

**A GEOCHEMICAL/PETROGRAPHIC REPORT**

**on the**

**MOUNT SIDNEY WILLIAMS PROPERTY**

**Omineca Mining Division**

**N.T.S. 93-K-14W**

**Lat.: 54° 54' N      Long.: 125° 24' W**

**RECEIVED**

**MAR 27 1997**

**Gold Commissioner's Office  
VANCOUVER, B.C.**

by

**U. MOWAT, P. Geo.**

**January 1997** **GEOLOGICAL SURVEY BRANCH**  
**ASSESSMENT REPORT**

24,906

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## 1.0 INTRODUCTION

The assumption that nickel values in soil and rock samples from the Mount Sidney Williams property are generated from nickel silicates has been shown to be incorrect. The nickel values in rock and soil in fact are due to either low-sulphur nickel minerals or nickel-iron alloy. On July 26, 1996 two men collected 7 rock samples from several outcrops in various locations plus 3 samples of core from previous drilling. The samples were subjected to a variety of geochemical tests. In addition, 5 samples were examined petrographically.

## 2.0 LOCATION AND ACCESS

Mount Sidney Williams lies 87 km northwest of the town of Fort St. James and is located at co-ordinates 54° 54' N/ 125° 24' W on map sheet 93-K-14W.

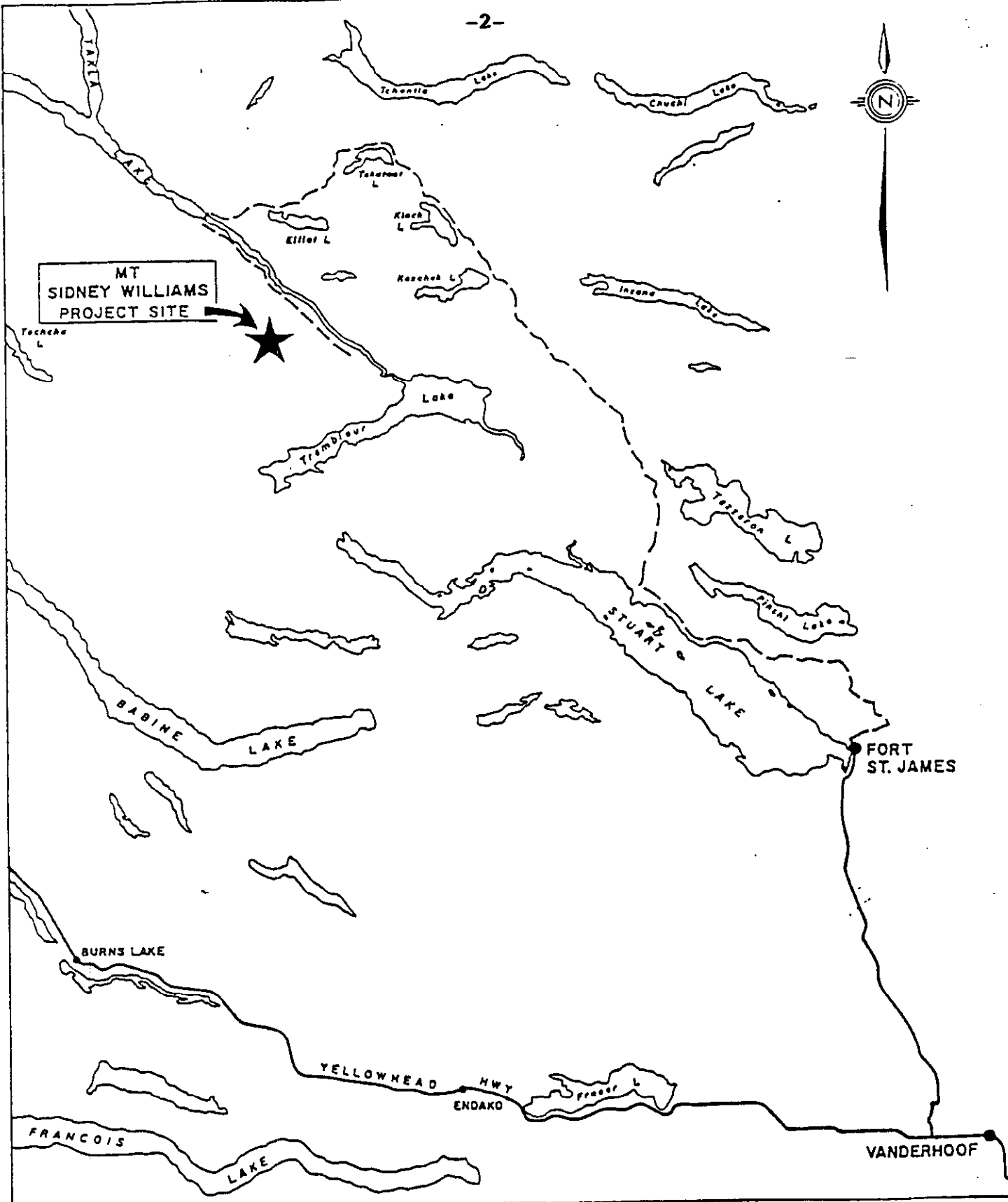
Access to the property is at present by helicopter.

## 3.0 CLAIM DATA

The Mount Sidney Williams property consists of the following claims:

<u>Claim Name</u>	<u>Record Number</u>	<u>Number of Units</u>	<u>Record Date</u>
Mid	239356	20	Dec. 22/86
Van 1	239375	20	Jan. 15/87
Van 2	239376	20	Jan. 9/87
Klone 1	239554	9	July 28/87
Klone 2	239726	9	Sept. 16/87
Klone 3	239820	20	Nov. 13/87
Klone 4	239821	20	Nov. 13/87
Klone 5	239822	20	Nov. 13/87
Klone 6	239823	20	Nov. 13/87
Klone 7	239824	20	Nov. 13/87
Klone 8	239825	20	Nov. 13/87
One-Eye 1	239772	18	Oct. 30/87
Terannoursus	240074	3	Aug. 9/88
Money	242327	4	July 1/90

There are a total of 223 units. The property is 100% owned by U. Mowat.



