

009248



GEOLOGICAL, GEOCHEMICAL AND
GEOPHYSICAL ASSESSMENT REPORT

on the

Ni CLAIM GROUPS

HARRISON LAKE AREA
(49° 121' N.W.)

by

N.W. BERG, B.Sc. (Physics)

endorsed by

W.E. CLARKE, B.Sc., P.Eng.

for

GIANT EXPLORATIONS LIMITED (N.P.L.)

1131 Melville Street

Vancouver 5, B.C.

September 10, 1971



TABLE OF CONTENTS

	<u>Page No.</u>
INTRODUCTION	1 - 2
PROPERTY	2 - 4
MAP AND GRID CO-ORDINATE SYSTEM	4
LINE CUTTING	4 - 5
GEOLOGICAL MAPPING	5
GEOCHEMICAL SURVEY	5 - 6
MAGNETOMETER SURVEY	6
AREA NO. 2 - GEOLOGY	6 - 8
- GEOCHEMISTRY	8
- MAGNETICS	8
AREA NO. 3 - GEOLOGY	9 - 12
- GEOCHEMISTRY	12
- MAGNETICS	12
AREA NO. 4 - GEOLOGY	12 - 15
- GEOCHEMISTRY	15 - 16
- MAGNETICS	16
AREA NO. 5 - GEOLOGY	16 - 19
- GEOCHEMISTRY	19
- MAGNETICS	19
AREA NO. 6 - GEOLOGY	19 - 21
- GEOCHEMISTRY	21 - 22
- MAGNETICS	22
PERSONNEL	22 - 25
EXPENDITURES	25



MAPS (In Back)

Map No.

I	(Deleted from Report.)
II	1 Grid Areas
1-A	2 Topography Claims, Area 1
2-A	3 Topography Claims, Area 2
2-B	5 Geology, Area 2
2-C	6 Sample Location, Area 2
2-D	7 Geochemistry Ni, Area 2
2-E	8 Geochemistry Cu, Area 2
2-F	9 Magnetometer Survey, Area 2
3-A	10 Topography Claims, Area 3
3-B	11 Geology, Area 3
3-C	12 Sample Location, Area 3
3-D	13 Geochemistry Ni, Area 3
3-E	14 Geochemistry Cu, Area 3
3-F	15 Magnetometer Survey, Area 3
4-A	16 Topography Claims, Area 4
4-B	17 Geology, Area 4
4-C	18 Sample Location, Area 4
4-D	19 Geochemistry Ni, Area 4
4-E	20 Geochemistry Cu, Area 4
4-F	21 Magnetometer Survey, Area 4
5-A	22 Topography Claims, Area 5
5-B	23 Geology, Area 5
5-C	24 Sample Location, Area 5
5-D	25 Geochemistry Ni, Area 5
5-E	26 Geochemistry Cu, Area 5
5-F	27 Magnetometer Survey, Area 5
6-A	28 Topography Claims, Area 6
6-B	29 Geology, Area 6
6-C	30 Sample Location, Area 6
6-D	31 Geochemistry Ni, Area 6
6-E	32 Geochemistry Cu, Area 6
6-F	33 Magnetometer Survey, Area 6
6-G	34 Rock Chips, Area 6

#25 2-F,2 Grid Area No 2 - Mag. Stations
 36 3-F,2 " " " 3 - " "
 37 4-F,2 " " " 4 - " "
 38 5-F,2 " " " 5 - " "
 39 6-F,2 " " " 6 - " "



INTRODUCTION

Giant Explorations Limited (N.P.L.) is carrying out a comprehensive exploration program in the area lying between Harrison Lake on the west, Bear Creek on the south, Cogburn Creek on the north and the Fraser River on the east. In the summer of 1969, 242 mineral claims were staked. During 1970 an additional 322 claims were added, bringing the total held by Giant Explorations to 564.

As a result of exploration work carried out in 1970, six target areas were chosen for detailed investigation in the 1971 season. Surveyed grids were established and this was followed by geological mapping, together with geochemical and geophysical surveys.

