near its inferred contact ..."

Minfile 082FSE118 (Racki) - East side of Perry Creek - "Molybdenum is only known from anomalous geochemistry (up to 175 parts per million ..."

Minfile 082FSE115 (Lew Vent) - North fork of Moyie - "Old trenches ... expose a vein along a northeast-oriented Middle Proterozoic Moyie intrusion containing scheelite, galena, sphalerite and chalcopyrite".

In addition, recent work in the Hellroaring and Angus Creek drainages by Supergroup Holdings is interpreted to have returned results consistent with the model proposed herein. A series of traverses were undertaken to evaluate outcrops associated with local magnetic anomalies evident on the Grassy Mountain 8472G map sheet (Kennedy, pers. Comm. 2002). A number of quartz veins bearing visible gold were identified in proximity to these magnetite-bearing (oxidized) Cretaceous (?) plugs and intrusions (on the LOV and GAR claims), similar to the "Leader" vein and the ZINGER claims in the headwaters of Angus Creek. Furthermore, an unusual assemblage of possible "pathfinder"elements were identified in association with these gold-bearing veins, including bismuth, along with magnetite, hematite or siderite. These results are taken as independent support for the hypothesis underlying this Prospectors Assistance Program with respect to gold.

Vg

BCGS Geology

BC Administrative Area Layers

BC Communities
- City
- Town
- Village
- Resort Municipality
- Settlement
- Community
- District Municipality

Mineral Inventory Layers

MINFILE number label
- Producer
- Past Producer
- Developed Prospect
- Prospect
- Showing
- All Others

Mineral Titles Layers

Mineral titles labelled (<200K)
All Others

Topographic Layers

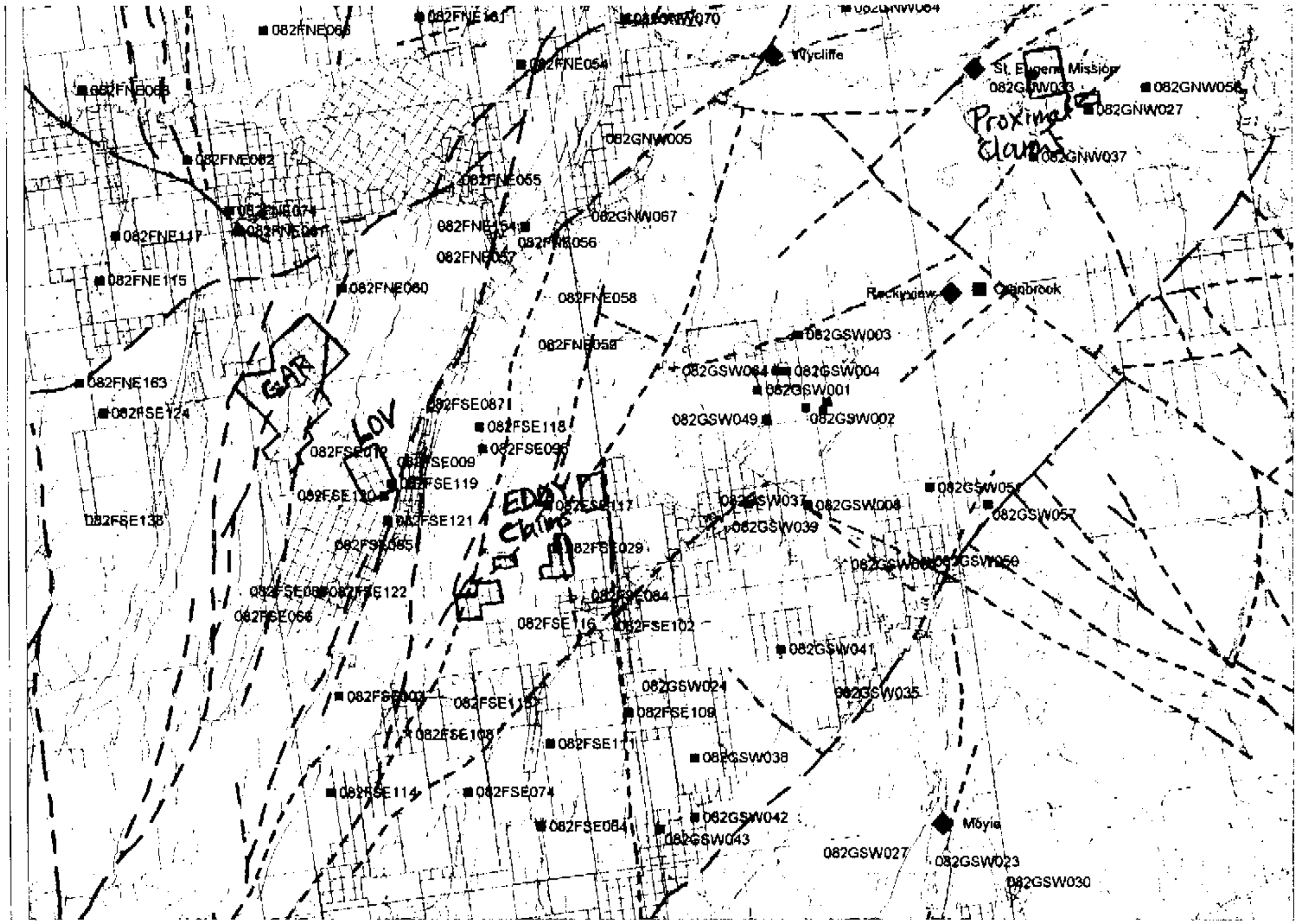
Roads 1:250K (<2M)

Lakes 1:50K (<300K)

Rivers 1:50K (<300K)

Grid Layers

Grid 1:20K maps - outline



SCALE 1 : 293,335

5 0 5 10 15

MILES

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http://ebony.gov.bc.ca/mapplace/maps/minpot/bcgs.MWF

Tuesday, January 01, 2002 3:07 PM

BCGS Geology

BC Administrative Area Layers

BC Communities
- City
- Town
- Village
- Resort Municipality
- Settlement
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- District Municipality

Mineral Inventory Layers

MINFILE number label
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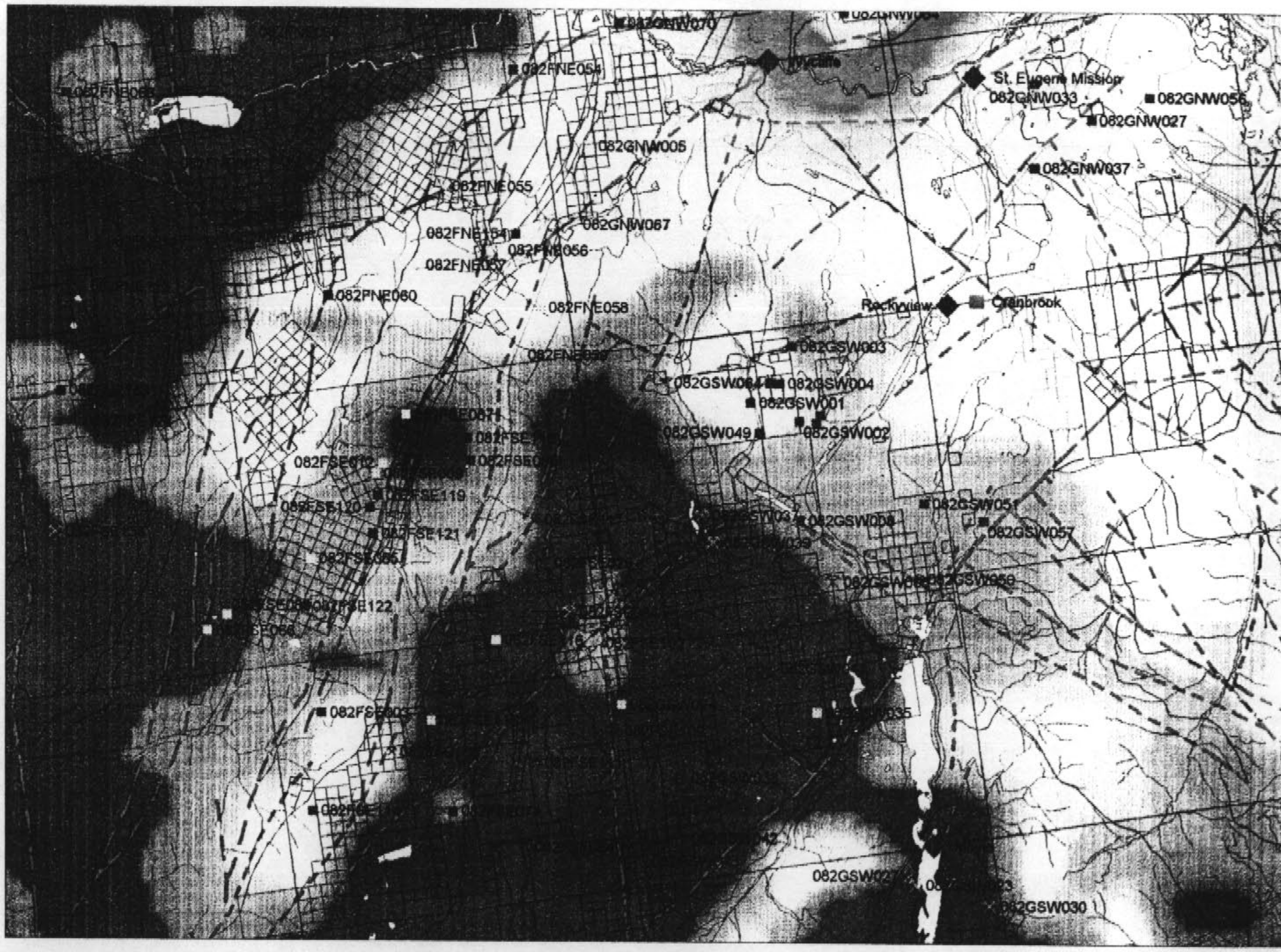

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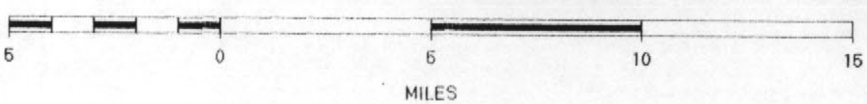

CONCLUSIONS

The results of the program are disappointing in that the qualitative geochemical anomalies reported by Howe (1966) could not be quantitatively reproduced with regard to base and precious metals. However, it is possible that manganese and other metals would respond to the method used in the 1966 survey, specifically the "cold Total Heavy Metals tests, (Ammonium citrate buffer; xylene plus dithizone strips yielding the dithizone solution)" or Bloom test (?). "The Bloom total heavy metal (THM) test measures the sum of the readily extractable Zn, plus Pb, plus Cu from soil or stream sediment samples into a citrate buffer. The test is qualitative, designed to differentiate obvious anomalies from background values" (Hoffman 1980). However, the quantitative results arising from ICP analysis of samples recovered from seven soil lines did not reproduce the anomalies. Rock samples and concentrates from three separate areas on, or immediately adjacent to the claims ((King - 082GNW 033), Copper Belt (082GNW 027) and the waste dump near the Eager Hills Parking lot) did document anomalous copper with weakly anomalous gold and silver, apparently associated with structure (Cranbrook fault and fault-bonded mafic intrusive) rather than stratigraphic elements.

This initial program essentially provides a geochemical orientation for the block-faulted upper Purcell Group (Kitchener Formation) to the Lower Cambrian (Eager Formation) of the Eager Hills region. Future work will concentrate on the strike length of the Cranbrook Fault (including the Copper Belt occurrence (082GNW 027), the waste dump near the Eager Hills Parking lot and a reported copper occurrence immediately north of Cranbrook (G. Johnstone, pers. comm., 2001).

The late issue of the advance payment for the Prospectors Assistance Program received by the author did have a detrimental effect on the overall program. Late receipt arguable resulted in loss of claims proposed for acquisition in the vicinity of, or including, the Prospectors Dream, Weaver and Racki Minfile occurrences. In addition, rock sampling proposed to accompany initial reconnaissance of the southwest extension of the Cranbrook Fault in the vicinity of Kiakho Lake did not occur. Finally, work commitments associated with the author's employment prevented completion of some of the proposed regional work in August and September. The result was that the author was only able to complete the proposed Detailed Program (due to proximity of the project to Cranbrook and the ability to work evenings) to the detriment of the Regional Program.

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Smith, M, Thompson, J.F.H., Bressler, J., Layer, P., Mortenson, J.K., Abe, I. and Takaoka, H. 1999. Geology of the Liese Zone, Pogo Property, East-Central Alaska, Society of Economic Geologists Newsletter, Number 38, pp. 1, 12-21.

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Appendix A

Statement of Qualifications

STATEMENT OF QUALIFICATIONS

I, Richard T. Walker, of 656 Brookview Crescent, Cranbrook, BC, hereby certify that:

1) I am a graduate of the University of Calgary of Calgary, Alberta, having obtained a Bachelors of Science in 1986.

2) I obtained a Masters of Geology at the University of Calgary of Calgary, Alberta in 1989.

3) I am a member of good standing with the Association of Professional Engineers and Geoscientists of the Province of British Columbia.

4) I am a consulting geologist, residing at 656 Brookview Crescent, Cranbrook, British Columbia.

5) I am the author of this report which is based on field work undertaken from June to November, 2002.

Dated at Cranbrook, British Columbia this 27th day of January, 2002.

Richard T. Walker, P.Geo.

Appendix B

Excerpts - Minister of Mines Reports

Excerpts from the Minister of Mines Reports

COPPER BELT GROUP (King, Tom, Bety, Happy Day)

1924

"This property, comprising a group of three claims - namely, Tillicum, Rob Roy, and Copper Belt - is controlled by W. S. Santo, of Cranbrook. The claims are situated on 6 - Mile hill, lying between the Cranbrook - Fort Steele road and the railway; hence excellent transportation facilities are available. The strata in the immediate vicinity of the workings are freely exposed in a bluff above the tunnel and consist of thinly bedded limestone and slate, dipping at an angle of about 50° to the north-west and striking N. 60° E.

The first work undertaken many years ago was the sinking of a shaft on the vein, probably at the point of discovery. The shaft is vertical for the first 40 feet and then follows the vein on an incline for 35 feet. No work has been done here for some time, and, as the condition of the ladders was doubtful, no attempt was made to examine the bottom of the shaft. A sample of carefully sorted ore was taken from a few tons lying on the dump; this gave the following returns: **Gold, 0.04 oz.; silver, 0.9 oz. to the ton; copper, 8.75 per cent**. The ore consisted principally of copper-stained quartz, the copper being mostly in the oxidized state. The sulphides are finely disseminated in a quartz gangue.

In order to tap this vein at a vertical depth of 75 feet a tunnel was driven into the base of a bluff for about 170 feet, the intention being to connect with the shaft, but the work was abandoned before this objective was reached. By continuing this tunnel for about 43 feet the present owner intersected the vein, the hanging-wall of which is exposed in the face of the tunnel at a distance of 213 feet from the portal.

Here the structure indicates that mineralization has taken place along a sheared fault fracture; the vein-matter consisting of broken country-rock and quartz. The hanging-wall is well defined by a streak of gouge and has a *strike of about N. 70° W. and dips at 60° in a south-westerly direction.* Green copper-stains indicate the mineralization to be more pronounced within about 5 feet of the hanging-wall. On the foot-wall side the country-rock, consisting of slate, is seamed with stringers of quartz in which occasional specks of chalcopyrite may be seen, while thin films of native copper denote slight secondary enrichment. A sample of the most highly stained material ran as follows: **Gold, trace; silver, 0.5 oz. to the ton; copper, 0.95 per cent**.

Drifting on the vein near the hanging-wall and surface-stripping across its strike in a south- westerly direction from the shaft would, in the writer's opinion, be the best method of carrying on further development and exploratory work".

1956

"Surface stripping along a length of 600 feet and across a width of 200 feet has exposed part of a northerly trending Purcell diorite sill within argillite of the Kitchener formation. Chalcopyrite occurs as low-grade disseminations within the diorite and in local concentrations adjacent to and within northwesterly striking diagonal cross-fractures in the sill. In addition to surface stripping, 110 feet of diamond drilling was completed in two holes".

1966

"This property ... covers narrow stringers and disseminated grains of chalcopyrite within a diorite sill of the Purcell series. The sill intrudes calcareous and argillaceous sediments of the Kitchener Formation".

1967

"An induced polarization survey was done on the Happy Day 1 to 7 and Tom No. 2 mineral claims ... A total heavy metal geochemical survey was done over about 30 claims, including the Tom 23 to 29 claims".

Appendix C

Soil Sample Field Notes

PR-01-01 0 m. Tan-yellow brown fine grained silt. Pebbles-cobbles very rare. 15 cm deep.

PR-01-02 50 m. Sample taken an extra 5 m east. Original location on outcrop with thin veneer of soil. Medium dirty yellow brown silt. Sample taken 10-15 cm below surface, above outcrop.

PR-01-03 100 m. Dirty yellow brown silt. Sample taken 10 cm down on north side of bladed trail (2 m west).

PR-01-04 150 m. Light to medium yellow brown to tan soil. 10-15 cm deep.

PR-01-05 200 m. Minor component of rounded to sub-angular cobbles. Dirty yellow to tan silt. 15 cm deep.

PR-01-06 250 m. Thin veneer of organics (1-2 cm) Dirty yellow to tan silt. 10 cm deep.

Last three samples have been in old clear-cut, ground has approximate east-west furrows (post logging scarification).

PR-01-07 300 m. As above. Minor component of sub-rounded to sub-angular cobbles.

PR-01-08 350 m. Similar to above. Clayey silt. Angular to sub-angular cobbles. 591642 E, 5492366 N, 986±36 m.

PR-01-09 400 m. 1-2 cm thick organics underlain by 2-4 cm medium dirty yellow layer underlain by silty soil as above. Minor rounded cobbles and one large 25 cm boulder. 35 cm deep hole.

PR-01-10 450 m. Slight increase in proportion of cobbles, as above, to 5%, up to 5 cm in long dimension. Clayey silt 10-15 cm deep.

PR-01-11 500 m. Gentle north facing mossy slope. Back into open forest, then trees. Thin organic layer. Dirty yellow silt with minor cobbles.

PR-01-12 550 m. In middle of trail, so took sample at 548 m. Slight increase in proportion of rounded pebbles to cobbles (to 5 cm) to approx. 5-7%.

PR-01-13 600 m. As above.

PR-01-14 650 m. Light to medium yellow silt. Higher proportion of grit to pebble sized grains predominantly sub-angular to sub-rounded (minor angular).

PR-01-15 700 m. Medium yellow to grey silt. 5% cobbles.

PR-01-16 750 m. As above. 10-15% cobbles to boulders, rounded to angular. One very angular piece of gabbro.

PR-01-17 800 m. 3 cm thick black organic layer. Light to medium yellows silts.

PR-01-18 850 m. On west side of bladed road (≈ 7 m). Dark brown probable "A" horizon (below black organic layer but possibly not in the optimal "B" horizon, 30 cm deep. 592111 E, 5492442 N, 961±74

PR-01-19 900 m. Light to medium yellow-grey silt with 40% sub-angular to sub-rounded cobbles to boulders. 20 cm deep.

PR-01-20 950 m. Medium yellow rocky silt. 20% cobbles to boulders, sub-rounded to sub-angular. 25-30 cm deep.

PR-01-21 995 m. Light-medium yellow silt with <5%grit to pebble sized, sub-rounded grains. Developed on top of outcrop cored ridge. 592242 E, 5492487 N, 986±28

PR-01-22 1050 m. East side of ridge adjacent to outcrop. As above. 30 cm deep.

PR-01-23 1100 m. Amidst scattered outcrop, rubble crop and float. Thin veneer of organics overlying angular decomposed outcrop with pieces between 2-15 cm, ≤ 80% rock.

PR-01-24 1150 m. On outcrop spine trending approx. north-south along strike. Medium dirty yellow silt with minor rounded to sub-rounded pebbles to cobbles. 10-15 cm deep.

PR-01-25 1200 m. On edge of outcrop knob. Medium yellow silt with ≤ 5% sub-angular to rounded cobbles.

PR-01026 1250 m. On east side of gentle hill slope above valley bottom (next sample site). Light dirty yellow silt with 10-15% sub-rounded cobbles. 20-25 cm deep.

PR-01-27 1300 m. On east side of valley bottom at base of next small ridge. Light dirty yellow with < 2% rounded to sub-rounded pebbles. 25 cm deep.

PR-01-28 1350 m. Traversed over small spine to next depression in wide spot. Light dirty yellow silt with minor rounded cobbles. 20 cm deep.

PR-01-29 1400 m. Light dirty yellow silty clay with 10-15% sub-angular to rounded cobbles (minor pebbles). 592614 E, 5492529 N, 982±150

PR-01-30 1450 m. 15 m west of main road. Medium dirty yellow silt with <5% sub-rounded (to sub-angular) cobbles. 25 cm deep.

PR-01-31 1500 m. Medium yellow silt with minor cobbles (<< 1%) on wide flat area east of road by 30 m. 25 cm deep.

PR-01-32 1550 m. Starting up slope. Sample location amongst rounded gabbro float. Medium dirty yellow with <<1% rounded to sub-rounded pebbles. 25 cm deep.

PR-01-33 1600 m. Immediately south of gabbro outcrop and approx. 10 m north of old drill pad. Medium dirty yellow with ≤45% angular gabbro boulders and pebble to cobble sized pieces. Decomposed gabbro. 25 cm deep.

PR-01-34 1650 m. Walked up along cat road from drill pad to trench. Sample site on south side of cat trail in area which looks least disturbed. Medium orange brown silty sand to sandy silt with angular grit to pebble sized fragments. 20 cm deep.

PR-01-35 1700 m. Above cat trail to area of additional trenching. Medium orange brown silt with 40% sub-rounded to rounded cobbles to boulders. 20 cm deep. 592895 E, 5492569 N, 995±79 m.

PR-01-36 1750 m. Medium orange brown silt with sub-rounded to rounded cobbles. 25 cm deep.

PR-01-37 1800 m. Medium dirty yellow silt with sub-angular to sub-rounded cobbles.

PR-01-38 1850 m. Open forested area (previously cut) south of trail. Medium dirty yellow with <5% cobbles. 20 cm deep.

PR-01-39 1900 m. Light to medium dirty yellow silt with 5% cobbles. 5 m southwest of trail. 15-20 cm deep.

PR-01-40 1950 m. On north side of trail in wide cleared area. Probable site of old slash burn and probably extensively disturbed. Organics with woody debris up to 20 cm thick. Light to medium dirty yellow with 25% sub-angular to sub-rounded rock fragments. 593139 E, 5492584 N, 997±56 m.

PR-01-41 0 m. Dirty medium yellow silty soil, glacial with angular to sub-rounded pebbles to cobbles. Several larger boulders, rounded to sub-rounded. Sample taken on west side of small northwest-southeast oriented rise on east edge of relatively flat area. 594413 E, 5493477 N, 869±25 m.

PR-01-42 50 m. Glacial till. Abundant cobble sized sub-angular to sub-rounded till. Thin veneer of organic material.

PR-01-43 100 m. Glacial dominated. Cobble to boulder, rub-rounded to sub-angular clasts, matrix supported (≈ 40%). Dirty yellow, medium silty soil. 20 cm deep.

PR-01-44 150 m. Glacial dominated. On east edge of gully. Medium dirty yellow silty soil with approx. 30% rounded to sub-rounded (minor sub-angular) cobbles to small boulders. 15 cm deep.

PR-01-45 200 m. Markedly less pebbles and cobbles, sub-rounded to sub-angular pebbles to cobbles. Medium dirty yellow silty soil. 15 cm deep.

PR-01-46 250 m. ≤4 cm organic layer. Medium dirty yellow silty soil with 10-15% coarse pebbles to fine cobbles, sub-rounded to sub-angular, minor angular to very angular component. 20 cm deep.

PR-01-47 300 m. 2-4 cm organic layer. Medium dirty yellow silty soil with 5-10% sub-rounded to sub-angular pebbles. 20 cm deep.

PR-01-48 350 m. 2-4 cm organic layer. 4-5 cm light dirty yellow layer grading into medium dirty yellow (moisture content?) silt. 10-15% predominantly sub-angular pebbles (sub-rounded to angular). 25 cm deep.

PR-01-49 400 m. Similar to above except predominantly sub-rounded to sub-angular. 25 cm deep. 594020 E, 5493464 N, 903±40 m.

PR-01-50 450 m. East side of northwest trending gully with trail. Similar to above with slightly more of an orange tint. 20 cm deep.

PR-01-51 500 m. On east facing side of gully. Medium dirty yellow silty soil with 5-10% sub-angular to sub-rounded pebbles. 25-30 cm.

PR-01-52 550 m. 1-2 cm organics. 6-8 cm of light dirty yellow underlain by medium dirty yellow orange soil. <10% sub-rounded to sub-angular coarse pebbles. 20 cm deep.

PR-01-53 600 m. West side of small hill on east side of next relatively flat area. Matrix to clast supported, sub-rounded to rounded, coarse cobbles to boulders. Glacial. Local minor outcrop exposures. Medium dirty yellow silty soil. 20 cm deep.

PR-01-54 650 m. Site located in flat area. Medium dirty yellow silty soil with approx. 2% sub-angular pebbles. 20 cm deep.

PR-01-55 700 m. In approximate center of relatively flat area. Approx. 30% sub-rounded to sub-angular coarse cobbles. Medium grey with coarse angular grit sized, very angular chips to approx. 13 cm. Sample taken from medium dirty yellow horizon 20 cm down. 593677 E, 5493429 N

PR-01-56 750 m. Have come around onto northeast facing slope. Up to 15% coarse cobbles to boulders, sub-rounded to sub-angular. Soil light to medium yellow to grey. 15-20 cm deep.

PR-01-57 800 m. North to northeast facing slope. 4-6 cm of medium grey silty soil with 1 cm thick grit layer. Sample taken from light to medium dirty yellow silty soil with ≤5% sub-angular to angular pebbles. 25 cm deep.

PR-01-58 850 m. Approx. 10 m south of old road / trail/ 5-8 cm grey layer overlying medium dirty yellow silty soil. Approx. 20% sub-rounded to angular cobbles to fine boulders. 20 cm deep.

PR-01-59 900 m. Approx. 5 m south of trail (T junction approx. 15 m to northeast). 4-6 cm layer of light grey silt. Sample taken approx. 20 cm down in medium dirty yellow silt with approx. 5% sub-angular pebbles.

PR-01-60 950 m. North of trail. Approx. 20% sub-rounded to sub-angular cobbles to fine boulders. ≤ 8 cm light to medium yellow-grey layer. Sample taken from medium dirty yellow silty soil. Moderately abundant roots. 20-25 cm deep.

PR-01-61 1000 m. Approx. 15% sub-rounded (to sub-angular) cobbles to fine boulders. Medium dirty yellow silty soil.

PR-01-62 1050 m. Approx. 40% cobbles to fine boulders in a light to medium dirty yellow silt to fine sand. Traverse roughly parallel to trail (approx. 15 m south). 8 cm light grey upper layer. 25 cm deep.

PR-01-63 1100 m. Approx. 20 m north of trail. Approx. 5% sub-angular to angular cobbles (to fine boulders) in medium dirty yellow silt. 20 cm deep.

PR-01-64 1150 m. Crossed another trail along gully (trending NW) at approx. 440 m. Medium dirty yellow silty sand with ≤2% sub-rounded to angular cobbles to fine boulders. 20 cm deep. 593210 E, 5493450 N, 902±150 m

PR-01-65 1200 m. Approx. 20 m north of road. 6 cm of light to medium grey silt with very angular grit to fine cobble chips. Appear to be above outcrop or large boulder. 2-4 cm of medium dirty yellow silt. 10-12 cm deep. Approx. 20% coarser material.

PR-01-66 1250 m. Crossed over trail to south side, passed over corner in road onto exposure of outcrop. Medium to dirty yellow silt with very angular pebble sized chips. Located between bands of outcrop.

PR-01-67 1300 m. Crossed back over trail to north side. Sample taken from below side cast from trail. Abundant rounded boulders at surface. Medium dirty yellow silt with ≤2% sub-rounded to sub-angular pebbles. Hole 25 cm deep among larger matrix supported boulders.

PR-01-68 1350 m. Dropped into steep sided gully after last station. Sample site on steep north facing slop below trail. Medium grey silty soil with 5-10% very angular pebble to cobble sized platey chips. 25 cm deep.

PR-01-69 1400 m. On east edge of next small gully. Sample site appears to consist of decomposed bedrock (iron stained carbonate – Kitchener Formation?). Angular to very angular cobbles in a medium dirty yellow silt. Coarser fragments comprise approx. 15%. 25 cm deep. 592987 E, 5493446 N, 902±27 m.