MT  
SIDNEY WILLIAMS  
PROJECT SITE



**LEGEND**

- LOGGING ROAD
- PAVED HIGHWAY



PROJECT LOCATION MAP  
FIGURE 1

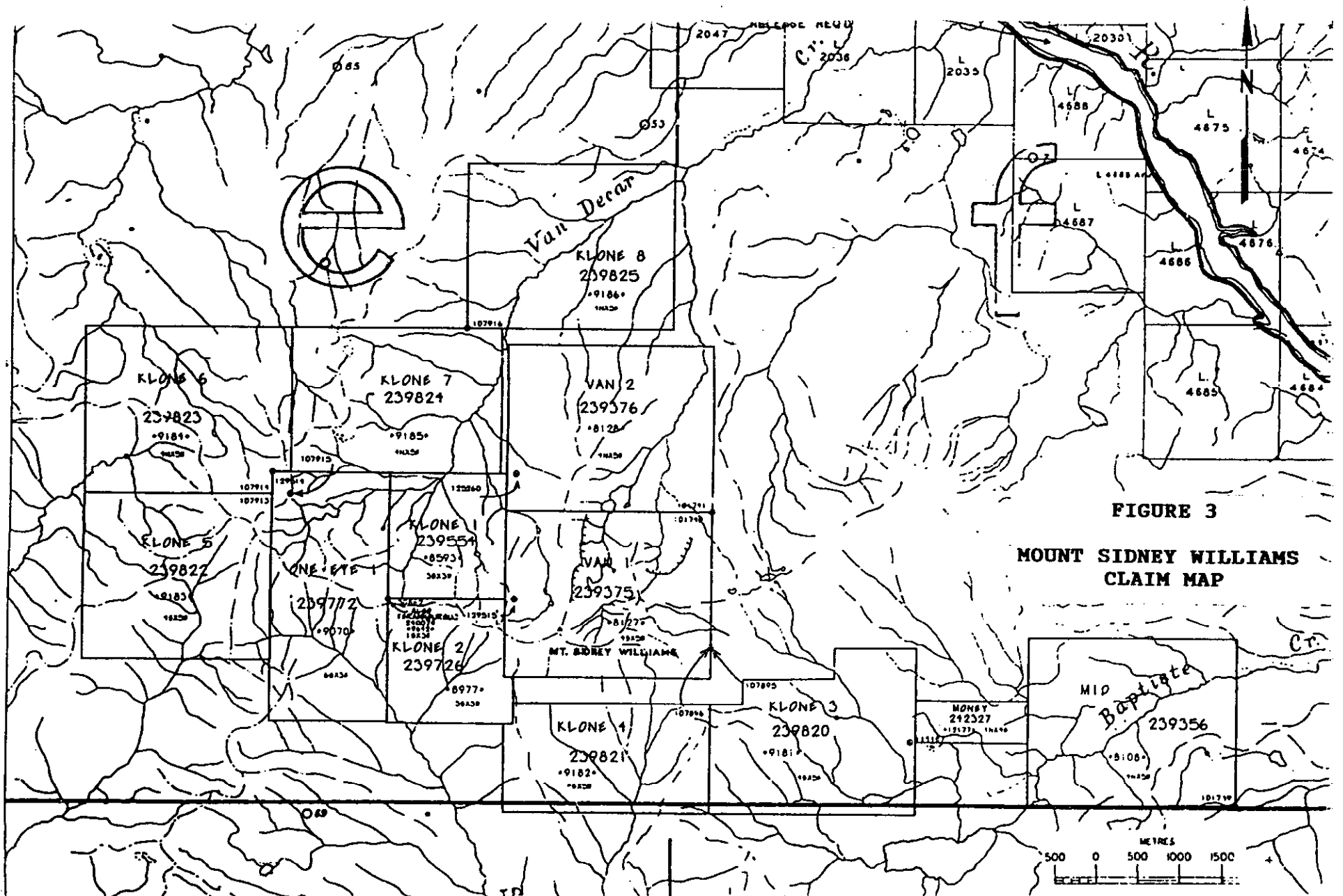


FIGURE 3

MOUNT SIDNEY WILLIAMS  
CLAIM MAP

#### 4.0 HISTORY

The first known geologic record of the Mount Sidney Williams area was made in 1937 following a brief reconnaissance of the Fort St. James area by J. E. Armstrong of the Geologic Survey of Canada. In 1942, nine chromite deposits were located in the Middle River Range by the G.S.C., plus several asbestos showings of varying quality in the area of Mount Sidney Williams.

Prospectors working in the region reported gold values in carbonate-quartz-mariposite and carbonate-talc rocks in shear zones in altered Trembleur Intrusions. One sample of carbonate-quartz-mariposite rock high in quartz (75%) taken on Baptiste Creek returned values of 0.036 oz/t Au and 0.07 oz/t Ag.

During the late 1930's a small placer operation was located on Van Decar Creek for a brief period. The operation was located below serpentinized peridotite and nuggets valued at \$0.50 to \$2.00 (1935 prices) were found.

Old flagging and numerous camp sites would indicate that Mount Sidney Williams has been examined in the past for its chrome, nickel and asbestos potential. No mention is made of any exploration, however, until 1962 (MMAR) when the main asbestos showing is described. Blasting caps found at this location indicate an attempt to trench the showing.

Since 1975, various groups have examined the Mount Sidney Williams area for chrome, platinum and gold.

The following work has been performed on the Mount Sidney Williams property:

- 1) silt sampling - 161 samples including 9 heavy mineral samples
- 2) rock sampling - 1127 samples
- 3) flagged grid - 105,790 meters
- 4) soil sampling - 3275 samples
- 5) trenching - 52 meters
- 6) magnetometer/VLF EM survey - 26,150 meters
- 7) IP survey - 11,450 meters
- 8) drilling - 22 holes totalling 1541.4 meters

## 5.0 REGIONAL GEOLOGY

The area of Mount Sidney Williams is underlain by a 15 km wide belt of northwesterly-trending Pennsylvanian and Permian Cache Creek Group rocks consisting of ribbon chert, argillaceous quartzite, argillite, slate, greenstone, limestone with minor conglomerate and greywacke. The Cache Creek Group has been intruded by Upper Jurassic or Lower Cretaceous Omineca Intrusions consisting of granodiorite, quartz diorite, diorite with minor granite, syenite, gabbro and pyroxenite. As well, Post-Middle Permian, Pre-Upper Triassic Trembleur Intrusions consisting of peridotite, dunite, minor pyroxenite and gabbro with serpentized and steatized equivalents intrude the Cache Creek Belt.

The northwesterly-trending belt of Cache Creek rocks is bordered on the east by the Pinchi Fault and Upper Triassic Takla Group andesites, basaltic flows, tuffs, breccias and agglomerates with interbedded conglomerate, shale, greywacke and limestone. On the west, the belt is bounded by the Takla Fault, an east-dipping zone, up to 5 km wide which contains a melange of serpentine and greenstone. The melange is adjacent to Triassic metamorphosed pyroclastic rocks, basalt, rhyolite, greywacke and argillite of the Sitlika assemblage.