This report describes that portion of the 1971 detailed work program completed on each target area between June 10, 1971 and September 10, 1971



Area No. 1 ----- 4 line miles

Line cutting See Map No. 1-A

Area No. 2 ----- 32 line miles

Geological mapping See Map No. 2-B
Geochemical sampling " 2-C, D, E
Geophysical surveying " 2-F

Area No. 3 N.E. ----- 8 line miles

Line cutting See Map No. 3-A
Geological mapping " 3-B
Geochemical sampling " 3-C, D, E
Geophysical surveying " 3-F

Area No. 4 ----- 20 line miles

Line cutting See Map No. 4-A
Geological mapping " 4-B
Geochemical sampling " 4-C, D, E
Geophysical surveying " 4-F

Area No. 5 ----- 12 line miles

Geological mapping See Map No. 5-B
Geochemical sampling " 5-C, D, E
Geophysical surveying " 5-F

Area No. 6 ----- 8 line miles

Line cutting See Map No. 6-A
Geological mapping " 6-B
Geochemical sampling " 6-C, D, E
Geophysical surveying " 6-F

PROPERTY (on which work was carried out)

Area No. 1

Ox 1 - 3 19809-811) By agreement with
Ox 5 20712) A.E. Morgan of 3185
Ox 6 20713) 20th, Vancouver, B.C.
owner of the Ox claim
Ni 270 22030
Ni 272 22032



Area No. 2

Ni 1 - 6	21771-776
Ni 8	21778
Ni 19 - 30	21787-798
Ni 37	21805
Ni 39	21807
Ni 41	21809
Ni 43	21811
Ni 45	21813
Ni 47	21815
Ni 83	21847
Ni 244-249	22011-016
Ni 260	22045
Ni 444-447	24509-512
Ni 448-451	24728-731

Area No. 3

Ni 15 - 16	21785-786
Ni 51 - 56	21819 - 824
Ni 75	21839
Ni 77 - 80	21841 - 844
Ni 229	22267
Ni 231 - 234	22269 - 272
Ni 289 - 292	22300 - 303

Area No. 4

Ni 330 - 351	24557 - 578
Ni 354 - 355	24581 - 582
Ni 357 - 358	26499 - 500
Ni 563 - 564	24513 - 514
Ni 571 - 572	24594 - 595
Ni 579	24602

Area No. 5

Ni 370 - 376	24541 - 24547
Ni 382	24553
Ni 384	24555
Ni 626 - 627	24716 - 717



Area No. 6

Ni 221	22263
Ni 223	22265
Ni 254 - 259	22021 - 026
Ni 263 - 264	22048 - 049
Ni 501	24611
Ni 608 - 609	24626 - 627

MAP AND GRID CO-ORDINATE SYSTEMS

The co-ordinate system used on the maps which accompany this report are north and west extrapolations of the Giant Nickel Mine co-ordinates. The numbers on the map represent the distance in feet north (N) and west (W) of the zero point established at the minesite.

The surveyed line grids use a five digit computer format for each station location. The first digit represents the target area number, the second two digits represent the line number and the last two digits represent the station number. For example, 3.04-05 represents Station No. 5 on line 4 in grid area No. 3.

LINE CUTTING

The surveyed grids on each target area were established in the following manner:

An initial base station point was chosen which could be located accurately on air photos and government topographic maps. From this base station, base lines were surveyed using a compass transit with tripod and a survey chain. The base lines were cut with axe and chain saw and cross lines established at 400



ft. horizontal intervals. Each cross line was run from the base line using a compass, a chain and a clinometer for slope corrections. The cross lines were blazed and flagged and undergrowth cut where necessary. Individual stations were established at 100 ft. intervals along the cross lines with pickets and colour coded ribbon. Elevations were taken at each station using Thommen altimeters. Claim posts adjacent to grid lines were tied into the grid.

GEOLOGICAL MAPPING

Geological mapping on the target areas was carried out by Mr. R. Gonzalez, M.Sc. (Geology) and Mr. R. Wehr, B.A. (Geology) using the survey grid for control. Geological data was recorded at each 100 ft. station using a computer card format.