PR-01-70 1450 m. Passed through another gully, on steep north facing slope. 4 cm light to medium grey with very angular chips. Medium dirty yellow silt with up to 10% angular to very angular cobbles.

PR-01-71 1500 m. On immediate west side of another gully. Approx. 30 m northeast of Happy Day 8 claim post. Light (yellow) grey silt with 5% angular to highly angular platey cobble sized rock fragments. 25 cm deep. 592894 E, 5493454 N, 896±28 m.

PR-01-72 1550 m. At top of gully trending north. Sample taken on west side of gully. Medium dirty yellow to grey silt with angular to very angular cobbles. 25 cm deep.

PR-01-73 1600 m. IN relatively flat area immediately south of claim line. Medium dirty yellow grey silty soil with ≤10% sub-rounded to angular fine to coarse cobbles. 20 cm deep.

PR-01-74 1650 m. Slight change in colour of soil to medium yellow (orange). Approx. 2% pebbles to cobbles, sub-rounded. 20 cm deep.

PR-01-75 1700 m. 4 cm of light grey silt underlain by medium dirty yellow silt with 5% sub-rounded to sub-angular cobbles.

PR-01-76 1750 m. 6-10 cm of light to medium grey silt underlain by medium dirty yellow silt with up to 40% rounded to sub-angular coarse cobbles to fine boulders. 15 cm deep.

PR-01-77 1800 m. Immediately north of claim line and approx. 50 m south of main road. Medium dirty yellow silt with 10% sub-rounded medium to large cobbles with highly angular grit to fine pebbles. 20 cm deep.

PR-01-78 1850 m. 40 m south of main road and approx. 10 m north of flagged claim line. Medium yellow silt with ≤5% sub-angular to sub-rounded pebbles. 592544 E, 5493459 N, 911±47 m.

PR-01-79 1900 m. Just inside cusp of main road corner east-northeast of claim post. Medium dirty yellow soil with 20-30% coarse cobbles to fine boulders, rounded to sub-rounded . 592501 E, 5493455 N, 903±21 m.

PR-01-80 0 m. Thin organic layer ≤ 1-2 cm underlain by thick medium chocolate brown soil > 30 cm with approx. 10% sub-angular (to sub-rounded) pebble to cobble sized clasts. Sample taken at approx. 30 cm depth.

PR-01-81 50 m. At inside edge of switchback at 46.5 m. Sample similar to above with predominantly sub-rounded to rounded pebbles to cobbles. 594291 E, 5491310 N.

PR-01-82 100 m. 15 m south of crest of hill on southwest facing slope. Soil is medium dirty yellow in colour with ≤ 15% very angular (platey) to sub-rounded pebbles to cobbles. Sample taken 25-30 cm deep. Band of outcrop to west (Eager or Cranbrook Ftm?). 594255 E, 5491279 N.

PR-01-83 150 m. Medium chocolate brown soil with thin organic layer. Sample taken at 35 cm depth where slight <u>change</u> in colour occurs, to light medium chocolate brown. 5-10% angular to sub-angular (minor sub-rounded) grit to fine cobbles. 594223 E, 5491246 N.

PR-01-84 200 m. Sample taken in steep band of subcrop/slumped outcrop. Light to medium dirty yellow soil with highly angular boulders of *in situ* bedrock and grit to cobble sized, highly angular (platey) to rounded glacial material. Sample taken at 25-30 cm below surface. 594188 E, 5491193 N.

PR-01-85 250 m. Base of slope, on east side of approx. south-southeast – north-northwest trending gully (depression). Sample taken 25 cm below surface in medium dirty yellow soil with 20-25% very angular (platey) cobbles, highly subordinate angular to rounded grit to coarse pebbles. 594155 E, 5491172 N.

PR-01-86 300 m. Continuing downslope to west-southwest. Sample taken in medium dirty yellow soil with 5-10% angular to sub-rounded pebbles to cobbles. Larger boulders (to ≥ 8 cm) present in sample hole. Sample taken at 25 cm depth. 594105 E, 5491144 N.

PR-01-87 350 m. On inside of switchback (southwest) of trail. Soil is silty sand, ≤ 3% angular to sub-angular pebbles. Soil taken at 20 cm depth in light to medium orange silty sand. 594080 E, 5491097 N.

PR-01-88 400 m. On east side of trail (by 2 m). Sample taken in medium dirty yellow soil with approx. 10% angular to sub-rounded pebbles to cobbles. Silty sand. Sample taken approx. 25-30 cm below surface. 594029 E, 5491098 N.

PR-01-89 450 m. Approx. 40% pebbles to cobbles, ranging from highly angular (minor) to rounded (boulder). Predominantly sub-angular cobbles to pebbles. Sample taken at approx. 25 cm depth, colour changes from light to medium grey to light to medium dirty yellow. 594010 E, 5491101 N.

PR-01-90 500 m. In gully / depression (former watercourse to intermittent stream). Organic layer approx. 5 cm thick underlain by 5-8 cm of packed clay. Sample taken at 25-30 cm depth in light (to medium) yellow clayey sand to sandy clay. Approx.3% sub-angular to sub-rounded pebbles. 593948 E, 5491058 N.

PR-01-91 550 m. Sample site on southwest side of depression / gully on top of band of outcrop. Approx. 25-30% large material, comprised of 3 small boulders (20%) and ≤ 5% angular to rounded material. Boulders sub-rounded to rounded. Sample taken in silty to clayey sand at 25-30 cm depth.

PR-01-92 600 m. Sample taken at 591 m, on east side of road (≈ 1 m). Medium dirty yellow (to orange) soil with ≤5% sub-angular to rounded pebbles to cobbles in a silty sand. Sample taken at 25-30 cm depth. 593882 E, 5490963 N.

PR-01-93 650 m. North of dried up pond. Approximately 40% highly angular to sub-rounded pebbles to small boulders. Sample taken in dirty yellow silty to clayey sand at 20 –25 cm depth. 593845 E, 5490933 N.

PR-01-94 688 m. Cat tails at edge of dried up pond. 3-4 cm organic layer underlain by light grey (leached / bleached) soil with 30% sub-angular to rounded (predominantly rounded) cobbles. Sample taken 20 – 25 cm depth. 593812 E, 5490894 N.

PR-01-95 750 m. Immediately north of dried up pond, in grass just beyond shoreline cat tails. 4 cm of good organic topsoil underlain by medium grey sandy silt with approx. 5% sub-angular to sub-rounded cobbles. 593770 E, 5490858 N.

PR-01-96 800 m. Thin organic veneer underlain by light to medium yellow grey layer. Sample taken at approx. 15 cm depth below colour change to medium orange yellow interval. Approx. 5% sub-angular to rounded pebbles to cobbles. 593736 E, 5490847 N.

PR-01-97 850 m. Open Forest. Low relief area west of highway. Thin organic veneer underlain by light to medium yellow soil. Approx. 5% sub-angular to sub-rounded cobbles. Sample depth 20 cm.

PR-01-98 900 m. Open Forest. Similar to last sample. ≤3% pebbles top cobbles. 593656 E, 5490781 N.

PR-01-99 950 m. Open Forest. Thin veneer of organics (to 2 cm) underlain by medium chocolate brown soil with 3% angular to rounded cobbles. Sample taken at 25-30 cm depth. 593600 E, 5490710 N.

PR-01-100 1000 m. Open Forest. Site immediately east of small rise (cored by outcrop?). Thin veneer of organics underlain by medium dirty yellow grey soil with 3-5% highly angular (platey) pebbles (to fine cobbles). Sample taken at 15-20 cm depth. 593577 E, 5490718 N.

PR-01-101 1050 m. On top of small rise overlooking highway and Cranbrook. Thin veneer of organics overlying medium dirty yellow to chocolate brown soil with <5% sub-angular to sub-rounded pebbles. Sample depth 15-20 cm depth. 2% large sub-rounded cobbles to fine boulders. 593533 E, 5490676 N.

PR-01-102 1100 m. On west side of small rise in thinly covered, decomposing outcrop. Outcrop consists of well bedded (foliated ?), thin bedded platey carbonates. Sample taken from 10-15 cm depth among decomposing platey outcrop. Soil medium chocolate brown. 593496 E, 5490703 N.

PR-01-103 1150 m. Sample taken on southwest facing slope of shallow north-south draw, 3 m north of small band of outcrop. Thin veneer of organics underlain by medium orange-yellow silty soil with 15-20% angular to sub-rounded pebbles to fine boulders. Sample depth approx. 25 cm. 593451 E, 5490613 N.

PR-01-104 1200 m. Sample taken on west side of shallow draw. Sample taken in medium chocolate brown soil with ≤1% sub-angular pebbles. Sample depth approx. 25 cm. 593405 E, 5490592 N.

PR-01-105 1250 m. Similar to previous sample. Sample depth approx. 25-30 cm. 593362 E, 5490556 N.

PR-01-106 1300 m. Similar to previous sample. Sample taken from approx. 25 cm. 593319 E, 5490528 N.

PR-01-107 1350 m. Similar to previous sample. Approx. 60% highly angular rock (decomposed bedrock). Sample site on southwest facing slope at top of slope descending into gully. Sample depth approx. 20 cm. 593298 E, 5490497 N.

PR-01-108 1400 m. Similar to previous samples. Site approx. 20 m east of 5-7 m deep gully. Medium chocolate brown soil. Sample depth approx. 25 cm. 593249 E, 5490474 N.

PR-01-109 1450 m. Crossed gully at 1425 m. Similar to previous samples. Medium chocolate brown soil. Sample depth 25 cm. 593207 E, 5490437 N.

PR-01-110 1500 m. Similar to previous samples. 5% angular to sub-rounded cobbles. Sample depth 15-20 cm. 593173 E, 5490406 N.

PR-01-111 50 m. Medium dirty yellow soil with ≤10% sub-rounded to rounded (minor sub-angular) pebbles to cobbles, Sample depth 15 cm. 591254 E, 5492325 N.

PR-01-112 100 m. Site at edge of bush trail (east side). Similar to previous sample with approx. 5% (sub-angular to) sub-rounded pebbles to cobbles (to fine boulders). Sample depth 15-20 cm. 591220 E, 5492285 N.

PR-01-113 150 m. Starting to climb small slope, north side. Previous 3 samples taken in Christmas tree farm. Sample depth 20-25 cm, angular to sub-rounded. Thin veneer of organics (1 cm). First 10 cm grey, sample taken in med dirty yellow soil. 591181 E, 5492247 N.

PR-01-114 200 m. Coming over onto west side of small hill in midst of former tree thinning. Similar to last sample. 25-30 cm depth. Medium dirty yellow soil overlain by light to medium grey soil with ≤10% sub-angular to sub-rounded pebbles to coarse cobbles. 591152 E, 5492206 N.

PR-01-115 250 m. Nearing top of hill, similar soil colour, coarser cobbles. Sample depth 20 – 25 cm. 591120 E, 5492172 N.

PR-01-116 300 m. Open patch on west side of hill crest. Up to 20 % highly angular to sub-angular pebbles (to cobbles). Medium dirty yellow soil. Sample depth 20-25 cm. 591082 E, 5492133 N.

PR-01-117 350 m. Among Christmas trees, similar to previous sample. Sample depth 15-20 cm. Dirty yellow soil, 10% pebbles to medium cobbles. 591053 E, 5492103 N.

PR-01-118 400 m. On flat area west of small pass. Sample similar to above. Approx. 10% mainly sub-rounded pebbles to coarse cobbles. Sample depth approx. 20 cm. 591108 E, 5492067 N.

PR-01-119 450 m. 20 m north of ditch. Approx. 10 % medium to coarse, sub-angular to sub-rounded cobbles in dirty yellow soil. Same slope as previous sample. Sample depth 15-20 cm. 590986 E, 5492039 N.

PR-01-120 500 m. Moving into slightly thicker second growth. Medium dirty yellow soil with approx. 7-10% angular to sub-rounded (pebbles to) fine boulders. Sample depth 25 cm.

PR-01-121 550 m. Angular to sub-rounded small pebbles in medium dirty yellow soil. Sample depth 15-20. 1 metre high outcrop in area. 590921 E, 5491955 N.

PR-01-122 600 m. Medium grey soil with ≤ 15% highly angular (to sub-rounded) pebbles to coarse cobbles. Sample depth 20 – 25 cm. Local prominent knobs and exposures of outcrop. 590888 E, 5491946 N.

PR-01-123 650 m. Out of Christmas tree farm. Highly angular, decomposed bedrock consisting of pebbles between 1 and 4 cm diameter in dirty medium yellow soil. Sample depth 15-20 cm. 590857 E, 5491868 N.

PR-01-124 700 m. Coming off southwest side of hill into gully from small pond to west. Approx. 5% sub-angular to sub-rounded pebbles (to coarse cobbles) in medium dirty yellow soil. Sample depth approx. 20 cm. 590830 E, 5491825 N.

PR-01-125 750 m. Surrounded by outcrop, in 30 cm diameter trees. 15% highly angular to rounded (predominantly sub-rounded) pebbles to cobbles in light dirty yellow soil. Sample depth 20-25 cm. 590998 E, 5491791 N.

PR-01-126 800 m. Base of slope adjacent to road (east-west) by 6 m. Highly angular (angular blocks) of decomposed outcrop or talus. Light to medium chocolate brown soil with 50% pebbles to coarse cobbles. Sample depth approx. 25 cm. 590784 E, 5491740 N.

PR-01-127 850 m. In flats south of road, east of small pond. Silty sand, no large clasts ≥ fine grit. Sample depth 25 cm. Organic layer approx. 5 cm thick. 590742 E, 5491706 N.

PR-01-128 900 m. East of small pond (approx. 70 m). Similar to last site with ≤ 1% pebbles to cobbles. Sample depth 30-35 cm. 590703 E, 5491675 N.

PR-01-129 950 m. Side of slope southeast of small pond on rocky slope. Decomposed bedrock consists of highly angular pebbles to coarse cobbles in medium dirty yellow to chocolate brown soil. Sample depth 30 cm. 590693 E, 5491635 N.

PR-01-130 1000 m. On west side of ridge at boundary between open ridge crest and moderately dense second growth at lower elevations. Medium dirty yellow soil between large boulders near outcrop (4 m south). Sample depth 15 cm. 590657 E, 5491596 N.

PR-01-131 1050 m. 10 metres northeast of old blast pit (trench). Small, highly angular pebbles to cobbles in light to medium dirty yellow soil, minor sub-rounded to rounded cobbles. Outcrop on same slope to east (upslope from sample site). 590632 E, 5491560 N.

PR-01-132 1100 m. In flat area immediately north of steep slope. Medium dirty yellow soil with no coarser clasts, consists of silty to clayey sand. Sample depth 25 cm. 590604 E, 5491526 N.

PR-01-133 1150 m. On west side of very steep hill, near top. Very angular (decomposed bedrock) pebbles to fine boulders in light to medium chocolate brown soil. Sample depth 25-30 cm. 590578 E, 5491485 N.

PR-01-134 1200 m. West side of hill approx. 40 m below crest. Light to medium grey soil with highly angular to angular fine to medium pebbles. Sample depth approx. 35 cm. 590548 E, 5491448 N.

PR-01-135 1250 m. Sample taken beside trail at a low point between hills. Outcrop to southwest. (Sub-angular) to rounded cobbles in a medium dirty yellow to medium grey soil. Sample depth approx. 15-20 cm. 590505 E, 5491482.

PR-01-136 1300 m. Immediately north of small pass between two hill peaks. Medium dirty yellow soil with ≤2% angular to sub-rounded cobbles. Sample depth 20-25 cm.

PR-01-137 1350 m. Highly angular to sub-rounded cobbles to boulders in medium chocolate brown soil. Sample depth 20 cm. 590465 E, 5491339 N.

PR-01-138 1400 m. Sample taken in middle of steep rock face. Scraped off approx. 3 cm of organics to access soils. Approx. 30% highly angular (platey) pebbles to cobbles in medium (dirty yellow to) brown soil. Sample depth approx. 5-10 cm. 590437 E, 5491297 N.

PR-01-139 1450 m. On top of outcrop overlooking old dump, railway and Cranbrook. Highly angular to angular (minor sub-rounded) pebbles to cobbles in light to medium dirty yellow soil. Sample depth 10 cm. 590408 E, 5491262 N.

PR-01-140 1500 m. Sample site on ridge spur trending downslope to south, at edge of old cat road (≈2 m east). Medium dirty yellow soil with approx. 15% angular to sub-rounded pebbles to medium cobbles. Sample depth 15-20 cm. 590374 E, 5491236 N.

PR-01-141 50 m. Sample taken approx. 30 m west of main road. Thin layer of organics (≤4 cm) underlain by medium dirty yellow silty sand with ≤7% sub-angular to rounded pebbles to cobbles. Minor boulders. Sample depth approx. 20-25 cm. 592398 E, 5493542 N.

PR-01-142 100 m. Similar to last sample except with approx. 30% cobbles to boulders. Sample depth approx. 30 cm. 592388 E, 5493475 N.

PR-01-143 150 m. Similar to previous samples, except <2% pebbles in silty clay (medium dirty yellow to yellow brown). Sample depth approx. 20 cm. 592340 E, 5493443 N.

PR-01-144 200 m. Similar to last sample, sandy clay with ≤5% sub-rounded to rounded cobbles. Sample depth 15-20 cm. 592307 E, 5493497 N.

PR-01-145 250 m. At base of low relief north facing slope. Similar to previous sample except silty to clayey sand. Sample depth 15-20 cm. 592242 E, 5493458 N.

PR-01-146 300 m. On north facing slope. Medium dirty yellow silty sand to sandy silt with ≤30% highly angular to sub-rounded pebbles to fine boulders. Sample depth approx. 35 cm. 592200 E, 5493476 N.

PR-01-147 350 m. Near top of north facing slope on southern flank of St. Mary River valley. Thin organic layer (≤2 cm) underlain by light to medium dirty yellow sandy silt approx. 10 to 15 cm thick underlain by medium yellow to dirty yellow silty sand. Up to 2% sub-rounded to rounded pebbles. Sample depth approx. 20-25 cm. 592143 E, 5493462 N.

PR-01-148 400 m. Traversing along slope from north facing slope to northwest facing slope. Medium dirty yellow silty sand to sandy silt with up to 4% sub-angular to sub-rounded cobbles (minor pebbles) Sample depth approx. 25 cm. 592090 E, 5493468 N.

PR-01-149 450 m. Similar to last sample. Sample depth approx. 25 cm. 592040 E, 5493465 N.

PR-01-150 0 m. 5 m west of trail. Medium dirty yellow clay to silty clay, no coarser material. Sample depth approx. 15-20 cm. 591136 E, 5490172 N

PR-01-151 50 m. In area of ≈ 3-5% large boulders on surface. Abundant sub-angular to sub-rounded pebbles to cobbles, predominantly cobbles, up to 15%, in medium dirty yellow soil. Sample depth 25-30 cm. 591188 E, 5490192 N.

PR-01-152 100 m. Abundant sub-angular to sub-rounded pebbles (with subordinate cobbles) adjacent to old, overgrown trail up hill. Soil consists of medium brown sandy clay to silty sand. Sample depth approx. 20-25 cm. 591240 E, 5490206N.

PR-01-153 150 m. Approx. 20% coarse material, predominantly sub-angular to sub-rounded cobbles (subordinate pebbles) in medium dirty yellow to yellow brown sandy silt. Sample depth approx. 20 cm. Crest of small hill. 591285E, 5490219 N.

PR-01-154 200 m. At crest of local hill. Approx. 10% sub-rounded (subordinate sub-angular) cobbles (subordinate pebbles) in medium dirty yellow sandy silt. Sample depth 20-25 cm. 591332 E, 5490242 N.

PR-01-155 250 m. Sample site in relatively open area. Approx. 5% sub-angular (to sub-rounded) pebbles in medium dirty yellow sandy silt. Sample depth approx. 25 cm. 591384 E, 5490259 N.

PR-01-156 300 m. At east-northeast end of open area (above), at base of next small hill. Sample contains approx. 5% sub-rounded cobbles (subordinate pebbles) in medium dirty yellow silty clay. Sample depth approx. 25-30 cm. 591429 E, 5490266 N.

PR-01-157 350 m. At crest of ridge (but not top – further north-northeast from here). Abundant rounded to sub-rounded boulders for 10-20 m surrounding sample site (possible esker?). Approx. 15% sub-angular to sub-rounded coarse grit to fine boulder size material in sandy silt, medium dirty yellow in colour. Sample depth approx. 20 cm. 591475 E, 5490286 N.

PR-01-158 400 m. In relatively flat area between hills. Approx. 5% highly angular to sub-angular coarse grit to pebbles in a silty (to clayey) sand. Sample depth approx. 20 cm. 591513 E, 5490294 N.

PR-01-159 450 m. Starting up next local hill in moderately thick second growth. Approx. 5% sub-angular coarse grit (to coarse cobbles) in medium dirty yellow sandy silt. Sample depth approx. 25 cm. 591562 E, 5490310 N.

PR-01-160 500 m. Traversing obliquely up-slope. Approx. 30% sub-angular to rounded coarse grit to fine boulders. Larger sized material more rounded. Medium dirty yellow to yellow grey clayey silt to silty clay. Sample depth approx. 20 cm. 591606 E, 5490338 N.

PR-01-161 550 m. In middle of locally steep hill. Abundant small to large boulders surrounding sample site for approx. 50 m. Approx. 5% sub-angular to sub-rounded pebbles to coarse cobbles in medium dirty yellow silty sand to sandy silt. Sample depth approx. 25-30 cm. 591655 E, 5490328 N.

PR-01-162 600 m. Near crest of hill on west-southwest facing slope beneath large fir tree. Approx. 15-20% (sub-angular to) sub-rounded cobbles to fine boulders (subordinate coarse grit to pebbles) in a medium dirty yellow sandy silt (locally clay). Sample depth approx. 25 cm. 591706 E, 5490337 N.

PR-01-163 650 m. Approx. 5% predominantly coarse material (fine boulders), sub-rounded to rounded with subordinate highly angular to rounded pebbles to cobbles in a medium dirty yellow sandy silt. Sample depth approx. 20 cm. 591750 E, 5490356 N.

PR-01-164 700 m. 1 m west of north-south vehicle trail. Approx. 10% sub-rounded to rounded coarse cobbles to fine boulders (subordinate sub-angular to sub-rounded coarse grit to fine pebbles) in a medium dirty yellow sandy silt. Sample depth approx 20-25 cm. 591798 E, 5490379 N.

PR-01-165 750 m. On top of broad hill. Approx 5% sub-angular to sub-rounded (predominantly sub-rounded) pebbles to cobbles in medium yellow sandy silt. Sample depth approx. 25 cm. 591838 E, 5490389 N.

PR-01-166 800 m. On north edge of small clearing. Approx. 3% highly angular to sub-rounded pebbles to fine cobbles in medium dirty yellow sandy silt. Sample depth approx. 25 cm. 591907 E, 5490384 N.

PR-01-167 850 m. Approx. 5% sub-angular to sub-rounded pebbles to cobbles (minor fine boulders) in medium dirty yellow sandy silt. Sample depth approx. 20-25 cm. 591942 E, 5490422 N.

PR-01-168 900 m. Approx. 5% angular to sub-rounded fine pebbles to coarse cobbles in a medium grey to dirty yellow silty sand to sandy silt. Sample depth approx. 20 cm. 591981 E, 5490432 N.

PR-01-169 950 m. On east-northeast side of broad hill starting down. Approx. 7% angular to sub-rounded cobbles to fine boulders in a medium grey to dirty yellow silty sand to sandy silt. Sample depth approx 25 cm. 592031 E, 5490439 N.

NO Sample PR-01-170

PR-01-171 1000 m. Approx. 3 m short of old unused vehicle trail. Approx. 2% angular to sub-angular pebbles to fine cobbles in tan to light dirty yellow silty sand. Sample depth approx. 20 cm. 592076 E, 5490461 N.

PR-01-172 1050 m. Approx. 10% sub-angular to sub-rounded cobbles to boulders (to 20 cm) in medium grey to yellow-grey sandy silt. Sample depth approx. 20-25 cm. 592120 E, 5490464 N.

PR-01-173 50 m. Sample taken at east edge of logged clearing by small stand of trees by edge of skid trail. Approx. 15% large clasts, comprised of 1 sub-rounded boulder 7 cm in diameter and sub-angular to sub-rounded pebbles to cobbles in a light to medium dirty yellow silty clay to clayey silt. Sample depth approx. 25 cm. 593194 E, 5492590 N

PR-01-174 100 m. Starting up west side of small hill. Abundant rounded to sub-rounded (minor sub-angular) pebbles to cobbles extend approx 10 m north-south (along contour) and 20 m uphill. Sample consists of approx. 40% matrix supported sub-angular to rounded pebbles to cobbles in a sandy silt. Sample depth approx. 30 cm. 593245 E, 5492589 N.

PR-01-175 150 m. IN narrow recessive zone through outcrop. Immediate area extending 15-20 m below consists of very angular to angular (platey to blocky) calcareous siltstone to argillite. Sample consists of approx. 50-60% matrix to clast supported very angular (platey) to angular (blocky) pebbles to boulders in a medium dirty yellow to yellow brown sandy silt. Sample depth approx 35 cm. 593286 E, 5492604 N.

PR-01-176 200 m. On crest of small hill, immediately above outcrop. Small band of outcrop to north. Sample consists of approx. 7% predominantly sub-angular to sub-rounded pebbles to coarse cobbles in a medium dirty yellow silt. Sample depth approx. 25-30 cm. 593334 E, 5492605 N

PR-01-177 250 m. Starting down east side of hill, saddle between two small hills approx. 50 m south, north of proposed line. Small exposures (0.5 – 1 m^2) in immediate vicinity, outcrop to subcrop. Sample consists of 10% highly angular to angular (very minor sub-rounded), platey to flaky pebbles to cobbles in light brown to medium dirty yellow brown silty sand. Sample depth approx. 25 cm. 593378 E, 5492608 N

PR-01-178 300 m. At northeast end of saddle immediately southwest of moderately steep drop into valley. Sample consists of approx. 40% large clasts (4 boulders, angular, 6-10 cm in diameter) and angular to sub-rounded pebbles (subordinate cobbles) in a light dirty yellow to yellow-grey sandy silt. Sample depth approx 20 cm. 593433 E, 5492597 N.

PR-01-179 350 m. On north-northeast facing slope of small hill. Approx. 10% sub-angular to rounded pebbles to cobbles in light dirty yellow sandy silt. Small pockets of medium dirty yellow to yellow-orange soil. Sample depth approx. 20-25 cm. 593477 E, 5492619 N.

PR-01-180 400 m. Approx. 60% coarse cobbles to fine sub-angular to sub-rounded boulders 4 to 7 cm in diameter with minor angular pebbles in medium dirty yellow sandy silt to silty sand. Sample depth 25 cm. 593521 E, 5492634 N.

PR-01-181 450 m. On east side of small hill. Approx. 10% very angular (platey) to sub-rounded pebbles to cobbles in a light to medium milk chocolate brown sandy silt. Sample depth approx. 25 cm. 593570 E, 5492618 N.

PR-01-182 500 m. At change in slope on east facing side of hill. Approx. 7-10% sub-rounded pebbles to cobbles in medium dirty yellow sandy silt. Sample depth approx. 25 cm. 593626 E, 5492603 N.

PR-01-183 550 m. On relatively gentle east facing slope. Approx. 5-7% sub-angular to sub-rounded pebbles to cobbles in light to medium dirty yellow sandy silt. Sample depth approx. 25 cm. 593665 E, 5492610 N.

PR-01-184 600 m. In approx. north-south depression. Approx. 5-7% sub-angular to sub-rounded pebbles in a medium dirty yellow sandy silt. Sample depth approx. 30-35 cm. 593716 E, 5492608 N.

PR-01-185 650 m. Approx. 60-70% clast supported, very angular (elongate to platey) to sub-rounded cobbles to fine boulders (mix of glacial material and locally derived talus or *in situ* rubblecrop) in medium dirty yellow sandy silt. Sample depth approx. 25 cm. 593766 E, 5492618 N.

PR-01-186 700 m. On moderately steep slope west of valley between two hills. Approx. 20% highly angular (platey) to sub-rounded pebbles to coarse cobbles (minor fine boulders) in a medium dirty yellow sandy silt. Sample depth approx. 20-25 cm. 593808 E, 5492593 N.

PR-01-187 750 m. Approx. 15 m west of valley bottom with deciduous shrubs (intermittent stream). Soil is very fine silt with <1% sub-rounded pebbles in a light chocolate brown soil. Sample depth approx. 35 cm. 593863 E, 5492610 N.