Between the Pinchi Fault and the Takla Fault, the predominant units of the Cache Creek Group of chert, phyllite, and argillite with minor greywacke and limestone are highly deformed. Three deformational periods have been recognized in the Cache Creek Group which has been metamorphosed to lower greenschist facies with local glaucophane. The oldest structures are a prominent foliation that parallels compositional layering and trends east-west, marking the axial planes of isoclinal folds. A later structure consists of chevron folds which trend north-south with axial planes dipping moderately westwards. The youngest structures are warps and kinks, probably related to late faulting.

## **6.0 PROPERTY GEOLOGY**

The Mount Sidney Williams property is divided into two separate geological domains by Van Decar Creek, a fault zone with a postulated 1,000 meter horizontal displacement. On the west side of Van Decar Creek, the rock types consist of argillite and andesitic volcanics of the Cache Creek Group. A minor amount of ultramafic rocks have been noted. The Cache Creek Group rocks have been intruded by felsic dykes and recent volcanics of basaltic and dacitic nature.

Reconnaissance prospecting indicates that the andesitic volcanics are, at least in part, thrust over the argillites. In the vicinity of the thrusts the argillites have been serpentinized or silicified.

On the east side of Van Decar Creek, the dominant rock type is harzburgite with lesser amounts of dunite, nodular harzburgite and altered equivalents of the Trembleur ultramafic massif. Norite and what appears to be a very young, glassy, vuggy volcanic intrude the ultramafic.

The 1994 drilling revealed an extensive package of volcanoclastics, with minor limestone, chert and siltstone which have been thrust over the ultramafic. Folding appears to have affected both the volcanoclastics, the ultramafic and possibly the West Zone listwanite. It would appear that the fold is oriented east-west. A minor amount of argillite and black basalt have been seen on the east side of Van Decar Creek.

## **7.0 MINERALIZATION**

The previous exploration work has been focused on the mineralization within the listwanite zones. Acicular arsenopyrite and pyrite are found within the listwanite and the intensely altered phases of norite intrusives. Gold values occur with the arsenopyrite. The mineralization within the listwanites has been discussed in previous assessment reports.

Other sulphide minerals noted to date include minor chalcopyrite within the norite, basalt and volcanoclastics and stibnite which occurs in quartz veinlets and occasionally within the listwanites.



The present exploration work on the Mount Sidney Williams property is focused on nickel-cobalt mineralization, gold and chromite. The nickel occurs as awaruite and low sulphur minerals such as heazlewoodite, bravoite and minor pentlandite all of which have been identified by scanning electron microscope. The nickel-cobalt mineralization is generally very fine grained and is disseminated uniformly throughout the harzburgite and olivine-rich phases of the ultramafic. Nickel values have also been obtained from the listwanites and in some siltstone intersected in drill hole WZ 94-3.

The gold values, excluding those found in the listwanite zones, does not appear to be associated with the nickel mineralization but rather occurs in an erratic manner. Samples 96RMB 42 and 43 show this feature. It is postulated that the gold is native and coarse grained.

Chromite is ubiquitous although low grade. High grade pods of 10 to 20% are found in various locations on the property.

#### 8.0 ALTERATION

The most visible alteration on the Mount Sidney Williams property consists of the red-orange weathering listwanites which are composed dominantly of ferro-dolomite with lesser amounts of quartz, mariposite, talc and serpentine. The listwanite alteration has been discussed in previous assessment reports.

There is no visible alteration associated with either the nickel-cobalt mineralization or the gold values. The nickel mineralization being native or low sulphur in nature does not produce any limonite stain.

Analyses of drill core from previous work indicates that certain alteration is detrimental to nickel-cobalt values. Pervasive talcose alteration of the ultramafic usually results in substantially lower nickel-cobalt values whereas the carbonate alteration of the listwanite is less harmful. Serpentinization does not appear to affect the nickel-cobalt values.

**9.0 SAMPLING METHOD**

Seven random rock samples were collected from the Sargasso Lake area, the Baptiste Spur area and the Camp area. The samples from the Sargasso Lake area were grab samples from talus. The samples from the Baptiste Spur area were collected as previous thin section study indicated the presence of 3 to 5% nickel sulphides (dominantly heazlewoodite) and 1 to 2% awaruite. Three samples were collected over selected intervals from drill core. All samples were tested by a variety of methods.

**10.0 SAMPLE DESCRIPTIONS**

Sample Number	Sample Description
96RMB-38	Sargasso Lake area; talus grab; harzburgite with orange weathered rind
96RMB-39	Sargasso Lake area; talus grab; norite
96RMB-40	Sargasso Lake area; talus grab; harzburgite
96RMB-41	Baptiste Spur area; harzburgite
96RMB-42	Baptiste Spur area; harzburgite
96RMB-43	Drill core; CZ 94-9; 65.58 to 71.37 meters; dense harzburgite with faint relict pyroxene phenocrysts; no visible sulphides
96RMB-44	Drill core; MZ 94-6; 74.73 to 91.5 meters; dense harzburgite with pyroxene phenocrysts visible; no visible sulphides
96RMB-45	Drill Core; BC 94-4; 58.56 to 68.93 meters; peridotite, dense; no visible sulphides
96RMB-46	Camp area; friable listwanite in an oxidized fault zone in Trench #1
96RMB-47	Camp area; nodular harzburgite

## 11.0 ANALYTICAL WORK

Six random rock samples, numbers 96RMB-38 to 41 and 46 and 47, were analysed for 34 elements by ICP using a 3:1 HCl:HNO<sub>3</sub> extraction and Au by AA using a wet extraction. Three drill core samples and one random rock sample from Baptiste Spur were subject to a variety of analytical tests including:

- 1) analyses of 34 elements by ICP using a 3:1 HCl:HNO<sub>3</sub> extraction and Au by AA using a wet extraction
- 2) 34 elements by ICP using a 4 acid (HF-HNO<sub>3</sub>-HClO<sub>4</sub>-HCl) extraction.

The above tests were performed in an attempt to determine whether the nickel-cobalt values were nickel alloy-sulphide generated or whether they were nickel silicates.

In addition, leaching tests were also performed to determine the presence of nickel as oxides, carbonates or sulphides. The following leach tests were conducted:

- 1) water
- 2) 1% ascorbic acid - 12% H<sub>2</sub>O<sub>2</sub> which supposedly leaches out sulphides
- 3) 25% acetic acid which leaches out carbonates and possibly some oxides
- 4) 2% sulphuric acid saturated with SO<sub>2</sub> gas supposedly leaching out oxides.

Cobalt and nickel were determined by AA following the various leaches which were performed at room temperature for 24 hours.

Duplicate samples were submitted to another laboratory where they were analysed for 31 elements by ICP and Au by fire assay/AAS using an aqua regia digestion.