GEOCHEMICAL SURVEY

Geochemical soil samples were taken at 200 ft. intervals along the cross lines. In addition, silt samples were taken at streams which crossed the grid lines. The B soil horizon was sampled wherever possible. A mattock was used for trenching and the sample was placed in Kraft wet strength envelopes using a trowel. All sample locations were flagged and marked with colour coded ribbon and numbered according to the grid co-ordinate system.

Fraser Laboratories Ltd., 1175 West 15th Street, North Vancouver, assayed the samples for total nickel and copper using



the following procedure: One half gram of the -80 mesh fraction was digested with nitric and perchloric acid. The samples were heated until the perchloric acid was consumed. This was followed by bulking the sample to standard volume. Values for nickel and copper were obtained with an atomic absorption spectrometer.

MAGNETOMETER SURVEY

The magnetometer surveys of the grid areas were carried out using a MacPhar M700 magnetometer as a field instrument and a "Sharpe" Model A2 vertical force magnetometer as a base station control instrument. The base station instrument was located at the base camp well away from any metallic objects and variable power sources. This instrument was read hourly. A reading was taken at each 100 ft. station on the grid lines with the field instrument. The time was noted for each reading in the field book. At the end of each survey day the field readings were corrected using the diurnal graph plotted from the base station data.

AREA NO. 2-GEOLOGY

Introduction

The areal extent and composition of rocks encountered in Area 2 has been inferred from outcrops covering less than 5% of the region.

The northern half of the area is underlain by peridotite (field name) and the southern half essentially by hornblende-diorite. Faults trending east-west and northwest cut the peridotite.

Minor disseminations of pyrite and pyrrhotite are found



to occur in the peridotite, but assays in the latter rock indicate negligible nickel content.

Rock Types

Peridotite

This rock, thought to occupy the northern half of the area, is dark grey in colour and extremely fine grained. Relic pyroxene (?) crystals can be discerned on reflected surfaces and may serve to indicate that the rock is an altered pyroxenite, however, rock identified as peridotite at Giant Nickel Mine contains similar "ghosts". Magnetite seams, 1-2 mm. wide are frequently found in the rock. Minor amounts of disseminated pyrite-pyrrhotite occur in the rock.

Diorite

The southern half of Area 2 is dominated by diorite. A hornblendic-rich phase is a relatively common rock. The hornblendic-diorite is epidotised and generally has the mafic constituents aligned in a sub-parallel manner. Most of the diorite at a distance from the peridotite contact is unaltered.

Gabbroic-Phase

Field observations suggest that a gabbroic phase of the diorite occurs at the contact with the peridotite. The gabbro is a black, fine grained rock, often schistose, and at times hornblendic. Visible feldspar can be as high as five percent.

Metasediments

The sedimentary rock in Area 2 is a thinly-foliated black argillite which weathers a rusty brown. Small cubes of diagenetic pyrite are of frequent occurrence in the argillite. The foliation strikes 300° and is steeply dipping to the east.

Structure

The country rock in Area 2 is cut by a fault system trending east-west and northwest-southeast. Evidence suggests that the latter is but one system, and that the Talc Creek fault belongs to another. Furthermore, it would appear that the first mentioned system post-dates the intrusion of ultramafics into the area.

The faults plotted on the accompanying map are based on an air photo study of the area, and field observations--information which was later co-related with, and enhanced by magnetometer data.

GEOCHEMISTRY (Area No. 2)

Nickel anomalous areas are restricted to the north half of the area and appear to be underlain by peridotite. Some of these anomalies appear to be related to the east-west fault system. Very little copper associated with the high nickel values suggests that nickel silicate minerals may be present.

MAGNETICS (Area No. 2)

A very large magnetic high covering most of the area north of the (00) base line is the prominent feature of the areas magnetic relief. Magnetite present in the peridotite is the probable cause of this feature. The metasediments and biotite-diorite to the south appear as a relatively flat plateau in the 1500 to 2000 gamma range. Some of the east-west and northwest-southeast faults appear as linear lows paralleling the fault strike. There appears to be no correlation between the nickel anomalies and coincident magnetics.



AREA NO. 3-GEOLOGY

Introduction

Mapping of the geology in Area 3 has been completed with the exception of the limonite stained cliffs in the south-east corner. About 60% of the area is covered with glacial drift. The glacial material is more extensive near the valley bottom. At lower elevations in Area 3 rock is exposed only in road cuts and stream beds. Above 2,500 feet the country rock outcrops in a series of benches and cliff-like forms.