PR-01-188 800 m. On east side of valley bottom, at base of next hill. Approx. 25% coarse material consisting of 3 sub-rounded boulders (6-8 cm diameter) with sub-angular to sub-rounded pebbles to cobbles in a medium dirty yellow to light milk chocolate brown sandy silt. Sample depth approx. 20-25 cm. 593902 E, 5492588 N.

PR-01-189 850 m. Middle of west facing slope with small exposures of outcrop and/or subcrop. Sample site consists of approx. 80% clast supported, highly angular light purple siltstone (tuff? – Nicol Creek) in light to medium grey fine sand. Sample essentially consists of fine sand to angular grit of subcrop (host lithology). Sample depth approx. 35 cm. 593949 E, 5492599 N.

PR-01-190 900 m. On west side of broad hill crest. Approx. 5% angular to sub-rounded (predominantly sub-angular) pebbles to fine cobbles in medium dirty yellow sandy silt. Sample depth approx 20 cm. Claim line approx 15-20 m west. 593998 E, 5492600 N.

PR-01-191 950 m. On west side of hill nearing crest. Approx. 7% coarse material consisting of 1 large boulder (sub-rounded) 8 cm in long dimension with angular to sub-rounded coarse pebbles to cobbles in a medium milk chocolate brown silt. Sample depth approx. 25 cm. 594059 E, 5492615 N.

PR-01-192 1000 m. On west side of broad hill crest. Approx. 5% angular to sub-rounded pebbles in a medium milk chocolate brown silt. Sample depth approx. 20 cm. 594100 E, 5492615 N.

PR-01-193 50 m. Medium dirty yellow sandy silt with approx. 30% angular to sub-rounded pebbles to fine boulders. Sample depth approx. 25 cm. 592170 E, 5490477 N.

PR-01-194 100 m. Immediately east of crest of hill (by 5 m). Medium dirty yellow silty sand to sandy silt with 30% sub-angular to sub-rounded pebbles to coarse cobbles (to fine boulders). Sample depth approx. 35 cm. 592214 E, 5490495 N.

PR-01-195 150 m. Approx. 20% angular pebbles to sub-rounded cobbles in a medium dirty yellow silt to sandy silt. Sample depth approx. 25-30 cm. 592266 E, 5490511 N.

PR-01-196 200 m. In moderately thick stand of second growth on moderate east-northeast facing slope. Angular to sub-angular pebbles to fine (platey) boulders up to 10 cm in long dimension in medium dirty yellow silt. Boulders look like green Van Creek and light purple Nicol Creek clasts. Sample depth approx. 25 cm. 592321 E, 5490561 N.

PR-01-197 250 m. Continuing down east-northeast facing slope. Sample as above. Sample depth approx. 30-35 cm. 592361 E, 5490547 N.

PR-01-198 300 m. West of approx. north-south trending shallow gully between hill slopes. Approx. 5% angular to sub-rounded pebbles to cobbles in medium dirty yellow silt. Sample depth approx. 20 cm. 592397 E, 5490556 N.

PR-01-199 350 m. On east side of shallow depression on gently south to southeast sloping hill. Relatively open forest. Approx. 3-5% sub-angular to sub-rounded pebbles in medium dirty yellow silt. Sample depth approx. 20 cm. 592450 E, 5490592 N.

PR-01-200 400 m. Approx. 5% highly angular to sub-rounded pebbles in medium dirty yellow to orange-yellow silt. Sample depth approx. 15 cm. 592498 E, 5490608 N.

PR-01-201 450 m. Approx. 100 m north of dried up pond. Approx. 30% highly angular pebbles (minor flakes) to sub-rounded fine boulders in medium dirty yellow to orange-yellow silt. Sample depth approx. 25 cm. 592551 E, 5490602 N.

PR-01-216 150 m. On surface, approx. 1% angular to sub-rounded boulders. Sample consists of approx. 5-7% angular (elongate to blocky) to sub-rounded pebbles to cobbles in medium dirty yellow to orange-yellow silt. Sample depth approx. 30 cm. 595684 E, 5490917 N.

PR-01-217 200 m. Starting up small hill (esker?). Approx. 5% angular to sub-rounded boulders in immediate area on surface. Approx. 30% highly angular (platey) to sub-angular pebbles to coarse cobbles in a medium tan to orange-brown silt. Sample depth approx. 35 cm. 595661 E, 5490892 N

PR-01-218 250 m. Approx. 15% highly angular to sub-angular pebbles to medium cobbles in a medium tan silt. Sample depth approx. 30 cm. 595634 E, 5490847 N.

PR-01-219 300 m. Approx. 5% angular to sub-rounded pebbles to medium cobbles in a light dirty yellow silt. Sample depth approx. 30 cm. 595602 E, 5490800 N.

PR-01-220 350 m. In area of local exposures of outcrop. I large angular boulder approx. 35 cm in length. Approx. 3% sub-rounded cobbles in medium dirty yellow to yellow-grey silty sand. Sample depth approx. 25 cm. 595565 E, 5490760 N.

PR-01-221 400 m. Approx. 5-7& highly angular (platey) to sub-angular pebbles in medium orange-yellow silt. Local exposures of outcrop. Sample depth approx. 35 cm. 595545 E, 5490740 N.

PR-01-222 450 m. Approx. 7-10% sub-angular to rounded pebbles to medium cobbles in a medium orange-yellow sandy silt. Sample depth approx. 25 cm. 595525 E, 5490684 N.

PR-01-223 500 M. Sample taken in outcrop on steep southwest facing slope above small cliff. Approx. 50% highly angular (platey to blocky) pebbles (minor cobbles) in a medium greenish-brown sand. Sample depth approx. 15-20 cm. 595494 E, 5490652 N.

PR-01-224 550 m. Sample site at base of cliff northeast of Isadore Canyon. Approx 35% highly angular (platey) pebble sized chips and flakes in a medium brown sandy silt to silty sand. Sample depth 30-35 cm. 595477 E, 5490631 N.

PR-01-225 600 m. Sample site at base of next cliff on south facing slope on next hill. Approx. 2% grit sized flakes and chips in a medium brown sand. Sample depth approx 30-35 cm. 595396 E, 5490559 N.

650 m. No sample site due to large blocky talus.

PR-01-226 700 m. On old, overgrown trail between two relatively steep sided hills. Approx. 1% coarse grit to fine pebbles, angular to sub-rounded in a medium tan coloured silt. Sample depth approx. 20 cm. 595388 E, 5490478 N.

PR-01-227 750 m. On north facing slope of locally prominent hill. Sample site in overgrown talus slope. Sample has approx. 15% highly angular (platey to blocky) pebbles to cobbles in a light grey silt. Sample depth 35-40 cm. 595369 E, 5490490 N.

PR-01-228 800 m. Immediately northeast of Isadore Canyon trail. Approx. 25% highly angular (platey) to sub-rounded pebbles to cobbles in a light to medium grey silty sand underlain by rusty (oxidized) weathering, decomposed outcrop. Sample depth approx. 35 cm.

PR-01-229 850 m. Climbed above Isadore Canyon trail. On northeast facing slope. Approx. 15% highly angular (platey) to sub-angular pebbles to fine cobbles in a medium dirty yellow to orange-yellow silty sand. Sample depth approx. 20 cm. 595330 E, 5490435 N.

PR-01-230 900 m. On relatively flat step in northeast facing slope of locally prominent hill. Approx. 10% sub-angular to sub-rounded pebbles to cobbles in tan to medium dirty yellow silty sand. Sample depth approx. 15-20 cm. 595300 E, 5490393 N.

PR-01-231 950 m. Starting up next northeast facing slope immediately adjacent to corner post for Lin-Ko claim. Sample taken in root ball in area of 20% outcrop. Approx. 15% highly angular grit to pebble size chips and flakes and 10% angular coarse cobbles to fine boulders in a medium dirty yellow silty sand 595279 E, 5490348 N.

PR-01-232 1000 m. At base of outcrop exposure. Highly angular (platey to elongate) cobbles to fine boulder size fragments of locally derived material in a medium milk chocolate brown silty sand. Sample depth approx. 30 cm. 595270 E, 5490319 N.

PR-01-233 1050 m. Just above change in slope, on gentle slope to hillcrest. Approx. 10% highly angular (minor sub-rounded to rounded) pebbles to coarse cobbles in medium orange-yellow to orange-brown silty sand. Sample depth approx 20 cm. 595242 E, 5490270 N.

PR-01-234 1100 m. Whole hillside from PR-01-231 to here consists of approx. 20% outcrop. Approx. 15% sub-angular to sub-rounded pebbles to cobbles in a medium dirty yellow sandy silt. Sample depth approx 20 cm. 595 210 E, 5490228 N.

PR-01-235 1150 m. Approx. 7-10% highly angular to sub-angular pebbles to fine cobbles in a medium dirty yellow silty sand. Sample depth approx. 15-20 cm. 595184 E, 5490197 N.

PR-01-236 1200 m. Approx. 10% sub-angular to sub-rounded pebbles to cobbles in a medium dirty yellow silty sand. Sample depth approx. 20 cm. 595164 E, 5490160 N.

PR-01-237 1250 m. Small east-west gully between outcrop. Approx. 10% highly angular (platey) coarse grit to pebble size chips and flakes in a light milk chocolate brown silty sand. Sample depth approx. 25 cm. 595132 E, 5490120 N.

PR-01-238 1300 m. Approx. 15% highly angular pebbles to cobble size chips and flakes in a medium dirty yellow silty sand. Sample depth approx. 20 cm. 595109 E, 5490080 N.

PR-01-239 1350 m. Approx. 15% highly angular to sub-rounded grit to cobble size clasts in medium dirty yellow to orange yellow silty sand. Sample depth approx. 25 cm. 595072 E, 5490041 N.

PR-01-240 1400 m. Over crest and onto south-facing slope about mid-point above valley floor. Approx. 20% highly angular grit to cobble size clasts on talus slope below outcrop in light yellow-grey silty sand. Sample depth approx. 20 cm. 595063 E, 5490004 N.

PR-01-241 1450 m. At base of talus slope above road. Approx. 30% highly angular (blocky) pebble to predominantly cobble size clasts in a medium dirty yellow sandy silt. Sample depth approx. 20-25 cm. 595033 E, 5489963 N.

PR-01-242 1500 m. At base of steep north facing slope amidst large angular boulders (0.25 – 3 m diameter). Sample taken in exposed roots of fallen tree. Approx. 40% highly angular grit to cobble size chips and flakes and cobble to fine boulder size angular blocks in medium dirty yellow to yellow-grey silty sand. Sample depth approx. 25 cm. 595002 E, 5489924 N (poor position)

PR-01-243 1550 m. Lower third of talus slope with 0.3-1 m diameter blocks. Approx. 60% highly angular (platey to flaky) pebbles to fine boulders in a medium grey silty sand. Sample depth approx. 25 cm. 595969 E, 5489919 N.

PR-01-244 1600 m. Very steep interval from last sample site. Traversing up into outcrop exposures above talus slope. Approx. 10% highly angular (platey) to sub-angular grit to pebble size clasts (minor coarse cobble to fine boulder) in medium greyish brown silty sand. Sample depth approx. 15 cm. 594976 E, 5489866 N.

PR-01-245 1650 m. Upper third of steep hill, in upper exposures of outcrop. Approx. 45% highly angular (platey to blocky) pebble to cobble size clasts in a medium greyish brown silty sand. Sample depth approx 40 cm. 594961 E, 5489842 N.

PR-01-246 700 m. At top of steep hill. Approx. 10% highly angular to angular grit to pebble size flakes and blocks in a medium dirty yellow silty sand. Sample depth approx. 25 cm. 594931 E, 5489810 N.

PR-01-247 1750 m. Angular gabbro float and outcrop. Approx. 40-50% highly angular grit to fine cobble size gabbro fragments in dark orange to orange brown sand. Sample depth approx. 25 cm. 594892 E, 5489788 N.

PR-01-248 1800 m. At base of next small hill. Approx. 15% sub-angular to sub-rounded coarse cobbles to fine boulders in a medium dirty yellow silty sand. Sample depth approx. 25 cm. 594853 E, 5489744 N.

PR-01-249 1850 m. On north-northwest flank of small hill. Approx. 15% highly angular pebbles to cobbles in a medium dirty yellow silty sand. Sample depth approx. 25 cm. 594826 E, 5489717 N.

PR-01-250 1900 m. Approx. 50% highly angular grit to pebble size clasts in a medium brown sand. Sample depth approx. 25-30 cm. 594801 E, 5489680 N.

PR-01-251 1950 m. On west facing hill slope (as previous site), east of trail. Approx. 30% highly angular to sub-rounded pebbles to fine boulders in a medium dirty yellow silty sand. Sample depth approx. 25 cm. 594787 E, 5489631 N.

PR-01-252 2000 m. On southwest facing hillslope. Approx. 20-25% angular to sub-angular grit to fine pebble size clasts and sub-rounded to rounded medium to coarse cobbles in a light to medium dirty yellow silty sand. Sample depth approx 20 cm. 594757 E, 5489600 N.

PR-01-253 0 m. Dirty yellow sandy silt with approx. 3-5% highly angular to angular grit to pebble sized clasts. Sample depth approx. 20 cm. 594526 E, 5490914 N.

PR-01-254 50 m. Light to medium dirty yellow to chocolate brown silty sand with approx. 5-7% angular to rounded grit to boulder sized clasts. Sample depth approx. 35 cm. 594489 E, 5490881 N.

PR-01-255 100 m. Light to medium dirty yellow silty sand with 1-3% highly angular to angular, pebble-sized chips and flakes. Sample depth approx. 20 cm. 594485 E, 5490826 N.

PR-01-256 150 m. Medium dirty yellow to tan silty sand. Approx. 40% highly angular to angular pebble to boulder sized fragments of in situ gabbro (decomposed outcrop). Highly angular in situ rubble crop. 594451 E, 5490783 N.

PR-01-257 200 m. Strongly foliated Kitchener Fmtn. Sample taken at edge of outcrop. Medium orange brown silty sand with 30% highly angular, grit to medium pebble sized flakes and chips. Sample depth approx. 15 cm. 594422 E, 5490746 N.

Crossed Isadore Canyon Trail at 250 m. Highly disturbed to 325 m.

PR-01-258 350 m. Too disturbed in Isadore Canyon for sample. Sample site located above bench cut for old rail bed along Isadore Canyon. Light to medium chocolate brown silty sand with highly angular to sub-angular grit to pebble-sized clasts. Sample depth 25-30 cm. 594392 E, 5490605 N.

PR-01-259 400 m. Moving up along hillside south of Isadore Canyon. Light to medium chocolate brown silty sand with 20% angular to sub-rounded grit to cobbles. Sample depth approx. 20-25 cm.

PR-01-260 450 m. Sidehilling south of Isadore Canyon. Light chocolate brown silty sand with 10% angular to rounded grit to pebble sized clasts. Sample depth approx. 25 cm.

PR-01-261 500 m. Continuing to sidehill. Light chocolate brown to light to medium dirty yellow silty sand with approx. 10-15% sub-angular to rounded, coarse grit/fine pebble to cobble sized clasts. Sample depth approx. 30 cm.

PR-01-262 550 m. Medium dirty yellow silty sand with approx. 10-15% highly angular to sub-rounded grit to coarse cobble sized clasts. Sample depth approx. 30 cm.

PR-01-263 600 m. Medium dirty yellow silty sand with 10% grit sized chips and flakes to coarse sub-rounded pebbles. Sample depth approx. 35 cm.

PR-01-264 650 m. On top of flat topped hill. Approx. 10-15% highly angular to sub-rounded grit to medium cobbles. Smaller clasts consists of chips and flakes. Sample depth approx. 25 cm.594278 E, 5490367 N.

PR-01-265 700 m. On north edge of flat portion of local hill top. Light (to medium) dirty yellow silty sand with 20% highly angular to sub-angular grit to coarse cobble sized clasts. Sample depth approx. 30 cm. 594270 E, 5490282 N.

PR-01-266 750 m. Continuing along flat portion area. Medium orange-brown to orange-yellow silty sand with approx. 10% highly angular to sub-angular coarse grit to fine cobble sized clasts. Sample depth approx. 15 cm. 594237 E, 5490286 N.

PR-01-267 800 m. On northeast edge of selective logging cut. Approx. 10% highly angular to sub-rounded fine pebbles to medium cobbles in medium dirty yellow silty sand. 594205 E, 5490224 N.

855 m. Road, in highly disturbed logging landing.

PR-01-268 900 m. On northern edge of highly disturbed logging landing. Light (to medium) dirty yellow silty sand with 25% sub-rounded to angular coarse pebbles to coarse cobbles. Sample depth approx. 35 cm. 594414 E, 5490139 N.

PR-01-269 950 m. Moving along sidehill along slope. Sample site immediately adjacent to skid trail. Medium dirty yellow silty sand with 20% angular to sub-angular grit to coarse cobbles / fine boulders. Sample depth approx. 35 cm. 594125 E, 5490099 N.

PR-01-270 1000 m. Continuing upslope through selective logging cut. Light to medium grey silty sand with 15% highly angular (flaky) pebbles. Sample depth approx. 25 cm. 594098 E, 5490058 N.

PR-01-271 1050 m. Immediately above logging road in selective logging cut. Medium dirty yellow silty sand with 5-7% sub-rounded to sub-angular pebbles ro cobbles. Sample depth approx. 30 cm. 594063 E, 5490013 N.

PR-01-272 1100 m. Out of logging cut. Approx. 3-4% angular to sub-angular coarse grit to coarse cobbles. Sample depth approx. 15 cm. 594051 E, 5489982 N.

PR-01-273 1155 m. Crossed same logging road at 1150 m. Continued 5 m across road beyond side cast material. Medium to dark dirty yellow silty sand with approx. 7% sub-angular to rounded pebbles to coarse cobbles. Sample depth approx. 15 cm. 594010 E, 5489927 N.

PR-01-274 1200 m. At top of narrow water course. Medium to dark dirty yellow silty sand with 10-15% highly angular to sub-rounded pebbles to fine boulders. Sample depth approx. 30 cm.

PR-01-275 1250 m. In west facing cleared (logged) area. Medium dirty yellow silty sand with 10% sub-angular to sub-rounded pebbles to coarse cobbles. Sample depth approx. 35 cm. 593968 E, 5489837 N.

PR-01-276 1300 m. In west facing selectively logged area. As above. Approx. 10% highly angular to sub-rounded fine pebbles to fine cobbles. Sample depth approx. 25 cm. 593930 E, 5489979 N.

PR-01-277 1350 m. On north side of another small gully. Medium dirty yellow sandy soil with approx. 3-5% coarse grit to pebbles, sub-angular (to sub-rounded). Sample depth approx. 25 cm. 593930 E, 5489763 N.

PR-01-278 1400 m. On northeast side of logged area. Medium grey to medium dirty yellow sandy silt with 5% sub-angular pebbles to cobbles. Sample depth approx. 30 cm. 593925 E, 5489716 N.

PR-01-279 1450 m. Medium orange brown (wet) silty sand with 5% sub-angular to sub-rounded pebbles. Sample depth approx. 35 cm. 593907 E, 5489676 N.

PR-01-280 1500 m. Moving up hillside to south. Medium dirty yellow silty sand with approx. 5-7% angular to sub-angular pebbles. Sample depth approx. 25 cm. 593887 E, 5489631 N.

Appendix D

Geochemical Results

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

Walker, Rick PROJECT Proximal File # A103544 Page 1

656 Brookview Crescent, Cranbrook B.C. V1C 4R5 Submitted by: Rick Walker

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 %	Al %	Na %	K %	W ppm	Zr ppm	Ce ppm	Sn ppm	Y ppm	Nb ppm	Ta ppm	Be ppm	Sc ppm	Li ppm	S %	Rb ppm	Hf ppm	Ga ppm
G-1	1.4	2	19	48	<.2	5	4	672	1.94	<2	3	<4	7	630	<.2	<1	<1	46	2.50	.089	30	15	.55	899	.208	7.09	1.988	2.80	2	6.9	50	1.6	17.6	18.3	1.2	2	5	32	<.02	136	1	20
PR-01-01	<.5	9	12	52	<.2	13	5	306	1.93	<2	1	<4	8	117	<.2	<1	<1	39	.67	.022	35	29	.57	470	.219	5.01	.843	1.38	1	61.3	60	1.8	11.4	6.8	.5	1	7	26	<.02	88	2	15
PR-01-02	<.5	12	18	68	<.2	14	7	341	2.32	2	1	<4	9	81	<.2	<1	<1	46	.74	.023	37	37	1.13	439	.204	5.72	.600	1.54	1	61.3	65	2.2	19.5	6.0	<.5	2	8	43	<.02	99	2	17
PR-01-03	.5	13	12	61	<.2	14	5	405	2.06	2	1	<4	7	118	<.2	<1	<1	36	.77	.031	32	29	.60	539	.204	5.28	.874	1.48	1	68.1	57	1.7	11.4	5.9	<.5	2	7	28	<.02	82	2	16
PR-01-04	.5	10	12	57	<.2	13	5	403	1.93	<2	1	<4	8	124	<.2	<1	<1	37	.80	.024	35	29	.50	477	.218	4.80	.929	1.35	1	60.9	60	1.7	12.5	7.2	<.5	1	7	24	<.02	77	2	14
PR-01-05	.5	11	13	57	<.2	12	5	374	2.00	<2	1	<4	8	138	<.2	<1	<1	39	.81	.029	36	28	.51	508	.230	5.11	1.033	1.49	1	65.8	64	1.8	12.7	7.2	.5	2	7	24	<.02	79	2	16
PR-01-06	.5	8	12	42	<.2	11	5	273	1.77	<2	1	<4	7	120	<.2	<1	<1	38	.68	.023	36	29	.49	445	.213	4.64	.968	1.37	1	49.6	63	1.6	9.8	7.0	<.5	1	6	21	<.02	77	2	14
PR-01-07	.5	9	12	55	<.2	10	4	373	1.71	<2	1	<4	7	120	<.2	<1	<1	39	.69	.022	35	28	.49	460	.199	4.68	.914	1.40	1	43.2	60	1.5	10.4	6.4	<.5	1	6	20	<.02	81	1	14
RE PR-01-07	.5	9	11	55	<.2	10	4	367	1.67	<2	1	<4	7	123	<.2	<1	<1	35	.73	.023	35	28	.46	466	.187	4.62	.911	1.39	1	41.4	59	1.5	10.3	7.2	<.5	1	6	19	<.02	81	1	13
PR-01-08	.5	7	10	58	<.2	11	4	448	1.67	<2	1	<4	6	120	<.2	<1	<1	36	.73	.022	31	28	.49	480	.200	4.68	.928	1.39	1	44.8	55	1.6	9.0	6.1	<.5	1	6	21	<.02	83	2	14
PR-01-09	.5	9	13	64	<.2	11	4	545	1.74	<2	1	<4	6	136	<.2	<1	<1	36	.83	.031	32	28	.49	507	.214	4.86	1.048	1.40	1	48.3	59	1.8	10.0	6.8	<.5	1	6	22	<.02	75	2	14
PR-01-010	.5	10	14	54	<.2	12	5	503	2.00	<2	1	<4	7	130	<.2	<1	<1	38	.76	.025	32	29	.50	500	.218	5.01	.969	1.39	1	56.7	61	1.8	11.4	7.3	<.5	1	7	24	<.02	82	2	15
PR-01-011	.6	10	12	77	<.2	11	5	605	1.89	2	1	<4	6	130	<.2	<1	<1	36	.71	.026	30	29	.48	508	.217	4.76	.972	1.36	1	51.4	55	2.1	9.9	6.9	<.5	1	6	23	<.02	78	2	14
PR-01-012	.6	9	12	68	<.2	13	5	364	2.01	<2	1	<4	7	141	<.2	<1	<1	40	.78	.026	36	31	.52	531	.227	5.39	1.062	1.47	1	63.1	62	1.7	10.6	7.3	.5	2	7	26	<.02	82	2	16
PR-01-013	<.5	9	11	66	<.2	13	5	308	1.98	<2	1	<4	7	125	<.2	<1	<1	41	.70	.036	35	33	.53	484	.212	5.00	.986	1.52	1	60.6	62	1.8	11.3	7.4	.5	1	7	25	.02	89	2	16
PR-01-014	.6	12	12	67	<.2	16	6	389	2.46	2	1	<4	8	128	<.2	<1	<1	47	.70	.034	39	36	.66	544	.225	5.84	1.007	1.69	1	70.8	67	1.9	13.3	7.3	.5	2	8	29	.02	98	2	17
PR-01-015	.7	8	11	65	<.2	13	5	576	1.90	<2	1	<4	7	133	<.2	<1	<1	41	.75	.031	37	31	.57	484	.214	5.04	.989	1.44	1	52.4	63	1.5	10.4	6.7	<.5	1	6	21	<.02	83	2	14
PR-01-016	.7	13	12	53	<.2	14	6	547	2.45	<2	1	<4	8	137	<.2	<1	<1	44	.85	.035	40	32	.60	488	.217	5.61	.946	1.45	1	57.9	70	1.7	13.1	7.6	.5	1	8	24	<.02	89	2	16
PR-01-017	<.5	18	6	41	<.2	6	3	383	1.10	5	3	<4	3	524	<.2	<1	<1	25	11.85	.070	17	13	5.35	391	.123	3.34	.613	.68	<1	57.6	30	.9	10.7	2.9	<.5	1	4	17	.05	31	2	9
PR-01-018	<.5	19	9	50	<.2	9	4	497	1.45	3	3	<4	5	292	<.2	<1	<1	29	4.11	.084	29	19	7.16	428	.160	4.14	.629	1.04	<1	59.3	48	1.2	13.6	4.6	<.5	1	5	29	<.02	50	2	11
PR-01-019	<.5	11	14	47	<.2	14	6	416	2.26	2	1	<4	10	128	<.2	<1	<1	44	.80	.036	49	34	.83	470	.245	4.73	.973	1.53	1	49.1	87	1.6	18.7	9.2	.6	2	7	23	<.02	75	2	13
PR-01-020	<.5	17	15	54	<.2	15	7	517	2.30	4	1	<4	11	123	<.2	<1	<1	43	.77	.045	52	32	.78	465	.242	4.49	.893	1.44	1	50.3	92	1.7	18.9	8.8	.6	2	7	25	<.02	77	2	13
PR-01-021	<.5	17	15	48	<.2	15	7	538	2.32	3	1	<4	9	106	<.2	<1	<1	44	.71	.028	43	34	.82	477	.212	4.76	.830	1.59	1	46.7	76	1.7	18.6	8.4	.5	1	7	25	<.02	89	1	14
PR-01-022	<.5	15	14	50	<.2	16	8	479	2.64	3	1	<4	9	124	<.2	<1	<1	44	.84	.036	45	35	.81	470	.217	5.33	.984	1.82	1	66.5	82	1.9	19.3	7.7	.5	2	8	27	<.02	94	2	15
PR-01-023	.5	13	20	64	<.2	16	10	614	2.84	6	1	<4	9	127	<.2	<1	<1	51	.85	.032	46	37	1.15	534	.224	5.87	.876	1.68	1	52.5	85	1.9	15.2	7.7	.5	1	10	32	<.02	100	2	17
PR-01-024	.5	10	14	51	<.2	15	6	422	2.46	3	1	<4	9	124	<.2	<1	<1	48	.70	.019	45	34	.70	528	.212	5.75	.951	1.69	1	56.2	77	1.9	16.4	8.1	.5	2	8	26	<.02	99	2	15
PR-01-025	.6	12	15	52	<.2	16	6	325	2.45	2	1	<4	10	117	<.2	<1	<1	45	.71	.022	44	45	.99	496	.210	5.81	.944	1.65	1	58.1	77	1.8	17.5	8.3	.5	2	9	32	<.02	101	2	16
PR-01-026	<.5	13	15	51	<.2	15	6	318	2.46	2	1	<4	10	120	<.2	<1	<1	44	.71	.023	46	36	.87	499	.225	5.29	.940	1.62	1	55.2	82	1.9	18.7	8.7	.6	2	8	27	<.02	93	2	15
PR-01-027	<.5	10	13	46	<.2	12	5	351	1.99	2	1	<4	8	124	<.2	<1	<1	38	.73	.023	41	30	.71	486	.207	4.71	.987	1.48	1	44.1	72	1.7	16.1	9.3	.6	2	7	22	<.02	83	1	13
PR-01-028	<.5	11	14	46	<.2	13	5	299	2.02	2	1	<4	8	144	<.2	<1	<1	38	.75	.029	38	27	.58	491	.230	4.90	1.111	1.39	1	61.3	67	1.7	13.9	8.6	.6	1	7	21	<.02	74	2	15
PR-01-029	<.5	9	12	33	<.2	10	4	290	1.68	2	1	<4	9	139	<.2	<1	<1	36	2.42	.032	51	27	.69	452	.207	4.32	.936	1.40	1	35.4	87	1.5	16.2	8.7	.5	2	6	18	<.02	80	1	12
PR-01-030	.5	14	17	78	<.2	16	6	645	2.56	3	3	<4	19	164	<.2	<1	<1	46	.99	.038	49	34	.88	638	.274	5.98	1.192	1.56	1	74.3	87	1.8	18.5	9.4	.6	2	8	28	<.02	85	2	17
PR-01-031	.6	26	17	68	<.2	17	8	460	2.61	4	2	<4	9	183	<.2	<1	<1	51	1.00	.067	44	34	.73	616	.259	6.02	1.563	1.86	1	92.1	78	2.0	21.1	9.3	.6	2	8	28	<.02	87	3	18
PR-01-032	.5	17	15	69	<.2	15	6	520	2.41	3	1	<4	9	145	<.2	<1	<1	47	.87	.034	45	35	.66	622	.247	5.54	1.071	1.74	1	61.7	77	2.0	17.8	9.0	.6	1	8	26	<.02	97	2	17
STANDARD DST3	10.2	133	39	185	.3	39	12	997	3.92	25	6	<4	6	216	5.2	5	5	124	1.62	.114	28	315	.84	1072	.350	6.73	1.594	1.96	7	48.9	48	7.1	17.1	9.5	.6	3	10	20	<.02	81	2	19

