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GEOLOGICAL, GEOCHEMICAL, AND GEOPHYSICAL REPORT

0185

FLUME GROUP	FLUME 1, 2	, 8,	9 MINERAL CLAIMS
NIPT GROUP	FLUME 3, 6	, 7	MINERAL CLAIMS
LAT 55° 45' N	LONG 124 ⁰	40'	N

NTS 93 N/10 and 15

OMINECA MINING DIVISION

Prepared for

MANSON CREEK RESOURCES

ΒY

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GEOLOGICAL BRANCH ASSESSMENT REPORT

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5 OBER 1983

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CERTIFICATE

I, the undersigned, of 116 MacEwan Drive N.W., Calgary, Alberta, a geologist, certify that:

- I am a Consulting Geologist with the firm of Taiga Consultants Ltd., with offices at #100, 1300 - 8th Street S.W., Calgary, Alberta.
- 2. I am a graduate of St. Louis University with a B.Sc. (1967) and a M.Sc. (1969) in Geology, and that I have practised my profession continuously for 15 years since graduation.
- 3. I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta; and a Fellow of the Geological Society of Canada.
- 4. I have personally worked on the claims and supervised exploration work described in this report during the period August 5 to 22, 1983.
- 5. I have not received nor do I expect to receive any interest, directly or indirectly, in the property described or in Manson Creek Resources Ltd.

DATED at Calgary, Alberta, this 15th day of November, A.D. 1983.



Respectfully submitted,



James W. Davis, M.Sc., P.Geol., F.GAC

SUMMARY AND RECOMMENDATIONS

During the period August 5 to August 22, 1983, a five person crew completed an exploration program on the Flume Claims near Germansen Landing, British Columbia. This exploration included geological mapping, geochemical sampling and geophysical surveying on the FARRELL SHOWING, the AH HOO OCCURENCE and on selected gold geochemical anomalies identified during a previous geochemical survey of the area.

Farrell Grid

Detailed geological mapping on the FARRELL grid consisted of 1:500 scale mapping of all exposures within and adjacent to this grid. The FARRELL showing was found to consist of tetrahedrite, chalcopyrite, pyrite, and minor free gold in a four-meter wide quartz-carbonate vein which is hosted by greenstone near the faulted contact with a serpentinite vein. Numerous quartz and quartz-carbonate veins, occasionally carrying minor sulphides, were noted primarily within this greenstone unit elsewhere in . the grid area.

Geochemical coverage consisted of both rock and soil sampling. Rock samples were collected from the FARRELL trench and the FARRELL adit just below the trench. In addition, a road was bulldozed across the grid to the old FARRELL trench which was reopened at the end of the road and sampled. Soil geochemical samples were gathered at 5 m intervals along 50 m spaced lines throughout the grid area.

Assay results from chip sampling exposed by the bulldozer trenching of the FARRELL SHOWING were as follows:

	oz/ton Au	oz/ton Ag	%Cu
0-1 m	0.046	0.44	0.04
1-2 m	0.038	0.38	0.02
2-3 m	0.950	0.54	0.59
3-4 m	0.274 ^{3 m}	0.84	0.17
4-5 m	0.308 0.511	0.22	Trace

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Chip samples were taken along strike of the central part of the vein. These chip samples assayed as follows:

	oz/ton Au	oz/ton Ag	% Cu
0-1 m	0.596 2 m	1.02	0.70
1-2 m	0.322 0.459	0.62	0.10
2-3 m	0.028	0.08	0.01

A one metre chip sample of the exposed wall rock adjacent to the vein assayed 0.184 oz/ton Au. This indicates that gold has been disseminated within the adjacent greenstone and further sampling of this host rock is necessary. While these prelimary results are encouraging further sampling and drilling will be necessary to establish the continuity of the gold mineralization in this vein system.

Several additional quartz veins and quartz boulders were located and sampled on the Farrell Grid. A grab sample from one small quartz vein located on the grid approximately 385 metres east of the Farrell Showing assayed 0.17 oz/ton gold and 0.32 oz/ton silver. A quartz boulder located 30 metres west of the Farrell Showing, but apparently unrelated to the showing itself, assayed 0.024 oz/ton gold and 0.085 doz/ton silver.

Within the Farrell Grid which measures approximately 400 x 250 metres a number of gold and silver soil geochemical anomalies have been detected which require additional detailed exploration.

Geophysical coverage on the FARRELL grid consisted of ground magnetometer and VLF-EM surveys. Magnetic data were collected at 10 m intervals, corrected for diurnal variations using base station control, and contoured. VLF-EM data were acquired at 20 m intervals, profiled, and Fraser Filtered. AH HOO

Reconnaissance gological mapping and geochemical sampling were carried out on the AH HOO occurrence. This occurrence is also located within an area of serpentinite which has undergone intense quartzcarbonate alteration. Rock and soil samples were collected along road cuts which cross the trend of the original nickel geochemical anomaly.

Analysis of rock and soil samples were completed from the AH HOO anomaly for platinium, gold and multi-element ICP. No anomalous platinium values were detected. A single gold, in soil, geochemical anomaly (850 ppb) was delineated in the area which should be evaluated further. The ICP multi-element geochemical analyses reproduced the original high nickel values, along with associated metals such as chromium and cobalt. While slightly anomalous, these results taken in the geological context of the area are not considered significant.

Selected Anomalies

Reconnaissance prospecting, geological mapping, and geochemical sampling of previously detected gold anomalies on the FLUME claims were also completed during the summer exploration program. Small soil sampling grids were established in four areas and on all of these grids the initial gold geochemical results were confirmed; however, the bedrock sources of these anomalies were not determined, and further exploration is necessary to more fully evaluate the significance of these gold anomalies.

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INTRODUCTION

Location and Access

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The Flume 1 to 3 and 6 to 9 claims form a contiguous block of 125 units, located in the Manson Creek - Germansen River placer gold district, approximately 240 km northwesterly from Prince George, British Columbia. The claims are situated astride the lower placer gold and platinum producing reaches of the Germansen River (Figure 1). The approximate geographic coordinates of the claims are Lat. 55°43' N and Long. 124°40' W.

The claims are accessible by gravel road from Fort St. James, 226 km to the south. Alternate road access is provided by a network of well maintained logging roads, which connect the Manson Creek area with the town of MacKenzie, approximately 160 km by road to the east A network of old disused roads and trails provides local access to the claims. Fuel, groceries, and lodging are available nearby at Manson Creek and Germansen Landing.

PROPERTY AND OWNERSHIP

The FLUME claims are situated in the Ominca Mining Division and are owned 100% by Manson Creek Resources Ltd., of Calgary, Alberta. Pertinent information regarding these claims is shown in Table I.

	Claim Names	No. of Units	Record No.	Tag No.	Date of Record
FLUME GROUP	FLUME 1 FLUME 2	20 20	2545 (2) 2546 (2)	56626 56627	Feb. 25, 1980 Feb. 25, 1980
80 units	FLUME 8	20	5101	20934	April 25, 1983
	FLUME 9	20	5101	20935	April 25, 1983
NIPT GROUP - 45 units	FLUME 3 FLUME 6 FLUME 7	20 10 15	2547 (2) 5098 5099	56639 29192 29194	Feb. 25, 1983 April 25, 1983 April 25, 1983

TABLE I



PROPERTY LOCATION MAP

The FLUME 3, 6 and 7 claims constitute the NIPT Group while the FLUME 1, 2, 8 and 9 have been grouped into the FLUME group. A summary of exploration expenditures in 1983 on the Flume claims is presented in Appendix 3 of this report.

Physiography and Glaciation

The Flume claims lie within the Omineca Mountains subdivision of the Interior Plateau. Elevations on the property vary from 850 m along the Germansen River in the north part of the FLUME I claim to 1225 m in the highlands in the southwest part of the FLUME 9 claim. Thus the maximum overall relief is 375 m. Maximum local relief is about 100 m and occurs along the incised canyon of the Germansen River near the Farrell Showing. Mountains in the area are characterized by gentle slopes with heavily wooded flanks and steep to rounded ridge crests and peaks. The topography was modified by eastward and northeastward moving ice sheets during the last period of glaciation. Glacio-fluvial deposits have been eroded by the Germansen River in late glacial and post-glacial times. This results in the presence of relatively flat terrace deposits perched above the present river channel. The Germansen River flows northward through the area and occupies, (along its lower reaches) a post-glacial channel which reversed the pre-Pleistocene southward drainage of the area.

History

Placer gold was discovered on Germansen River in 1870. Production was almost continuous until 1942 and some 24,138 ounces of gold had been produced up to 1949. In the early decades of this century, a number of companies invested considerable sums of money in construction of roads, ditches, and flumes in attempts to conduct large-scale placer mining. These efforts were particularly successful along the lower reaches of Germansen River where a series of large hydraulic pits were operated until 1942.

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Intensive prospecting of the camp eventually led to the discovery of a number of lode gold occurrences, including the Farrell prospect located on the Flume claims. An occurrence of nickeliferous pyrrhotite in serpentinized dunite is also present at the Flume claims, near the confluence of Ah Hoo Creek and Germansen River.