Metasediments and an associated altered basic-rock are confined to the lower slopes of Area 3. Diorite, in contact with small bodies of ultramafic rocks, is found at higher elevations and on top of the ridge.

The pyroxenite on the top and east side of the ridge contains trace amounts of very finely disseminated pyrrhotite. The mineralization is possibly related to a prominent fault zone which strikes east-west and transects both the diorite and the pyroxenite.

Location & Access

Area 3 encompasses the slope and the topmost part of the valley ridge to the east of Talc Creek. It covers an area roughly $2\frac{1}{4}$ miles long by $1\frac{1}{4}$ miles wide. The upper sidehill is moderately steep, with some benches and rock cliffs being accessible only via mountain climbing techniques. The area is approximately four miles by road from the Bear Creek camp.



Rock Types

Relatively abundant outcrop in Area 3 has enabled fairly detailed mapping of the rocks and structures to be carried out. The rock types are as follows:

Pyroxenite

Among the rather small ultramafic bodies found in the upper part of Area 3, pyroxenite is the most predominant. The pyroxenite is a medium to coarse grained, grey-green to black rock, composed to orthopyroxene (bronzite) minor augite, and varying amounts of hornblende and olivine. Serpentinite has been developed in a large number of joints which cut the pyroxenite.

Disseminated sulphides (pyrrhotite and chalcopyrite) are found in the pyroxenite, and their occurrence may be associated with nearby faults.

The present interpretation of the fault system compares closely with linears resulting from an air photo study.

Peridotite

This is a fine to medium grained rock, dark grey to black in colour and quite comparable to the peridotite in Area 2, except that it has been serpentinitized to a greater degree. The relationship between the peridotite in Area 3 and the adjacent pyroxenite is not yet understood. They could be contemporaneous and phases of the same intrusion, or each may have been intruded separately. The peridotite contains widespread disseminated magnetite.

.....11



Gabbro

The gabbro in Area 3 is a fine grained rock which is usually well foliated (very thin laminae). The gabbro may be a contact feature between the diorite and the ultramafics.

Norite

This rock is comparable to the diorite mapped in Area 3, however, bronzite (ortho-pyroxene) constitutes a major portion of the mafic minerals. The above rock is therefore similar to the norites at the Giant Mascot Mine.

Diorite

Granitic rocks, which intrude the metasediments and altered basics, form the benches and cliffs occurring at the higher elevations in Area 3. They are generally grey, medium grained, equigranular, hornblende-diorites, composed of 45 - 75% plagioclase, 20 - 50% hornblende, less than 5% quartz and a trace of feldspar. Biotite is usually absent. The rock is generally fresh and unweathered.

Altered Basic

The field term "altered basic" denotes a very fine grained, greyish-green rock which is usually massive. The altered basic rock, though typically structured, occasionally appears to have foliation orientated in the same manner as the regional schistosity. The altered basic is found in a broad band running north-west through the middle of the area.

Metasediments

The metasediments in Area 3 are very fine grained, dark grey to grey-brown slates and phyllites. They appear to be composed of quartz, plagioclase, biotite and sericite. Locally they may contain enehedral garnets.



Structure

The main structural feature in Area 3 is a set of faults which trend east-west. The faults are especially strong in the vicinity of the pyroxene and peridotite outcrops.

Prominent gullies on the lower slopes of the area were taken as being indicative of faults.

GEOCHEMISTRY (Area No. 3)

The small peridotite and pyroxenite bodies in the upper area of 3 underlie the anomalous geochemical nickel values. Anomalous nickel values on line 3-70 appear related to the east-west faulting paralleling this line. The few anomalous copper values are underlain by norite and diorite.


MAGNETICS (Area No. 3)

There are three magnetic highs in the upper area of 3 which are underlain by pyroxenite and peridotite bodies. The pyroxenite body appears as a somewhat less magnetic feature (2000 - 5000) than the peridotite bodies which are somewhat smaller and appear to have very highly magnetic cores. The highest geochemical nickel values are associated with the highly magnetic peridotite areas.