The results were compared, where possible to the previous analytical results and are shown on Tables 1, 2 and 3.

TABLE 1 - GOLD (in ppb)

Sample Number	Rock Type	B.C. Aq-R	IPL Aq-R	Acme Aq-R
96RMB-38	harzburgite	23		
96RMB-39	norite	9		
96RMB-40	harzburgite	9		
96RMB-41	harzburgite	6		
96RMB-42	harzburgite	221	< 2	
96RMB-43	CZ 94-9 harz.	472	3	2.7
96RMB-44	MZ 94-6 harz.	15	< 2	5.6
96RMB-45	BC 94-4 pdt.	17	5	3.5
96RMB-46	listwanite	2513		50850
96RMB-47	nodular harz.	12		

TABLE 2 - NICKEL (in ppm)

Sample Number	Rock Type	H <sub>2</sub> O	Asc.	Ace.	2% H <sub>2</sub> SO <sub>4</sub>	4 Acid	Aq-R IPL	Aq-R B.C.	Aq-R Acme
96RMB-42	harzburg.	< 2	89	372	822	1568	1858	1625	
96RMB-43	CZ 94-9	< 2	126	667	1515	1823	1756	1583	2317
96RMB-44	MZ 94-6	< 2	26	963	1455	1578	1864	1612	2331
96RMB-45	BC 94-4	< 2	665	381	770	1465	1659	1463	2229

Asc. - Ascorbic Acid  
 Ace. - Acetic Acid  
 Aq-R - Aqua Regia

TABLE 3 - COBALT (in ppm)

Sample Number	Rock Type	H <sub>2</sub> O	Asc.	Ace.	2% H <sub>2</sub> SO <sub>4</sub>	4 Acid	Aq-R IPL	Aq-R B.C.	Aq-R Acme
96RMB-42	Harzburg.	< 1	5	28	29	102	89	79	
96RMB-43	CZ 94-9	< 1	22	21	22	106	78	74	94
96RMB-44	MZ 94-6	< 1	2	33	33	85	85	79	98
96RMB-45	BC 94-4	< 1	38	13	21	81	82	71	96

## 12.0 PETROGRAPHIC STUDIES

Five samples were submitted for examination by polished thin section. Awaruite and nickel sulphides were confirmed by the examination.

## 13.0 RESULTS

The results of the work performed in 1996 showed the following:

- 1) Nickel is present as nickel-iron alloy or nickel sulphide. This is demonstrated by the similarities of nickel values between the total digestion (4 acid) and the aqua regia digestion which is too weak to attack nickel silicates.
- 2) Cobalt is in part tied up in the silicate lattices. This is also indicated by comparing the total (4 acid) digestion values to the aqua regia values.
- 3) Gold is sporadic but significant within the ultramafic.
- 4) There is serious differences in analytical results from laboratory to laboratory.

## 14.0 CONCLUSIONS

Based on previous soil and rock sampling, the Mount Sidney Williams property appears to have the potential to host a large, low-grade nickel-cobalt-gold-chromite open pit deposit. The mineralogy, awaruite, chromite and magnetite, are all moderately to highly magnetic and it may be possible to produce ore grade material by simple magnetic separation. Further testing is required to explore this and other metallurgical situations such as heap leaching.

**15.0 RECOMMENDATIONS**

Recommendations include:

- 1) further testing of the potential of magnetic separation and other metallurgical tests on the available core
- 2) lithological rock sampling
- 3) drilling of the IP chargeability highs outlined by previous work which have a good coincidence to nickel in soil anomalies and also elevated nickel values in drill core.

**16.0**    **REFERENCES**

- Paper 37-13, West Half of the Fort Fraser Map-Area, B.C., by J. E. Armstrong, 1937.
- Paper 38-10, Northwest Quarter of the Fort Fraser Map-Area, B. C., by J. E. Armstrong, 1938.
- Paper 78-19, Jade in Canada, by S. F. Leaming.
- Paper 74-1, Part B, Geology of the Cache Creek Group and Mesozoic Rocks at the Northern End of the Stuart Lake Belt, Central B.C., by Ian A. Paterson, 1975.
- Memoir 252, Fort St. James Map-Area, Cassiar and Coast Districts, B.C., by J. E. Armstrong, 1949.
- Assessment Report 5648, Rock Sampling and Prospecting on the Pauline Claims, by D. Stelling, 1975.
- Assessment Report 8135, Prospecting Report on the CR Claims, by V. Guinet, 1980.
- Assessment Report 10286, Geophysical Report on the CR 1 - 6 Claims, by T. Pizzot, 1982.
- Assessment Report 11879, Geochemical Survey on the BAP Claims, by R. R. Culbert, 1984.
- Assessment Report 17173, Geochemical Sampling on the Van Group, Klone Group, Mid Claim, by U. Mowat, 1988.
- Assessment Report 18089, Geochemical Sampling, Prospecting and Mapping on the Van Group, Klone Group and Mid Claim, by U. Mowat, 1988.
- Assessment Report 20541, Mapping and Drilling Program on the Mount Sidney Williams Property, by U. Mowat, 1990.
- Assessment Report 21870, Drilling Program on the Mount Sidney Williams Property, by U. Mowat, 1991.
- Assessment Report 23569, Drilling Program on the Mount Sidney Williams Property, by U. Mowat, 1994.

17.0 STATEMENT OF COSTS

Analyses (IPL)	
5 sample prep at \$4.50/sample	\$ 22.50
5 rock samples analysed for 30 elements by ICP at \$6.25/sample	31.25
5 rock samples analysed for Au by FA/AA at \$10.25/sample	51.25
Discount	(8.25)
GST	6.77
	<hr/>
	\$ 103.52
Analyses (Bondar Clegg)	
6 rock sample prep at \$5.25/sample	\$ 31.50
6 rock samples analysed for Au by wet extraction at \$6.30/sample	37.80
6 hours sample digestion at \$50.00/hour	300.00
GST	25.85
	<hr/>
	\$ 395.15
Analyses (Bondar Clegg)	
5 sample prep at \$5.25/sample	\$ 26.25
5 samples analysed for 34 elements by ICP using 3:1 HCl:HNO <sub>3</sub> extraction at \$6.30/sample	31.50
5 samples analysed for 34 elements by ICP using total extraction at \$6.30/sample	31.50
GST	6.25
	<hr/>
	\$ 95.50
Petrographics	
5 PTS at \$25.00/sample	\$ 125.00
5 off cuts at \$0.75/sample	3.75
5 K-spar stains at \$2.00/sample	10.00
Report	450.00
5 reflected light at \$14.40/sample	72.00
GST	46.25
	<hr/>
	\$ 707.00