Previous Work

Previous recorded work for lode deposits on the Flume claims included limited trenching and underground work at the Farrell showing. The original trenching of this showing exposed a quartz vein 2 feet (0.6 m) in width, which assayed a maximum of gold 0.8 oz. per ton, silver 1.6 oz. per ton and copper 0.2 per cent. An adit driven below this trench encountered a quartz vein at 62 feet (19 m), but assays from this vein reve**a**led only trace mineralization.

In 1980, approximately 40 line km of grid-controlled geological mapping, geochemical sampling, and ground VLF-E.M. and magnetic geophysical surveying were carried out at the Flume claims. A total of 1,616 soil samples were collected at 25 m intervals along the grid lines, which covered portions of the Flume 1, 2, and 3 claims. This grid was situated primarily to test suspected major structures and quartz-carbonate alteration zones along the Germansen River. (Towards the end of this program, the Farrell Showing was relocated and sampled although grid coverage did not extend over the known vein system.) This sampling confirmed the previously reported high gold values. The results of geochemical analyses for Ni and ground magnetic surveying also indicated the potential for a zone of nickeliferous sulfides within the dunite along strike from the nickeliferous pyrrhotite occurrence at the mouth of Ah Hoo Creek.

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REGIONAL GEOLOGY

The Germansen River gold-producing belt occurs within an assemblage of ultramafic rocks (dunite, peridotite, and serpentinized equivalents); mafic to intermdeiate volcanics metamorphosed to greenstones; and fine-grained clastic and chemical sediments, including argillite, slate, chert, and limestone. The sedimentary rocks indicate a deep marine depositional environment, and recently completed whole rock analyses of the volcanic rocks suggest compositions similar to those of oceanic basalts.

This assemblage of rocks is compositionally similar to the Cache Creek Group rocks with which they were initially correlated when the area was first mapped regionally, but fundamental differences in age and stratigraphy have been elucidated by more recent work, and they are now referred to as the Nina Creek Group.

Along the Germansen River, Nina Creek Group rocks are cut by major faults that strike transversely and subparallel to the belt and the steeply dipping rocks within it. From place to place, these "faults" are marked by zones of intense carbonate alteration, sometimes several hundred metres in width. Alteration zone assemblages include ankerite, chlorite, calcite, quartz, pyrite, and mariposite. Major zones of carbonate alteration assemblages transect the Flume claims. In several areas in the belt, the alteration zones exhibit an apparent concordant relationship with the enclosing sedimentary, ultramafic, and volcanic rocks.

Major lithologies and alteration types of the Nina Creek Group rocks are very similar to those of the Sylvester Group in the McDame Creek area to the north, with which they are presently considered to be correlative.

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PROPERTY GEOLOGY

Lithologies

Geological mapping was carried out over the Flume claims in late 1980 and during the current field program. The results of this mapping were plotted on a 1:50,000 scale topographic base and are presented on Map I which accompanies this report. Bedrock exposures are scarce and outcrops occur mainly along the Germansen River and its tributaries. While the depth of overburden is not usually thick, except in river terraces, the mantle of glacial material effectively conceals bedrock over most of the Flume Claims. Descriptions of mappable units are listed below, with no relative ages implied by the order of description.

Carbonaceous Shale

A weakly deformed carbonaceous silty shale unit is mapped from a number of exposures along the Germansen River. This unit is laminated to thinly bedded, locally fissile and is cut occasionally by thin quartz and/or carbonate veins. The unaltered nature of this unit on the Flume claims is in sharp contrast with equivalent units towards the south which are mapped as argillite, slate and graphitic schist. One argillite exposure was noted along the southern boundary of the property. Even where these deep water sediments are in proximity to the serptentinized ultrabasics, no visible thermal metamorphic effects are observable in outcrop.

Ultramafic Rocks

This map unit includes dunite, peridotite and serpentinized equivalents. Magnetite occurs as an accessory mineral in all of these rock types which allows easy mapping of this unit based on its magnetic signature in addition to the sporadic exposures of this recessive unit. Small scale shearing and folding of this ultramafic unit has been noted within the area. Locally this unit is altered to a talc schist adjacent to fault zones. Asbestosform serpentinite and/or asbestos are noted occassionally within the unit along with numerous quartz-carbonate veins. Although intensely hydrothermally altered, remnant primary minerals such as olivine and brown aluminum-rich chromian spinel and tectonic fabrics suggest that ultramafic rocks in the area are, in part at least, of upper mantle derivation.

Meta-Basalts

A basic volcanic unit composed of meta-basalt or meta-basalt porphyry is well exposed in the Germansen River Canyon and adjacent areas. This unit is extensively sheared and chloritized and hosts a number of quartz and/or carbonate veins occasionally with sulfides and free gold.

Quartz-Carbonate Alteration Zones

All of the units have been subjected to locally intense quartzcarbonate alteration. These alteration zones consist of assemblages of quartz, ankerite, chlorite and pyrite in varying percentages. On the Flume claims, these alteration zones occur in close proximity to ultramafic rocks and probably represent altered assemblages of the same.

Structure

The sedimentary rocks in the Germansen River area exhibit a regional strike varying from 100° to 120° Az. Dips are more variable, ranging from 45° to vertical. Magnetic patterns and the outcrop distribution of ultramafic and mafic igneous rocks imply a regional concordance with the sediments.

The ultramafic rocks in the area occur as discontinuous lenses tectonically emplaced along or near major faults and are oriented east - west.

A number of northerly trending faults have been inferred based on magnetic patterns and apparent offsets of mapped units. Vein systems often occur parallel to the inferred strike direction of these faults.

Intense isoclinal and recumbent folding was observed within the ultrabasic rock unit. The axes of these folds are parallel to the regional strike. Complex small scale folding was found adjacent to faults where exposed.

ECONOMIC GEOLOGY

Lode Deposits

Quartz veins, stringers, and stockworks occur at many locations along the Manson fault zone and subsidiary related structures. Some zones are mineralized with free gold and sulfides, and contain values in gold, silver, lead, and zinc. Random samples from massive carbonate alteration zones along the Manson fault have assayed from a Trace to 0.01 oz Au and 0.03 to 0.69 oz Ag (Armstrong, 1965, p. 130). The various vein occurrences may be classified into deposits containing tetrahedrite, deposits containing spalerite and galena, and deposits containing galena and pyrite. Tetrahedrite type deposits contain tetrahedrite, chalcopyrite, pyrite, malachite, azurite, and free gold. The major known occurrences of this type include the Farrell (Flume claims), the Fairview, and the Flagstaff-Motherlode prospects.

The Farrell prospect is located on the Flume 1 claim on the east side of Germansen River, some 5 km above its mouth. Three northwesterly striking quartz veins occur in shear zones in silicified and carbonatized basic volcanic rocks of the Nina Creek Group. The veins vary in width from 2' to 5' and are mineralized with tetrahedrite, chalcopyrite, malachite, azurite, and free gold. Various assays of samples collected by Lay (1939) and Armstrong (1949) are quoted below:

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Sample Width	Au (oz/ton)	Ag (oz/ton)
2' (?)	0.345	0.66
2'	0.8	1.6
2' (?)	0.32	15.2
2-5'	0.30	0.1

Grab	samples	collected	during	the 1980	season	assayed a	as	follows
		F-55		0.348		0.73		
		F-56		0.550		3.60		

The vein mineralogy, host rocks, and regional geological setting are virtually identical with the currently producing gold-quartz veins in the McDame Creek (Cassiar) district to the north. The Sylvester Group greenstones which host the veins being mined by Erickson Gold Mines Ltd. (and others) are correlatable with and probably an extension of the Nina Creek Group greenstones that host the Farrell vein systems. The competent greenstone host rocks, good vein widths, and high assays obtained to date warrant further intensive exploration of the Farrell prospect.

Ah Hoo Creek Nickel Occurrence

Near the confluence of Ah Hoo Creek and Germansen River, in the vicinity of the placer workings at Holloway Bar, a number of outcrops of serpentinized dunite have been mapped. In this area, the serpentinized rocks contain several percent disseminated pyrrhotite reported to carry 0.18% Ni (BC Minister of Mines Annual Report for 1936, P. C6). Below this point on the Germansen River, placer concentrates have been reported to commonly contain small amounts of platinum.

The coincidence of platinum-bearing placers, disseminated nickeliferous pyrrhotite zones in the ultramafic rocks, and major coincident Ni-As-Sb geochemical anomalies in areas geophysically indicated as being underlain by ultramafic rocks along strike from this ocurrence, all point to the potential for platinum mineralization in this area. Regional aeromagnetics and detailed mapping carried out at the Flume claims and adjacent properties by Golden Rule Resources Ltd. in 1980 and 1981, indicate that the ultramafic body hosting the nickeliferous pyrrhotite has a strike length of at least 20 km and is up to 400 m or 500 m thick. By Cordilleran standards, this is an ultramafic mass of major proportions. The regional stratigraphic concordance with greenstones and sediments indicated by mapping to date suggests that the ultramafic rocks are possibly komatiitic flows or hypabyssal volcanic rocks. Economic concentrations of the platinum group elements are known to occur in this setting in association with Ni-Cu sulfides in synvolcanic komatiitic spinifex textured peridotites in the Kambalda Dome area of Western Australia.