GROUP 1EX - 0.25 GM SAMPLE DIGESTED WITH HCLO4-HNO3-HCL-HF TO 10 ML. UPPER LIMITS - AG, AU, W = 200 PPM; MO, CO, CD, SB, BI, TH & U = 4,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM. DIGESTION IS PARTIAL FOR SOME MINERALS & MAY VOLATIZE SOME ELEMENTS, ANALYSIS BY ICP-ES.
- SAMPLE TYPE: SOIL SS80 60C Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: OCT 9 2001 **DATE REPORT MAILED:** Oct 22/01 **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 %	Al %	Na %	K %	W ppm	Zr ppm	Ce ppm	Sn ppm	Y ppm	Nb ppm	Ta ppm	Be ppm	Sc ppm	Li ppm	S %	Rb ppm	Hf ppm	Ga ppm
G-1	1.7	3	22	49	<.2	5	4	736	2.32	<2	3	<4	7	733	<.2	<1	<1	50	2.48	.096	28	10	.57	1065	.227	7.67	2.400	3.08	2	10.2	56	1.6	19.6	22.3	1.3	2	6	32	<.02	132	1	20
PR-01-033	<.5	16	34	55	<.2	17	9	475	2.50	2	1	<4	12	107	<.2	1	<1	50	.99	.029	49	37	1.28	582	.230	5.16	.792	1.98	1	46.0	94	2.1	23.9	10.2	.6	2	9	29	<.02	108	1	15
PR-01-034	.6	99	23	66	<.2	18	11	1279	3.27	8	1	<4	9	116	.2	1	<1	49	1.15	.060	38	33	.73	527	.213	5.25	.784	1.69	1	55.2	77	1.7	23.5	7.8	<.5	2	12	26	<.02	86	2	13
PR-01-035	<.5	16	15	53	<.2	17	9	691	3.18	5	1	<4	9	134	<.2	<1	<1	46	.92	.046	40	35	.70	537	.233	5.41	.864	1.71	1	67.1	79	1.7	22.7	9.1	.5	1	9	24	<.02	88	2	13
PR-01-036	.6	20	17	61	<.2	18	8	601	2.69	4	1	<4	10	135	<.2	<1	<1	48	.82	.054	44	37	.89	600	.250	5.55	.982	1.75	1	73.1	88	2.0	21.7	8.9	.5	2	9	29	<.02	84	2	15
PR-01-037	<.5	14	17	57	<.2	17	7	383	2.76	3	2	<4	10	143	<.2	<1	<1	49	.76	.034	42	38	.69	626	.266	5.45	1.072	1.65	1	79.1	84	1.8	16.7	9.9	.6	1	9	29	<.02	84	2	15
PR-01-038	<.5	9	14	70	<.2	13	5	421	2.11	<2	1	<4	8	146	<.2	<1	<1	40	.75	.027	35	31	.54	593	.246	5.19	1.119	1.55	1	66.0	66	1.5	11.5	8.4	.5	2	8	25	<.02	77	2	13
PR-01-039	<.5	10	15	51	<.2	14	5	272	2.34	2	1	<4	9	150	<.2	<1	<1	43	.82	.029	44	32	.59	576	.264	5.52	1.087	1.62	1	71.6	87	1.7	14.7	9.6	.6	1	8	25	<.02	79	2	14
PR-01-039A	<.5	7	13	38	<.2	11	5	262	1.82	<2	1	<4	8	134	<.2	<1	<1	37	.65	.023	39	28	.51	481	.219	4.51	1.013	1.47	1	45.5	78	1.6	12.4	8.3	.5	1	7	18	<.02	74	1	11
PR-01-041	<.5	9	12	38	<.2	12	5	334	1.97	2	1	<4	9	99	<.2	<1	<1	33	.57	.020	36	26	.49	423	.189	3.89	.782	1.28	1	45.5	69	1.3	14.7	9.8	.5	1	7	18	<.02	62	1	10
PR-01-042	<.5	20	22	50	<.2	15	8	601	2.51	5	1	<4	10	116	<.2	1	<1	43	2.36	.076	40	33	.98	488	.231	4.17	.823	1.61	1	39.5	78	1.8	19.2	9.2	.5	1	8	19	.03	82	1	11
PR-01-043	<.5	12	15	56	<.2	16	6	357	2.16	3	1	<4	8	131	<.2	<1	<1	37	.70	.052	33	27	.53	545	.224	4.78	1.011	1.39	1	70.6	65	1.4	12.5	7.3	<.5	1	7	23	<.02	65	2	12
PR-01-044	<.5	11	13	36	<.2	12	5	259	2.12	2	1	<4	9	109	<.2	<1	<1	37	.63	.037	40	29	.55	481	.199	4.19	.879	1.50	1	45.1	75	1.4	18.2	8.2	.5	1	7	17	<.02	73	1	10
PR-01-045	<.5	11	14	57	<.2	14	6	425	2.22	2	1	<4	9	118	<.2	<1	<1	39	.73	.023	40	31	.61	526	.227	4.61	.954	1.56	1	54.4	78	1.5	16.3	8.3	.5	1	8	23	<.02	77	2	12
PR-01-046	.6	18	15	76	<.2	18	7	468	2.71	3	1	<4	9	124	<.2	<1	<1	46	.70	.044	37	37	.67	636	.249	5.52	.964	1.77	1	75.5	70	1.7	16.2	8.3	.5	1	9	28	<.02	86	2	15
PR-01-047	<.5	14	14	58	<.2	16	6	421	2.47	2	1	<4	9	112	<.2	<1	<1	47	.62	.029	37	37	.65	599	.243	5.41	.905	1.80	1	64.5	72	1.8	14.7	8.0	<.5	2	8	27	<.02	92	2	14
PR-01-048	<.5	16	15	45	<.2	18	7	309	2.67	3	1	<4	10	99	<.2	<1	<1	51	.58	.022	42	39	.66	567	.224	5.47	.769	1.77	1	65.3	79	1.9	19.6	8.6	.5	1	9	27	<.02	100	2	15
RE PR-01-048	<.5	16	15	44	<.2	17	7	299	2.58	3	1	<4	10	97	<.2	1	<1	49	.55	.020	41	39	.67	562	.213	5.51	.787	1.72	1	64.2	78	1.8	19.6	8.2	.5	2	9	26	<.02	100	2	14
PR-01-049	.6	22	16	56	<.2	19	8	536	2.66	5	1	<4	10	116	<.2	1	<1	49	.72	.036	39	40	.76	595	.222	5.38	.974	1.85	1	69.5	77	1.8	18.1	8.1	<.5	2	9	28	<.02	96	2	15
PR-01-050	.6	15	15	54	<.2	15	7	526	2.31	2	1	<4	8	134	<.2	<1	<1	44	.72	.042	36	30	.64	554	.218	5.03	1.102	1.56	1	73.0	71	1.5	15.7	7.4	<.5	1	8	26	<.02	76	2	13
PR-01-051	<.5	12	15	66	<.2	15	6	456	2.34	2	1	<4	9	132	<.2	<1	<1	39	.74	.040	37	32	.62	565	.228	5.09	1.027	1.56	1	67.9	71	1.5	15.3	8.0	<.5	1	8	24	<.02	77	2	13
PR-01-052	<.5	15	17	59	<.2	18	7	300	2.61	3	1	<4	10	134	<.2	<1	<1	45	.67	.039	40	36	.70	610	.266	5.63	1.078	1.53	1	87.9	80	1.7	17.0	9.1	.5	1	9	29	<.02	82	2	15
PR-01-053	<.5	14	16	49	<.2	14	7	415	2.19	3	1	<4	9	106	<.2	<1	<1	41	.67	.028	40	33	.66	514	.222	4.34	.837	1.63	1	50.8	75	1.7	15.7	8.6	.5	1	7	23	<.02	83	1	12
PR-01-054	<.5	15	14	50	<.2	13	6	587	2.04	2	1	<4	9	155	<.2	<1	<1	38	2.25	.063	39	27	.88	502	.216	4.40	1.048	1.51	1	63.3	73	1.4	16.0	7.9	<.5	1	6	22	.02	62	2	11
PR-01-055	.6	13	14	49	<.2	13	6	410	2.32	2	1	<4	8	138	<.2	<1	<1	40	.83	.035	33	29	.69	516	.237	5.20	1.070	1.45	1	69.5	68	1.4	13.5	7.0	<.5	1	8	29	<.02	71	2	13
PR-01-056	<.5	13	14	54	<.2	15	6	401	2.33	2	1	<4	8	158	<.2	<1	<1	48	.79	.026	37	35	.71	602	.247	5.94	1.262	1.70	1	68.7	76	1.7	11.8	8.0	.5	1	8	32	<.02	83	2	15
PR-01-057	.6	13	13	61	<.2	16	6	392	2.32	2	1	<4	8	146	<.2	<1	<1	44	.76	.035	35	32	.65	583	.232	5.80	1.204	1.56	1	76.1	68	1.5	13.6	7.0	<.5	1	8	28	<.02	77	2	15
PR-01-058	<.5	14	16	60	<.2	16	7	363	2.42	3	1	<4	9	138	<.2	<1	<1	43	.75	.052	40	33	.71	622	.244	5.62	1.100	1.57	1	80.5	79	1.7	15.8	7.9	.5	1	9	29	<.02	79	2	14
PR-01-059	<.5	15	16	58	<.2	18	6	232	2.56	3	2	<4	10	130	<.2	<1	<1	45	.67	.045	45	36	.69	556	.244	5.45	1.124	1.54	1	75.1	85	1.6	16.6	8.7	.5	1	9	27	<.02	79	2	14
PR-01-060	<.5	12	15	57	<.2	18	6	333	2.39	3	1	<4	10	115	<.2	<1	<1	51	.57	.044	41	38	.70	569	.248	5.31	1.011	1.62	1	64.1	79	1.6	13.6	8.6	.5	2	9	28	<.02	83	2	14
PR-01-061	<.5	16	17	76	<.2	17	7	497	2.59	3	1	<4	9	165	<.2	<1	<1	47	1.07	.061	42	33	.76	655	.299	5.63	1.209	1.62	1	84.0	80	1.8	18.9	9.5	.6	2	9	29	.02	74	2	15
PR-01-062	<.5	8	14	48	<.2	10	5	305	1.95	<2	1	<4	9	136	<.2	<1	<1	37	.71	.023	42	29	.57	470	.239	4.29	1.060	1.37	1	41.2	79	1.5	13.7	9.0	.6	1	7	18	<.02	70	1	11
PR-01-063	<.5	14	16	73	<.2	15	7	607	2.38	2	1	<4	10	150	<.2	<1	<1	44	.83	.039	41	33	.64	660	.268	5.09	1.181	1.55	1	68.8	80	1.7	16.4	9.5	.5	1	8	28	<.02	79	2	13
PR-01-064	<.5	18	16	55	<.2	15	8	498	2.39	<2	1	<4	9	171	<.2	<1	<1	44	1.47	.041	37	33	1.11	589	.253	5.26	1.311	1.70	1	83.0	70	1.5	17.7	7.2	<.5	1	8	29	<.02	77	2	14
STANDARD DST3	10.2	132	40	185	.3	40	12	975	3.93	23	6	<4	6	224	5.3	6	5	126	1.48	.106	28	322	.91	1131	.387	6.50	1.821	1.96	8	53.5	52	7.2	17.3	10.7	.6	3	10	20	.03	76	2	17

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 ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	Al %	Na %	K %	W ppm	Zr ppm	Ce ppm	Sn ppm	Y ppm	Nb ppm	Ta ppm	Be ppm	Sc ppm	Li ppm	S %	Rb ppm	Hf ppm	Ga ppm
G-1	1.3	3	22	50	<.2	6	5	842	2.37	<2	3	<4	8	702	<.2	<1	<1	54	2.84	.105	24	13	.61	1094	.246	7.80	2.568	3.47	2	7.8	46	1.9	19.1	20.4	1.4	3	6	34	<.02	133	1	23
PR-01-065	<.5	14	15	48	<.2	17	7	267	2.63	3	1	<4	10	110	<.2	<1	<1	45	.77	.033	43	34	.70	527	.254	5.39	.935	1.78	1	53.2	75	2.0	22.6	8.4	.5	2	9	26	<.02	94	2	16
PR-01-066	.7	17	16	66	<.2	18	7	377	2.88	3	2	<4	9	170	<.2	<1	<1	48	1.12	.045	33	32	.74	593	.337	7.07	1.387	1.65	1	99.7	65	2.0	21.2	8.0	.5	1	9	36	<.02	87	5	21
PR-01-067	<.5	11	15	47	<.2	16	6	263	2.49	2	1	<4	9	131	<.2	<1	<1	52	.79	.043	41	36	.65	531	.276	6.03	1.069	1.77	1	51.8	76	2.1	13.6	9.0	.6	1	8	26	<.02	96	2	17
PR-01-068	<.5	12	8	43	<.2	16	5	207	2.10	2	1	<4	9	79	<.2	<1	<1	48	.46	.024	41	37	.64	437	.222	5.39	.714	2.04	<1	44.8	74	2.1	22.6	7.3	.5	2	8	29	<.02	107	2	16
PR-01-069	<.5	28	6	38	<.2	16	8	484	3.62	4	1	<4	8	78	<.2	1	<1	44	.76	.041	46	32	.51	379	.190	5.12	.406	2.40	<1	46.8	78	1.9	45.4	4.8	<.5	2	9	15	<.02	125	2	15
PR-01-070	<.5	21	8	30	<.2	15	5	215	2.27	3	2	<4	9	79	<.2	1	<1	51	.43	.019	44	35	.60	441	.214	5.96	.661	2.29	1	56.1	84	2.4	27.8	7.5	.6	1	9	25	<.02	120	2	17
PR-01-071	<.5	13	11	63	<.2	15	5	349	2.17	2	1	<4	8	125	<.2	<1	<1	44	.70	.045	37	32	.57	553	.231	5.81	1.006	1.91	1	52.7	66	2.1	16.0	7.0	.5	1	8	26	<.02	97	2	17
PR-01-072	<.5	15	8	46	<.2	16	6	437	2.78	2	2	<4	9	103	<.2	1	<1	51	.68	.024	39	37	.70	504	.227	6.63	.808	2.60	1	57.4	77	2.5	20.0	6.2	.5	2	10	23	<.02	141	2	20
PR-01-073	<.5	17	18	57	<.2	18	8	433	2.73	2	1	<4	10	146	<.2	<1	<1	50	.88	.039	41	39	.80	623	.276	6.56	1.306	1.99	1	55.2	74	2.5	19.8	9.1	.6	2	10	31	<.02	106	2	18
PR-01-074	<.5	15	17	67	<.2	19	8	427	2.87	3	2	<4	11	134	<.2	<1	<1	53	.84	.036	44	40	.74	626	.269	6.30	1.174	1.80	1	64.7	81	2.3	19.2	8.9	.7	1	9	31	<.02	104	2	18
PR-01-075	<.5	15	18	65	<.2	19	8	513	2.96	3	1	<4	11	145	<.2	<1	<1	52	.88	.038	43	40	.74	627	.304	6.31	1.240	1.94	1	55.5	82	2.4	19.5	9.8	.6	1	9	30	<.02	101	2	18
PR 01-076	<.5	13	18	78	<.2	18	7	375	2.74	3	1	<4	10	144	<.2	<1	<1	48	.89	.049	38	36	.69	653	.270	6.19	1.266	1.70	1	57.7	73	2.2	14.0	9.0	.6	2	8	29	<.02	95	2	18
PR-01-077	<.5	18	18	71	<.2	18	8	715	2.66	4	1	<4	10	141	<.2	1	<1	51	1.12	.067	44	34	.70	569	.309	5.83	1.264	1.77	1	60.0	86	2.2	19.0	9.3	.6	1	9	28	<.02	90	3	17
PR-01-078	.6	14	18	60	<.2	18	8	396	2.88	3	1	<4	10	137	<.2	<1	<1	51	.85	.037	41	37	.75	554	.316	5.81	1.284	1.76	1	65.6	78	2.1	18.9	10.0	.7	2	9	29	<.02	92	2	18
PR-01-079	<.5	20	19	59	<.2	20	9	367	2.98	4	2	<4	11	129	<.2	1	<1	55	.80	.056	43	39	.78	583	.288	5.75	1.185	1.77	1	63.8	81	2.0	19.6	9.0	.7	2	9	30	<.02	96	2	18
PR-01-080	.6	23	15	67	<.2	19	9	991	2.79	6	2	<4	10	163	.2	1	<1	50	3.12	.126	41	37	.90	645	.202	6.25	1.071	1.97	1	60.3	76	2.0	21.7	7.4	.5	1	9	24	.04	98	2	17
PR-01-081	.7	26	17	68	<.2	18	9	988	2.76	6	2	<4	10	147	.2	1	<1	50	1.22	.116	42	34	.78	643	.236	6.21	1.189	1.88	1	65.8	78	2.0	23.0	8.0	.5	1	9	26	.03	97	2	17
PR-01-082	<.5	26	15	52	<.2	23	11	818	3.07	5	1	<4	12	96	<.2	1	<1	59	.83	.055	45	47	.98	585	.220	6.13	.836	2.29	1	57.2	88	2.2	21.7	8.0	.5	2	10	26	.02	126	2	19
PR-01-083	<.5	27	15	54	<.2	20	11	873	3.08	6	2	<4	11	109	<.2	1	<1	57	1.22	.104	48	42	1.15	587	.237	6.17	.890	2.19	1	52.0	89	2.1	23.2	8.2	.5	2	10	26	.03	115	2	18
PR-01-084	<.5	22	13	48	<.2	17	9	602	3.07	4	2	<4	11	111	<.2	1	<1	56	.80	.082	48	44	.75	611	.247	5.80	.828	2.35	1	66.8	88	2.6	28.2	8.1	.5	2	10	21	<.02	123	2	18
PR 01 085	<.5	20	14	52	<.2	17	9	525	3.09	4	2	<4	9	124	<.2	1	<1	58	.77	.041	44	36	.77	572	.286	6.00	.949	1.81	1	50.5	82	2.1	21.6	9.0	.6	1	10	27	.02	100	2	18
PR-01-086	<.5	29	16	51	<.2	19	9	605	2.79	5	1	<4	11	115	<.2	1	<1	53	1.00	.039	49	40	.90	558	.266	5.63	1.096	1.95	1	42.9	93	2.3	22.1	10.1	.7	2	9	25	<.02	110	2	17
RE PR-01-086	<.5	31	16	52	<.2	19	9	616	2.98	4	1	<4	11	119	<.2	1	<1	58	1.06	.041	48	41	.91	566	.266	5.74	1.084	2.02	1	44.7	92	2.3	22.3	10.3	.7	1	9	26	.02	111	2	18
PR-01-087	.7	24	15	81	<.2	17	8	979	2.52	3	2	<4	8	153	<.2	<1	<1	51	1.14	.095	35	32	.66	657	.304	5.25	1.249	1.78	1	57.7	66	2.0	18.8	9.7	.7	1	8	23	.02	87	2	16
PR-01-088	<.5	25	16	49	<.2	19	8	424	3.03	5	2	<4	11	142	<.2	1	<1	57	.91	.052	52	36	.78	566	.247	6.53	1.315	1.91	1	53.8	97	2.2	24.1	9.1	.6	1	10	25	<.02	106	2	18
PR-01-089	<.5	29	18	53	<.2	18	8	373	2.98	5	2	<4	9	141	<.2	<1	<1	54	.85	.051	43	37	.80	596	.280	6.43	1.135	1.77	1	52.2	79	2.0	21.1	9.3	.6	1	10	25	.02	107	2	18
PR-01-090	<.5	17	15	52	<.2	16	8	367	2.83	2	2	<4	11	173	<.2	<1	<1	47	1.00	.040	38	32	.82	630	.261	6.93	1.520	1.87	1	78.3	74	2.1	21.3	9.0	.6	1	9	30	<.02	96	3	18
PR 01-091	<.5	20	16	48	<.2	18	9	585	2.79	3	1	<4	10	137	<.2	1	<1	55	1.13	.043	45	37	.92	593	.269	5.94	1.212	1.89	1	46.9	84	2.2	20.9	9.8	.6	2	9	25	<.02	109	2	16
PR-01-092	.7	22	15	64	<.2	18	8	572	2.75	4	1	<4	8	172	<.2	<1	<1	50	1.02	.068	36	31	.69	649	.280	6.48	1.442	1.76	1	86.2	69	2.1	21.0	9.5	.6	1	9	27	<.02	89	3	19
PR 01-093	.7	23	19	66	<.2	21	10	592	3.18	6	2	<4	10	172	<.2	1	<1	55	1.14	.073	44	37	.81	714	.323	7.06	1.538	1.84	1	81.7	86	2.2	24.9	10.1	.7	1	10	31	<.02	101	3	20
PR 01-094	<.5	10	8	24	<.2	7	5	385	1.31	6	2	<4	6	349	<.2	<1	<1	25	16.49	.047	26	17	4.06	372	.159	2.76	.685	.82	<1	26.6	48	.9	12.1	5.1	<.5	1	4	11	.04	45	1	7
PR-01-095	<.5	18	11	48	<.2	13	6	585	2.11	4	1	<4	8	326	<.2	<1	<1	40	6.22	.086	40	26	2.63	526	.198	5.05	1.076	1.57	1	48.3	74	1.6	17.8	6.4	<.5	1	7	20	.04	78	2	14
PR-01-096	.6	14	16	73	<.2	19	7	502	2.92	3	1	<4	10	137	<.2	<1	<1	52	.85	.048	43	37	.80	612	.258	6.12	1.179	1.98	1	64.5	79	2.3	19.9	8.7	.6	2	9	31	<.02	103	2	20
STANDARD DST3	10.1	131	39	188	.4	42	12	1060	4.04	25	6	<4	6	216	5.4	6	5	124	1.59	.109	26	331	.88	1123	.383	6.85	1.876	2.03	7	45.9	48	8.0	18.1	11.0	.7	3	10	20	.02	84	4	20

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

REVISED COPY add Na.

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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 %
G-1	1.5	2	25	54	<.2	6	4	820	2.44	<2	3	<4	8	740	<.2	<1	<1	53	2.71
PR-01-097	.6	17	17	69	<.2	16	7	753	2.57	2	1	<4	9	162	<.2	<1	<1	47	.85
PR-01-098	<.5	15	18	59	<.2	17	8	747	2.66	3	1	<4	10	148	<.2	<1	<1	48	.84
PR-01-099	<.5	22	17	59	<.2	19	10	713	2.77	5	1	<4	10	125	<.2	<1	<1	53	.80
PR-01-100	.6	25	16	63	<.2	19	8	867	2.72	4	2	<4	9	136	<.2	<1	<1	45	.84
PR-01-101	<.5	22	17	57	<.2	17	8	669	2.51	5	1	<4	10	138	<.2	<1	<1	46	.96
PR-01-102	.6	20	16	63	<.2	21	9	1166	2.96	5	2	<4	11	112	<.2	1	<1	52	.81
PR-01-103	<.5	22	16	45	<.2	16	9	494	2.62	5	1	<4	10	102	<.2	1	<1	48	2.00
PR-01-104	<.5	25	16	59	<.2	19	9	709	2.75	5	1	<4	10	116	.2	1	<1	52	.90
PR-01-105	<.5	24	17	63	<.2	18	9	713	2.80	5	2	<4	10	134	<.2	1	<1	50	.87
PR-01-106	.6	25	17	62	<.2	18	9	744	2.71	4	1	<4	10	140	<.2	<1	<1	48	.90
PR-01-107	<.5	16	14	65	<.2	19	9	973	2.90	4	1	<4	11	99	<.2	1	<1	51	.58
PR-01-108	<.5	22	16	58	<.2	18	9	705	2.85	4	1	<4	10	126	<.2	<1	<1	52	.78
PR-01-109	<.5	23	16	53	<.2	18	9	690	2.67	4	1	<4	10	121	<.2	1	<1	49	.78
RE PR-01-109	<.5	24	16	55	<.2	18	9	701	2.73	4	2	<4	11	127	<.2	1	<1	53	.78
PR-01-110	.6	37	16	61	<.2	18	9	692	2.74	5	1	<4	11	143	<.2	1	<1	56	.88
PR-01-111	.6	12	16	58	<.2	15	6	504	2.59	3	2	<4	9	156	<.2	<1	<1	44	1.08
PR-01-112	<.5	13	18	59	<.2	17	7	311	2.60	3	1	<4	10	147	<.2	<1	<1	48	.79
PR-01-113	<.5	18	20	54	<.2	19	8	312	2.94	3	1	<4	11	127	<.2	<1	<1	48	.76
PR-01-114	.6	15	21	59	<.2	19	7	327	2.90	4	2	<4	10	151	<.2	<1	<1	49	.84
PR-01-115	<.5	17	19	66	<.2	21	8	422	2.94	4	2	<4	11	129	<.2	<1	<1	55	.75
PR-01-116	<.5	21	28	85	<.2	21	8	452	2.73	5	2	<4	12	115	<.2	1	<1	53	.68
PR-01-117	<.5	17	17	58	<.2	19	7	361	2.79	3	2	<4	11	133	<.2	<1	<1	51	.71
PR-01-118	.6	17	18	67	<.2	17	7	459	2.72	3	1	<4	11	159	<.2	<1	<1	48	.84
PR-01-119	<.5	14	18	50	<.2	16	7	378	2.43	3	2	<4	11	136	<.2	<1	<1	50	.75
PR-01-120	.6	21	18	57	<.2	20	8	378	2.77	4	2	<4	12	151	<.2	1	<1	53	.79
PR-01-121	<.5	15	15	61	<.2	19	6	278	2.92	4	2	<4	13	147	<.2	<1	<1	52	.84
PR-01-122	<.5	19	18	66	<.2	18	8	625	2.71	2	1	<4	11	119	<.2	<1	<1	46	.93
PR-01-123	.6	28	16	57	<.2	22	9	373	3.39	4	2	<4	11	124	<.2	<1	<1	52	.76
PR-01-124	<.5	16	16	58	<.2	18	8	419	2.81	3	1	<4	11	128	<.2	<1	<1	47	.78
PR-01-125	<.5	17	17	52	<.2	18	8	400	2.63	2	1	<4	12	103	<.2	<1	<1	49	.68
PR-01-126	<.5	15	17	83	<.2	16	7	653	2.64	3	1	<4	11	126	<.2	<1	<1	48	.91
PR-01-127	<.5	16	16	58	<.2	16	7	628	2.28	2	1	<4	9	137	<.2	<1	<1	44	1.02
PR-01-128	<.5	14	13	54	<.2	13	7	607	1.96	3	1	<4	9	269	<.2	<1	<1	35	4.84
STANDARD DST3	9.9	128	43	186	.3	40	12	1030	4.11	27	8	<4	7	245	5.0	6	6	121	1.58