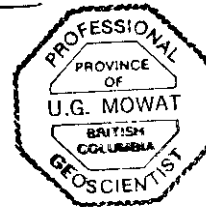


Helicopter	
1.6 hours at \$680.00/hour	\$1088.00
182.4 liters fuel at \$0.65/liter	118.56
GST	<u>84.46</u>
	\$1291.02
Labour	
1 man for 7 days at \$400.00/day	\$2800.00
1 man for 3 days at \$200.00/day	<u>600.00</u>
	\$3400.00
Meals	\$ 243.66
Accommodation	
2 rooms for 3 nights at \$50.60/ night	\$ 303.60
Airfare	\$ 285.05
Bus	\$ 31.57
Taxi	\$ 50.00
Truck	\$ 225.00
Gas	\$ 48.24
	<b>TOTAL \$7129.31</b>

18.0 STATEMENT OF QUALIFICATIONS

1. I am a registered member of the Association of Professional Engineers and Geoscientists of British Columbia.
2. I am a graduate of the University of British Columbia having graduated in 1969 with a Bachelor of Science in Geology.
3. I have practiced my profession since 1969 in mineral, oil and gas, and coal exploration.
4. I have a direct interest in the Mount Sidney Williams property.

*Ursula G. Mowat*  
Ursula G. Mowat, P. Geo.



Dated this 8<sup>th</sup> day of January, 1997  
at Vancouver, B. C.

APPENDIX I

File: Mt Sydney Williams (Klone  
cc RMB, PMB, U.M.



# Vancouver Petrographics Ltd.

**JAMES VINNELL**, Manager  
**JOHN G. PAYNE**, Ph.D. Geologist  
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## PETROGRAPHIC REPORT ON 5 POLISHED THIN SECTIONS

Report for: Ron Britten, Vice President  
First Point Capital Corp.  
2170-1050 West Pender Street  
Vancouver, B.C. V6E 3S7.

Invoice 960702

Oct. 29, 1996.

96RMB42: PARTLY SERPENTINIZED HARZBURGITE; TRACE SPINEL, ?CHROMITE-MAGNETITE, VERY RARE BLEBS FE-NI ALLOY AND NI SULFIDE

Dark green, coarse-grained, altered ?ultramafic rock, weakly magnetic but shows no reaction to cold dilute HCl and no stain for K-feldspar. Modal mineralogy in polished thin section is approximately:

Orthopyroxene	50%
Olivine	35%
Serpentine	10%
Sericite-talc	2-3%
Clinopyroxene	1-2%
Spinel (?picotite)	<1%
Opaque	<1%

This is a harzburgite, originally composed of roughly equal amounts of olivine and orthopyroxene but now partly altered to ubiquitous veinlets of serpentine and minor sericite or talc. Orthopyroxene forms large subhedral crystals up to about 0.5 cm in diameter marked by extinction parallel to prominent pseudo-twinning caused by intergrowth with minor clinopyroxene, and commonly with minor clinopyroxene in parallel position forming irregular blebs. Fractures crossing the pyroxenes are incipiently altered to serpentine. Olivine is interstitial to pyroxene, forming sub- to anhedral crystals rarely over 2.5 mm in diameter that aggregate to masses 1 cm across. Olivine is strongly fractured and altered to pale yellowish green, fine-grained serpentine (cross-fibres generally less than 10 microns long). Borders between olivine and pyroxene are marked by narrow rims of 10 micron ?sericite or talc on the olivine; rarely, olivine shows alteration to 20 micron talc or sericite along fractures.

Olivine contains traces of brown spinel as subhedral to skeletal crystals up to 0.7 mm across, rarely associated with opaques that form rounded to elongate blebs up to 0.1 mm long and generally take a very poor polish; similar blebs also occur in serpentine. The larger blebs have low reflectance and are brown at thin edges in transmitted light, suggesting chromite and magnetite or limonite, but minute blebs of about 5-10 microns have high reflectance. This is a characteristic occurrence for Fe-Ni alloys such as awaruite, but confirmation of such an identification would require analysis by SEM (scanning electron microscope; see RMB43) since they could be merely iron sulfides.

96RMB43: SERPENTINIZED ULTRAMAFIC WITH MAGNETITE, SPHENE, ?PREHNITE AND TRACE FE-NI ALLOY, NI-SULFIDE

Dark green, serpentized ultramafic (greasy feel, slickensided fractures) with white relict crystals to 0.5 cm and abundant magnetite; there is no reaction to cold dilute HCl and no stain for K-feldspar. Modal mineralogy in polished thin section is approximately:

Serpentine	75%
Relict orthopyroxene	10%
Sericite or talc	5%
?Relict clinopyroxene	2-3%
?Hydrobiotite	2-3%
Magnetite	2-3%
?Sphene, leucoxene	1-2%
Fe-Ni alloy, trace Ni sulfide	<1%

Although likely similar to sample 42 (harzburgite), this sample of ultramafic rock is strongly serpentized. Only minor relics of the orthopyroxene remain, as ragged relics up to 2.5 mm across marked by abundant very fine 10-20 micron magnetite. The rest of the rock consists of flakey masses and veinlets of serpentine, mainly with a relict texture suggestive of olivine pseudomorphs, with areas of granular ?relict clinopyroxene, sphene and ?leucoxene plus areas of coarse magnetite. Serpentine flakes are rarely over 50 microns in diameter, with cross-fibre material rarely over 20 microns.

The ?relict clinopyroxene forms subhedral crystals to 0.2 mm with oblique extinction, aggregating to 1 mm across, and mostly partly altered to fine brown ?hydrobiotite. In places there are areas up to 3 mm across composed mainly of subhedral flakes of sericite up to 0.1 mm diameter fringed by brownish hydrobiotite, and containing 0.75 mm patches of sphene/leucoxene or less commonly magnetite; it is not clear what these pseudomorphs may represent, but clinopyroxene would be a possibility. These are the large white relics seen in hand specimen, with the white colour due to ?leucoxene, suggesting a TiO<sub>2</sub> content higher than in the body of the rock.

Magnetite occurs as subhedral crystals to about 0.5 mm in diameter, commonly in elongate aggregates to 0.5 cm long oriented sub-parallel to major fracture directions; or as eu- to subhedral 20-50 micron crystals scattered throughout the rock. In places there are traces of highly reflectant opaques associated with magnetite, with cubic or triangular to lath-like or rarely rounded outlines up to 0.2 mm long and apparently isotropic character. The first (with triangular shapes; most common) is confirmed by SEM analysis as Fe-Ni alloy (about 1:1 Fe to Ni; the second (irregular; rare, i.e. one out of 6 grains analysed) is identified as Ni sulfide with Ni:S ratio around 1:1. There are also traces of Ni in some of the magnetite grains, and a Fe-Cr variety of spinel with Fe>>Cr (J. MacLeod, pers. comm., 1996). SEM also confirms Mg-silicate (serpentine).