Placer Deposits

Former Gold placer producing areas are located along the Germansen River mainly where it crosses the Flume claims. A large hydraulic pit, still being worked, is located about 1 km north of the Flume claims at the confluence of Plug Hat Creek and Germansen River. A second placer gold producing area is located on the Flume 2 claim near the confluence of Mill Creek and Germansen River. Along its course, the river occupies a post-glacial channel and the placer deposits appear to be localized where the river has cut through pre-glacial channel deposits. According to Lay (1927, 1939), placer deposits could be categorized into four types:

- 1. post-glacial deposits near former channels
- 2. deposits on rock benches above the present river level
- 3. deposits in buried channels above the present river level
- 4. deposits in buried channels below the present river level

The recorded placer gold production from Germansen River to 1945 was 16,585 ounces (S.S. Holland, BCDM Bulletin 28, p. 44). Below the mouth of Ah Hoo Creek, small quantities of platinum were reported to have been recovered with the placer concentrate (B.C. Minister of Mines Annual Report for 1936, p. C6).

FARRELL GRID

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An exploration grid was established in an area encomposing the Farrell showing and adit. The 400 metre baseline was cut with grid lines turned off at 50 metre intervals for a total distance of 2 kilometres. Stations were established at 5 metre intervals along these grid lines. Geology was mapped in the grid area at a scale of 1:500. Soil geochemical samples were gathered from the Farrell Trench, the Farrell Adit and from various veins delineated within and adjacent to the grid. A ground magnetic survey was carried out using a 10 metre station spacing. In addition, a VFL-EM survey was conducted using a 20 metre station spacing. When this was completed, a road was constructed to the original Farrell Trench and bulldozer trenching of the Farrell Trench was carried out and the new trench was sampled.

Geology

The results of the geological mapping within and adjacent to the Farrell Grid are presented on Map 3. The Farrell Showing was found to be located along the faulted contact between meta-basalt which hosts the vein and serpentinized ultrabasics. This fault trends essentially east - west and dips about 40° towards the northeast with the shear zone marked by the presence of a narrow talc schist horizon. A similar and perhaps subsidiary fault cuts off the quartz vein at the Farrell Trench. The north and east parts of the grid are underlain by meta-basalt and meta-basalt porphyry. The central part of the grid is underlain by serpentinized ultrabasics with a general east-west trend. In the south end of the grid carbonaceous shale and siltstone are exposed. All of these units are cut by north-south trending faults.

Quartz, quartz-carbonate and carbonate veins cut all rock units in the grid area, however, they are particularly abundant in the meta-basalt unit. Significant gold results obtained from rock samples gathered from the Farrell grid are shown on Map I. A small gold bearing quartz vein was found in outcrop on line 4+00W, 0+50S. The geochemical determinations for these rock samples was 5880 ppb gold (.17 oz/ton) and 11,000 ppb silver (.32 oz/ton). A quartz boulder located near the Farrell showing at Line 0+00, 1+45S analysed 1960 ppb gold (0.24 oz/ton) and 2900 ppb silver. While the boulder was found near the Farrell showing, its position towards the northwest and on a different slope indicates this sample is related to a new occurance rather than the Farrell. These preliminary results indicate more detailed sampling and trenching are required to more fully evaluate the significance of these new occurrences.

The Farrell adit was systematically chip sampled for gold and silver. These results are illustrated in Figure 2. While no gold values of economic significance were obtained, anomalous geochemical results were delineated in the last three metres of the adit. These samples consisted of quartz vein material and adjacent quartz.

Meta-basalt mapped in the adit was extensively propylitically altered. Given the orientation and length of this adit, the quartz vein encountered could be the same as exposed in the Farrell trench above, however, given the faulting observed in the adit, such a correllation must be considered tenuous.

The Farrell Showing (Figure 3) was re-trenched with a bulldozer and rock-chip samples of the quartz vein and wall rock were obtained by channel sampling at one metre intervals. These samples were assayed for gold, silver and copper. The assay results are listed in Appendix I and depicted with sample locations on Figure 3. Eight samples collected from the quartz vein range from .038 to .950 oz/ton Au. Across the width of the vein, 3 meters are mineralized and average 0.511 oz/ton Au. Along the strike of the vein, 2 meters of mineralization average 0.459 oz/ton Au. were sampled.



Figure 3

FARRELL SHOWING

This mineralization was obtained from sulfide rich portions of the five metre wide quartz vein. Primary minerals in the vein include chalcopyrite, tetrahedrite and free gold. Secondary minerals present include malachite, azurite and limonite. In addition, wall rock adjacent to the vein assayed 0.184 oz/ton gold over a one metre interval.

Assays from the newly cut trench compare favorably with those collected from the previous hand trench. The real significance of the new results is that the vein exposed by cat trenching is five metres in width rather than 2 to 5 feet as previously reported. This discrepancy is due to the depth of the cat trench which revealed that the vein was cut at the surface by a reverse fault which juxtaposed the meta-basalt over the quartz vein. In addition, the orientation of the vein appears to be 015° Az rather than 290° Az as previously inferred. The vein strikes into the sidehill rather than parallel to the sidehill as previously supposed. Tracing this vein will undoubtedly be difficult given the complex fault geometry of the area. The fact that the wall rock appears to be mineralized, enhances the potential of the showing and opens up the possibility of disseminated gold mineralization being present.

GEOPHYSICS

Ground Magnetic Survey

Aeromagnetic features delineated on the Farrell Grid are shown on Map 5. Approximately 2 line kilometres of ground magnetic surveying were carried out over the Farrell grid. Readings were acquired, utilizing a Scintrex MP-2 proton precession magnetometer. Magnetic control was provided by a Scintrex MBS-2 base station recorder and a second MP-2 magnetometer. These results were then corrected, contoured, and interpreted.

The magnetic high area in the central part of the grid corresponds to the serpentinized ultrabasic rock unit. This high area is cut by two north-south trending magnetic lows which have been interpreted as faults, based on this magnetic signature, topography and the offset in lithologies.

VLF-EM Survey

A VLF-EM survey was completed over this grid utilizing a Geonics EM-16 unit employing Cutter Maine as the transmitting station. The readings are presented in profile format on Map 6 and in Fraserfiltered contoured format on Map 7.

The profiled VLF-EM data indicate several weak conductors. Two of these conductors occur within the area underlain by serpentinite. These may represent formational conductors within the ultrabasic unit which have been offset by the north-south faults, noted previously. The third conductor may be related to contact phenomenon associated with the ultrabasic-shale contact. The Fraser filtered map duplicates this overall pattern.

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AH HOO OCCURENCE

The NIPT series of samples were taken at 1 metre intervals at the first road cut (Figure 4) and at 5 metre intervals at the second road cut (Figure 5) in order to evaluate the AH HOO nickle occurrence.

At the first roadcut, rock samples were collected in an area underlain by sheared and altered serpentinite. Small quartz-carbonate veins that are less than 1 cm in width occur along joints and small shear zones within weathered sepentinite. The quartz-carbonate veinlets are coated with limonite and contain about 5% sulphides as pyrite,pyrrhotite, chalcopyrite, minor arsenopyrite and bornite. Carbonate alteration and silicification is pervasive through-out the outcrop.

At the second roadcut, the 10 samples obtained consisted of dark red, hematitic, sandy clay with abundant rock fragments. The regolith is apparently underlain by serpentinite based on the composition of the residual rock material.

Geochemistry

Geochemical sampling consisted of the collection of 15 soil samples and 11 rock samples. These samples were acquired from the two lines at the AH HOO occurrence (Map 1, 2 and Figures 3 & 4). B-horizon soils were collected for the most part and when the B-horizon was not available, the C-horizon was sampled. All samples were dried, seived and analyzed for gold and platinum. Samples from the occurrence were scanned by ICP multielement analysis to determine the following elements: Mo, Cu, Pb, Zn, Ag, Ni, Co. Mn, Fe, As, U, Th, Sr, Cd, Sb, Bi, V, Ca, P, La, Cr, Mg, Ba, Ti, B, Al, Na, K and W. Determinations for all of the above mentioned elements are listed in Appendix I.







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Figure 5

AH HOO CREEK AREA Au AND Pt IN SOILS FLUME 3 CLAIM Tables 2 and 3 list the soil and rock sample analytical results for Ni, Co, Cr, Ag, Au and Pt from the NIPT samples. The relevance of these determinations is as follows:

Gold

A single anomalous determination, 0.85 ppm Au, is located in the second road cut (Table 3, Figure 5). Further sampling at this location should be undertaken in order to fully evaluate this geochemical anomaly, especially given the homogeneous nature of this 5 metre sample.

Platinum

All determinations for platinum are below 0.032 ppm which is the average crustal abundance of platinum in ultramafic rocks (Tables 2 & 3). The results range in value from 0.002 to 0.023 ppm Pt. While these results are discouraging, the limited sampling undertaken was by no means a comprehensive evaluation of the platinum potential of the area. Additional sampling may be warranted.

Silver

Determinations for silver from the NIPT samples range from .1 to 1.3 ppm Ag (Tables 2 & 3) and are not considered geochemically significant.