AREA NO.4-GEOLOGY

Introduction

Exploration work in Area 4 received initial impetus resulting from the discovery of mineralized pyroxene in a road cut. The mineralization was uncovered during normal logging



operations by blasting away part of an outcrop which was impeding the advance of a logging road.

The greater part of Area 4 is underlain by diorite and ultramafic intrusive rocks. Outcrops cover about 25% of the area and locally, exposed rock may constitute as high as 85% of the ground.

The mafic and ultramafic rocks consist of some gabbro and norite, minor peridotite, and extensive pyroxenite--a hornblende phase of the latter carries the most mineralization (chalcopyrite, pyrrhotite and possibly pentlandite) and is usually found in the vicinity of fault or shear structures.

Chip samples from the mineralized hornblende-pyroxenite in the road cut assayed 0.4% Ni and 0.2% Cu. Diamond drilling under the showing intersected short intervals grading 0.3% Ni and 0.3% Cu.

Structure

North-northwest trending faults of major size cut Area 4. Topographical expressions of these faults, and evidence derived from air photos, suggest that these major structures continue to the north across Cogburn Creek.

A joint set trending 25/060 and 55/320 is commonly seen throughout the area in both the pyroxenite and diorite. Joints and faults in the mineralized road cut sub-parallel the overall joint pattern.



Location and Access

Area 4 can be reached via 8 miles of gravel road originating at Bear Creek camp and following the north side of Cogburn Creek. The target area is on the south side of the valley and is accessible by a branch road which carries up the sidehill to about midslope.

Rock Types

Pyroxenite

The pyroxenite is a medium to coarse grained, dark-green to black, phaneritic rock. The rock is serpentized, especially on or adjacent to fault surfaces. Actinolite alteration is prominent in the vicinity of small faults. A hornblendic phase, somewhat poikilitic (hornblende shadows up to 1.5 cm. long) contains the most mineralization, and would appear to be localized near faults. Minor mineralization (chalcopyrite, pyrrhotite and pentlandite?) occurs in the pyroxenite as fine disseminations or locally abundant blebs.

Gabbro and Norite

Gabbro and the variety norite have been recognized in the area. These rocks are a generally fresh, dark grey to black, or grey-pink in colour. They are medium grained and equigranular. The gabbro and norite have been observed to contain some olivine, a distinguishable amount of plagioclase, and at times pyroxene phenocrysts. No sulphides were observed in these rocks.

Peridotite

Some rocks seen in the field resembled a peridotite, but they could not be absolutely categorized as such.

Hornblendite

A number of hornblende dikes and/or sills are found in Area 4. Their composition varies from 100% hornblende to 60% hornblende, and the remainder plagioclase. Hornblendite also outcrops on the Cogburn Road around mile six or seven.

Diorite


This rock is usually a fine to medium grained hornblende-diorite, and varies in colour from light grey to almost black, depending on the content of mafic minerals. The amount of hornblende in the rock ranges from 30 to 70%. Generally the diorite is quite fresh, however, the development of chlorite is evident in the vicinity of fault planes. Magnetite is found in the rock, but its occurrence is fairly sporadic and localized. A joint set, generally 70/060 and 55/320, is found in the diorite as well as in the pyroxenite. The joints sub-parallel structures in and near the mineralized road cut.

Sediments

The sedimentary rock in Area 4 is generally a fine grained sericite, or biotite schist. Garnets, 1-2 mm in size, are usually present in the schist and appear to be more abundant near contacts with intrusive rocks. The schistosity in the rocks trends 70/225.

GEOCHEMISTRY (Area No. 4)

There are two geochemical anomalies west of the (00) base line in Area 4 which are centered around north-south creek faults and appear to be underlain by hornblendic pyroxenite and



diorites, generally near the contact of the latter. They generally conform to areas of known pyrrhotite and chalcopyrite mineralization. A smaller nickel and copper anomaly on line 4-27 just west of the (00) base line is also underlain by hornblendic pyroxenite. The geochemical values on the east half of the area are all uniformly low with the exception of a single value on line 4-84 underlain by hornblendic pyroxenite

MAGNETICS (Area No. 4)

The eastern half of the grid area has a large magnetic high centered on lines 4-80 to 4-82 and is underlain by diorites, gabbros and hornblendites. The sediments to the southeast appear as a relatively featureless area in the 1500 to 2000 gamma range. Several linear lows striking north-south correlate with faults in this area. The areas of favourable rock type and geochemical values on the west half are associated with magnetic lows. Sediments to the south and diorites to the west lie in the 1500 - 2006 gamma range and are featureless.