96RMB44: SERPENTINE-SERICITE/TALC-CARBONATE ALTERED ULTRAMAFIC  
(?HARZBURGITE OR LHERZOLITE); MINOR MAGNETITE AND FE-NI ALLOY

Dark blackish green, altered ultramafic rock with 1 cm white areas some of which (and fractures) react to HCl. The rock is weakly magnetic; it shows no bright yellow stain for K-feldspar, but the matrix could contain sericite. Modal mineralogy in polished thin section is approximately:

Serpentine (mainly after olivine)	70%
Relict clinopyroxene	15%
Relict ?orthopyroxene	5%
Sericite or talc	5%
Carbonate (calcite)	2-3%
Magnetite	1-2%
Fe-Ni alloy	<1%

This sample consists of relict pyroxene crystals in a matrix composed mainly of serpentine and minor sericite or talc. The relict crystals (white areas in hand specimen) are mainly clinopyroxene, either as rounded granular crystals to about 0.25 mm diameter, rimming or replacing former ?orthopyroxene, or as intimate intergrowths with relict orthopyroxene that resemble polysynthetic twinning. The ragged outer margins of these composite pyroxene relics are veined and replaced by serpentine, semi-continuous with that of the matrix. Some pyroxene relics are pseudomorphed by pale yellow-green serpentine; parallel extinction suggests these were orthopyroxene.

The matrix is mainly coarse (flakes to 0.2 mm) colourless serpentine, mainly with extremely fine opaque (magnetite; 1-5 microns) and extensively veined by cross-fibre serpentine. In places fractures and veinlets of sericite and carbonate (likely mostly calcite) are present, forming subhedral flakes to 0.1 mm and subhedral crystals to 50 microns respectively.

Magnetite forms masses up to 2 mm across composed of subhedral crystals generally less than 0.5 mm in diameter. Rare highly reflective Fe-Ni alloy forms clusters up to 0.2 mm across of needle-like crystals less than 50 microns long; by analogy with the SEM analysis done for RMB43, subhedral crystals to 100 microns could be Ni sulfide.

This appears to have been an ultramafic rock composed of ortho- and ?lesser clino-pyroxene, in a matrix of ?olivine, that has been extensively altered to serpentine, minor sericite, carbonate and magnetite plus traces of Fe-Ni alloy. Original composition may have been harzburgite or lherzolite.

96RMB45: COMPLETELY SERPENTINIZED ULTRAMAFIC WITH ACCESSORY AND VEINLET  
MAGNETITE/SPINEL; CARBONATE FRACTURES AND TRACE FE-NI ALLOY

Dark green, extensively serpentinized ultramafic rock cut by abundant light green serpentine fractures; the rock is magnetic but shows no reaction to cold dilute HCl and no stain for K-feldspar.

Modal mineralogy in polished thin section is approximately:

Serpentine	95%
Magnetite	2-3%
Carbonate (?magnesite/dolomite)	1-2%
Spinel (?picotite)	<1%
Fe-Ni alloy	tr

This is a completely serpentinized ultramafic, with no traces of primary minerals or structure remaining. The rock is composed almost entirely of serpentine, in two forms: masses of slightly coarser, subhedral flakes to about 0.2 mm in diameter with slightly higher birefringence, cut by fractures and veinlets of finer flakes to about 0.1 mm with slightly lower birefringence. Carbonate occurs as fine subhedral crystals less than 20 microns in diameter, in fractures less than 0.1 mm thick; it may be dolomite or magnesite, to judge by the lack of reaction in hand specimen.

Magnetite forms subhedral crystals less than about 0.3 mm in diameter or aggregates up to 1.5 mm across, and extremely fine (5-25 micron) crystals, both commonly concentrated in and along the second type of serpentine fractures/veinlets and the carbonate veinlets. In places magnetite is associated or intergrown with transparent, dark brown spinel (?Fe- and Cr- bearing picotite) as skeletal crystals less than 0.25 mm in diameter that likely represent former primary crystals. The spinel in places appears to be replaced by the magnetite along fractures and shattered zones.

Rare very fine (less than 20 micron diameter) crystals of highly reflective Fe-Ni alloy are found in the serpentine fractures, rarely aggregating to blebs 0.3 mm long, and only very rarely intergrown with magnetite. Rare aggregates of Fe-Ni alloy to 65 microns diameter are enclosed in (rimmed by) carbonate.

96RMB48: SERPENTINE-CARBONATE-?MG-CHLORITE ALTERED ?HARZBURGITE OR LHERZOLITE; ACCESSORY MAGNETITE-SPINEL, TRACE FE-NI ALLOY

Dark green, medium-grained, altered ultramafic rock with rare pale green relict crystal patches separated by a matrix rich in magnetite and containing rare minute highly reflective ?sulfides or Fe-Ni alloy. The rock reacts to cold dilute HCl, but shows no stain for K-feldspar. Modal mineralogy in polished thin section is approximately:

Serpentine	80%
Relict ?olivine	10%
Carbonate (?calcite and ?magnesite/dolomite)	5%
?Mg-rich chlorite	2%
Magnetite	2%
Relict orthopyroxene, ?clinopyroxene	<1%
Spinel	<1%
Fe-Ni alloy	tr

This is a strongly serpentized ultramafic, with remnants of ?olivine and rare ?orthopyroxene in a mesh of coarse serpentine, lesser carbonate and minor magnetite. Relict ?olivine crystals are most common, forming irregular masses up to 4 mm across with high relief and high birefringence and ragged outlines, poikilitically enclosing other minerals and suggest replacement of former coarse euhedral crystals. Rare relict ?orthopyroxene containing minor ?clinopyroxene forms ragged subhedral crystals to 0.75 mm long with sub-parallel extinction; these and other ?olivine relics up to 2 mm in diameter are partly replaced by coarse subhedral flakes to 1 mm diameter of a mineral like phlogopite (bird's-eye maple extinction, colourless; 2V negative and near zero) but the cleavage is length-fast; it could be a very magnesian chlorite.

Serpentine forms subhedral, flakey to fibrous crystals generally less than 0.25 mm in diameter that are colourless and have unusually high birefringence. Carbonate is common, particularly around altered ?olivine and pyroxene sites, forming ragged clusters up to 0.5 mm across of mainly sub- to anhedral crystals less than 50 microns in diameter; it may be partly calcite and partly dolomite/magnesite

Magnetite is common, particularly in and around the altered relict crystal sites, forming subhedral crystals generally less than 0.25 mm in diameter that in places clearly rim and replace cores of spinel with dark brown colour (picotite or chromite) also with subhedral outlines and less than 0.25 mm in diameter; these probably represent former primary oxide sites. Fine magnetite as subhedral crystals less than 25 microns in diameter is also found along fractures.