Nickel

Analytical results from the rock samples are well below 2000 ppm Ni which is the average crustal abundance of nickel in ultramafic rocks (Table 2). Soils are enriched in nickel, ranging in value from 1196 ppm to 4338 ppm Ni, however, this is due to surface enrichment in soil produced by weathering.

Chromium

All analytical results for chromium fall well below 2980 ppm Cr, the crustal average for ultramafic rocks (Table 2). No further evaluation is recommended for this area.

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TABLE 2

AH HOO OCCURENCE

Flume 3 Claim

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Sample Number	Ni	Со	Cr	Ag	Au	Pt
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
TM-2-3-1 rock	456	23	698	.3	.002	.006
TM-2-3-2 soil	2640	120	671	.7	.037	.014
TM-2-3-2 rock	792	36	340	.6	.002	.01
TM-2-3-3 rock	828	42	607	.5	.003	.01
TM-2-3-4 rock	227	34	136	.1	.002	.014
TM-2-3-5 rock	1016	53	519	.5	.032	.016
TM-2-3-6 soil	2960	170	808	.9	.010	.023
TM-2-3-6 rock	1299	66	365	.8	.002	.018
TM-2-3-7 rock	920	58	331	.4	.005	.010
TM-2-3-8 rock	752	49	729	.5	.002	.022
TM-2-3-10 soil	2210	51	695	.4	.014	.016
TM-2-3-10 rock	908	124	543	.5	.002	.007
TM-2-3-11 soil	1993	109	718	.4	.023	.013
TM-2-3-11 rock	760	39	521	.6	.02	.003
TM-2-3-12 rock	528	31	350	.5	.002	.008
*	2000	110	2980	.06	.0032	.032

NiPt Showing Soil and Rock Samples, First Road Cut

* Average crustal abundance in ultramafic rocks (ppm) Rose, Hawkes and Webb (1979)

Table 3

AH HOO OCCURENCE

Flume 3 Claim

Sample Number	Elements (ppm)					
	Ni	Со	Cr	Ag	' Au	Pt
				1	······	
NiPt 0+00	1196	58	463	.2	.012	.009
0+05	2210	140	778	.8	.007	.006
0+10	3163	172	970	1.2	.011	.003
0+15	2723	175	635	.5	0.850	.002
0+20	2307	132	548	.9	.011	.009
0+25	2288	131	649	.5	.004	.016
0+30	2104	96	620	.3	.009	.018
0+35	1826	103	638	.4	.006	.016
0+40	4332	280	588	1.0	.017	.019
0+45	3652	232	2023	1.3	.022	.019
0+50	4338	258	2511	1.2	.021	.016
*	2000	110	2980	.06	.0032	.032

NiPt Showing Soil Samples, Second Road Cut

,

* Average crustal abundance in ultramafic rocks (ppm), Rose, Hawkes, and Webb (1979).

Gold Anomalies

Four priority gold-in-soil geochemical anomalies were followed up as part of the exploration work conducted on the Flume Claims. The intent of this evaluation work was to recover and confirm the original anomalies, to extend the geochemical sampling in the vicinity of each anomaly, and to determine the source of the anomaly. Map 2 illustrates the gold anomalies detected in 1980, the location of the reconnaissance grids sampled in 1983 along with all anomalous gold in soil results from the 1980 program.

Anomalies 1 and 2 were detected at the northwest ends of Lines 116 N and 118N. These gold anomalies were associated with above threshold arsenic and anomalous nickle in soil values. Since these anomalies were delineated in close proximity to the Farrell Showing across the Germansen River, they were given the highest priority for further evaluation.

Anomaly 1 is shown in Figure 6. The original anomaly was 90 ppb gold and was located at L118, station 12+25N. The new grid was centered at this location and 10 m spaced samples were taken. While the original gold anomaly was not repeated, a 384 ppb gold value was obtained in the vicinity confirming and upgrading the anomaly. The grid area was overburden covered and located on a slope. Uphill from the grid and towards the southwest there is a large exposure of serpentinite. Given the geology of the area and the magnitude of the gold anomaly more extensive and detailed exploration should be carried out in the area.

Anomaly 2 was located on L116, station 12+25N. The original gold-in-soil geochemical anomaly was 185 ppb gold. As with anomaly 1 the original soil anomaly could not be replicated at the original sample site, however a new gold anomaly of 516 ppb gold (Figure 7) was delineated nearby. Unlike anomaly 1, anomaly 2 is clearly not related to a bedrock source. The area of the anomaly consists of an old river terrace with several quartz-sulfide boulders in terrace material. Since



the underlying bedrock is apparently carbonaceous shale this anomaly is considered to be placer in origin and no further work is proposed.

Anomaly 3 is located approximately 860 m northeast of the Farrell Adit. This 10 m spaced grid (Figure 8) was intended to evaluate a 180 ppb gold anomaly with associated arsenic and nickle which was located at L116, station 20+75N. While the original soil anomaly could not be repeated at this station, three additional anomalous gold-in-soil values of 64, 156 and 380 ppb were delineated. The bedrock consists of meta-basalt which is the host rock of the Farrell Showing and since the geochemical response is similar to others related to gold bearing veins in greenstone, further exploration is definitely warranted.

A fourth anomaly located on L100, 13+75N was evaluated by collecting soil samples on a 25 metre grid centred on this location. The original soil sample (Figure 9) returned a value of 45 ppb gold and a sample from the detailed grid near the original site was 48 ppb. These samples were all taken from a remnant river terrace perched on the west facing slope above the Germansen River. Toward the northeast of the grid exposures of silicified meta-basalt and sepentinite were mapped. A silt sample from a small stream below these exposures was analysed with negative results. No further exploration in this grid area is warranted

Limited sampling and mapping of a quartz-carbonate zone in the southeast corner of Flume 3 (Figure 10) **was** undertaken. Results from these rock samples were not found to be encouraging and further work in this are is not recommended.





Figure IO

DETAILED GEOLOGY and Au – Pt GEOCHEMISTRY FLUME 3 CLAIM

RECOMMENDATIONS

The initial results from the Farrell Showing are quite encouraging. Since further trenching at the showing itself is impractical, it is proposed a diamond drilling program be undertaken for a total of 300 m. A series of three diamond drill holes should be completed in order to delineate the extent and continuity of gold mineralization in the Farrell vein at depth.

Prior to the initiation of drilling the Farrell Vein, the Farrell Grid should be expanded and trenching should be undertaken on the new gold vein on L4+00W, station 0+50S, along with several strong gold geochemical anomalies delineated on the grid. Grid work would be directed toward extending geological, geochemical and geophysical control to the north and east of the current grid and detail the grid in the vicinity of the anomalies currently identified.

Expanded grid coverage should also be established in other prospective areas on the Flume claims where previous gold geochemical results have beeen confirmed within a favorable geological environment. This exploration should consist of geological mapping and geochemical sampling along with VLF-EM and magnetic surveys.

A reconnanisance grid should be established in order to complete aninitial evaluation of the Flume 6, 7, 8 and 9 claims. The procedure should be the same as for the original Flume Grid, ie, 100 m spaced lines with 25 m stations along which soil geochemical, magnetic and VLF-EM surveys would be carried out. Geological mapping would be carried out concomitantly with this grid works. The budget to carry out these recommendations is presented in Appendix 3.

TAIGA CONSULTANTS LTD.

APPENDIX I

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GEOCHEMICAL & ASSAY RESULTS

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TAIGA CONSULTANTS LTD.
TERRAMIN RESEARCH LABS LTD.

14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7 (403) 276-8668

SAMPLE PREPARATION

20 -

Soil and sediment samples are dried and sieved through 80 mesh nylon screen (maximum partlcle size 200 microns).

Rock or drill core samples are crushed to approximately 1/8" in a jaw crusher, riffled to obtain a representative sample, and pulverized to 100 mesh (180 micron particle size).

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TERRAMIN RESEARCH LABS LTD.

14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7 (403) 276-8668

FIRE ASSAY/AA METHOD FOR GOLD AND SILVER PLATINUM AND PALLADIUM

Approximately 1 assay ton of prepared sample is fused with a litharge flux charge to obtain a lead button. The button is cupelled down to a precious metal prill which is then dissolved in aqua regia. The resulting solution is analysed by atomic absorption spectrophotemetry to determine the precious metals.