SAMPLE#	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	Al %	Na %	K %	W ppm	Zr ppm	Ce ppm	Sn ppm	Y ppm	Nb ppm	Ta ppm	Be ppm	Sc ppm	Li ppm	S %	Rb ppm	Hf ppm	Ga ppm
G-1	.106	24	14	.67	993	.267	7.25	2.648	3.62	3	8.8	50	1.7	15.2	22.9	1.4	3	6	35	<.02	116	1	23
PR-01-097	.040	31	34	.79	568	.268	5.55	1.258	2.10	1	83.3	64	2.1	14.1	7.7	.5	2	9	29	<.02	75	3	18
PR-01-098	.031	34	37	.77	532	.285	5.17	1.045	1.86	1	74.1	69	2.2	14.4	8.9	.6	2	9	28	<.02	80	2	15
PR-01-099	.073	34	38	.98	538	.269	5.05	.959	2.08	1	64.3	70	1.9	15.3	8.9	.5	2	10	26	<.02	81	2	15
PR-01-100	.056	31	36	.75	599	.266	5.00	1.016	1.72	1	75.1	61	2.0	14.8	7.8	.5	2	9	26	<.02	72	2	17
PR-01-101	.080	34	32	.85	536	.273	4.81	1.060	1.66	1	71.1	67	1.8	15.5	8.7	.5	1	9	25	.03	70	2	14
PR-01-102	.110	32	39	.87	510	.268	5.13	.773	1.94	1	72.1	64	2.1	19.8	8.2	.5	2	10	27	.04	85	2	17
PR-01-103	.088	34	36	1.45	450	.233	4.57	.750	1.87	1	42.3	67	2.0	14.3	8.1	.5	2	9	22	.03	78	1	14
PR-01-104	.097	33	35	1.14	513	.266	5.02	.850	1.99	1	63.8	64	2.0	14.9	8.6	.5	2	10	26	.04	80	2	15
PR-01-105	.087	35	35	.99	554	.290	5.16	1.018	1.94	1	76.7	67	2.1	16.0	8.8	.5	1	9	29	.03	78	3	17
PR-01-106	.095	32	34	.95	547	.262	5.06	1.069	1.99	1	75.6	62	1.9	15.0	7.9	.5	1	9	28	.03	76	2	15
PR-01-107	.083	34	41	1.04	499	.275	5.15	.794	2.05	1	64.9	65	2.1	16.9	8.1	.5	2	10	26	.03	87	2	17
PR-01-108	.072	35	40	.98	525	.282	5.21	.938	2.07	1	67.2	69	2.0	15.2	8.5	.5	2	10	26	.03	85	2	17
PR-01-109	.070	34	37	.95	507	.268	4.89	.940	2.01	1	65.6	66	2.0	14.9	8.5	.5	2	9	23	.03	81	2	15
RE PR-01-109	.074	34	39	.99	531	.277	4.90	.968	2.10	1	70.3	67	2.0	15.6	10.5	.6	2	10	25	.03	82	2	15
PR-01-110	.078	35	38	.92	557	.263	5.92	1.056	2.10	1	76.0	67	2.1	17.3	8.0	.5	2	11	27	.03	84	2	15
PR-01-111	.056	32	34	.78	522	.290	5.33	1.265	1.75	1	64.8	62	2.2	11.4	8.8	.5	2	8	26	<.02	76	2	15
PR-01-112	.032	34	37	.72	563	.291	5.32	1.290	1.81	1	70.3	69	2.0	11.3	9.0	.5	2	9	27	<.02	77	2	15
PR-01-113	.035	35	41	.93	552	.287	5.40	1.086	1.95	1	69.3	66	2.2	16.9	9.4	.5	2	10	29	.02	86	2	17
PR-01-114	.039	34	40	.80	567	.314	5.57	1.294	1.89	1	83.2	66	2.3	15.6	9.0	.6	2	9	32	.02	83	3	18
PR-01-115	.040	38	42	.82	603	.301	5.45	1.107	2.00	1	72.3	71	2.1	15.5	9.4	.5	2	10	29	<.02	91	2	18
PR-01-116	.037	36	44	.78	556	.285	5.49	.924	2.28	1	73.3	74	2.4	17.6	8.1	.5	2	10	29	<.02	100	2	18
PR-01-117	.033	36	40	.77	537	.299	5.17	1.156	2.04	1	66.3	70	2.2	14.8	9.2	.5	2	9	29	.02	87	2	17
PR-01-118	.041	34	37	.73	576	.324	5.40	1.433	1.90	1	76.9	66	2.2	14.7	9.9	.6	1	9	29	<.02	80	2	17
PR-01-119	.034	39	40	.77	534	.289	4.89	1.239	1.96	1	51.2	74	2.2	14.4	9.5	.6	2	9	22	<.02	83	2	14
PR-01-120	.041	41	42	.81	545	.307	5.69	1.330	1.93	1	71.8	78	2.3	17.2	9.8	.6	2	11	28	<.02	85	2	17
PR-01-121	.030	41	41	.86	512	.284	6.61	1.266	1.81	1	77.7	79	2.1	16.0	8.0	.5	1	11	32	.02	82	2	17
PR-01-122	.023	38	39	1.03	504	.277	5.14	1.117	1.90	1	54.9	75	2.1	17.2	8.1	.5	2	10	26	<.02	84	2	14
PR-01-123	.029	31	42	1.32	512	.299	5.97	1.162	2.00	1	86.3	62	2.2	18.6	8.5	.5	1	11	35	.02	83	3	19
PR-01-124	.024	34	36	1.05	535	.296	5.28	1.150	1.79	1	68.0	67	2.3	16.7	8.6	.5	2	10	29	<.02	77	2	15
PR-01-125	.024	38	37	1.50	484	.266	4.96	1.035	1.82	1	58.0	74	2.1	17.1	8.6	.6	1	10	30	.02	77	2	14
PR-01-126	.038	36	39	.90	526	.291	4.73	1.160	1.77	1	56.2	70	2.0	14.2	8.7	.6	1	9	26	.02	75	2	14
PR-01-127	.049	32	32	.71	518	.266	4.36	1.379	1.83	1	57.0	63	1.8	12.5	8.2	.5	1	8	25	.02	67	2	13
PR-01-128	.132	33	27	1.74	518	.237	4.14	1.246	1.61	1	59.1	61	1.5	12.7	7.3	.5	1	7	24	.03	56	2	11
STANDARD DST3	.110	29	309	.94	1016	.376	7.22	1.819	2.13	8	50.2	54	7.3	16.1	9.4	.6	3	12	20	.02	75	3	19

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 ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	Al %	Na %	K %	W ppm	Zr ppm	Ce ppm	Sn ppm	Y ppm	Nb ppm	Ta ppm	Be ppm	Sc ppm	Li ppm	S %	Rb ppm	Hf ppm	Ga ppm
G-1	1.4	2	21	48	<.2	6	4	722	2.12	<2	3	<4	7	691	<.2	<1	<1	52	2.60	.099	24	13	.61	1060	.240	7.36	2.486	3.19	2	8.7	42	1.7	15.4	19.8	1.4	3	6	33	<.02	116	1	24
PR-01-129	<.5	16	21	124	<.2	17	8	413	2.81	3	1	<4	10	139	.2	1	<1	50	1.30	.040	37	35	1.13	596	.269	5.78	1.098	1.71	1	80.7	65	2.0	20.1	7.7	.5	2	10	30	.02	83	3	19
PR-01-130	<.5	9	18	64	<.2	16	6	332	2.42	2	1	<4	8	130	<.2	<1	<1	45	.97	.026	34	34	.95	478	.255	5.46	1.001	1.60	1	65.4	61	1.9	15.2	7.2	.5	2	8	29	.02	84	2	17
PR-01-131	<.5	15	19	53	<.2	17	7	298	2.55	2	2	<4	11	142	<.2	<1	<1	48	.91	.024	42	34	.90	578	.263	6.38	1.080	1.57	1	79.3	69	1.9	18.1	8.1	.6	2	10	29	<.02	86	3	19
PR-01-132	1.1	19	15	125	<.2	16	5	412	1.89	4	2	<4	5	196	<.2	<1	<1	38	1.03	.216	20	20	.56	735	.273	6.03	1.712	1.94	1	139.5	39	1.8	13.5	5.8	<.5	1	7	32	<.02	53	5	21
PR-01-133	.5	22	14	63	<.2	16	7	432	2.94	4	1	<4	11	135	<.2	<1	<1	52	1.07	.037	40	36	1.15	594	.249	7.05	1.016	1.83	1	81.7	71	2.2	20.4	6.9	.5	2	12	34	.02	91	3	21
PR-01-134	<.5	20	5	33	<.2	10	6	244	1.17	8	1	<4	8	55	<.2	1	<1	38	11.84	.068	30	30	1.46	439	.118	4.21	.500	1.64	1	53.0	50	1.6	15.7	3.7	<.5	1	7	34	.02	79	2	13
RE PR-01-134	<.5	20	5	32	<.2	10	6	235	1.16	7	1	<4	8	53	<.2	<1	<1	35	11.67	.065	29	28	1.46	437	.106	4.19	.490	1.66	1	51.2	50	1.7	15.2	3.1	<.5	1	7	37	.03	78	2	13
PR-01-135	<.5	10	14	50	<.2	15	6	216	2.31	4	2	<4	10	124	<.2	<1	<1	50	.70	.039	40	34	.89	593	.250	5.70	1.046	1.86	1	59.8	68	2.0	11.8	7.5	.5	2	8	28	<.02	87	2	19
PR-01-136	.5	9	12	74	<.2	14	6	366	1.92	2	1	<4	7	147	<.2	<1	<1	41	.86	.040	33	31	.63	583	.249	5.26	1.151	1.60	1	48.7	59	1.8	10.0	7.4	.5	1	7	23	<.02	72	2	16
PR-01-137	<.5	16	18	89	<.2	17	8	456	2.76	3	1	<4	10	118	<.2	<1	<1	48	1.04	.029	39	39	1.04	601	.254	6.20	1.110	1.97	1	67.4	72	2.0	21.0	6.8	<.5	1	10	35	.02	92	2	19
PR-01-138	.5	13	29	152	<.2	19	9	420	2.67	4	1	<4	9	122	.2	<1	<1	54	1.13	.063	34	39	1.11	675	.270	6.24	1.176	1.74	1	60.4	62	2.2	17.1	6.6	.5	2	9	41	<.02	79	2	21
PR-01-139	.5	23	17	68	<.2	21	10	571	2.84	5	1	<4	11	132	<.2	1	<1	52	1.08	.054	40	42	1.01	597	.254	6.06	1.262	2.04	1	85.6	71	1.9	20.4	7.3	.5	1	10	35	<.02	92	3	19
PR-01-140	.5	23	16	60	<.2	16	8	622	2.35	4	1	<4	8	151	<.2	<1	<1	46	1.10	.073	33	29	.83	623	.246	5.57	1.339	1.92	1	85.1	57	1.9	17.8	6.8	.5	2	9	28	<.02	75	2	17
PR-01-141	<.5	10	15	67	<.2	15	7	465	2.43	3	1	<4	10	130	<.2	<1	<1	51	.77	.029	41	40	.67	600	.274	5.08	1.084	1.77	1	55.2	71	1.7	14.0	9.6	.7	2	8	26	.02	80	2	17
PR-01-142	<.5	13	16	48	<.2	17	7	273	2.54	2	1	<4	10	130	<.2	<1	<1	49	.87	.029	39	35	.74	520	.268	5.24	1.053	1.62	1	73.1	67	1.6	15.7	7.8	.6	1	9	27	.02	74	2	17
STANDARD DST3	9.9	137	40	188	.3	43	13	993	4.01	26	6	<4	6	227	5.2	7	6	131	1.57	.113	30	331	.94	1206	.404	7.00	1.840	2.12	8	50.8	50	7.4	15.8	9.9	.6	4	11	20	.03	76	3	22

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

Data FA

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Walker, Rick PROJECT Proximal File # A103960 Page 1

656 Brookview Crescent, Cranbrook B.C. V1C 4R5 Submitted by: Rick Walker

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 %	Al %	Na %	K %	W ppm	Zr ppm	Ce ppm	Sn ppm	Y ppm	Nb ppm	Ta ppm	Be ppm	Sc ppm	Li ppm	S %	Rb ppm	Hf ppm	Ga ppm
G-1	1.1	2	21	47	<.2	5	5	737	2.13	<2	3	<4	9	701	<.2	<1	<1	49	2.70	.099	33	9	.68	929	.233	8.75	2.931	3.06	3	8.4	60	1.4	17.7	20.5	1.4	2	6	35	<.02	122	1	20
PR-01-143	<.5	11	16	51	<.2	15	8	324	2.61	3	1	<4	11	123	<.2	1	<1	52	.81	.041	41	28	.80	444	.265	5.93	1.034	1.57	1	53.1	75	1.6	13.7	7.5	.5	3	8	27	<.02	66	2	13
PR-01-144	.5	11	15	56	<.2	15	7	312	2.42	3	1	<4	10	131	<.2	<1	<1	49	.79	.034	39	31	.69	502	.269	6.15	1.104	1.59	1	55.0	71	1.6	12.0	8.3	.5	2	7	28	<.02	69	2	15
PR-01-145	<.5	10	15	62	<.2	13	7	392	2.41	3	1	<4	10	128	<.2	<1	<1	50	.79	.030	37	30	.70	467	.284	5.74	1.045	1.58	1	52.3	70	1.7	11.8	8.5	.6	1	8	26	<.02	65	2	14
PR-01-146	<.5	11	14	57	<.2	13	7	351	2.29	2	1	<4	10	124	<.2	<1	<1	47	.83	.024	36	32	.70	470	.260	5.69	1.008	1.66	1	43.1	67	1.5	12.8	8.6	.7	2	7	26	<.02	69	2	13
PR-01-147	<.5	14	16	69	<.2	17	8	308	2.69	3	1	<4	11	125	<.2	<1	<1	53	.75	.041	37	36	.77	517	.261	6.56	.963	1.67	1	64.4	65	1.7	14.9	7.7	.5	2	9	34	<.02	74	2	15
PR-01-148	.5	12	16	66	<.2	15	8	494	2.47	3	1	<4	12	124	<.2	<1	<1	49	.79	.038	38	33	.73	499	.251	6.09	.999	1.67	1	58.2	71	1.5	13.4	7.7	.5	2	8	31	.03	72	2	14
PR-01-149	.5	14	17	58	<.2	18	8	350	2.80	3	1	<4	12	131	<.2	<1	<1	55	.83	.036	42	39	.81	531	.258	7.13	1.086	1.80	1	62.1	76	1.8	16.0	7.9	.5	2	9	33	.02	80	2	16
PR-01-150	.6	20	18	62	<.2	19	11	564	2.78	8	2	<4	11	197	<.2	1	<1	61	5.59	.059	36	46	2.24	596	.193	6.74	.968	2.40	1	56.2	66	2.4	15.4	6.0	<.5	2	10	36	.05	113	2	17
PR-01-151	.5	16	21	63	<.2	18	10	560	2.93	5	2	<4	16	129	<.2	<1	<1	56	.95	.036	34	38	1.16	535	.276	6.85	1.084	1.73	3	76.7	65	1.8	17.6	7.7	.5	2	10	35	.03	78	3	18
PR-01-152	.5	17	17	67	<.2	18	10	648	2.83	3	1	<4	10	129	<.2	<1	<1	55	.96	.049	34	36	1.02	518	.268	6.75	1.089	1.75	1	67.1	63	1.8	16.5	7.2	.5	2	9	30	<.02	75	2	17
PR-01-153	<.5	20	15	56	<.2	32	21	621	3.63	4	1	<4	10	104	<.2	1	<1	60	1.02	.037	36	34	1.77	435	.251	6.38	.962	1.70	1	43.7	68	1.6	17.3	7.0	.5	2	11	30	<.02	69	2	16
PR-01-154	<.5	12	14	48	<.2	15	9	416	2.54	2	1	<4	10	107	<.2	<1	<1	51	.75	.025	35	30	1.21	445	.245	5.88	.968	1.72	1	48.7	68	1.6	14.1	6.8	<.5	1	8	30	.02	74	2	13
PR-01-155	<.5	18	15	48	<.2	16	9	485	2.44	4	1	<4	10	116	<.2	<1	<1	50	2.76	.064	34	36	1.36	469	.222	6.03	.989	1.69	1	55.5	64	1.7	15.7	6.5	<.5	2	8	32	<.02	72	2	14
PR-01-156	<.5	12	18	55	<.2	14	10	491	2.59	3	1	<4	10	123	<.2	<1	<1	51	.80	.035	34	30	1.45	446	.252	6.27	1.044	1.74	1	51.1	66	1.5	15.0	7.3	.5	2	9	32	<.02	69	2	14
PR-01-157	<.5	13	18	39	<.2	12	8	340	2.43	3	2	<4	10	101	<.2	<1	<1	49	.65	.017	34	28	1.70	379	.230	5.47	.824	1.39	1	45.0	62	1.4	16.0	7.1	.5	2	8	32	<.02	62	2	13
PR-01-158	.6	13	14	57	<.2	16	8	274	2.57	3	1	<4	10	145	<.2	<1	<1	52	.84	.029	35	35	.98	482	.265	7.00	1.107	1.51	1	77.4	65	1.6	14.0	6.4	.5	1	9	34	<.02	68	3	16
PR-01-159	<.5	11	11	59	<.2	15	7	484	2.36	2	1	<4	8	123	<.2	<1	<1	47	.71	.027	27	32	1.70	438	.239	6.10	.899	1.46	1	55.8	51	1.4	10.5	6.1	<.5	1	8	41	<.02	62	2	15
PR-01-160	<.5	12	14	54	<.2	14	7	347	2.44	3	1	<4	8	147	<.2	<1	<1	46	.86	.031	25	24	.89	504	.264	6.39	1.130	1.65	1	67.6	52	1.6	11.0	8.1	.6	1	8	32	<.02	59	2	16
PR-01-161	<.5	19	18	59	<.2	20	11	620	3.06	5	1	<4	11	105	<.2	1	<1	58	.74	.026	36	41	1.14	480	.247	6.16	.932	1.93	1	56.7	69	1.8	17.7	7.7	.5	2	9	33	<.02	73	2	15
PR-01-162	<.5	22	16	52	<.2	17	10	871	2.67	4	1	<4	10	101	<.2	1	<1	53	.78	.037	33	38	1.08	474	.231	5.73	.811	1.86	1	49.6	63	1.7	17.8	6.9	.5	1	9	29	<.02	78	2	15
RE PR-01-162	.5	22	17	52	<.2	17	11	915	2.76	5	1	<4	10	104	<.2	<1	<1	55	.81	.037	35	39	1.12	494	.245	5.90	.843	1.93	1	51.6	66	1.7	18.8	7.0	.5	2	9	30	<.02	81	2	14
PR-01-163	<.5	15	15	47	<.2	17	9	428	2.58	3	1	<4	10	124	<.2	<1	<1	51	.77	.040	36	36	.86	476	.265	6.11	1.036	1.84	1	61.3	67	1.7	15.8	7.7	.5	2	9	31	<.02	78	2	15
PR-01-164	<.5	14	15	50	<.2	14	8	355	2.46	3	1	<4	9	144	<.2	<1	<1	47	.93	.036	32	31	.79	498	.272	6.44	1.120	1.70	1	71.7	60	1.8	16.3	7.1	.5	2	8	29	<.02	72	3	15
PR-01-165	.6	14	16	60	<.2	17	9	567	2.78	3	1	<4	10	149	<.2	<1	<1	52	.98	.032	33	32	.82	536	.279	6.49	1.107	1.70	1	79.7	63	1.7	15.3	7.6	.5	1	9	31	<.02	72	3	16
PR-01-166	.6	14	16	59	<.2	16	8	427	2.58	4	1	<4	10	128	<.2	<1	<1	51	.81	.044	34	34	.84	476	.266	6.71	1.064	1.72	1	69.5	65	1.6	12.9	7.2	.5	2	9	30	<.02	72	3	16
PR-01-167	.5	11	16	64	<.2	14	8	444	2.56	2	1	<4	9	137	<.2	<1	<1	47	.83	.031	34	34	.80	550	.252	6.66	1.062	1.65	1	64.1	64	1.6	12.6	6.6	.5	2	8	31	<.02	74	2	15
PR-01-168	<.5	14	18	48	<.2	16	9	352	2.75	3	1	<4	11	121	<.2	<1	<1	50	.81	.035	39	39	1.02	534	.239	6.62	1.042	1.87	1	57.5	74	1.9	18.2	7.0	.5	2	10	33	.03	82	2	15
PR-01-169	.5	12	15	45	<.2	13	8	634	2.26	3	1	<4	10	121	<.2	<1	<1	46	.78	.025	35	32	.83	469	.224	5.66	1.016	1.71	2	44.7	68	1.5	12.8	7.3	.5	2	7	25	<.02	72	2	13
PR-01-171	<.5	12	14	56	<.2	15	8	488	2.44	3	1	<4	9	144	<.2	<1	<1	47	.83	.036	35	31	.74	509	.261	6.11	1.186	1.73	5	63.0	67	1.5	12.9	7.0	.5	2	8	30	<.02	65	2	15
PR-01-172	<.5	10	14	45	<.2	13	7	396	2.29	2	1	<4	9	125	<.2	<1	<1	44	.74	.024	34	30	.74	439	.252	5.72	1.083	1.61	1	53.0	66	1.5	11.8	6.7	.5	2	8	27	<.02	65	2	13
PR-01-173	<.5	11	15	48	<.2	14	7	314	2.22	3	1	<4	9	154	<.2	<1	<1	46	.87	.033	33	30	.68	506	.272	5.95	1.276	1.57	1	58.9	62	1.7	11.0	8.0	.6	3	8	27	.02	62	2	14
PR-01-174	<.5	13	17	60	<.2	18	9	397	3.00	4	1	<4	11	111	<.2	<1	<1	52	.81	.034	38	40	1.02	499	.247	6.41	.978	1.82	1	57.2	72	1.6	15.7	8.1	.5	2	10	35	<.02	79	2	14
PR-01-175	.5	24	15	48	<.2	17	10	402	3.00	6	1	<4	9	176	<.2	1	<1	53	1.24	.033	32	32	.96	495	.294	7.22	1.431	1.70	1	99.8	64	2.0	21.5	6.7	.5	2	10	37	<.02	74	3	18
STANDARD DST3	11.1	132	41	182	.4	42	15	1062	4.14	28	6	<4	7	235	5.6	6	5	145	1.69	.112	25	313	1.01	1069	.414	7.34	1.934	2.02	8	47.6	46	6.6	15.3	10.1	.8	4	11	23	.02	65	3	18

GROUP 1EX - 0.25 GM SAMPLE DIGESTED WITH HCLO4-HNO3-HCL-HF TO 10 ML. UPPER LIMITS - AG, AU, W = 200 PPM; MO, CO, CD, SB, BI, TH & U = 4,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM. DIGESTION IS PARTIAL FOR SOME MINERALS & MAY VOLATIZE SOME ELEMENTS, ANALYSIS BY ICP-ES.
- SAMPLE TYPE: SOIL SS80 60C Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: OCT 8 2001 **DATE REPORT MAILED:** Nov 19/01 **SIGNED BY** C. Leong ...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 %	Al %	Na %	K %	W ppm	Zr ppm	Ce ppm	Sn ppm	Y ppm	Nb ppm	Ta ppm	Be ppm	Sc ppm	Li ppm	S %	Rb ppm	Hf ppm	Ga ppm
G-1	1.0	2	21	46	<.2	5	5	739	2.08	2	4	<4	9	706	<.2	<1	<1	49	2.58	.094	31	10	.67	952	.234	8.76	2.849	3.00	3	7.3	56	1.4	16.4	18.6	1.2	2	6	42	<.02	126	1	19
PR-01-176	<.5	17	16	48	<.2	17	10	713	2.43	6	1	<4	11	128	<.2	1	<1	50	1.12	.041	44	35	.83	484	.237	5.97	.965	1.68	1	46.6	81	1.6	15.5	7.4	.5	1	8	31	<.02	79	2	13
PR-01-177	<.5	19	12	40	<.2	14	8	678	2.57	5	1	<4	10	101	<.2	1	<1	49	1.77	.030	36	34	.94	410	.205	5.75	.772	1.87	1	39.8	68	1.6	15.6	6.3	.5	2	8	27	<.02	83	2	12
PR-01-178	<.5	15	10	46	<.2	13	6	282	2.00	3	1	<4	8	137	<.2	<1	<1	44	.80	.032	35	30	.66	409	.255	5.84	1.032	1.48	1	37.4	65	1.3	9.4	6.9	<.5	1	6	26	.02	68	2	12
PR-01-179	<.5	21	13	46	<.2	15	8	281	2.41	3	1	<4	10	122	<.2	<1	<1	47	.68	.040	37	31	.87	499	.232	6.20	1.013	1.65	1	52.9	69	1.4	15.8	6.7	.5	2	8	29	<.02	75	2	13
PR-01-180	<.5	16	12	53	<.2	17	7	314	2.39	4	1	<4	8	172	<.2	<1	<1	43	.93	.041	28	27	.66	503	.270	7.05	1.277	1.51	1	74.6	53	1.4	10.8	5.8	.5	1	7	39	<.02	65	3	16
PR-01-181	.6	111	12	53	<.2	17	11	1020	2.70	6	1	<4	9	124	<.2	1	<1	47	.96	.045	31	33	.84	469	.237	6.46	.882	1.65	1	58.9	60	1.6	16.3	6.1	<.5	3	8	32	<.02	79	2	14
PR-01-182	<.5	21	13	47	<.2	15	8	254	2.57	3	1	<4	9	162	<.2	<1	<1	45	.91	.031	33	26	.74	516	.276	7.07	1.229	1.59	1	88.0	63	1.6	14.4	6.8	.5	1	8	35	<.02	69	3	16
PR-01-183	<.5	11	12	39	<.2	15	7	201	2.16	3	1	<4	9	128	<.2	<1	<1	47	.69	.023	34	31	.79	434	.241	6.24	1.053	1.53	1	50.4	61	1.5	9.8	6.2	<.5	1	7	30	<.02	69	2	14
PR-01-184	.5	21	13	47	<.2	17	9	352	2.63	4	1	<4	10	129	<.2	<1	<1	48	.90	.037	34	32	1.00	444	.240	6.36	1.056	1.69	1	67.5	63	1.6	15.4	6.6	.5	1	9	32	<.02	74	3	14
PR-01-185	<.5	19	13	53	<.2	16	10	511	2.66	3	1	<4	10	127	<.2	<1	<1	46	.77	.032	36	30	.78	440	.247	5.91	.979	1.68	1	54.3	69	1.6	13.8	6.8	.5	1	8	29	<.02	70	2	14
PR-01-186	.5	17	12	67	<.2	15	7	430	2.43	4	1	<4	9	122	<.2	<1	<1	44	.89	.042	34	30	.68	462	.228	5.74	.885	1.49	1	44.6	64	1.4	11.3	6.4	.5	1	8	28	<.02	64	2	12
PR-01-187	<.5	17	10	43	<.2	11	6	639	1.71	4	1	<4	7	226	<.2	<1	<1	34	3.97	.105	33	21	2.18	411	.193	4.78	1.063	1.38	1	51.5	59	1.1	12.4	4.9	<.5	1	6	22	.10	50	2	10
PR-01-188	<.5	12	14	52	<.2	15	7	364	2.40	3	1	<4	10	114	<.2	<1	<1	45	.72	.034	37	33	.71	471	.240	5.95	.847	1.70	1	46.6	68	1.6	13.9	7.4	.6	1	8	29	<.02	76	2	13
PR-01-189	<.5	86	8	40	<.2	25	8	410	2.57	4	2	<4	10	97	<.2	1	<1	50	.74	.069	33	35	.62	441	.233	6.98	.560	2.53	1	52.1	64	2.0	16.5	5.9	<.5	2	10	26	.02	116	2	16
PR-01-190	.5	26	13	48	<.2	18	10	544	2.41	4	1	<4	10	129	<.2	1	<1	50	.78	.044	37	32	.75	475	.236	6.28	.961	1.84	1	64.1	69	1.7	15.1	6.3	.5	2	8	28	<.02	81	2	14
PR-01-190A	<.5	25	14	52	<.2	19	11	744	2.59	6	2	<4	12	106	<.2	1	<1	53	.75	.081	42	36	.75	489	.237	5.98	.750	1.95	1	58.2	79	1.6	16.1	6.6	.5	2	8	25	.02	86	2	13
PR-01-192	.5	20	11	54	<.2	19	11	839	2.51	4	2	<4	10	116	<.2	1	<1	52	.74	.074	35	36	.66	501	.218	6.75	.783	1.99	1	70.8	66	1.8	15.5	4.9	<.5	3	9	27	<.02	86	3	15
PR-01-193	.5	17	14	50	<.2	17	8	328	2.60	4	1	<4	10	150	<.2	<1	<1	51	.87	.036	36	30	.76	505	.279	6.77	1.152	1.72	1	75.4	70	1.6	14.9	6.8	.5	1	9	31	<.02	72	3	15
PR-01-194	<.5	16	15	48	<.2	16	8	428	2.39	3	1	<4	10	120	<.2	<1	<1	52	.78	.029	37	34	.79	461	.240	5.65	.847	1.86	1	43.3	67	1.7	16.1	6.7	.5	2	8	25	<.02	79	2	12
PR-01-195	<.5	18	16	56	<.2	20	10	470	2.81	4	1	<4	11	127	<.2	<1	<1	55	.74	.041	35	37	.92	505	.255	6.59	1.039	1.92	1	67.0	69	1.8	14.9	6.7	.5	2	9	34	<.02	77	3	15
PR-01-196	<.5	19	14	52	<.2	18	10	428	2.77	4	1	<4	11	129	<.2	<1	<1	56	.72	.039	38	39	.90	517	.258	6.37	1.016	1.92	1	58.8	67	1.8	15.2	7.5	.5	2	9	32	<.02	81	2	15
PR-01-197	.5	12	14	51	<.2	16	8	395	2.54	3	1	<4	10	140	<.2	<1	<1	49	.78	.034	36	32	.73	475	.270	6.39	1.065	1.70	1	66.2	69	1.6	13.1	6.9	.5	1	9	31	<.02	70	3	14
PR-01-198	.5	16	16	48	<.2	14	8	481	2.41	2	1	<4	10	159	<.2	<1	<1	47	.89	.034	39	32	.94	482	.264	6.22	1.220	1.82	1	64.1	74	1.6	13.9	7.2	.5	1	8	30	.02	69	2	13
PR-01-199	.6	15	14	45	<.2	15	8	592	2.39	4	1	<4	10	151	<.2	<1	<1	51	.81	.041	37	31	.73	510	.269	6.24	1.141	1.57	1	66.4	71	1.5	14.6	7.2	.6	1	8	28	<.02	67	3	13
PR-01-200	.6	14	14	48	<.2	16	8	680	2.40	4	1	<4	10	149	<.2	<1	<1	51	.85	.047	39	32	.71	534	.266	6.17	1.054	1.68	1	61.7	74	1.6	15.5	7.9	.6	2	8	29	<.02	70	2	13
RE PR-01-200	.5	15	15	46	<.2	16	9	654	2.39	4	1	<4	11	143	<.2	<1	<1	49	.79	.046	40	32	.72	522	.251	6.19	1.101	1.62	1	58.8	74	1.6	14.6	6.7	.5	1	8	29	<.02	70	2	13
PR-01-201	<.5	18	15	54	<.2	17	9	602	2.54	5	1	<4	11	141	<.2	<1	<1	55	.83	.049	40	34	.81	502	.261	6.30	1.034	1.75	1	63.7	73	1.7	16.5	6.8	.5	2	9	28	<.02	76	2	14
PR-01-202	.6	18	14	54	<.2	16	9	825	2.42	4	1	<4	10	150	<.2	<1	<1	50	.94	.046	34	33	.80	547	.238	6.23	1.109	1.77	1	61.1	66	1.7	14.5	6.5	.5	1	8	31	<.02	72	2	13
PR-01-203	.5	17	14	48	<.2	15	9	555	2.43	4	1	<4	9	165	<.2	<1	<1	50	1.01	.053	34	32	.94	485	.247	6.36	1.243	1.91	1	73.1	66	1.6	15.8	6.5	<.5	2	8	30	<.02	71	3	14
PR-01-204	<.5	14	16	49	<.2	18	9	473	2.61	4	2	<4	11	142	<.2	<1	<1	53	.81	.047	37	35	.79	514	.266	6.47	1.125	1.75	1	67.6	69	1.7	16.1	7.1	.5	1	9	33	<.02	75	3	15
PR-01-205	.6	15	13	55	<.2	12	7	477	2.16	3	1	<4	8	190	<.2	<1	<1	43	1.58	.060	30	28	1.96	488	.241	6.38	1.433	1.80	1	75.9	54	1.5	14.5	5.5	<.5	1	8	34	.04	68	3	13
PR-01-206	.5	16	15	63	<.2	18	9	717	2.65	3	1	<4	11	140	<.2	<1	<1	58	.84	.042	37	38	.84	562	.268	6.80	.919	1.86	1	62.0	69	1.9	14.5	7.1	.5	2	9	32	<.02	84	3	15
PR-01-207	.5	15	15	52	<.2	18	10	709	2.52	5	1	<4	11	133	<.2	<1	<1	56	.86	.053	37	36	.85	545	.251	6.54	.967	1.92	1	65.2	68	1.7	15.4	6.6	.5	1	9	31	.02	80	2	15
STANDARD DST3	10.6	135	42	181	.3	42	15	1074	3.95	28	6	<4	6	236	5.6	6	5	140	1.55	.107	24	300	.97	1007	.405	7.46	1.840	1.97	8	46.1	45	6.3	14.5	9.0	.6	3	10	23	<.02	66	3	17