Traces of highly reflective Fe-Ni alloy form scattered subhedral lath-shaped to cubic crystals less than 75 microns in diameter, commonly also concentrated along fractures with (but not intergrown with) magnetite.

This was probably a coarse-grained ultramafic rock composed of major olivine and lesser pyroxene (?harzburgite or lherzolite) that has been extensively altered to serpentine, carbonate, ?Mg-rich chlorite, magnetite and traces of Fe-Ni alloy.

*C.H. Leitch*



APPENDIX II



**Bondar Clegg**  
**Inchcape Testing Services**

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**GeChemical**  
**Lab**  
**Report**

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**FIRST POINT**  
**MR. PETER BRADSHAW**  
**2170 - 1050 W. PENDER ST.**  
**VANCOUVER, BC V6E 3S7**

REPORT: V96-01218.0 ( COMPLETE )

REFERENCE:

CLIENT: FIRST POINT

SUBMITTED BY: P. BRADSHAW

PROJECT: NICKEL

DATE PRINTED: 21-AUG-96

ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD
1 Wet Au Partial Ext. Gold	5	5 PPB	ASH/AQ REG/DIBK	ATOMIC ABSORPTION	37 Cu	5	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
2 Ag Silver	5	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	38 Pb	5	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
3 Cu Copper	5	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	39 Zn	5	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
4 Pb Lead	5	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	40 Mo	5	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
5 Zn Zinc	5	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	41 Ni	5	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
6 Mo Molybdenum	5	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	42 Co	5	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
7 Ni Nickel	5	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	43 Cd	5	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
8 Co Cobalt	5	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	44 Bi	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
9 Cd Cadmium	5	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	45 As	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
10 Bi Bismuth	5	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	46 Sb	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
11 As Arsenic	5	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	47 Fe Tot Total Iron	5	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
12 Sb Antimony	5	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	48 Mn	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
13 Fe Iron	5	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	49 Te	5	25 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
14 Mn Manganese	5	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	50 Ba	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
15 Te Tellurium	5	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	51 Cr	5	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
16 Ba Barium	5	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	52 V	5	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
17 Cr Chromium	5	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	53 Sn	5	20 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
18 V Vanadium	5	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	54 W	5	20 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
19 Sn Tin	5	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	55 La	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
20 W Tungsten	5	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	56 Al	5	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
21 La Lanthanum	5	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	57 Mg	5	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
22 Al Aluminum	5	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	58 Ca	5	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
23 Mg Magnesium	5	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	59 Na	5	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
24 Ca Calcium	5	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	60 K	5	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
25 Na Sodium	5	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	61 Sr	5	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
26 K Potassium	5	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	62 Y	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
27 Sr Strontium	5	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	63 Ga	5	10 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
28 Y Yttrium	5	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	64 Li	5	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
29 Ga Gallium	5	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	65 Nb	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
30 Li Lithium	5	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	66 Sc	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
31 Nb Niobium	5	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	67 Ta	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
32 Sc Scandium	5	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	68 Ti	5	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
33 Ta Tantalum	5	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	69 Zr	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
34 Ti Titanium	5	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA					
35 Zr Zirconium	5	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA					
36 Ag Silver	5	0.5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA					

REPORT: V96-01218.0 ( COMPLETE )

REFERENCE:

CLIENT: FIRST POINT

SUBMITTED BY: P. BRADSHAW

PROJECT: NICKEL

DATE PRINTED: 21-AUG-96

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK	5	2 -150	5	CRUSH/SPLIT & PULV. OVERWEIGHT/KG	5 17

REPORT COPIES TO: MR. PETER BRADSHAW

INVOICE TO: MR. PETER BRADSHAW



# Bondar Clegg

## Inchcape Testing Services

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# GC Chemical Lab Report

CLIENT: FIRST POINT

REPORT: V96-01218.0 ( COMPLETE ) *HCl : HNO<sub>3</sub> ( 3:1 )*

PROJECT: NICKEL

DATE PRINTED: 21-AUG-96 PAGE 1A

*Hf - HNO<sub>3</sub> -  
HClO<sub>4</sub> - HCl*

SAMPLE NUMBER	ELEMENT UNITS	Wet	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	Ag	Cu	Pb	Zn
		PPB	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM
96RMB-42		221	1.3	13	6	20	<1	1625	79	1.1	<5	<5	23	4.13	695	<10	<1	187	6	<20	30	<1	0.09	5.97	0.08	<.01	<.01	<1	<1	<2	<1	<1	<5	<10	<.01	<1	<.5	47	5	26	
96RMB-43		472	1.0	7	6	18	3	1583	74	0.9	<5	<5	18	3.75	699	<10	<1	1120	29	<20	<20	<1	0.50	5.45	0.28	<.01	<.01	<1	<1	<2	<1	<1	7	<10	<.01	<1	<.5	19	5	32	
96RMB-44		15	1.1	6	4	18	<1	1612	79	<.2	<5	<5	17	3.72	747	<10	<1	853	19	23	77	<1	0.22	5.66	0.26	<.01	<.01	<1	<1	<2	<1	<1	6	<10	<.01	<1	<.5	18	19	33	
96RMB-45		17	1.1	21	6	6	1	1463	71	<.2	<5	<5	13	3.78	549	<10	2	725	28	<20	<20	<1	0.44	5.45	0.70	<.01	<.01	9	<1	<2	2	<1	6	<10	<.01	<1	<.5	31	16	28	
96RMB-48		9	1.4	1	6	5	3	1714	93	<.2	<5	<5	20	5.50	820	<10	1	551	19	<20	43	<1	0.37	5.43	0.35	<.01	<.01	<1	<1	<2	4	<1	6	<10	<.01	<1	<.5	13	6	20	