Job # 83-300

Manson Creek Resources

Date Oct.11, 1983

Client Project BC-83-4

Page 1/2

Samp	ole No.	Au	Ag	
		ppb	ppb	
L 111+90 E	20+85 N	.380	,410	
	20+75	64	290	
	20+65	10	300	
L 112 E	20+85 N	156	610	
	20+75	24	280	
	20+65	10	140	
L 112+10 E	20+86 N	8	240	
	20+75	18	430	· · · · · ·
	20+65	26	90	
l 115+90 E	12+35 N	2	220	
	12+25	8	140	
	12+15	8	160	
L 116 E	12+35 N	516	140	
	12+25	2	640	· · · · ·
	12+15	-2	230	
L 116+10 E	12+35 N	-2	180	
	12+25	-2	100	
	12+15	26	530	
L 117+90 E	12+35 N	2	120	
	12+25	-2	370	
	12+15	-2	140	
L 118 E	12+35 N	384	170	
	12+25	24	150	
	12+15	6	160	
L 118+10 E	12+35 N	4	130	



Job # 83-300

Date

Client Project BC-83-4

Page 2/2

Samp	le No.	Au	Ag	
		ppb	ppb	
L 118+10 E	12+25,N	4	200	
	12+15	86	260	
L 100N +25N	13+50 E	-2	30	
	13+75	4	60	
	14+00	2	60	
L 100 N	13+50 E	48	90	
	13+75	-2	70	
	14+00	-2	120	
L 100N + 25S	13+50 E	-2	70	
1	13+75	-2	60	
	14+00	-2	100	
	14+00 (silt)	4	140	
L 3+63 W	0+20 S (TM-	0) 2	100	
				·
		•		



Job # 83-269

Taiga Consultants

Date Sept.29, 1983

Client Project BC-83-4

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Sample No.	Au	Ag	
	ppb	ppb	
L 4+00 W BL	-2	40	
0+05 S	6	110	
0+10	2	40	
0+15	-2	30	
0+20	24	80	
0+25	16	20	
0+30	24	30	
0+35	14	40	
0+40	28	50	
0+45	32	150	
0+50	328	540	
0+55	12	80	
0+60	4	20	
0+65	4	20	
0+70	6	70	
0+75	16	20	
0+80	4	20	
0+85	8	10	
0+90	48	30	
0+95	4	80	
1+00	-2	80	
1+05	-2	50	
1+10	-2	20	
1+15	-2	120	
1+20	2	40	



Job # 83-269

Date

Client Project

J

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Sar	nple No.	Au	Ag	
		ppb	ppb	
L 4+00 W	1+25 S	2	110	
	1+30	4	20	
	1+35	2,	90	
	1+40 (1)	2	80	
	1+40 (2) ?	4	20	
	1+50	8	10	
	1+55	8	40	
	1+60	4	20	
ł	1+65	8	40	
1	1+70	8	40	
	1+75	6	80	
	1+80	16	70	
	1+85	8	260	
	1+90	8	20	
	1+95	8	40	
	2+00	8	40	
	2+05	6	70	
	2+10	, 8	40	
	2+15	4	90	
	2+25	4	180	
	2+30	8	230	
Corrected	1+70 S	4	180	
	1+75	2	110	
	1+80	4	20	
	1+85	10	80	



Job # 83-269

Date

Client Project

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Sample No.	Au	Ag	
	ppb	ppb	
I 4+00 N Corrected 1+90 S	4	20	
1+95	6	140	
2+00	10	60	
2+05	20	140	
2+10	10	80	
2+15	4	80	
T 3+50 W 0+00 S	4	10	
0+05	4	80	
0+10	8	30	
0+15	2	70	
0+20	10	50	
0+25	4	60	
0+20	36	60	
0+35	34	30	
0+40	26	30	
0+45	68	170	
0+50	32	100	
0+55	6	40	
0+60	2	10	
0+65	-2	30	
0+70	16	10	
0+75	8	20	
0+80	4	20	
0+85	4	60	
0+90	2	40	



Job # 83-269

Date

Client Project

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San	nple No.	Au	Ag	
		ppb	ppb	
L 3+50 W	1+00 S	2	40	
	1+05	80	40	
	1+10	2	40	
	1+15	-8	40	
	1+25	8	100	
	1+30	4	20	
	1+35	12	20	
	1+40	-4	20	
	1+45	-4	20	
4	1+50	-4	20	
	1+55	8	40	
	1+60	2	80	
	1+65	8	30	
	1+70	2	10	
	1+75	4	50	
	1+80	2	20	
	1+85	-8	40	
	1+90	4	60	
	1+95	2	70	
	2+00	-4	20	
	2+05	-2	90	
	2+10	-4	20	
	2+15	-4	40	
L 3+00 W	0+10 S	4	100	
	0+15	16	220	



Job # 83-269

Date

Client Project

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Sa	imple No.	Au	Ag	
		ppb	ppb	
L 3+00 W	0+20 S	2	90	
	0+25	2	70	
9 2	0+35	-2	10	
	0+40	2	50	
	0+45	2	50	
	0+50	-2	120	
	0+55	2	40	
	0+60	4	10	
, ,	0+65	4	20	
	0+70	-4	80	
	0+75	18	60	
	0+80	22	60	
	0+85	4	30	
	0+90	2	30	
	0+95	4	30	
	1+00	-2	30	
	1+05	14	30	
	1+10	4	30	
	1+15	-2	60	
	1+25 (1)	324	80	
	1+25 (2) ?	-2	60	
	1+30	-2	160	
	1+35	-2	10	
	1+40	-2	30	
	1+45	-4	20	



Job # 83-269

Date

Client Project

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Sam	nple No.	Au	Ag	
		ppb	ppb	
L 3+00 W	1+50 S	-2	80	
	1+55	-4	20	
	1+60	12	20	
	1+65	12	20	
	1+75	-2	120	
	1+80	-4	100	
	1+85	204	60	
	1+90	-2	120	
	2+20	2	70	
L 2+50 W	0+10 S	6	60	
	0+15	8	20	
	0+20	4	10	
	0+25	24	40	
	0+30	60	50	
	0+35	2	50	
	0+40	-2	60	
	0+45	4	20	
	0+50	2	60	
	0+55	-2	90	
	0+60	-2	90	
	0+65	2	210	
	0+70	4	70	
	0+75	4	100	
	0+80	56	160	
	0+85	2	40	



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Sa	mple No.	Au	Ag	
		ppb	ppb	
L 2+50 W	0+90 S	8	50	
	0+95	2	60	
	1+00	-4	120	
	1+05	-4	40	
	1+10	-8	200	
	1+15	8	160	
	1+20	-8	120	
	1+25	8	200	
à	1+30	8	80	
ł	1+35	8	160	
	1+40	-4	100	
	1+45	8	120	
	1+50	8	40	
	1+55	-4	180	
	1+60	8	80	
	1+65	-8	40	
	1+70	4	160	
	1+75	528	40	
	1+80	56	40	
	1+85	-8	280	
	1+90	-8	200	
	1+95	, 2	130	
	2+00 S	16	100	
	2+05	6	120	
	2+10	-8	80	



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Date

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		· · · · · · · · · · · · · · · · · · ·	
Sa	ample No.	Au	Ag
		ppp	ppb
L 2+50 W	2+15	16	360
	2+20	-8	160
L 2W	BL	16	80
	0+05 S	-2	60
	0+10	24	40
	0+15	4	60
	0+20	40	40
	0+25	16	10
	0+30	4	40
	0+35	4	90
	0+40	2	10
	0+45	-8	50
	0+50	48	80
	0+55	8	160
	0+60	6	70
	0+65	4	20
	0+75 (1)	2	80
	0+75 (2)?	8	80
	0+80	4	60
	0+85	-2	40
	0+90	18	90
	0+95	-2	80
	1+00 S	-4	80
	1+05	4	20



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·			
Sa	ample No.	Au	Ag
		ppb	ppb
l 2W	1+10	10	20
	1+15	4	20
	1+20	2	40
	1+25	4	40
	1+30	-2	40
	1+35	44	20
	1+40	8	40
	1+45	44	60
	1+50	20	80
r	1+55	64	. 60
	1+60	8	80
	1+65	12	120
	1+70	8	40
	1+75	4	80
	1+80	-8	200
L 1+50 W	BL	-2	80
	0+05 S	-2	80
	0+10	-4	280
	0+15	4	70
	0+20	-2	120
	0+25	-4	160
	0+30	-8	480
	0+35		560
	0135	00	500
	0+40	00	500



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i

Sa	mple No.	Au	Ag
		ppb	ppb
L 1+50 W	0+45	-8	760
	0+50	16	120
	0+55	-4	260
	0+60	-2	140
	0+65	-4	280
	0+70	-4	180
	0+75	8	220
	0+80	8	120
a a	0+85	4	160
4	0+90	-2	160
	0+95	-2	120
	1+00 S	8	400
	1+05	16	40
	1+10	8	20
	1+15	8	60
	1+20	-2	40
	1+25	-4	40
	1+30	8	20
	1+35	4	60
	1+40	38	100
	1+45	32	40
	1+50	2	160
	1+55	8	120
	1+60	-2	60



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S	ample No.	Au	Ag
		ppp	ppb
L 1+50 W	1+65 S	8	150
	1+70	32	60
L IW	BL	8	80
	0+05 S	8	40
	0+10	10	50
	0+15	-4	60
	0+20	-2	120
	0+25	8	60
ł	0+30	-2	40
	0+35	20	50
	0+40	2	110
	0+45	8	100
	0+50	8	40
	0+55	20	40
	0+60	4	20
	0+65	16	40
	0+70	32	40
	0+75	4	20
	0+80	68	40
	0+85	8	80
	0+90	668	140
	0+95	52	120
	1+00 S	536	600
	1+05	-8	480
		1	