AREA 5-GEOLOGY

Introduction

Only the bottom half of Area 5 has been explored during the 1971 field season. Results from the lower slopes are not very encouraging.

Sediments occur in the western part of the area and near the valley bottom. Diorite is one of the most common rocks in Area 5, followed by peridotite and pyroxenite in order of abundance.



A major fault system trending 90/315 cuts through the area. There is also another trending 90/030. The ground is well fractured but the joints observed do not appear to have any definite pattern.

The extensive diorite seen in the area may cap a large body of ultramafics. The air-mag high over Area 5 seems to confirm the above contention.

Soil sampling (1970) gave high values for nickel in upper Area 5 which may be indicative of mineralization. High values from the lower slopes appear to relate to drainage features.

Rock Types

Diorite

Generally, the metasediments and diorite in Areas 4 and 5 are the same (see notes on Area 4) but the diorite in Area 5 may be more leucocratic. In addition, the diorite may carry small garnets near its contact with the sediments. In some cases, small amounts of a biotite-hornblende granodiorite occur near the contact. Evidence observed in the field, plus the mag high indicated by the airborne survey, lead one to believe that the diorite in Area 5 caps a fairly large size body of ultramafics.

Peridotite

This rock is fine to medium grained, and yellow-green to green-black in colour. It is generally serpentinized and quite often contains significant amounts of talc. Outcrops are usually massive and weather to a dark brown colour. Talus resulting from mass wasting of this rock consists of extremely large blocks. Some crumbly alteration has been observed near fault surfaces. No mineralization was seen in the rock, apart from copious magnetite in disseminations and small seams.

Pyroxenite

A medium grained, amber to colourless altered pyroxenite occurs in Area 5. The rock weathers to a dark brown colour. In texture and alteration products, the Area 5 pyroxenite closely resembles rock from the 2A - 2 outcrop in Area 6. The pyroxenite occurs along a fault contact between the sediments and ultramafics on the western edge of Area 5. The rock contains no apparent mineralization, and sparse to nil magnetite.

Dunite


The dunite in Area 5 is a fine to medium grained olivine rock which is pale yellow to green in colour. Pyroxenes amount to less than 10% of the rock. Only a minor amount of the rock is found in the area.

Structures

Not a great deal is known about the structural features of Area 5. Preliminary mapping indicates two major fault systems in the lower part of the area, one trending 90/315 and the other 90/030. Numerous joints picked up during the mapping work do not appear to form any sort of pattern. Field observations in conjunction with the knowledge that a magnetic high occurs over Area 5 leads one to think that a large body of ultramafics, capped by diorite, forms a significant part of the rock in Area 5.

Location and Access

Area 5 is three miles by gravel road to the north of Bear Creek camp. The lower part of the area can be reached by walking up from the cogburn Creek road. A crew has to be placed on the upper part by a helicopter or hike up abandoned roads on the east side of North Fork Valley. Area 5 is free of snow reasonably



early in the spring.

GEOCHEMISTRY (Area No. 5)

There is a large geochemical nickel anomaly present on this area which appears to result from an underlying peridotite body. The highest values are near areas of strong faulting in the peridotite body. This fact, along with the lack of any visible sulfides in the area, indicates the anomaly is related to a nickel rich silicate.

The copper values above background value do not appear to relate to the ultramafic body.


MAGNETICS (Area No. 5)

The magnetics and rock types show some correlation in this area. The metasediments underlying the west half of the grid are generally flat (1000 to 1500 gamma range). The contact between the metasediments on the west and the peridotite on the east appears as a linear low feature. The diorites on the east side of the grid appear quite variable depending on the presence of magnetite in the diorite.