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 ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	Al %	Na %	K %	W ppm	Zr ppm	Ce ppm	Sn ppm	Y ppm	Nb ppm	Ta ppm	Be ppm	Sc ppm	Li ppm	S %	Rb ppm	Hf ppm	Ga ppm
G-1	1.1	2	22	45	<.2	5	5	716	2.11	<2	4	<4	8	679	<.2	<1	<1	49	2.54	.099	25	10	.66	865	.237	8.31	2.890	3.16	3	6.7	47	1.5	15.5	17.2	1.3	3	6	40	<.02	111	1	18
PR-01-208	.5	15	15	57	<.2	16	9	720	2.41	4	1	<4	10	129	<.2	<1	<1	49	.82	.060	34	33	.81	509	.248	6.09	.994	1.71	1	63.0	67	1.6	14.3	6.8	.5	2	8	31	<.02	68	2	14
PR-01-209	.8	18	15	51	<.2	14	8	535	2.16	4	1	<4	10	147	<.2	<1	<1	45	.93	.088	33	31	.88	457	.222	5.61	1.172	1.83	1	55.3	63	1.4	14.0	6.8	.5	1	8	29	<.02	63	2	12
PR-01-210	.6	19	17	56	<.2	16	10	702	2.51	4	1	<4	11	137	<.2	<1	<1	52	.86	.059	35	35	.97	525	.258	6.20	1.128	1.86	1	64.7	67	1.7	15.4	6.7	.5	2	9	36	<.02	68	2	14
PR-01-211	.5	19	17	53	<.2	16	9	619	2.33	6	1	<4	11	134	<.2	1	<1	51	1.93	.080	38	36	1.24	476	.235	5.71	.940	1.90	1	47.8	71	1.6	15.5	7.3	.6	2	9	32	<.02	72	2	14
PR-01-212	1.1	19	15	53	<.2	16	10	691	2.45	6	1	<4	11	117	<.2	1	<1	54	.78	.061	37	40	.94	470	.265	6.36	.846	1.94	1	57.9	70	1.8	15.5	7.2	.5	2	9	31	<.02	73	2	14
PR-01-213	.9	18	16	54	<.2	18	10	413	2.57	4	2	<4	11	134	<.2	<1	<1	48	.88	.048	38	33	.78	447	.279	6.15	1.093	1.56	3	73.4	74	1.4	15.9	6.7	.5	2	8	35	<.02	58	3	14
PR-01-214	.6	20	15	55	<.2	14	9	636	2.35	4	1	<4	10	165	<.2	<1	<1	45	.96	.056	31	27	.69	548	.252	6.12	1.287	1.60	1	80.9	61	1.4	15.5	5.8	<.5	1	8	30	.02	55	3	14
PR-01-215	<.5	13	13	49	<.2	17	8	356	2.67	3	2	<4	10	130	<.2	<1	<1	49	.81	.042	34	34	.89	526	.261	6.36	.972	1.56	1	71.9	65	1.5	13.1	5.9	.5	2	9	36	<.02	63	3	14
PR-01-216	.5	20	17	76	<.2	19	9	444	2.70	4	1	<4	10	147	<.2	<1	<1	48	.88	.043	29	35	.75	529	.271	6.41	1.122	1.62	1	79.8	57	1.5	12.9	6.2	<.5	1	8	38	<.02	62	3	15
PR-01-217	<.5	14	12	43	<.2	15	8	385	2.53	2	1	<4	10	94	<.2	<1	<1	46	.63	.025	36	34	1.02	381	.217	5.78	.693	1.64	<1	55.9	68	1.5	15.6	5.2	<.5	1	9	33	<.02	68	2	13
PR-01-218	<.5	20	13	52	<.2	18	11	447	2.76	4	1	<4	11	120	<.2	<1	<1	52	.76	.060	36	37	1.47	466	.229	6.62	.908	1.77	1	69.2	71	1.6	15.7	5.5	<.5	2	10	42	<.02	67	2	14
RE PR-01-218	<.5	20	14	49	<.2	17	11	448	2.70	4	1	<4	11	118	<.2	<1	<1	50	.72	.059	36	37	1.48	452	.230	6.53	.915	1.74	1	68.7	69	1.4	15.7	5.5	<.5	1	10	39	<.02	67	3	14
PR-01-219	<.5	22	15	55	<.2	15	9	453	2.61	3	2	<4	9	194	<.2	<1	<1	50	1.02	.049	31	28	.85	547	.296	6.96	1.638	1.91	1	102.2	61	1.5	15.4	6.1	.5	2	8	37	<.02	61	4	16
PR-01-220	<.5	14	14	50	<.2	17	9	402	2.66	2	1	<4	10	134	<.2	<1	<1	47	.75	.038	34	34	1.02	465	.268	6.49	.982	1.69	1	71.5	66	1.6	12.0	5.8	<.5	2	9	35	<.02	69	3	14
PR-01-221	<.5	22	16	62	<.2	18	9	485	2.81	4	1	<4	10	165	<.2	<1	<1	52	.92	.061	31	31	.85	558	.304	7.09	1.195	1.55	1	96.8	59	1.6	16.2	6.0	<.5	2	9	37	<.02	63	3	15
PR-01-222	<.5	21	17	54	<.2	17	11	744	2.72	4	1	<4	10	149	<.2	1	<1	54	.94	.050	38	32	.92	483	.294	6.17	1.089	1.62	1	70.1	74	1.4	17.3	6.7	.5	2	9	32	<.02	62	2	14
PR-01-223	<.5	16	25	58	<.2	14	10	1143	2.64	6	1	<4	9	113	<.2	1	<1	49	.99	.029	30	30	.93	431	.227	5.65	.750	1.59	1	52.7	60	1.6	17.7	5.1	<.5	1	9	28	<.02	71	2	12
PR-01-224	<.5	23	15	44	<.2	15	10	648	2.37	8	1	<4	9	106	<.2	1	<1	46	6.53	.066	33	28	1.19	456	.181	5.72	.709	2.08	1	68.2	62	1.8	21.4	4.2	<.5	1	8	40	.06	92	2	14
PR-01-225	<.5	32	30	39	<.2	14	15	467	1.82	11	1	<4	9	79	<.2	1	<1	39	8.48	.065	30	27	1.81	380	.132	4.20	.338	1.52	<1	48.2	56	1.4	17.3	3.6	<.5	1	7	33	.09	68	2	9
PR-01-226	<.5	17	12	41	<.2	10	7	486	1.82	6	1	<4	6	366	<.2	<1	<1	34	9.24	.097	23	15	1.54	613	.196	5.19	1.416	1.65	<1	84.2	45	1.1	15.4	3.7	<.5	1	6	20	.09	47	3	12
PR-01-227	.6	29	27	66	<.2	10	7	478	2.37	4	1	<4	6	318	<.2	<1	<1	49	2.00	.071	21	14	.97	660	.355	7.66	3.188	2.40	1	168.7	43	1.7	19.8	5.8	<.5	2	8	39	.06	49	6	19
PR-01-228	.7	32	24	60	<.2	19	10	4507	3.99	14	2	<4	13	92	<.2	1	<1	59	1.09	.044	48	37	1.41	526	.220	5.98	.825	1.82	1	59.2	86	1.6	36.4	6.0	<.5	3	10	44	.04	91	2	14
PR-01-229	<.5	10	19	68	<.2	19	8	252	3.11	4	2	<4	11	127	<.2	1	<1	58	.77	.030	37	41	1.10	516	.284	7.08	.975	1.77	1	65.0	71	1.8	11.4	7.4	.5	2	10	46	.03	75	2	16
PR-01-230	<.5	12	18	71	<.2	17	8	416	2.91	3	1	<4	10	141	<.2	<1	<1	54	.83	.027	34	35	.98	556	.302	6.89	1.031	1.69	1	76.2	65	1.7	11.9	7.4	.6	2	9	38	<.02	74	3	15
PR-01-231	<.5	17	54	102	<.2	17	11	446	3.05	6	1	<4	9	134	<.2	1	1	51	1.24	.052	33	33	1.44	621	.270	7.59	1.011	1.72	2	75.0	67	1.9	19.6	5.6	<.5	1	10	64	.03	84	3	18
PR-01-232	<.5	27	33	134	<.2	20	25	1174	2.97	10	1	<4	10	172	<.2	1	1	59	1.43	.103	33	32	1.35	847	.276	7.23	1.226	2.02	1	77.9	69	1.9	26.1	5.8	<.5	2	10	57	.02	84	3	16
PR-01-233	<.5	18	21	70	<.2	19	11	646	3.10	6	1	<4	10	162	<.2	1	<1	59	1.12	.041	35	37	1.19	609	.298	7.69	1.091	1.77	1	93.5	72	1.9	23.0	6.4	<.5	2	10	48	<.02	79	3	17
PR-01-234	<.5	23	19	50	<.2	20	12	606	2.88	7	1	<4	11	81	<.2	1	<1	63	.75	.031	39	40	1.20	523	.211	6.18	.713	2.18	1	46.4	74	1.7	18.1	6.1	<.5	2	10	37	<.02	88	2	14
PR-01-235	<.5	12	15	67	<.2	16	8	378	2.72	4	1	<4	9	137	<.2	<1	<1	55	.84	.042	32	34	.79	523	.278	6.26	.957	1.71	1	68.4	64	1.6	11.0	6.2	<.5	2	9	36	.03	72	3	15
PR-01-236	<.5	13	13	44	<.2	12	7	441	2.19	3	1	<4	9	89	<.2	1	<1	56	.57	.027	37	32	.91	447	.239	5.62	.833	2.04	1	37.6	68	1.7	11.0	6.6	.5	1	8	33	<.02	81	1	13
PR-01-237	<.5	15	21	78	<.2	19	11	311	2.95	4	1	<4	9	138	<.2	1	<1	58	1.18	.048	35	32	1.26	520	.299	7.26	1.148	1.54	1	80.8	72	1.8	28.9	5.6	<.5	1	10	55	<.02	71	3	17
PR-01-238	<.5	17	24	57	<.2	18	10	393	3.03	6	1	<4	12	138	<.2	1	<1	58	.91	.033	41	37	1.03	505	.291	6.88	.977	1.89	1	79.5	79	1.8	19.0	6.6	.5	2	10	41	.02	80	3	15
PR-01-239	<.5	15	17	54	<.2	18	9	376	2.86	3	2	<4	11	150	<.2	1	<1	59	.92	.029	36	32	.85	529	.303	7.01	1.015	1.60	1	83.2	70	1.8	15.6	6.7	.5	2	10	41	<.02	72	3	16
STANDARD DST3	10.6	134	41	187	.4	42	15	1084	4.31	29	7	<4	7	244	5.7	6	6	153	1.64	.111	26	319	.98	1059	.414	7.26	1.880	2.10	8	46.3	49	6.6	15.6	9.1	.6	3	11	23	.04	69	3	17

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

Data / FA ____

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Walker, Rick PROJECT Proximal File # A104421 Page 1

656 Brookview Crescent, Cranbrook B.C. V1C 4R5 Submitted by: Rick Walker

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
G-1	1.1	2	25	55	<.2	5	5	872	2.38	<2	4	<4	9	876	<.2	<1	<1	60	3.09	.109	35
PR-01-240	<.5	19	24	72	<.2	17	11	6/8	2.63	6	2	<4	13	84	<.2	1	<1	56	2.17	.027	40
PR-01-241	<.5	18	18	57	<.2	16	9	609	2.62	3	1	<4	10	142	<.2	1	<1	50	.81	.027	37
PR-01-242	<.5	13	14	64	<.2	12	7	294	2.38	3	1	<4	8	159	<.2	<1	<1	48	.88	.063	31
PR-01-243	<.5	15	21	96	<.2	15	9	418	2.31	4	2	<4	9	156	<.2	1	<1	49	1.54	.100	35
PR-01-244	<.5	18	12	49	<.2	11	8	381	1.44	10	1	<4	7	102	<.2	1	<1	37	15.19	.114	26
PR-01-245	<.5	35	16	60	<.2	17	15	369	2.64	8	2	<4	12	123	<.2	1	<1	53	1.34	.039	41
PR-01-246	<.5	21	17	66	.2	10	9	459	1.50	12	1	<4	6	172	.3	<1	<1	36	18.62	.087	22
PR-01-247	<.5	24	36	235	<.2	24	22	801	3.59	7	2	<4	9	170	.5	1	<1	69	1.16	.054	33
PR-01-248	<.5	14	16	102	<.2	15	8	564	2.18	6	1	<4	7	177	<.2	<1	<1	47	.96	.131	27
RE PR-01-248	.5	13	15	96	<.2	14	8	558	2.11	5	1	<4	6	174	<.2	<1	<1	45	.99	.124	24
PR-01-249	.5	9	13	49	<.2	17	9	311	2.33	5	1	<4	7	157	<.2	<1	<1	52	.91	.031	28
PR-01-250	<.5	12	16	42	<.2	15	10	340	2.62	3	1	<4	9	121	<.2	1	<1	52	.82	.035	34
PR-01-251	<.5	12	18	51	<.2	18	10	361	2.80	3	2	<4	10	123	<.2	1	<1	56	.77	.025	35
PR-01-252	<.5	31	12	34	<.2	15	9	419	1.84	7	1	<4	9	104	<.2	1	<1	48	10.32	.089	32
PR-01-253	.5	19	15	46	<.2	18	9	495	2.63	4	2	<4	10	156	.2	1	<1	51	.76	.029	35
PR-01-254	.6	26	16	51	<.2	20	12	706	2.65	5	2	<4	11	126	<.2	1	<1	56	.88	.037	41
PR-01-255	.6	31	16	57	<.2	18	12	834	2.75	4	1	<4	10	189	<.2	1	<1	58	2.09	.065	39
PR-01-256	.5	44	17	65	<.2	21	19	1037	3.21	6	2	<4	9	183	<.2	1	<1	59	1.21	.069	35
PR-01-257	.5	21	16	59	<.2	20	15	963	3.16	8	2	<4	12	146	<.2	1	<1	60	1.01	.048	40
PR-01-258	<.5	18	14	50	<.2	17	8	455	2.64	4	1	<4	9	136	<.2	<1	<1	57	.69	.038	31
PR-01-259	<.5	18	15	47	<.2	19	11	497	2.84	4	1	<4	10	116	<.2	1	<1	58	.63	.032	35
PR-01-260	<.5	28	15	40	<.2	18	12	517	2.46	4	2	<4	11	140	<.2	1	<1	54	4.94	.090	39
PR-01-261	<.5	13	14	42	<.2	18	8	345	2.73	3	2	<4	10	141	<.2	<1	<1	56	.77	.031	36
PR-01-262	<.5	18	17	45	<.2	18	10	420	2.86	3	1	<4	11	119	<.2	1	<1	59	.66	.024	39
PR-01-263	<.5	14	15	44	<.2	15	9	328	2.60	3	2	<4	11	138	<.2	1	<1	56	.84	.031	39
PR-01-264	<.5	10	15	42	<.2	16	8	239	2.38	3	2	<4	10	132	<.2	<1	<1	55	.66	.018	35
PR-01-265	<.5	17	17	65	<.2	17	8	293	2.93	7	2	<4	10	161	<.2	1	<1	54	.87	.034	32
PR-01-266	.6	16	23	91	<.2	19	9	408	2.64	5	2	<4	7	213	.2	<1	<1	54	1.11	.042	25
PR-01-267	.5	14	26	69	<.2	17	9	336	2.78	5	2	<4	8	157	<.2	<1	<1	52	.84	.028	29
PR-01-268	<.5	11	13	46	<.2	18	8	280	2.37	3	1	<4	8	132	<.2	<1	<1	58	.70	.023	33
PR-01-269	<.5	15	14	45	<.2	17	10	350	2.88	4	1	<4	10	120	<.2	1	<1	59	.65	.033	36
PR-01-270	<.5	11	14	38	<.2	15	9	306	2.41	3	1	<4	10	117	<.2	<1	<1	59	.60	.021	41
PR-01-271	.5	10	12	65	<.2	11	6	701	1.93	2	1	<4	8	154	<.2	<1	<1	46	.91	.034	37
STANDARD DST	10.0	131	44	185	.3	43	15	1115	3.96	28	7	<4	7	253	5.2	7	5	140	1.63	.108	24

SAMPLE#	Cr ppm	Mg %	Ba ppm	Ti %	Al %	Na %	K %	W ppm	Zr ppm	Ce ppm	Sn ppm	Y ppm	Nb ppm	Ta ppm	Be ppm	Sc ppm	Li ppm	S %	Rb ppm	Hf ppm	Ga ppm
G-1	13	.77	1182	.252	8.55	3.025	3.78	3	11.0	70	1.7	20.8	25.8	1.5	5	5	36	.06	145	1	22
PR-01-240	44	1.90	548	.215	6.09	.774	2.57	1	71.3	84	2.2	26.6	7.1	<.5	3	9	67	.03	114	3	16
PR-01-241	41	1.19	522	.241	5.45	1.084	2.19	1	65.2	83	2.1	18.3	8.0	<.5	2	7	44	<.02	79	2	15
PR-01-242	34	.88	532	.271	5.58	1.128	2.18	1	57.6	69	1.8	12.7	7.8	<.5	2	8	32	<.02	77	2	15
PR-01-243	38	1.59	626	.240	6.37	1.228	2.45	1	70.0	71	2.1	19.4	7.5	<.5	1	8	65	<.02	99	2	16
PR-01-244	32	1.78	315	.137	4.05	.533	1.52	1	59.9	52	1.3	17.8	4.6	<.5	1	5	61	<.02	66	2	11
PR-01-245	30	1.86	535	.262	6.92	.885	2.40	1	85.0	87	2.3	28.6	9.1	.5	2	9	66	<.02	107	3	18
PR-01-246	29	2.58	272	.119	3.71	.545	.92	1	44.1	44	1.2	17.5	4.2	<.5	2	6	52	<.02	46	1	10
PR-01-247	37	1.20	614	.360	7.99	.940	1.42	1	93.4	76	1.9	20.1	9.2	.5	1	11	47	<.02	69	3	20
PR-01-248	32	.93	617	.257	5.41	1.086	1.55	1	56.8	57	1.6	10.7	7.1	<.5	1	6	31	<.02	67	2	14
RE PR-01-248	31	.93	614	.256	5.32	1.064	1.63	1	57.1	54	1.4	10.5	7.0	<.5	2	6	35	<.02	61	2	15
PR-01-249	25	1.18	464	.251	5.41	1.076	1.47	1	54.5	57	1.3	9.6	7.4	<.5	1	6	41	<.02	52	2	16
PR-01-250	35	1.20	468	.249	5.35	.812	1.77	1	58.7	71	1.7	17.2	7.6	<.5	1	8	34	<.02	70	2	15
PR-01-251	34	1.19	485	.258	5.50	.884	1.84	1	67.1	75	1.8	18.3	8.6	.5	2	7	38	<.02	74	2	16
PR-01-252	35	1.63	365	.167	4.39	.463	1.77	1	56.6	65	1.8	18.6	5.3	<.5	1	7	41	<.02	78	2	13
PR-01-253	39	.84	556	.274	6.07	1.107	1.96	1	86.0	74	1.8	15.3	7.9	<.5	1	8	30	<.02	78	3	15
PR-01-254	45	.89	528	.258	5.73	.871	1.76	1	52.0	84	1.6	17.9	9.1	.6	1	8	33	<.02	80	2	14
PR-01-255	39	1.12	594	.238	6.20	1.145	1.91	1	84.6	79	1.8	21.1	7.6	<.5	1	8	30	<.02	82	3	16
PR-01-256	37	1.06	525	.257	6.72	1.174	1.87	1	92.0	76	1.6	23.2	7.1	<.5	2	10	33	.05	75	3	17
PR-01-257	37	1.80	501	.263	6.52	.758	1.52	1	103.4	85	1.9	30.6	8.0	<.5	1	10	45	<.02	63	3	17
PR-01-258	38	.90	545	.255	5.21	.887	2.12	1	60.4	64	1.7	17.0	8.5	.5	1	8	31	<.02	78	2	15
PR-01-259	40	1.14	561	.247	5.26	.851	2.19	1	56.1	72	1.9	15.7	8.3	<.5	1	8	30	<.02	74	2	14
PR-01-260	41	1.56	485	.200	4.85	.737	2.00	1	44.8	80	1.5	15.4	8.0	<.5	1	7	26	.02	79	1	13
PR-01-261	28	.97	549	.268	6.07	.960	1.97	1	69.1	76	1.9	16.1	9.1	.5	1	8	32	<.02	80	2	16
PR-01-262	29	1.19	533	.252	5.37	.854	2.12	1	56.6	81	1.9	17.0	8.6	.5	1	9	29	.03	89	2	15
PR-01-263	36	1.06	540	.259	5.66	.937	2.04	1	56.1	80	1.7	16.3	9.4	.5	1	8	29	<.02	90	2	15
PR-01-264	38	.90	545	.260	5.90	.935	2.00	1	58.0	77	1.7	12.1	8.6	.6	2	8	30	<.02	94	2	15
PR-01-265	40	1.18	611	.279	7.07	1.197	2.07	1	108.1	73	2.2	16.4	8.5	.5	2	7	47	<.02	83	4	19
PR-01-266	22	.73	832	.301	7.18	1.187	1.55	1	106.6	58	1.9	11.9	8.4	.5	2	7	37	<.02	47	4	19
PR-01-267	29	.82	572	.264	6.12	1.081	1.87	1	85.6	64	1.9	12.8	8.5	.5	3	7	34	<.02	64	3	18
PR-01-268	24	1.04	516	.276	5.32	.967	1.99	1	59.8	73	1.5	12.0	9.3	<.5	2	7	28	.02	70	2	16
PR-01-269	41	1.11	547	.271	5.79	.803	2.35	1	60.2	73	2.2	15.7	9.0	.5	3	8	27	.04	91	2	17
PR-01-270	24	.98	539	.257	5.15	.868	2.07	1	49.7	85	1.9	13.9	8.6	.5	3	7	24	.06	84	2	15
PR-01-271	21	.68	562	.253	4.96	1.065	1.75	1	45.1	75	1.3	11.0	8.8	.5	1	6	24	.07	74	2	12
STANDARD DST	298	1.01	1075	.398	7.09	1.905	2.17	8	49.1	48	7.6	14.5	10.6	.6	4	9	22	.04	67	3	18

Standard is STANDARD DST3.