Job # 83-269

Date

Client Project

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Sample No.		Au	Ag	
		ppb	ppb	
l lW	1+10 S	8	200	
	1+15	-2	80	
	1+20	8	80	
	1+25	8	200	
	1+30	-4	120	
	1+35	72	100	
	1+40	4	80	
	1+45	72	60	
ł	1+50	26	50	
ł	1+55	8	80	
	1+60	-4	60	
	1+65	4	110	
	1+70	96	80	
	1+75	4	40	
L 0+50 W	BL	-8	240	
	0+50-5 0+05 S	8	280	
	0+10	8	320	
	0+15	-8	40	
	0+20	8	200	
	0+25	8	520	
	0+30	-4	100	
	0+35	-4	300	
	0+40	2	120	
	0+45	8	120	
	0+50	-8	240	



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Sai	mple No.	Au	Ag	
		ppb	ppb	
L 0+50 W	0+55 S	-8	40	
	0+95	8	60	
	1+00	20	40	
	1+05	960	2600	
	1+15	76	760	
	1+25	-2	110	
	1+30	28	80	
	1+35	-2	50	
j.	1+40	-2	40	
	1+45	-2	30	
	1+50	2	30	· · · · · ·
	1+55	-4	40	
	1+60	-2	40	
	1+65	-2	80	
BL O	0+00 S	2	40	
	0+50 0+05	2	80	
	0+10	4	40	
	0+15	8	40	
	0+20	-8	160	
	0+25	-8	440	
	0+30	-8	40	
	0+35	8	40	
	0+40	-8	200	
	0+65	8	80	
	0+70	4	140	



Job # 83-269

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Client Project

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		1	
2	Sample No.	Au	Ag
		ppb	ppb
PT O	0175 5		100
BLU	0+75 5	-8	120
	0+80	8	60
	0+85	-8	160
	0+90	-8	40
	0+95	-8	40
	1+00	-8	40
	1+05	22	180
	1+10	12	80
ì	1+15	-4	60
	1+20	4	20
	1+25	-8	40
	1+30	-8	40
	1+35	-8	80
	1+40	-4	160
Rock	TM - 1	10100	2200
	2	8	110
	3	8	10
	5	-2	10
	10	2	30
	11	-2	20
	12	-2	20
	13	-2	10
	14	-2	10
	15	-2	40
	16	1.0	20
	~~		



Job # 83-269

Date

Client Project

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C		·····	
Sample No.	Au	Âg	
	ppb	ppb	
17	68	. 270	
BC - 1	1960	2900	
2	5880	11000	
JD - 1	4	60	
2	402	710	
3	186	350	
4	-2	120	
5	2	120	
Rock JD - 7	-2 6	100 100	
8	4	70	
9	4	130	
10	2	300	
11	-2	40	
12	2	60	
13	42	440	
14	-2	160	
15	4	120	
16	-2	150	
17	8	240	
18	2	110	
19	372	740	
22	7340	5700 0	





LORING LABORATORIES LTD.

Phone 274-2777

October 25, 1983

TAIGA CONSULTANTS LTD Suite 100, 1300 - 8th Street S.W., Calgary,Alberta T2R 1B2

Attention: J.W. Davis

Dear Jim;

Analytical methods employed for analysis of samples which were completed for our file #25341 are as follows:

extraction.

Au, Ag - Au for samples greater than .010 oz/ton fire assay - gravimetric finish.
Au for samples less than .010 oz/ton fire assay digestion - Atomic Absorption finish using 4 - methyl - 2 - pentanone

Ag - fire assay - gravimetric.
Cu - multi - acid digestion - Atomic Absorption finish.

I hope this data will suffice for your requirements.

Sincerel

Don Enders (G.Mgr.) LORING LABORATORIES LTD.

DE/kw

7 : TALGA CONSULTANTS LTD	
<u> Suite 100, 1300 - 8th Street</u>	s.w.,
Calgary, Alberta T2R 1B2	
Attn: J.W.Davis	
cc: G.H. Harper	• £ * + + +
	x x 11 1 a te
	S ASSAY 🚧



File	No.	253	341					
Date	0ct	obe	r 11	, 1	983	-		
Samp	oles		Rock	Ch	ip			• ··
PRO	JECT	#	BC-8	3-4				

LORING LABORATORIES LTD.

Page 🖡 1

SAMPLE No.	OZ./TON GOLD	OZ./TON SILVER	% 	
Rock Samples				
F-QV-1	.046	. 44	.04	
F-QV-2	.038	. 38	. 02	
F-QV-3	.950	.54	.59	
F-QV-4	.274	.84	.17	
F-QV-5	.308	.22	Trace	
F-QV-6	.596	1.02	.07	
F-QV-7	. 322 *	.62	.01	
F-QV-8	.056	.04	.01	
F-W-1	.028	.08	.01	
F-W-2.5 to 3.5	.030	.24	.10	
F-W-5	.184	.02	Trace	
CR-QV 5+20	.010	.04	Trace	
JD-24	.012	.12	Trace	
BC-3	Trace	Trace	Trace	
BC-4	Trace	Trace	Trace	
MO-83-220	Trace	Trace	Trace	
10-83-222	Trace	.04	.01	
MO-83-224	Trace	.14	Trace	
MO-83-225	.006	.16	Trace	

R ects Retained one month.

Pulps Retained one month untess specific arrangements m e in advance.

Assayer

Te TALGA CONSULTANTS LTD	
Suite 100, 1300 - 8th Street	s.w.,
Calgary, Alberta T2R 1B2	
Attn: J.W. Davis	
cc: G.H. Harper	.ifica.
	e v v v v v v v v v v v v v v v v v v v
	S ASSAY



File No
Date0ctober 11, 1983
Samples Rock Chip
PROJECT #BC-83-4

LORING LABORATORIES LTD.

Page # 2

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SAMPLE No.	OZ./TON GOLD	OZ./TON SILVER	% Cu								
	.										
Rock Samples											
m0-83-226	.004	Trace	.01								
⁻ M-21	1.146	3.62	.61								
	I Hereby Certify that the above results are those assays made by me upon the herein described samples										
j ts Retained one month.		···· · · · · · · · · · · · · · · · · ·									

d one month unless specific arrangements ma in advance. -

Assayer

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ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS, VANCOUVER B.C. PH: 253-3158 TELEX:04-53124

ICP GEOCHEMICAL ANALYSIS

.....

A .500 GRAM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:3 HCL TO HND3 TO H2O AT 90 DEG.C. FOR 1 HOUR. THE SAMPLE IS DILUTED TO 10 MLS WITH WATER. THIS LEACH IS PARTIAL FOR: Ca,P,Mg,Al,Ti,La,Na,K,W,Ba,Si,Sr,Cr AND B. AU DETECTION 3 pps. AUXI ANALYSIS FROM 10 GRAM FA+AA. SAMPLE TYPE - P1-SOIL/P2-ROCK

DATE RECEIVED SEPT 19 1983 DATE REPORTS MAILED _ Sept 20/03 ASSAYER_ DEAN TOYE, CERTIFIED B.C. ASSAYER

								TAI	GA C	ONSL	JLTA	NTS	P	ROJE	CT	# B(2-83	-4	FI	LE 1	i 8 3	-21	74								PAGE	E # 1
SAMPLE I	Mo ppm	Cu pps	Pb ppe	Zn pp∎	Ag ppe	Ni ppe	Co ppa	Mn ppa	Fe 1	As ppe	U ppe	Au ppe	Th ppa	Sr ppe	Cd pp∎	Sb ppa	Bi pp∎	V pp a	Ca Z	P Z	La ppe	Cr ppe	Kg Z	Ba pp a	Ti Z	8 pp=	Al I	Na I	ĸ	W ppa	Autt ppb	Pt1\$ ppb
NIPT-0 NIPT - 0+05 NIPT - 0+10 NIPT - 0+15 NIPT - 0+20	1 1 5 2 1	66 42 90 42 35	15 12 18 12 15	49 49 53 53 40	.2 .8 1.2 .5	11 96 2210 31 63 2723 2307	58 140 172 175 132	810 1082 2064 1925 792	5.20 5.97 7.67 6.61 8.73	4B 116 145 40 71	5 2 3 4	nd Nd Nd Nd Nd	2 2 2 2 2 2	43 92 55 58 98	1 2 2 2 2	2 2 2 2 2 2	2 2 2 2 2	64 37 61 52 51	2.60 14.54 7.43 6.13 5.68	.06 .03 .04 .04	6 2 3 2 2	463 778 970 635 548	1.36 1.72 2.90 2.36 2.00	145 79 100 94 119	.05 .01 .02 .03 .03	4 2 3 4 3	1.53 .71 1.30 1.15 1.08	.01 .01 .01 .01	.06 .03 .05 .05 .07	2 2 2 2 2	12 7 11 850 11	9 5 2 9
NIPT - 0+25 NIPT - 0+30 NIPT - 0+35 NIPT - 0+40 NIPT - 0+45	i 1 15 7	15 17 16 16 22	7 6 19 16	25 29 21 20 44	.5 .3 .4 1.0 1.3	2288 2104 1926 4332 3652	131 96 103 280 232	546 787 562 532 1624	3.96 3.87 3.76 17.67 11.33	51 42 40 245 135	2 2 2 6	nd Nd Nd Nd	2 2 2 2 2 2	96 12 8 199 160	1 1 4 3	2 2 10 6	2 2 2 2 2 2 2	24 37 31 33 57	13,60 .45 .23 9.43 6.96	.03 .03 .02 .02	2 2 2 2 2 2	649 620 638 588 2023	2.43 4.74 6.01 2.90 2.91	61 68 31 180 173	.01 .02 .02 .01 .01	3 12 14 2 2	.41 .75 .57 .33 .91	.01 .01 .01 .01	.02 .03 .01 .03	2 2 2 2 2 2	4 9 6 17 22	16 18 15 17 19
NIPY - 0+50 Im-2-3-2 Tm-2-3-6 Tm-2-3-10 Tm-2-3-11	11 2 3 1 1	34 74 36 41 36	18 12 10 9 2	53 54 40 43 38	1.2 .7 .7 .4	4338 2640 2960 2210 1993	258 120 170 124 109	1364 2259 1841 904 1169	11.64 5.87 7.23 4.38 4.43	148 159 212 95 99	9 2 2 2 2	nd Nd Nd Nd	2 2 2 2 2 2	132 55 111 116 116	3 2 3 1 1	7 2 2 2 2	2 2 2 2 2	73 66 43 39	4.46 13.04 10.42 7.75 12.64	.07 .04 .04 .05 .04	2 2 2 2 2 2	2511 671 808 695 718	2.17 1.40 2.88 3.04 2.74	162 90 63 106 117	.01 .01 .01 .01 .01	2 4 2 4	1,26 .83 .45 1.00 .66	.01 .01 .01 .01	.07 .03 .02 .05 .02	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	21 37 10 14 23	16 14 23 16 13
TM2-4 94N10+75E STD A-1	1 1	50 30	39 39	54 182	.1 .3	395 36	31 13	516 1039	3.24 2.83	54 9	3 2	ND ND	2 2	53 35	1	2	2 2	47 57	1.54	.08 .09	6 7	236 72	3.11	140 275	. 04 . 08	11 8	1.24	.01	.07	2	13	15