AREA NO. 6-GEOLOGY

Rock Types

The plentiful outcrops occurring on the ridge in Area 6 have enabled Syndicate personnel to acquire a reasonable appreciation of the local geology. However, due to the extensive talus slopes and deep overburden in the valley bottoms, only a minor amount of information has been obtained regarding rock types, etc., north and



south of the ridge. Detailed mapping on the high ground in Area 6 will probably require some rock climbing which will involve mountaineering techniques.

Rock types encountered in the area are the following:

Pyroxenite

This is the most prominent rock on the north side of the ridge. The rock weathers to a buff or light brown colour, is medium grained, greenish-grey on a fresh surface, and is altered in part to a uralitic-pyroxenite. The uralite is an alteration product of pyroxene. Near major faults the development of uralite is quite marked and is represented by prismatic blades, randomly orientated and up to 1 cm in length. In the latter instance, uralite may comprise greater than 75% of the constituents and make the rock quite leucocratic in appearance.

Chalcopyrite is not readily visible in the rock. Pyrrhotite is fine grained and widely distributed, while magnetite is less frequently noted, but both contribute to the overall magnetic response of the area.

Talc and serpentine alteration is occasionally found adjacent to major faults and shear zones. The serpentine occurs as the variety antigorite, and may attain a thickness of one to two feet on the sidewalls of some faults.

Peridotite

Large blocks of peridotite occur in a talus slope on the southeast part of the target area, however, the rock has not yet been found in place. The peridotite is fine grained to aphanitic, has a buff coloured weathered surface and is generally dark green to black in colour. The rock contains 2 - 3% magnetite which is disseminated throughout the rock and occurs in small seams 1 mm. wide.

The rock is moderately magnetic. No sulphides were visible in the peridotite. (Peridotite is not yet plotted on geology map.)

Diorite

This rock is only present as float in stream beds, i.e., Daioff Creek, immediately to the north of Area 6 a large body of biotite (quartz?) -diorite has been intruded into the country rock. The rock generally contains less than 10% mafics, which results in it being quite leucocratic.

Sediments

Metasediments are in fault-contact with pyroxenite on the eastern part of Area 6. The sediments are comprised of a fine grained, dark, altered volcanic (?) --the latter rock containing small amounts of pyrite (possibly chalcopyrite?). In addition, a white massive quartzite forms part of the metasediments. The quartzite is white, massive, slightly schistose and contains locally abundant biotite and sericite. The rock is well jointed and found on the Old Settler side of the altered volcanics. The quartzite was only observed in a small number of outcrops. The fault contact trends $90/335^{\circ}$.

Structure

There is a fault set in Area 6 which trends northeast and northwest. The northwest system parallels the fault contact between the metasediments and the pyroxenite.

GEOCHEMISTRY (Area No. 6)

A geochemical nickel anomaly covers most of the pyroxenite in Area 6. A small geochemical copper anomaly parallels the fault contact between the metasediments and the pyroxenite. Some



Chalcopyrite has been observed in this area. The large nickel anomaly is probably caused by pyrrhotite present in small amounts in all of the altered pyroxenite.

MAGNETICS (Area No. 6)

The results of the magnetometer survey are of limited value in determining areas of interesting mineralization because of the complicating factor of magnetite in much of the altered pyroxenite. The sediment-intrusive contact is well defined, however, it cannot be said that structures such as faults have been delineated. Mineralization occurs within both magnetic lows and magnetic highs.

PERSONNEL

The author was Project Manager and carried out the program under the supervision of Mr. W.E. Clarke, P.Eng. The geological mapping was carried out by Mr. R. Gonzalez, M.Sc. (Geology) and Mr. R. Wehr, B.A. (Geology).

Personnel employed, together with wages paid which are applicable to this report, are summarized as follows:

	<u>Dates Employed</u>	<u>Days Worked and Wage Rates</u>	<u>Amount Paid</u>
L. Barteski 22267-122nd Ave. Haney, B.C.	June 10-Sept. 9	65 @ \$20./day	\$1,300.00
N. Berg 5359-202nd St. Langley, B.C.	June 10-Sept. 9	65 @ \$40./day	2,600.00

3356