GROUP 1EX - 0.25 GM SAMPLE DIGESTED WITH HCLO4-HNO3-HCL-HF TO 10 ML. UPPER LIMITS - AG, AU, W = 200 PPM; MO, CO, CD, SB, BI, TH & U = 4,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM. DIGESTION IS PARTIAL FOR SOME MINERALS & MAY VOLATIZE SOME ELEMENTS, ANALYSIS BY ICP-ES.
- SAMPLE TYPE: SOIL SS80 60C Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: DEC 20 2001 **DATE REPORT MAILED:** Jan 11/02 **SIGNED BY** C. L. ....D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data A 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 %
G-1	1.0	2	23	44	<.2	4	4	716	2.42	<2	4	<4	8	762	<.2	<1	<1	52	2.62	.100
PR-01-272	<.5	14	14	40	<.2	16	9	345	2.63	4	1	<4	10	119	<.2	<1	<1	51	.66	.025
PR-01-273	.5	13	14	47	<.2	16	8	497	2.51	3	1	<4	9	121	<.2	<1	<1	50	.61	.027
PR-01-274	.5	16	14	49	<.2	18	10	445	2.94	3	1	<4	10	109	<.2	1	<1	53	.66	.038
PR-01-275	<.5	10	14	36	<.2	14	7	423	2.37	2	1	<4	9	124	<.2	<1	<1	47	.71	.019
PR-01-276	<.5	11	14	38	<.2	14	7	319	2.47	3	1	<4	10	123	<.2	<1	<1	49	.65	.029
PR-01-277	<.5	18	19	44	<.2	19	9	375	2.78	4	1	<4	12	102	<.2	1	<1	53	.58	.044
PR-01-278	<.5	10	14	37	<.2	13	7	313	2.24	3	1	<4	9	121	<.2	<1	<1	48	.62	.028
PR-01-279	.8	11	14	55	<.2	16	7	323	2.39	4	1	<4	8	160	<.2	<1	<1	43	.83	.051
PR-01-280	<.5	10	12	56	<.2	14	6	310	2.13	3	1	<4	8	135	<.2	<1	<1	44	.67	.029
STANDARD DST3	10.2	127	41	169	.3	42	14	1004	4.25	29	6	<4	6	232	5.5	6	5	133	1.59	.107

SAMPLE#	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	Al %	Na %	K %	W ppm	Zr ppm	Ce ppm	Sn ppm	Y ppm	Nb ppm	Ta ppm	Be ppm	Sc ppm	Li ppm	S %	Rb ppm	Hf ppm	Ga ppm
G-1	31	11	.66	1094	.230	8.73	2.668	3.14	3	8.3	58	1.5	15.5	20.8	1.2	3	5	35	.06	125	1	20
PR-01-272	38	39	.95	523	.228	5.87	.869	1.85	1	63.6	75	1.9	14.7	8.3	.5	2	7	24	.09	89	2	16
PR-01-273	37	35	.80	575	.242	5.85	.875	1.92	1	59.7	74	1.9	13.4	8.1	.5	2	6	25	.05	84	2	15
PR-01-274	34	39	.94	574	.248	5.96	.780	2.17	1	62.7	66	2.0	16.0	7.5	<.5	3	7	24	.04	90	2	15
PR-01-275	38	35	.79	511	.265	5.10	.938	1.77	1	55.1	72	1.7	13.2	9.0	.5	1	6	23	<.02	78	2	12
PR-01-276	38	33	.81	530	.256	5.74	.870	1.82	1	60.0	74	1.8	14.1	8.6	.5	3	7	23	.05	81	2	14
PR-01-277	42	40	1.12	573	.259	6.07	.803	1.99	1	64.5	79	2.0	17.5	8.8	.5	2	6	29	.09	90	2	15
PR-01-278	36	35	.80	520	.230	5.23	.930	1.74	1	54.7	71	1.9	12.2	7.7	.5	1	5	22	.05	78	2	14
PR-01-279	31	32	.73	590	.260	6.19	1.214	1.61	1	71.7	61	1.6	9.9	8.1	.5	2	5	28	<.02	69	2	16
PR-01-280	32	32	.73	529	.253	5.29	.983	1.75	1	60.0	63	1.6	10.4	8.1	.5	2	5	24	.07	74	2	13
STANDARD DST3	26	283	.99	1061	.416	7.31	1.774	2.08	8	50.2	48	7.2	15.0	10.5	.6	2	7	21	<.02	69	3	17

Sample type: SOIL SS80 60C.

Data FA

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Walker, Rick PROJECT Proximal File # A104422
656 Brookview Crescent, Cranbrook B.C. V1C 4R5 Submitted by: Rick Walker

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
SI	1.0	4	18	20	<.2	<1	1	124	.08	5	<1	<4	1	195	<.2	2	<1	6	8.39	.008	3
Concentrate #1	8	24	22	20	1.0	35	87	2205	4.56	47	2	7	13	54	<.2	2	1	77	.76	.086	45
Concentrate #2	1.1	13	24	19	<.2	35	87	4846	5.36	44	2	<4	10	54	<.2	3	1	67	1.20	.082	36
Concentrate #3	6	15	19	38	<.2	27	56	2630	4.21	35	1	<4	10	54	<.2	2	1	67	1.49	.078	36
Concentrate #4	1.5	3630	3387	71	1.6	41	42	1115	8.46	55	<1	<4	2	86	.3	16	2	210	1.91	.205	18
Concentrate #5	1.5	3719	4518	62	1.8	33	37	1056	7.45	47	<1	<4	2	93	.4	14	2	174	2.03	.180	16
Concentrate #6	1.3	3728	3057	66	1.5	35	38	1081	7.41	40	<1	<4	2	98	.3	9	2	203	2.04	.191	18
STANDARD DST3	9.8	134	37	186	.3	39	14	1071	3.84	29	6	<4	6	250	5.4	6	5	140	1.60	.105	25

SAMPLE#	Cr ppm	Mg %	Ba ppm	Ti %	Al %	Na %	K %	W ppm	Zr ppm	Ce ppm	Sn ppm	Y ppm	Nb ppm	Ta ppm	Be ppm	Sc ppm	Li ppm	S %	Rb ppm	Hf ppm	Ga ppm
SI	11	.32	181	.033	1.00	10.774	.24	<1	115.0	6	2.6	5.0	1.0	<.5	1	1	5	.10	4	3	1
Concentrate #1	110	.54	274	.149	9.74	.192	4.97	1	52.2	88	2.0	19.3	3.4	<.5	3	11	14	<.02	161	2	25
Concentrate #2	64	.50	275	.108	7.89	.162	3.49	1	44.5	73	2.0	22.5	2.8	<.5	5	9	14	<.02	137	1	21
Concentrate #3	78	.54	254	.116	8.16	.154	3.67	1	46.5	72	2.0	18.7	3.1	<.5	3	10	14	<.02	137	2	21
Concentrate #4	52	2.92	642	.926	8.38	2.667	2.31	1	33.6	38	1.5	17.1	11.1	.5	1	17	40	.27	40	1	23
Concentrate #5	42	2.64	754	.816	8.47	2.870	2.50	1	30.0	36	1.6	15.3	9.9	.5	<1	16	33	.34	41	1	21
Concentrate #6	41	2.78	786	1.080	8.77	3.007	2.46	1	30.7	39	1.4	17.1	13.3	.6	1	17	42	.32	42	1	22
STANDARD DST3	304	.98	1041	.386	7.19	1.885	2.19	2	47.6	48	2.1	15.1	9.6	.6	3	10	22	.02	68	2	17

GROUP 1EX - 0.25 GM SAMPLE DIGESTED WITH HCLO4-HNO3-HCL-HF TO 10 ML. UPPER LIMITS - AG, AU, W = 200 PPM; MO, CO, CD, SB, BI, TH & U = 4,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM. DIGESTION IS PARTIAL FOR SOME MINERALS & MAY VOLATIZE SOME ELEMENTS, ANALYSIS BY ICP-ES.
- SAMPLE TYPE: CONC. P150

DATE RECEIVED: DEC 20 2001 **DATE REPORT MAILED:** Jan 11/02 **SIGNED BY** C. L ....D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data ✓ FA ___

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEM PRECIOUS METALS ANALYSIS

Walker, Rick PROJECT Proximal File # A104422
656 Brookview Crescent, Cranbrook B.C. V1C 4R5 Submitted by: Rick Walker

SAMPLE#	Au** ppb	Pt** ppb	Pd** ppb
SI	<2	<2	<2
Concentrate #4	15	<2	<2
Concentrate #5	7	<2	2
Concentrate #6	7	<2	<2
STANDARD FA-10R	475	497	498

GROUP 3B - FIRE GEOCHEM AU, PT, PD - 30 GM SAMPLE FUSION, DORE DISSOLVED IN AQUA - REGIA, ICP ANALYSIS. UPPER LIMITS = 10 PPM.
- SAMPLE TYPE: CONC. P150

DATE RECEIVED: DEC 20 2001 DATE REPORT MAILED: Jan 11/02 SIGNED BY. C.L. .... D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

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GEOCHEMICAL ANALYSIS CERTIFICATE

Walker, Rick PROJECT Proximal File # A104423
656 Brookview Crescent, Cranbrook BC V1C 4R5 Submitted by: Rick Walker

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 %
SI	9	5	19	18	<.2	<1	1	97	.08	4	1	<4	1	173	<.2	1	<1	4	7.78	.008
PROX-01-01	1.3	5111	3	72	7	45	38	853	9.37	44	<1	<4	2	81	<.2	1	<1	218	1.61	.264
PROX-01-02	1.8	21164	<3	8	.5	9	39	116	2.92	9	1	<4	2	9	<.2	2	4	25	.07	.061
PROX-01-03	3.6	5229	<3	6	.4	12	68	1715	4.42	18	1	<4	<1	11	<.2	2	2	19	.05	.072
PROX-01-04	2.5	4600	<3	4	.6	11	83	2166	1.84	8	1	<4	1	8	<.2	2	2	29	.03	.027
PROX-01-05	3.9	3011	<3	9	<.2	28	54	259	13.71	20	1	<4	5	7	<.2	3	1	19	.06	.114
PROX-01-06	2.1	57	33	9	<.2	10	36	1500	3.00	23	1	<4	1	8	<.2	2	<1	19	.09	.024
PROX-01-07	3.5	15	64	20	.5	12	87	3472	7.10	29	2	<4	1	18	<.2	3	<1	26	.19	.046
STANDARD DST3	10.2	127	41	169	.3	42	14	1004	4.25	29	6	<4	6	232	5.5	6	5	133	1.59	.107

SAMPLE#	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	Al %	Na %	K %	W ppm	Zr ppm	Ce ppm	Sn ppm	Y ppm	Nb ppm	Ta ppm	Be ppm	Sc ppm	Li ppm	S %	Rb ppm	Hf ppm	Ga ppm
SI	3	6	.30	200	.030	1.01	10.841	.23	<1	110.7	7	3.0	4.6	6	<.5	<1	1	5	.05	3	3	2
PROX-01-01	29	32	3.28	653	.862	9.74	2.921	2.00	1	31.1	62	1.0	16.9	9.5	5	1	18	46	.05	37	1	29
PROX-01-02	19	106	.13	91	.065	1.72	.055	.87	<1	14.1	39	.7	9.8	1.1	<.5	2	3	6	<.02	32	<1	5
PROX-01-03	14	103	.08	53	.035	.88	.030	.44	1	5.2	30	<.5	20.3	.4	<.5	1	2	6	<.02	17	<1	3
PROX-01-04	24	145	.09	92	.123	1.53	.038	.74	<1	7.0	51	.6	11.9	1.5	<.5	1	3	7	<.02	29	<1	4
PROX-01-05	18	78	12	54	.034	1.63	.030	.75	<1	13.3	41	<.5	18.6	.7	<.5	7	4	5	<.02	30	<1	5
PROX-01-06	2	94	.08	34	.008	.64	.030	.32	1	11.7	5	<.5	12.1	5	<.5	<1	1	5	<.02	13	<1	2
PROX-01-07	4	95	.16	54	.010	.87	.154	.41	1	11.1	10	<.5	26.6	.4	<.5	1	3	5	<.02	16	<1	2
STANDARD DST3	26	283	99	1061	.416	7.31	1.774	2.08	8	50.2	48	7.2	15.0	10.5	.6	2	7	21	<.02	69	3	17

GROUP 1EX - 0.25 GM SAMPLE DIGESTED WITH HCLO4-HNO3-HCL-HF TO 10 ML. UPPER LIMITS - AG, AU, W = 200 PPM; MO, CO, CD, SB, BI, TH & U = 4,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM. DIGESTION IS PARTIAL FOR SOME MINERALS & MAY VOLATIZE SOME ELEMENTS, ANALYSIS BY ICP-ES.
- SAMPLE TYPE: ROCK R150 60C

DATE RECEIVED: DEC 20 2001 **DATE REPORT MAILED:** Jan 11/02 **SIGNED BY** C. L.........D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data ✓ FA ___

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEM PRECIOUS METALS ANALYSIS

Walker, Rick PROJECT Proximal File # A104423
656 Brookview Crescent, Cranbrook BC V1C 4R5 Submitted by: Rick Walker

SAMPLE#	Au** ppb	Pt** ppb	Pd** ppb
SI	<2	4	2
PROX-01-01	<2	3	2
PROX-01-02	16	-	-
PROX-01-03	16	-	-
PROX-01-04	19	-	-
PROX-01-05	6	-	-
PROX-01-06	<2	-	-
PROX-01-07	2	-	-
STANDARD FA-10R	476	463	468

GROUP 3B - FIRE GEOCHEM AU, PT, PD - 30 GM SAMPLE FUSION, DORE DISSOLVED IN AQUA - REGIA, ICP ANALYSIS. UPPER LIMITS = 10 PPM.
- SAMPLE TYPE: ROCK R150 60C

DATE RECEIVED: DEC 20 2001 **DATE REPORT MAILED:** Jan 11/02 **SIGNED BY** C.L. .... D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data FA YINS

Appendix E

VLF Data

SABRE ELECTRONIC
INSTRUMENTS LTD.

4245 EAST HASTINGS STREET • BURNABY, B.C. V5C 2J5 • TELEPHONE: 291-1617

SABRE MODEL 27 VLF-EM RECEIVER

The model 27 EM unit was designed originally for a large Canadian mining company to overcome the deficiencies inherent in existing units.

The instrument is so stable and selective that completely reliable measurements can be made on distant stations without interference from nearby powerful transmitters. Stability and selectivity are especially important when making field-strength measurements, which are now being emphasized as a means of locating conductors.

This EM receiver is very compact, requires no earphones or loudspeakers and is housed in a heavy scotch saddle leather case. All of these features add up to make an ideal one-man EM unit of unexcelled electrical performance and mechanical ruggedness.

SPECIFICATIONS -

Source of Primary Field - VLF radio stations (12 to 24 KHz.)

Number of Stations - 4, selected by switch; Cutler, Main on 17.8 KHz. and Seattle, Washington on 18.6 KHz. are standard, leaving 2 other stations that can be selected by the user.

Types of Measurement

1. Dip angle in degrees, read on a meter-type inclinometer with a range of $\pm 60^0$ and an accuracy of $\pm \frac{1}{2}^0$.
2. Field strength, read on a meter and a precision digital dial with an accuracy exceeding 1%.
3. Out of phase component, read on the field strength meter as a residual reading when measuring the dip angle.

SABRE MODEL 27 VLF-EM RECEIVER - (Continued)

Dimensions and Weight

Approx. 9½" x 2½" x 8½"; Weighs 5 lbs.

Batteries

8 alkaline penlite cells. The instrument will run continuously on 1 set of batteries for over 200 hours; So that in normal on-off use, the batteries will last all season. The battery condition under load is shown by pushing a button and reading voltage on the field strength meter.

VLF-EM OPERATING INSTRUCTIONS

The equipment is operated in the usual way as follows:

1. With the instrument held horizontal in front of you, turn around until a null appears on the field strength meter. You should now be facing the station.

2. With the receiver still facing the station, lift it to the vertical position and rotate it slightly in the vertical plane to your right or left until the best null appears on the field strength meter. Record the angle on the inclinometer at which the null appears. This is the DIP ANGLE (Positive or negative).

3. Return the instrument to the horizontal plane and turn around until the field strength meter is at its maximum reading. Set this maximum reading at 100 on the meter and record the reading on the gain control dial. This is the Field Strength Reading.

4. Repeat steps 1, 2 and 3 at each station.

5. To test the batteries turn the power switch on and push the test button. The field strength meter should read above the red mark. Battery life is approximately 200 hours and if the instrument is turned off between readings, the batteries should last for an entire season.

NOTE: An alternative way of measuring field strength is as follows:

Proceed as in step 3, setting the meter to 100. Now push the field strength button (marked FS) and the meter will read 50. (If it doesn't, adjust the gain control slightly). Leave the Gain Control setting where it is and take comparative Field Strength readings at each station by pressing the Field Strength button and recording the meter reading, which will vary from its Base Station Reading as you pass over conductive zones.

This is the method used in part 2 of this book entitled "Detailed Field Procedure".

SELECTION OF STATIONS:

The stations are selected by the switch on the control panel, with the following abbreviations being used;

C = Cutler, Maine. Frequency = ~~17.8~~ Khz. 24.0
S = Seattle, Wash. Frequency = ~~18.6~~ Khz. 24.8
A = Annapolis, Md. Frequency = 21.4 Khz.
H = Hawaii. Frequency = 23.4 Khz.

The two most useful stations are Cutler and Seattle and these will be used almost exclusively. Note that Seattle is off the air for several hours on Thursdays for maintenance (between 10 A.M. and 2 P.M. usually). Cutler is off the air for the same length of time every Friday.

If Equipment fails to operate:

(a) Check that station is transmitting (see above). If one station appears to be dead, check another one to see if it is operating normally.

(b) Check batteries. If they read low or the reading begins to drop after the test button is held down for a few seconds, replace them. Note also that there are 8 batteries in the instrument and they cannot be individually checked by the test button. If the batteries have been in the unit for a long time it is possible that one is dead or very weak but that the total voltage indicated by the test button is near normal. It is cheap insurance to instal new batteries before starting a big survey.

(c) If unit still fails to operate check that battery connectors are tight, then check wiring of battery connectors for breaks or damage.

PART 2 DETAILED FIELD PROCEDURE

OPERATING INSTRUCTIONS
SABRE VLF-EM RECEIVER

INTRODUCTION:

The VLF-EM method utilizes electromagnet field transmitted from radio stations in the 15-25 K Hz range. The signals are propagated with the magnetic component of the field being horizontal in undisturbed areas.

Conductivity contrasts in the earth create secondary fields, producing a vertical component and changes in the field strength or amplitude. These conductive areas may be located, and to a degree, evaluated by measuring the various parameters of this electromagnetic field.

The Sabre VLF-EM receiver is tuned to receive any 4 transmitter stations: usually C-Cutler Maine, S-Seattle, H-Hawaii and A-Annapolis.

The station used in the survey should be selected so that the direction of the signal is roughly perpendicular to the direction of the grid lines which, in turn, should be laid out perpendicular to the regional strike.

MEASUREMENTS:

The Sabre VLF-EM receiver can be used to measure the following characteristics of the VLF field.

(a) Tilt angle of resultant field;
(b) Field strength of (a) horizontal component of field
(b) vertical component of field

Field Procedure

The following procedure should be followed to measure the dip angle of null and the field strength of the horizontal component of the VLF field.

Initial Field Strength Adjustment

Adjust the gain control to provide a suitable relative field strength measurement, as follows:-

(a) hold receiver in horizontal position (meter faces horizontal) and rotate in a horizontal plane until a null is indicated on the F.S. meter; rotate 90° in this horizontal plane (F.S. meter reads maximum)

(b) adjust gain control so that the F.S. meter reads 100

(c) record gain control setting (000 to 999), and do not readjust unless a major field strength occurs.

The above procedure should be carried out at the beginning of each day's survey and checked during the day.

Dip Angle Measurement Procedure

1. Hold receiver in horizontal position and rotate in the horizontal plane until a null is observed. This aligns receiver in the field and the operator should be facing southerly or easterly depending on transmitter location.

2. Bring receiver up to the vertical position (meter faces vertical) and rotate the receiver in the vertical plane perpendicular to the transmitter direction until a null or minimum reading is observed on the field strength meter.

3. Hold the receiver in this field strength null position and read the inclinometer in degrees. Record this dip angle of null along with sign (+ or -).

Horizontal Field Strength Measurement Procedure

1. Return receiver to the horizontal position.

2. Reestablish null bearing in horizontal plane.

3. Rotate receiver 90° in the horizontal plane.

4. Depress F.S. push button switch and observe field strength meter reading for sufficient time to obtain an average F.S. meter reading. (depressed F.S. switch slows needle action and reduces meter reading by half. The reading will normally range around 50).

5. Record F.S. reading.

Filtering Techneque For VLF-EM Dip Angle Data

The standard profile method of presenting dip angle data may be difficult to interpret. A filtering technique, described by D.C. Fraser 1969 (Geophysics, V.34 No. 6, P. 958-967) enables the data to be presented on a plan map with conductive areas defined by contours.

The following explains the calculation:-

Line	Station	Null		Filter
8N	0 E	+ 3	+3+4= +7	
	1 E	+ 4	+4+4= +8	+7-(+10)= -3
	2 E	+ 4	+4+6= +10	+8-(+13)= -5
	3 E	+ 6	+13	+10-(+16)= -6
	4 E	+ 7	+16	-8
	5 E	+ 9	+21	-12
	6 E	+ 12	+28	+3
	7 E	+ 16	+18	+30
	8 E	+ 2	-2	+32
	9 E	- 4	-14	+14
	11 E	- 6	-16	-14-(-7)= -7
	12 E	- 1	-6-1= -7	

Fig. 1 is an example of a field sheet showing null angle reading, filtered reading and relative field strength. Fig. 2 shows the field sheet with filter card overlaid. The small window in the side of the card shows the four readings used to calculate the filtered reading, and an arrow showing that the filter reading is to be plotted between station 8E and 9E as indicated in fig. 1. The card is moved down the field sheet, one reading at a time as a guide while carrying out the filtering procedure. Throughout the survey care must be taken to ensure that the filtered data has the correct sign. The positive values only are plotted and contoured while for negative values, only the negative sign is plotted.

Crone suggests in instructions for the Radem VLF-EM, the use of N-S or E-W notation instead of (+ or -) signs, however for filtering a sign must be substituted.

The following convention may be used to ensure the correct sign of filtered data and provide a consistent crossover pattern when studying the profiled null angle data.

1. When taking a reading, always face southerly, on east-west lines, and always face easterly on north-south lines.

2. Record data on field sheets (top to bottom) as follows: on N-S lines record from south to north

: on E-W lines record from west to east

3. Plot and profile dip angle data on plan maps facing map north or map west.

The above convention will provide correct data regardless of the property location relative to the transmitter being used.

[illegible] - 024 VLF-EM SURVEY

PROPERTY G.I.M.S. TRANS Seattle PAGE 1
OPERATOR ________ INSTR. Sharpe DATE Nov 4/74

Line	Stn.	Null	Filter	F. S.	
8N	0E	+3		50	
	1E	+4	-3	50	
	2E	+4	-5	52	
	3E	+6	-6	52	
	4E	+7	-8	52	
	5E	+9	-12	52	
	6E	+12	+3	53	
	7E	+16	+20	60	
	8E	+2	+32	65	X over
	9E	-4	+11	62	
	10E	-10	-7	50	
	11E	-6	-10	48	
	12E	-1	-14	48	
	13E	+3	-6	50	
	14E	+4	+7	50	
	15E	+4	+14	50	
	16E	-4	+20	55	X over
	17E	-2	-7	55	
	18E	0	-2	50	
	19E	+1			
	20E	-1			

Fig. 1 Example of Field Sheet

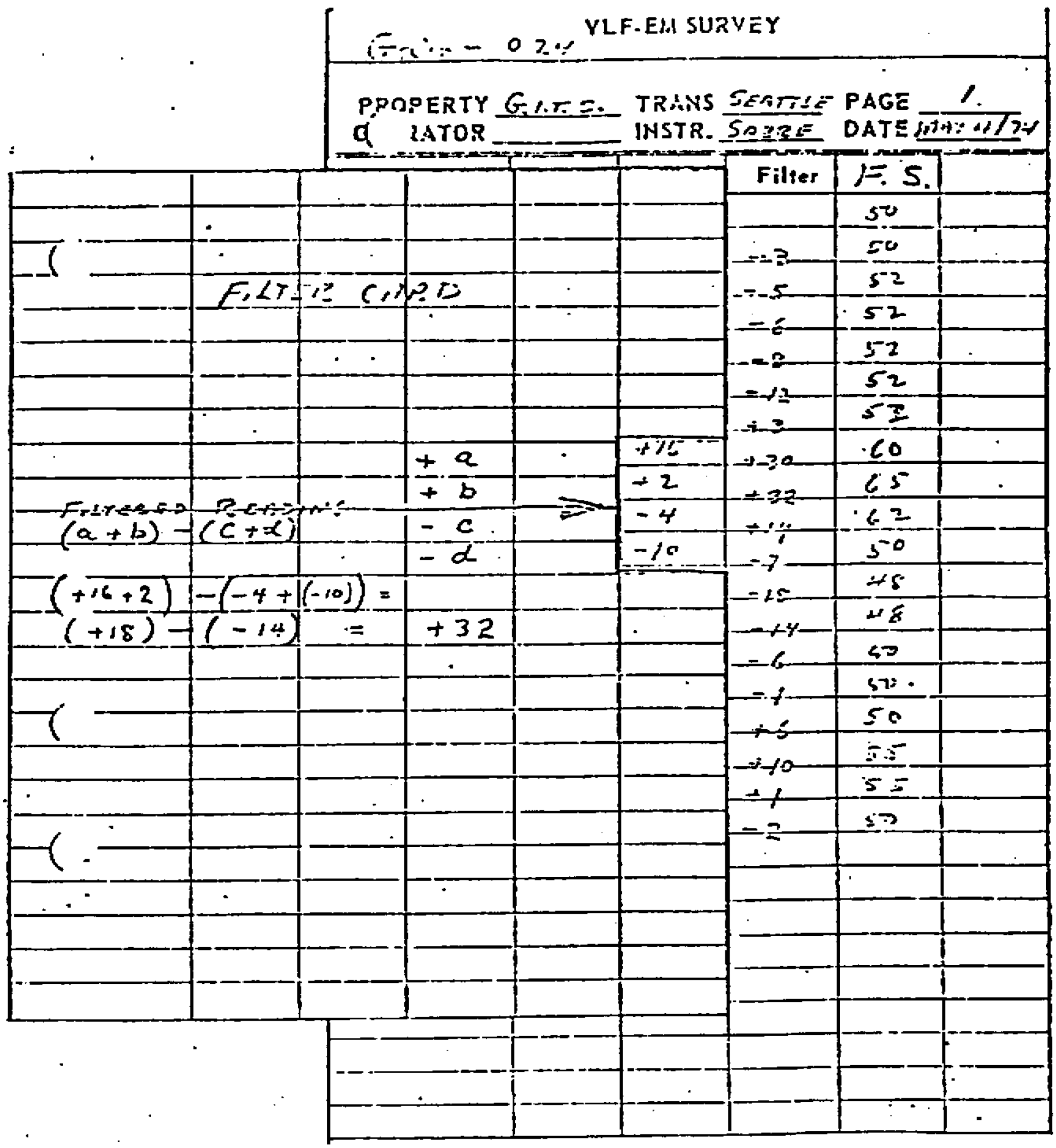


Fig. 2 Field Sheet with Filter Card Overlayed

1987 VLF TRANSMITTER SCHEDULE

The current VLF transmitter schedule is listed below. This inforamtion was taken from the US Naval Observatory online data system.

The telephone number is (202) 653 1079 for North American standard 300 or 1200 baud (Bell 212A) or (202) 653 1095 for European standard 300 baud (CCITT.21) or (202) 653 1783 for European standard 1200 and 2400 baud (CCITT.22 or CCITT.22bis). Note that this system is full duplex, 8 bit, even parity and your communication program should be set to this protocol before calling the database. The command sequence is extremely simple. Once connected give an identifier of the form USER/BCGS/YVR where USER represents your initials and YVR is the airline code of your location. Use BCGS to show that you are a user associated with the BCGS. (KEGS users use KEGS.) This information is of interest to the U.S. Naval observatory and shows them where you fit into their community of users.

Once on @VLF gives the transmitter locations and frequencies and @VLFD2 gives the downtime schedule for the VLF stations. If you are interested in more information @TCO gives the table of commands for the whole database. The system expects capital letters only, and balks at lower case. For an extended session set your "caps lock" key on.

VLF WEEKLY MAINTENANCE SCHEDULE

NDT (17.4KHZ) Yosami, Japan; 200KW 2300 to 0900 UT first thursday-friday of month. 2300 to 0700 UT all other thursday-fridays.

NSS (21.4KHZ) Annapolis,Md; 1000KW 1200 to 2000 UT, testing 2000 to 2200 UT each tuesday, operator training 1800 to 2000 UT sedond and fourth thursdayS.

NWC (22.3KHZ) Exmouth, Australia; 1000KW 0000 to 0800 UT each monday. may be off 0000 to 0400 UT on tuesday. scheduled off 14 APR 0000 to 0400 UT; 21 APR 0000 to 0800 UT 28 APR 0000 to 0800 UT; 29 APR 0000 to 0400 UT

NPM (23.4KHZ) Lualualei, Oahu; 512KW 1800 to 0400 UT last wednesday-thursday of month. 800 to 0200 UT all other wednesday-thursdayS.

NAA (24.0KHZ) Cutler, Maine; 1000KW 1200 to 2000 UT, testing 2000 to 2200 UT each monday, operator training 1800 to 2000 UT first, third and fifth thursdayS. (if holiday falls on monday, maintenance will be performed on preceding friday). as of 2000 UT 23 January 84 will transmit on 24.0 khz until further notice.

NLK (24.8KHZ) Jim Creek, Wash; 200KW 1600 to 2400 UT each thursday. during daylight saving time 1500 to 2300 UT each thursday

NAU (28.5KHZ) Aguada, Puerto Rico; 100KW 1200 to 2000 UT each wednesday.

GBR (16.0KHZ) Rugby, England; 750KW 1000 to 1400 UT each tuesday.