								TAI	GA C	ONSL	JLTA	NTS	۴	ROJE	ECT	# B(2-83	-4	FI	LE 🕴	# 83	-21	94								PAG	E # 2	
SAMPLE #	Ma ppn	Cu ppa	₽b ppe	In ppe	Ag pps	Ni ppo	Со рре	Mn ppe	Fe Z	As ppa	U ppm	Au ppe	Th ppa	Sr ppa	Cd pp#	Sb ppn	Bi pp n	V ppa	Ca Z	P Z	La ppe	Cr ppm	Mg Z	9a ppm	ti I	B pp∎	Al Z	Na Z	K 1	W ppe	Au‡‡ ppb	Р±11 ррб	
MD-83-215	2	7	6	9	.2	839	55	683	2.95	71	6	ND	2	394	1	2	2	8	5.21	.01	2	243	B. 06	46	.01	2	.12	.01	.01	2	5	10	
MD-83-216	1	6	10	91	.3	362	27	949	2.42	48	2	ND	2	732	2	2	2	10	11.26	.01	2	291	6.09	29	.01	2	. 23	.01	.01	2	2	8	
NO-83-218	2	40	12	90	.3	28	7	407	2.78	9	2	ND	3	58	i	2	2	- 14	1.48	.04	11	24	.85	83	.01	3	1.07	.01	.15	2	6	11	
HD-83-219	19	35	23	305	.6	46	9	515	3.15	10	2	ND	4	28	4	2	2	28	.71	.10	13	16	. 27	117	.01	3	.74	.01	, 19	2	47	8	
TM-2-3-1	1	6	2	14	.3	456	23	583	1, 44	27	2	ND	2	122	1	2	2	26	12.15	.01	2	678	2.14	23	.01	2	.81	.01	.01	2	2	6	
TM-2-3-2	1	10	6	17	.6	792	36	806	2.21	48	2	ND	2	255	1	2	2	15	24.48	.01	2	340	4.73	61	.01	2	.10	.01	.01	2	2	10	
TM-2-3-3	1	3	9	22	.5	828	42	547	3.11	30	2	ND	2	367	2	2	2	15	19.20	.01	2	607	6.76	45	.01	2	.10	.01	.01	2	3	10	
TH-2-3-4	1	167	4	23	.1	227	- 34	315	2.79	6	2	ND	2	85	1	2	2	13	1.50	.01	2	136	3,50	374	, 02	2	2.93	.02	.01	2	2	14	
TH-2-3-5	1	10	5	15	5،	1016	53	662	2.61	43	2	ND	2	243	1	2	2	15	20.95	.01	2	519	6.66	51	.01	2	.12	.01	.01	2	32	16	
TM-2-3-6	2	11	6	21	.8	1299	66	1232	3.16	73	2	ND	2	151	1	2	2	12	28.03	. 02	2	365	2.84	32	. 01	2	.08	.01	.01	2	2	19	
TH-2-3-7	2	1	7	13	.4	920	58	580	2.70	28	2	ND	2	300	1	2	2	12	15.52	.01	2	331	5.31	29	.01	2	.08	.01	.01	2	5	10	
TM-2-3-8	1	7	7	17	.5	752	49	620	3.11	53	3	ND	2	276	1	2	2	17	19.24	.01	2	729	6.B6	65	.01	2	.11	.01	.01	2	2	22	
TM-2-3-10	1	6	3	13	.5	908	51	703	2,67	37	2	ND	2	285	1	2	2	13	20.36	.01	2	543	6.36	56	.01	2	.07	.01	.01	2	2	7	
18-2-3-11	1	- 4	8	10	.6	760	39	887	2.17	38	2	ND	2	252	1	2	2	11	20,32	.01	2	521	6,56	61	.01	2	.09	.01	.01	2	20	3	
TM-2-3-12	1	5	6	13	.5	528	31	902	2.35	26	3	ND	2	439	1	2	2	10	23.25	.01	2	350	6.30	80	.01	2	.07	.01	. 01	2	2	8	
STD A-1	1	30	38	183	.3	36	13	1023	2.78	11	2	ND	2	35	1	2	2	59	. 61	.10	7	72	.72	271	.08	8	2.00	.02	. 19	2	•	-	

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APPENDIX II

ROCK SAMPLE DESCRIPTIONS

TAIGA CONSULTANTS LTD.

SAMPLES	LOCATION	LITHOLOGY
JD-1		META BASALT, sheared with chlorite limonite coatings, carb. deposited by ground water on face.
JD-2		QUARTZ VEIN, grey to white with ankerite, min- or malachite and limonite staining.
JD-3		META-BASALT, sheared, altered with num. qz. and carb. veins 1–15 cm wide, minor wad minerals.
JD-4	JD-1 to	META-BASALT, sheared, brecciated, with qzcarb. veins.
JD-5	JD-18	META-BASALT, with num. qtz. veins 0.5 to 15 cm wide.
JD-6	are	META-BASALT, sheared, brecciated with calcite/ankerite frac. filling, qz. strgs., chloritized.
JD-7	samples	META-BASALT, num.qzcarb. veins con- torted, sheared, wall rock chloritized.
JD-8	from the	META-BASALT, chloritized, qz. veins up to 3 cm.
JD-9	Farrell	META-BASALT, chloritized with several qzcarb. veins, minor limonite blebs.
JD-10	Adit	META-BASALT, highly chloritized. sheared, brecciated qz. veins.
JD-11		META-BASALT, highly sheared and jointed, chloritized with minor pyrite.
JD-12		META-BASALT, highly sheared, chloritized sericitized.
JD-13		META-BASALT, highly sheared, chloritized and sericitized, with several white qz. veins.
JD-14		META-BASALT, highly jointed and sheared, chloritized and sericitized, with qz. veins.
JD-15		META-BASALT, highly jointed and sheared, chloritized and sericitized.
JD-16		META-BASALT, weathered, chloritized, minor shearing, minor white qz. stringers.
JD-17		META-BASALT, mass., chloritized with several minor white qz. stringers.
JD-18		META-BASALT, sheared, chloritized, with sev- eral qz. veins from 7 mm to 5 cm.

SAMPLES	LOCATIONS	LITHOLOGY
JD-19	11.8 M at 300° to L0+00 W 1+25S	Quartz-carbonate vein with fine grained disseminated pyrite.
JD-20	Baseline 2+50W	Meta-Basalt with small quartz veins l to 12 mm in width
JD-21	LO+55W O+68S	White, milky quartz vein material from a shallow trench – wall rock is meta-basalt porphyry.
JD-22	Farrell Trench	Grab samples of quartz with pyrite, chalcopyrite, bornite, malachite, azurite minor tetrahedrite (2kg sample)
JD-23	L98N 15+00E	Serpentinite Foliation 105°/61°W
JD-24		Quartz-carbonate altered meta-basalt
JD-24B		Quartz vein hosted by meta-basalt.
JD-24A		Meta-basalt wall rock: foliation 1650/65°E

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SAMPLE NO.	LOCATION	LITHOLOGY
TM-1	Farrell Showing, trench above adit	Quartz-carbonate vein containing cpy, py, malachite and trace bornite
TM-2	Farrell Showing, trench above adit	Meta-basalt wall rock intensely sheared contains carbonate as stingers and blebs
тм-3	LO+07W, 1+18S	Talc and small quartz-veins in sheared, silicified, aphanitic meta-basalt - shear zone also contains 5 cm x 3 cm carbonate blebs
TM-4	LO+10W along river	Dark green to black serpentinized and silicified meta-peridotite. Fibrous asbestos on some surfaces.
тм-5	LO+13W along river	Peridotite: weakly magnetic, serpentinized, with quartz and carbonate stingers, some talc. Fine grained disseminated pyrite in the unserpentized peridotite.
TM-6	LO+26W	Peridotite: weakly magnetic, weakly serpentinized, sheared in numerous directions
TM-7a	LO+48W	-pale green, weakly magnetic, dunite
ТМ-7Ъ	LO+48W	-weakly serpentized dunite-peridotite.
TM-8	2+35W along the river, next to rapids	Black carbonaceous silty shale (Argillite) - very well laminated to fissile - contact with serpentinite trends 075° -no visible alteration of silty shale at the serpentinite contact. -several small calcite veinlets trending 172°/88°W cut through the argillite
TM-9	L3+50W, 0+45S	Meta-basalt porphyry -subhorizontal shears with slickenslides -multiple fractures trending 148º/65ºW
ТМ-10	L3+63W, O+20S	 -Quartz-carbonate vein striking 126°, in an old trench -minimum thickness is 2M -quartz is greyish-white with an iron stained surface and it contains siderite as euhedral to subhedral cavity & fracture fillings. - old trench trends into hill at 62° and is 4 M in length. Soil & Rock samples taken here.
TM-11	As above	Wall rock: fine grained basalt porphyry with occassional carbonate crystals along fracture planes.

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SAMPLE NO.	LOCATION	LITHOLOGY
TM-12	5 meters north of LO+OOW and l+OOS, bearing 333 ⁰	Quartz-vein, 2 to 5 cm in width, parallel to foliation, in carbonate altered meta- basalt porphyry. Foliation 303/63NE
TM-12	As above	Wall rock: sheared, altered meta-peridotite Very fine grained, contains cross-cutting, iron stained carbonate veinlets, 1 to 2 mm in width. Weathered surface is grey to grey-green. Fresh surface is vfg, ‡alcose to serpentinized and light green. Wall rock is not magnetic, contains up to (approx.) 20% CaCO ₃ in matrix Outcrop trends 358° along hill Foliation is 303°/63° NE Jointing is 303/49° S and 360/83°W
тм-14	LO+05W, O+95S	Chloritized meta-basalt -very fine grained to aphanitic -calcite and trace disseminated pyrite in basalt
тм-15	LO+65W,	Quartz vein boulder debris from an old trench. Quartz-carbonate vein with iron staining. Hosted by sheared, carbonate- rich, chloritized basalt.
TM-16	20 meters from L1+00W and 1+00S along a bearing of 328 ⁰	Iron stained quartz vein in an open cut. Open cut trends 064 ⁰ into hill. Greyish- white quartz, trace tetrahedrite. Quartz vein is a minimum of 60 cm in width.
TM-17	L1+30W, 0+90S	Quartz vein, approximately 15 cm wide, with malachite, hosted by extensively sheared meta-basalt.
TM-18	L1+10W 1+50S	Serpentinite
TM-19	L1+30W, 1+05S	Weakly serpentinized, slightly talcose ultramafic
тм-20	L1+25W 0+80S	-outcrop of chloritized basalt and basalt boulders with carbonate as cavity and fracture fillings
TM-21	end of new cat-road, Farrell Showing	-grab sample of quartz vein with chalcopyrite pyrite, azurite and tetrahedrite

SAMPLE NO.	LOCATION	LITHOLOGY
MO-83-215	See Figure	-silicified basalt with very rusty weathered surface
MO-83-216	6 and Map 2	-dark carbonaceous siltstone, rusty weathered surface
MO-83-217	S E corner	As above
MO-83-218	of Flume 3	As above
MO-83-219	Claim	-well laminated, fissile, intensely altered and sheared argillite with vfg. diss. pyrite and highly iron stained weathered surface
TM-2-1		As above
TM-2-2		As above
MO-83-220	Across German- sen River from the Farrell Grid, SW of L2+50W	Quartz vein in argillite, quartz contains fg. sparse, diss. euhedral pyrite
MO-83-221	As above	Silty shale
MO-83-222	25 east of L4+00W & BL	Basalt wall rock
MO-83-223	AH-HOO Showing Second Road Cut	Quartz-carbonate altered serpentinite
MO-83-224	LO+25W 1+50S	Grab samples of quartz-carbonate vein material from tailings-dump, downhill from Farrell Adit
MO-83-225	As above	As above
MO-83-226	As above	As above
BC-1	LO+00, 1+45S	Quartz-carbonate boulder
BC-2	L4+00W, 0+40S	Quartz-vein in basalt outcrop
BC-3	L116+00E, 12+15N	Quartz boulder
BC-4	approx. 25M E of L4+00W & baseline	<u>Quartz vein</u> in basalt outcrop

SAMPLE NO.	LOCATION	LITHOLOGY
TM-2-3-1	AH-HOO Showing	-limonitic sheared serpentinite with small, less than 1 cm in width, quartz-
TM-2-3-2	First	carbonate veins. Veins contain pyrite, chalcopyrite, trace arsenopyrite and trace
TM-2-3-3	Road Cut	bornite. Outcrop is extensively altered with quartz and carbonate.
TM-2-3-4	FlUME 3 Claim	with quites and carbonador
TM-2-3-5	See Map 2	
TM-2-3-6 -	for	
TM-2-3-7	(TM-2-3-1 to	
TM-2-3-8	TM-2-3-12)	
TM-2-3-10		•
TM-2-3-11		
TM-2-3-12	_	

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APPENDIX III

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Proposed Program Budget 1983 Exploration Expenditures

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TAIGA CONSULTANTS LTD.

Farrell Prospect	
6 Km Soil Sampling @ 5M spacing \$600/km	3,000.
Ground Mag 6km @ \$200/km	1,200.
Ground VLF-EM 6 km @ \$200/km	1,200
Flume Grid Extension (Flume 6-9)	
Soil Sampling 20 m@\$200/km	4,000.
Ground Mag 20 km @ \$100/km	2,000.
Ground VLF-E 20 km @ \$100/km	2,000.
Geological and Project Supervision	10,000.
Camp and Accomodation	3,100.
Trenching, road construction drill site preparation	
50 hr. @ \$100/hr	5,000.
Geochemical Analysis & Assay	
1,000 soils @ \$5/sample	5,000.
100 Rock & Core Assays @ \$15	1,500.
Diamond Drilling 300 metres @ \$100/m	30,000.
Vehicles & Fuels	5,000.
Report Writing, Secretarial, drafting, etc.	5,000.
Miscellaneous	2,000.
Т	OTAL <u>\$ 80,000.</u>

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NIPT Group

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MANSON CREEK PROJECT

Personnel - Field Time		
J. Davis 4 days @\$300 diem		1,200.00
T. Millinoff 4 days @\$240 diem		960.00
G. Cook 4 days @\$240 diem		960.00
R. Charles 4 days @\$240 diem		960.00
M. O'Donnell 4 days @\$240 diem		960.00
Transportation		
Truck Rental 4 days		419.25
Travel expenses		517.25
Camp and Accomodation		
Food & Lodging		620.50
Fuel (gas & Diesel)		79.25
Disposable supplies		75.25
Contract Services		
Geochemical Analysis		929.50
Equipment Rentals		
Proton Magnetometer &		
base station		
Miscellaneous field equipment		225.00
Miscellaneous		
Maps, reports, air photos; telephone, freight		178.25
Report Preparation		
Report writing		844.50
Drafting & reproduction		302.75
Secretarial		38.50
	ΤΟΤΔΤ	 \$ 9 270 00
	TOTUT	<u> </u>

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Flume Group

MANSON (CREEK PROJ	IECT						
Personne	el - Field	Time						
J.	Davis	Supervisor	12	days	@\$300	diem		3,600.00
Τ.	Millinoff	-	12	days	@\$240	diem		2,880.00
G.	Cook		12	days	@\$240	diem		2,880.00
R.	Charles		12	days	@\$240	diem		2,880.00
L.	Giles		12	days	@\$240	diem		2,880.00
Transpor	rtation							
Tru	uck Rental	-						1,257.75
Tra	avel Exp.							1,717.75
Camp and	d Accommod	lation						1 011 50
FOG	od and Lod	lging						1,811.50
Fue	er (gas &	Diesel)						23/./3
DIS	sposable s	supplies			·			223.73
Contract	t Services	<u>s</u>						
Cat	t trenchin	ng, road build	ling	g				1,300.00
Geo	ochemical	Analysis						2,788.50
Equipmen	nt Rentals	<u>.</u>						
VLI	F-EM Unit							270.00
Pro	oton magne	tometer &						
	base sta	ition						675.00
Mis	scellaneou	s Field Equip) .					
<u>Miscella</u>	aneous			_				
' Mar	ps, report	s, air photot	cs,	telep	hone, f	reight		534.75
Report I	Preparatio	<u>on</u>						
Rep	port writi	.ng						2,990.50
Dra	afting & R	leproduction						1,352.25
Sec	cretarial							118.50
							TOTAL	\$30,450.00






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