Oct. 7 - VLF Survey - Line 4
Station: Seattle Gain 66.5

Station (PR-01)	Easting	Northing	Dip Angle	Field Strength
110	593191	5490410	-18	50
109	593224	5490447	-14	49
108	593230	5490439	-14	50
107	593298	5490503	-12	39
106	593323	5490530	-6	44
105	593368	5490550	-2	39
104	593409	5490593	-3	45
103	593448	5490616	2	44
102	593495	5490644	4	44
101	593539	5490675	3	45
100	593570	5490707	1	45
99	593597	5490726	1	43
98	593661	5490774	3	41
97	593684	5490788	0	39
96	593741	5490824	4	41
95	593768	5490855	2	41
94	593813	5490895 / 904	13	50 - Gain reset to 68.5
93	593836	5490913	11	47 - Gain reset to 58.5
92	593886	5490954	-4	46
91	593917	5490980	5	43
90	593948	5491019	5	41
89	593997	5491051	3	45
88	594040	5491090	0	50
87	594070	5491100	-6	58
86	85594105	5491146	4	50 - Gain reset to 45
85	594149	5491173	2	48
84	594187	5491211	13	50
83	594223	5491237	10	50
82	594254	5491263	15	51
81	594299	5491303	14	43
80	594329	5491333	12	40

Oct. 8 - VLF Survey - Line 3
Station: Seattle Gain 95.5

Station (PR-01)	Easting	Northing	Dip Angle	Field Strength
172			+15	47.5
171			+22	46
169			+11	45
168			+23	44 – re-set gain to 70
167			+22	52
166			+2	32
165			+12	39
164			-4	41
163			+18	38
162			+4	34 – re-set gain to 110.5
161			+2	75
160			-2	62
159			-12	59
158			-10	65 – re-set gain to 49.5
157			-6	50 – re-set gain to 111.0
156			-4	49
155			-6	50
144			+16	50
153			-8	33
152			+4	30
151			-4	30
150			+8	30

VLF Survey - Line 3
Station: Seattle Gain: 033

Station (PR-01)	Easting	Northing	Dip Angle	Field Strength
172	592122	5490473	+1	50
193	592170	5490477	-4	50
194	592214	5490495	+6	50 – Gain re-set to 36.5
195	592266	5490511	+9	47
196	592321	5490561	+14	50 – Gain re-set to 26
197	592361	5490547	+8	50 – Gain re-set to 36
198	592397	5490556	+13	50 – Gain re-set to 22
199	592450	5490592	+5	50 – Gain re-set to 41
200	592498	5490608	+10	38
201	592551	5490602	+10	50 – Gain re-set to 27

202	592605	5490622	+12	50 – Gain re-set to 22
203	592656	5490623	+14	39
204	592691	5490634	+4	50 - Gain re-set to 43
205	592738	5490667	+8	50 - Gain re-set to33
206	592778	5490661	+6	53
207	592832	5490678	+4	50 – gain re-set to 23
208	592882	5490700	+2	51
209	592922	5490717	+12	43
210	592976	5490731	+8	43
211	593011	5490743	+8	41
212	593066	5490750	+4	39

Oct. 13 - VLF Survey - Line 5
Station: Annapolis Gain: 298

Station PR-01	Dip Angle	Field Strength	Station PR-01	Dip Angle	Field Strength
129	+2	44	130	+2	50
130	+2	47	129	+2	50
131	-4	46	128	+4	46
132	-4	40 – re-set gain to 237	127	+4	46
133	+1	38	126	+4	45
134	+4	37	125	+3	51
135	+4	37 – reset gain to 287	124	+2	45
136	+4	50	123	+4	46
137	+2	40 – re-set gain to 134	122	+6	45
138	0	40 – re-set gain to 229	121	+4	46
139	+4	43	120	+5	51
140	+6	45	119	+8	48
139	0	43	118	+8	52
138	+2	49	117	+6	55
137	+4	47	116	+4	55
136	+3	48	115	+2	52
135	+2	44	114	-2	55
134	+2	44	113	+2	55
133	0	49	112	+5	58 – re-set gain to 177
132	-6	50	111	+2	44
131	-3	50	01	+2	38

Oct. 14 - VLF Survey Line 1

Gain: 040 Station: Seattle

Station (PR-01)	Easting	Northing	Dip Angle	Field Strength
149	592053	5493470	+4	39
148	592096	5493465	+4	40
147	592142	5493470	-2	45
146	592204	5493458	-2	48
145	592262	5493456	+7	43
144	592315	5493457	+8	45
143	592330	5493438	+1	39
142	592396	5493459	+5	39
141	592450	5493461	+6	40
079	592500	5493458	+11	23

Re-set Gain to 78.5

079	592500	5493458	+8	47
078	592549	5493437	+6	41
077	592611	5493462	+6	38
076	592657	5493465	+6	39
075	592692	5493458	+8	37
074	592747	5493476	+10	37
073	592791	5493469	+4	30
072	592848	5493432	+12	38
071	592895		+15	26

Re-set Gain to 117.75

070	592939	5493452	+17	60
069	592992	5493449	+12	75

Re-set Gain to 85.25

068	593041	5493472	+10	45
067	593078	5493466	+6	37
066	593137	5493457	+4	36
065	593193	5493434	+2	43
064	593221	5493432	-1	54
063	593273	5493433	0	66
062	593328	5493428	+10	57
061	593375	5493430	+7	50

060	593433	5493429	+10	57
059	593469	5493415	+14	84

Re-set Gain to 59

058	593526	5493440	+4	54
057	593586	5493437	+8	55
056	593632	5493410	+11	52
055	593681	5493424	+6	50
054	593779	5493415	+4	515
	593722	5493416	+1	37

Oct. 20 - VLF Survey - Line 2
Station: Seattle Gain: 73

Station PR-01	Easting	Northing	Dip Angle	Field Strength
01	591288	5492353	+8	51
02	591342	5492357	+8	40
03	591388	5492365	+5	40 – re-set gain to 60.5
04	591436	5492365	+3	50
05	591483	5492368	+7	35
06	591535	5492365	+12	42
07	591588	5492366	+12	37
08	591641	5492366	+12	35
09	591695	5492379	+9	34
10	591752	5492390	+11	34
11	591785	5492390	+8	34 – re-set gain to 63.5
12	591816	5492409	+3	50
13	591873	5492411	0	48
14	591916	5492414	-4	48
15	591952	5492407	-2	51
16	592018	5492414	+1	51
17	592065	5492422	+6	49
18	592111	5492437	+4	45
19	592139	5492447	+7	45
20	592181	5492457	+2	43
21	592237	5492478	+3	40
22	592284	5492479	+2	44
23	592336	5492484	+1	38

24	592387	5492486	+1	39
25	592440	5492490	+2	40
26	592485	5492505	+1	45
27	592524	5492516	-6	35 – re-set gain to 83
28	592571	5492519	+3	63 – re-set gain to 69
29	592615	5492535	-1	51
30	592674	5492547	+1	50
31	592711	5492554	+2	48
32	592755	5492562	+2	49
33	592804	5492552	0	49
34	592846	5492559	+3	41
35	592896	5492562	+2	36
36	592946	5492569	0	47
37	593008	5492582	-3	44
38	593050	5492581	-13	43
39	593098	5492579	-8	50
40	593146	5492578	+4	58

VLF Survey - Line 2
Station: Seattle Gain: 70.5

Station (PR-01)	Dip Angle	Field Strength
192	+4	48
191	0	47
190	0	46
189	+2	45
188	+4	47
187	+7	49
186	+10	42
185	+4	43
184	+4	45
183	+11	49
182	+10	48
181	+11	51
180	+8	60
179	+12	58 – re-set gain to 68.5
178	+13	43
177	+12	43
176	+12	38
175	+8	40
174	+6	35

173	+11	34
40	+4	39
39	-5	50

Oct. 21 - VLF Survey - Line 6
Station: Seattle Gain: 38.5

Station (PR-01)	Dip Angle	Field Strength	Easting	Northing
280	+16	53	593883	5489633
279	+14	42	593896	5489655
278	+14	44	593935	5489716
277	+12	34	593927	5489783
276	+11	45	593948	5489806
275	+12	54	593970	5489845
274	+19	42	594005	5489896
273	+13	37	594021	5489947
272	+8	46	594048	5489984
271	+11	52	594062	5490016
270	+20	31	594106	5490071
269	+17	40	594126	5490085
268	+21	50 – Reset Gain to 63.5	594157	5490148
268a	+18	54	594176	5490182
267	+12	50 – Reset gain to 37.5	594208	5490231
266	+13	40		
265	+14	45		
264	+14	35	594282	5490349
263	+16	46	594299	5490412
262	+19	45	594313	5490429
261	+16	41	594367	5490463
260	+18	40	594366	5490545
259	+22	36	594386	5490576
258	+14	50 – Reset Gain to 56	594395	5490613
258a	-9	47		
258b	+13	60	594401	5490695
257	-10	42	594442	5490751
256	-11	45	594456	5490781
255	-13	58	594494	5490828
254	-10	51	594516	5490889
253	-22	75	594546	5490927

Oct. 27 - VLF Survey - Line 7
Station: Annapolis Gain: 284.5

Station (PR-01)	Easting	Northing	Dip Angle	Field Strength
213			+12	34
214			+4	38
215			+26	37
216			+18	41
217			+22	32
218			+18	39
219			+16	39
220			+20	50
221			+20	36
222			+12	30
223			+18	51
224			+20	50 – Gain re-set to 280
225			+21	50 – Gain reset to 445
225a			+13	45
226			+12	30
227			+20	50 – Gain re-set to 232
228			+9	50 – Gain re-set to 78
229			+26	38
230			+14	31
231			+11	41
232			+10	50 – Gain re-set to 246
233			+16	50
234			+12	53
235			+12	48
236			+17	50 – Gain re-set to 314
237			+19	50 – Gain re-set to 425
238			+16	50 – Gain re-set to 312
239			+22	50
240			+28	50 – Gain re-set to 318
241			+24	44
242			+16	50
243			+24	50 – Gain re-set to 242
244			+18	50 – Gain re-set to 132
245			+22	52 – Gain re-set to 202
246			+16	55
247			+16	47
248			+18	48

249			+22	48
250			+16	44
251			+12	47
252			+12	45

Station	Dip Angle	Easting Average	Northing Average	Sample Spacing		Fraser Filter	
1	8	591286.7	5492355				
2	8	591342	5492357	55	16	8	
3	5	591388	5492365	47	13	3	
4	3	591436	5492365	48	8	-11	
5	7	591483	5492368	47	10	-14	
6	12	591535	5492365	52	19	-5	
7	12	591588	5492366	53	24	3	
8	12	591641.5	5492366	54	24	4	
9	9	591695	5492379	55	21	2	
10	11	591752	5492390	58	20	9	
11	8	591785	5492390	33	19	16	Line 2
12	3	591816	5492409	36	11	15	
13	0	591873	5492411	57	3	9	
14	-4	591916	5492414	43	-4	-3	
15	-2	591952	5492407	37	-6	-13	
16	1	592018	5492414	66	-1	-11	
17	6	592065	5492422	48	7	-4	
18	4	592111	5492440	49	10	1	
19	7	592139	5492447	29	11	6	
20	2	592181	5492457	43	9	4	
21	3	592239.5	5492483	64	5	2	
22	2	592284	5492479	45	5	3	
23	1	592336	5492484	52	3	0	
24	1	592387	5492486	51	2	-1	
25	2	592440	5492490	53	3	8	
26	1	592485	5492505	47	3	6	
27	-6	592524	5492516	41	-5	-7	
28	3	592571	5492519	47	-3	-3	
29	-1	592614.5	5492532	45	2	-1	
30	1	592674	5492547	61	0	-4	
31	2	592711	5492554	38	3	1	
32	2	592755	5492562	45	4	1	
33	0	592804	5492552	50	2	-3	
34	3	592846	5492559	43	3	1	
35	2	592895.5	5492566	50	5	8	
36	0	592946	5492569	51	2	18	
37	-3	593008	5492582	63	-3	18	
38	-13	593050	5492581	42	-16	-12	
39	-8	593098	5492579	48	-21	-36	
40	4	593142.5	5492581	45	-4	-21	
173	11	593194	5492590	52	15	1	
174	6	593245	5492589	51	17	-3	
175	8	593286	5492604	44	14	-10	
176	12	593334	5492605	48	20	-5	
177	12	593378	5492608	44	24	-1	
178	13	593433	5492597	56	25	5	
179	12	593477	5492619	49	25	6	
180	8	593521	5492634	46	20	-1	
181	11	593570	5492618	52	19	-2	
182	10	593626	5492603	58	21	6	

183	11	593665	5492610	40	21	13
184	4	593716	5492608	51	15	1
185	4	593766	5492618	51	8	-9
186	10	593808	5492593	49	14	3
187	7	593863	5492610	58	17	11
188	4	593902	5492588	45	11	9
189	2	593949	5492599	48	6	6
190	0	593998	5492600	49	2	-2
191	0	594059	5492615	63	0	
192	4	594100	5492615	41	4	

41		594413	5493477				
42							
43							
44							
45							
46							
47							
48							
49		594020	5493464				
50							
51							Line 1
52							
53	-1	593722	5493416				
54	-4	593779	5493415	57	-5	12	
55	-6	593679	5493427	101	-10	9	
56	-11	593632	5493410	50	-17	-5	
57	-8	593586	5493437	53	-19	-1	
58	-4	593526	5493440	60	-12	12	
59	-14	593469	5493415	62	-18	-1	
60	-10	593433	5493429	39	-24	-7	
61	-7	593375	5493430	58	-17	-7	
62	-10	593328	5493428	47	-17	-18	
63	0	593273	5493433	55	-10	-9	
64	1	593223	5493431	50	1	7	
65	-2	593193	5493434	30	-1	9	
66	-4	593137	5493457	61	-6	10	
67	-6	593080	5493452	57	-10	12	
68	-10	593041	5493472	44	-16	13	
69	-12	592989.5	5493448	57	-22	10	
70	-17	592939	5493452	51	-29	-2	
71	-15	592894.5	5493443	45	-32	-16	
72	-12	592851.5	5493468	49	-27	-13	
73	-4	592791	5493476	61	-16	2	
74	-10	592747	5493458	48	-14	0	
75	-8	592692	5493465	55	-18	-6	
76	-6	592655.5	5493464	37	-14	-2	

77	-6	592611	5493437	52	-12	-17	
78	-6	592546.5	5493459	68	-12	-17	
79	11	592500.5	5493457	46	5	16	
141	-6	592424	5493502	89	5	11	
142	-5	592392	5493467	47	-11	-2	
143	-1	592335	5493441	63	-6	9	
144	-8	592311	5493477	44	-9	-4	
145	-7	592252	5493457	62	-15	-19	
146	2	592202	5493467	51	-5	-3	
147	2	592142.5	5493466	60	4	12	
148	-4	592093	5493467	50	-2		
149	-4	592046.5	5493468	47	-8		

80	12	594330.5	5491333				
81	14	594295	5491307	44	26	1	
82	15	594254.5	5491271	54	29	6	
83	10	594223	5491242	43	25	10	Line 4
84	13	594187.5	5491202	53	23	17	
85	2	594152	5491173	46	15	17	
86	4	594105	5491145	54	6	12	
87	-6	594075	5491099	55	-2	-5	
88	0	594034.5	5491094	41	-6	-14	
89	3	594003.5	5491076	36	3	-7	
90	5	593954.7	5491034	64	8	7	
91	5	593922	5490992	53	10	3	
92	-4	593889.3	5490964	43	1	-23	
93	11	593840.7	5490922	64	7	-8	
94	13	593815.7	5490896	36	24	18	
95	2	593770.3	5490866	55	15	11	
96	4	593735.3	5490837	45	6	3	
97	0	593684	5490796	65	4	0	
98	3	593658	5490775	34	3	1	
99	1	593602.7	5490724	75	4	0	
100	1	593576	5490713	29	2	-5	
101	3	593535.3	5490678	54	4	-2	
102	4	593497	5490665	40	7	8	
103	2	593448.3	5490616	69	6	11	
104	-3	593409	5490591	47	-1	7	
105	-2	593367.3	5490556	55	-5	13	
106	-6	593324.3	5490530	50	-8	18	
107	-12	593294.7	5490499	43	-18	10	
108	-14	593242.7	5490464	63	-26	6	
109	-14	593218	5490438	36	-28		
110	-18	593181.7	5490407	48	-32		

111	2	591254	5492325				
112	5	591220	5492285	52	7	7	
113	2	591181	5492247	54	7	7	
114	-2	591152	5492206	50	0	-6	Line 5

115	2	591120	5492172	47	0	-10	
116	4	591082	5492133	54	6	-8	
117	6	591053	5492103	42	10	-6	
118	8	591018	5492067	50	14	1	
119	8	590986	5492039	43	16	7	
120	5	590938	5491993	66	13	3	
121	4	590921	5491955	42	9	-1	
122	6	590888	5491946	34	10	4	
123	4	590857	5491868	84	10	5	
124	2	590830	5491825	51	6	-1	
125	3	590798	5491791	47	5	-3	
126	4	590784	5491740	53	7	-1	
127	4	590742	5491706	54	8	2	
128	4	590703	5491675	50	8	4	
129	2	590693	5491635	41	6	8	
130	2	590657	5491596	53	4	12	
131	-4	590632	5491560	44	-2	1	
132	-4	590604	5491526	44	-8	-13	
133	1	590578	5491485	49	-3	-11	
134	4	590548	5491448	48	5	-3	
135	4	590505	5491482	55	8	2	
136	4	590485	5491411	74	8	6	
137	2	590465	5491339	74	6	2	
138	0	590437	5491297	50	2	-8	
139	4	590408	5491262	45	4		
140	6	590374	5491236	43	10		

150	8	591136	5490172				
151	-4	591188	5490192	56	4	8	
152	4	591240	5490206	54	0	-8	
153	-8	591285	5490219	47	-4	-14	
154	16	591332	5490242	52	8	18	Line 3
155	-6	591384	5490259	55	10	20	
156	-4	591429	5490266	46	-10	6	
157	-6	591475	5490286	50	-10	12	
158	-10	591513	5490294	39	-16	-2	
159	-12	591562	5490310	52	-22	-22	
160	-2	591606	5490338	52	-14	-20	
161	2	591655	5490328	50	0	-22	
162	4	591706	5490337	52	6	-8	
163	18	591750	5490356	48	22	14	
164	-4	591798	5490379	53	14	0	
165	12	591838	5490389	41	8	-16	
166	2	591907	5490384	69	14	-31	
167	22	591942	5490422	52	24	-10	
168	23	591981	5490432	40	45	12	
169	11	592031	5490439	50	34	-3	
171	22	592076	5490461	50	33	22	
172	15	592121	5490469	46	37	35	
193	-4	592170	5490477	50	11	-4	

	194	6	592214	5490495	48	2	-21	
	195	9	592266	5490511	54	15	-7	
	196	14	592321	5490561	74	23	2	
	197	8	592361	5490547	42	22	4	
	198	13	592397	5490556	37	21	6	
	199	5	592450	5490592	64	18	-2	
	200	10	592498	5490608	51	15	-7	
	201	10	592551	5490602	53	20	-6	
	202	12	592605	5490622	58	22	4	
	203	14	592656	5490623	51	26	14	
	204	4	592691	5490634	37	18	4	
	205	8	592738	5490667	57	12	2	
	206	6	592778	5490661	40	14	8	
	207	4	592832	5490678	57	10	-4	
	208	2	592882	5490700	55	6	-14	
	209	12	592922	5490717	43	14	-2	
	210	8	592976	5490731	56	20	8	
	211	8	593011	5490743	37	16		
	212	4	593066	5490750	55	12		
	213	12	595773	5491055				
	214	4	595755	5491019	40	16	-28	
	215	26	595724	5490973	55	30	-10	Line 7
	216	18	595684	5490917	69	44	4	
	217	22	595661	5490892	34	40	6	
	218	18	595634	5490847	52	40	4	
	219	16	595602	5490800	57	34	-6	
	220	20	595565	5490760	54	36	4	
	221	20	595545	5490740	28	40	10	
	222	12	595525	5490684	59	32	-6	
	223	18	595494	5490652	45	30	-11	
	224	20	595477	5490631	27	38	4	
	225	21	595396	5490559	108	41	16	
225a		13	595392	5490519	41	34	2	
	226	12	595388	5490478	41	25	-4	
	227	20	595369	5490490	22	32	-3	
	228	9	595349.5	5490463	34	29	-11	
	229	26	595330	5490435	34	35	10	
	230	14	595300	5490393	52	40	19	
	231	11	595279	5490348	50	25	-1	
	232	10	595270	5490319	30	21	-7	
	233	16	595242	5490270	56	26	2	
	234	12	595210	5490228	53	28	-1	
	235	12	595184	5490197	40	24	-12	
	236	17	595164	5490160	42	29	-6	
	237	19	595132	5490120	51	36	-2	
	238	16	595109	5490080	46	35	-15	
	239	22	595072	5490041	54	38	-14	
	240	28	595063	5490004	38	50	10	
	241	24	595033	5489963	51	52	12	

242	16	595002	5489924	50	40	-2	
243	24	594969	5489919	33	40	0	
244	18	594976	5489866	53	42	4	
245	22	594961	5489842	28	40	8	
246	16	594931	5489810	44	38	4	
247	16	594892	5489788	45	32	-8	
248	18	594853	5489744	59	34	-4	
249	22	594826	5489717	38	40	12	
250	16	594801	5489680	45	38	14	
251	12	594787	5489631	51	28		
252	12	594757	5489600	43	24		

253	-22	594536	5490921				
254	-10	594516	5490885	41	-32	-8	
255	-13	594489.5	5490827	64	-23	-2	Line 6
256	-11	594453.5	5490782	58	-24	-27	
257	-10	594432	5490749	40	-21	-25	
258b	13	594401	5490695	62	3	-2	
258a	-9	594398	5490654	41	4	-32	
258	14	594393.5	5490609	45	5	-35	
259	22	594386	5490576	34	36	2	
260	18	594366	5490545	37	40	5	
261	16	594367	5490463	82	34	-1	
262	19	594313	5490429	64	35	5	
263	16	594299	5490412	22	35	7	
264	14	594280	5490358	57	30	3	
265	14	594270	5490282	77	28	3	
266	13	594235	5490280	35	27	-3	
267	12	594206.5	5490228	60	25	-14	
268a	18	594176	5490182	55	30	-8	
268	21	594151	5490144	46	39	2	
269	17	594125.5	5490092	57	38	7	
270	20	594102	5490065	36	37	18	
271	11	594062.5	5490015	64	31	10	
272	8	594049.5	5489983	34	19	-13	
273	13	594015.5	5489937	57	21	-10	
274	19	594005	5489896	42	32	9	
275	12	593969	5489841	66	31	8	
276	11	593947	5489802	45	23	-3	
277	12	593928.5	5489773	34	23	-5	
278	14	593930	5489716	57	26	-4	
279	14	593901.5	5489666	58	28		
280	16	593885	5489632	37	30		

Appendix G

Program-Related Documents

ACME ANALYTICAL LABORATORIES LTD.

852 East Hastings Street • Vancouver, British Columbia • CANADA • V6A 1R6
Telephone: (604) 253-3158 • Fax: (604) 253-1716 • Toll free: 1-800-990-ACME (2263) • e-mail: info@acmelab.com

Quote: 01-037

Please include this quote number in any sample submission documents for this project.

Client: Rick Walker
656 Brookview Crescent, Cranbrook, B.C. V1C 4R5

Date: August 13, 2001

From: Leo Arciaga

To: Rick Walker

Re: Reconnaisance rock and soil samples

Dear Rick,

Thank you for considering Acme Analytical Laboratories for your analytical needs. We are happy to provide the following quote for your project. This quote is valid for 60 days.

Upon approval of this quote, the following prices will be valid until this date: 31-Dec-01

Project Specifics: Quote is based on approximately 700 samples and minimum batch of 50 samples. Group 1EX - S to be substituted by Ga. You must include a copy of this quote in order for us to recognize special instruction. Turn-around time is 7-10 working days up to a batch of 300 samples. Payment is required before data is released.

Prep 1: Price **Cdn $1.20** /sample

Method: SS80 Description: Suitable for soils. Dry (up to) 1 kg at 60C, sieve to -80 mesh.

Prep 2: Price **Cdn $4.05** /sample

Method: R150 Description: Crush 4 kg to 70% -10mesh, split, pulverize 250g to 95% -150mesh.

Analysis 1: Price **Cdn $8.30** /sample

Method: Group 1EX Description: Four acid digestion followed by ICP-ES analysis

Applicable tax(es) is not included in the quote. I suggest that data be transferred by e-mail as files are completed and/or by disk at end of field season, although data can be downloaded from our website. Once again, thank you for the opportunity to quote on your project and if you have any other question do not hesitate to contact me at any of the above numbers.

Sincerely,

L. Arci

Leonardo Arciaga
Client Services

SCALE

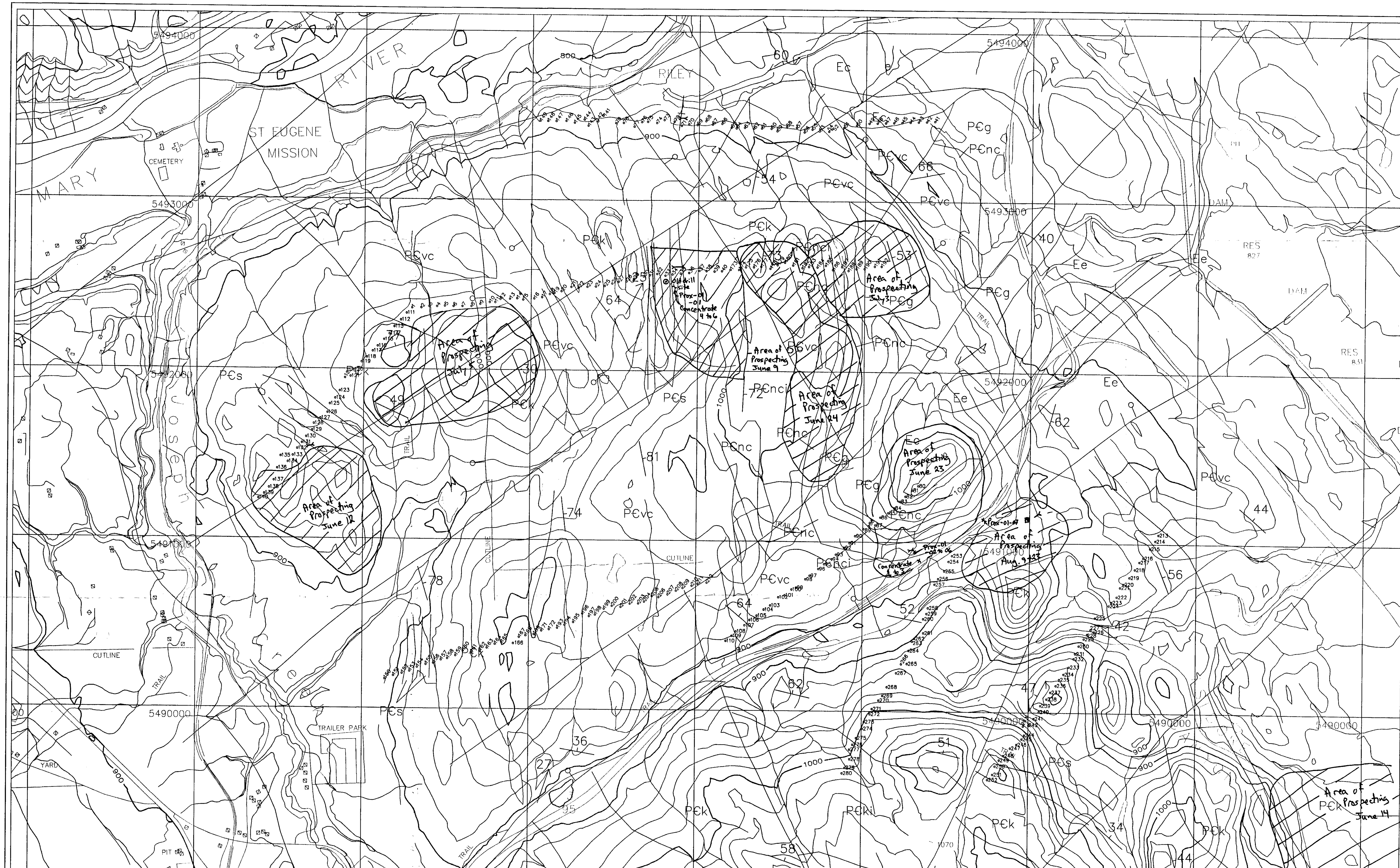
0 metres 1 000

1:10 000

o Soil Sample Site
Cu, Pb, Zn

01-30 (2)

Prospectors Assistance Program	
Geochemistry Map Contours from Howe, 1966	
This Plot: Map Ref.:	Date: Scale: 1:10 000



SCALE

0 metres 1 000

1:10 000

Drill hole
Trench
Adit
Shaft

Area of Prospecting

Soil Sample Site PR-01-01

Prospectors Assistance Program

Soil Sample Location Map
Geology from Höy 1983; Höy et al. 1994

This Plot:	Date:
Map Ref.:	Scale: 1:10 000

01-30 (3)