CLIENT: FIRST POINT

PROJECT: NICKEL

REPORT: V96-01218.0 ( COMPLETE ) *HF-HNO<sub>3</sub>-HClO<sub>4</sub>-HCl*

DATE PRINTED: 21-AUG-96 PAGE 18

SAMPLE NUMBER	ELEMENT UNITS	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Tot	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
		PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	
96RMB-42		<1	1568	102	<1	<5	<5	<5	4.04	842	<25	78	1166	29	<20	<20	<5	1.20	>10.00	1.01	0.85	0.33	1	<5	<10	<2	<5	5	<5	<.01	28	
96RMB-43		<1	1823	106	<1	<5	<5	<5	4.27	865	<25	36	1888	40	<20	<20	<5	1.11	>10.00	0.63	0.40	0.17	<1	<5	<10	<2	<5	7	<5	<.01	14	
96RMB-44		<1	1578	85	<1	<5	<5	<5	4.10	881	<25	9	1776	24	<20	<20	<5	0.46	>10.00	0.38	0.11	0.05	<1	<5	<10	8	<5	7	<5	<.01	5	
96RMB-45		<1	1465	81	<1	<5	<5	<5	4.31	890	<25	15	1448	32	<20	<20	<5	0.82	>10.00	0.83	0.17	0.08	10	<5	<10	9	<5	8	<5	0.03	9	
96RMB-48		<1	1683	100	<1	<5	<5	<5	5.71	1094	<25	14	1038	17	<20	21	<5	0.69	>10.00	0.40	0.17	0.08	1	<5	<10	15	<5	6	<5	0.02	9	

CLIENT: FIRST POINT  
REPORT: V96-01218.0 ( COMPLETE )

PROJECT: NICKEL  
DATE PRINTED: 21-AUG-96 PAGE 2A

STANDARD NAME	ELEMENT UNITS	Wet	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	Ag	Cu	Pb	Zn	
BCC GEOCHEM STD 5		12	1.4	82	9	64	3	34	16	0.4	<5	26	13	4.15	733	<10	167	46	111	-	<20	3	2.87	1.98	0.88	0.05	0.27	27	7	8	23	3	8	<10	0.18	12	<.5	92	16	69		
Number of Analyses		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mean Value		12	1.4	82	9	64	3	34	16	0.4	3	26	13	4.15	733	5	167	46	111	-	10	3	2.87	1.98	0.88	0.05	0.27	27	7	8	23	3	8	5	0.18	12	0.3	92	16	69		
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value		8	0.7	90	11	80	2	40	18	0.1	1	8	1	4.74	720	0.2	200	54	133	4	2	5	3.09	1.83	1.08	0.06	0.32	39	9	4	-	1	18	1	-	9	0.7	90	11	80		
ANALYTICAL BLANK		-	<.2	<1	<2	<1	<1	<1	<1	0.4	<5	<5	<5	<.01	<1	<10	<1	<1	<1	<20	<20	<1	<.01	<.01	<.01	<.01	<.01	<1	<1	<2	<1	<1	<5	<10	<.01	<1	<.5	<1	5	<2		
Number of Analyses		-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Mean Value		-	0.1	0.5	1	0.5	0.5	0.5	0.5	0.4	3	3	3	.005	0.5	5	0.5	0.5	0.5	10	10	0.5	.005	.005	.005	.005	.005	0.5	0.5	1	0.5	0.5	3	5	.005	0.5	0.3	0.5	5	1		
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Accepted Value		1	0.2	1	2	1	1	1	1	0.1	2	5	5	0.05	1	.01	.01	1	1	.01	.01	.01	<.01	<.01	<.01	<.01	<.01	.01	.01	.01	.01	.01	.01	.01	.01	<.01	.01	0.2	1	2	1	

CLIENT: FIRST POINT  
 REPORT: V96-01218.0 ( COMPLETE )

PROJECT: NICKEL  
 DATE PRINTED: 21-AUG-96 PAGE 2B

STANDARD NAME	ELEMENT UNITS	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Tot	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
		PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM
BCC GEOCHEM STD 5		3	47	17	<1	<5	<5	<5	4.15	850	<25	699	89	156	<20	<20	<5	7.38	2.05	2.28	1.84	1.05	218	12	<10	26	12	19	9	0.43	55	
Number of Analyses		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mean Value		3	47	17	0.5	3	3	3	4.15	850	13	699	89	156	10	10	3	7.38	2.05	2.28	1.84	1.05	218	12	5	26	12	19	9	0.43	55	
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		2	40	18	0.1	1	8	1	6.95	850	-	800	100	175	4	2	10	8.30	1.90	1.85	1.82	1.00	265	13	4	32	17	18	1	0.51	60	
ANALYTICAL BLANK		<1	<1	<1	<1	<5	<5	<5	<0.01	<5	<25	<5	<2	<2	<20	<20	<5	<0.01	<0.01	<0.01	<0.01	<0.01	<1	<5	<10	<2	<5	<5	<5	<0.01	<5	
Number of Analyses		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mean Value		0.5	0.5	0.5	0.5	3	3	3	0.005	3	13	3	1	1	10	10	3	.005	0.005	.005	.005	.005	0.5	3	5	1	3	3	3	.005	3	
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		1	1	1	0.5	2	5	5	0.05	1	.01	.01	1	1	.01	.01	.01	<.01	<.0001	<.01	<.01	<.01	.01	.01	.01	.01	.01	.01	.01	.01	<.01	.01







INTERNATIONAL PLASMA LABORATORY LTD.

CERTIFICATE OF ANALYSIS  
iPL 96I0924

*Alv. M. Syding W. J.S.*

2036 Columbia St  
Vancouver, B.C.  
Canada V5Y 3E1  
Phone (604) 879-7878  
Fax (604) 879-7898

First Point Capital Corporation

Out: Oct 07, 1996 Project: None Given  
In: Sep 24, 1996 Shipper: Ron Britten  
PO#: Shipment: -- ID=C040901

5 Samples

5= Rock 0= Soil 0= Core 0=RC Ct 0= Pulp 0=Other  
Raw Storage: 03Mon/Disk -- -- -- --  
Pulp Storage: 12Mon/Disk -- -- -- --  
[092411:39:02:69100796]  
Mon=Month Dis=Discard  
Rtn=Return Arc=Archive

Msg: Au(FA/AAS 30g) ICP(AQR)30  
Msg: Au>1000ppb Reassay ICPAg >100ppm Reassay

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Canada  
ATT: Ron Britten Ph:604/681-8600  
Fx:604/681-8799

Analytical Summary

#	Code	Met	Title	Limit		Units	Description	Element	#
				Low	High				
01	313PFA/AAS	Au		2	10000	ppb	Au FA/AAS finish 30g	Gold	01
02	721P	ICP	Ag	0.1	100	ppm	Ag ICP	Silver	02
03	711P	ICP	Cu	1	20000	ppm	Cu ICP	Copper	03
04	714P	ICP	Pb	2	20000	ppm	Pb ICP	Lead	04
05	730P	ICP	Zn	1	20000	ppm	Zn ICP	Zinc	05
06	703P	ICP	As	5	10000	ppm	As ICP 5 ppm	Arsenic	06
07	702P	ICP	Sb	5	1000	ppm	Sb ICP	Antimony	07
08	732P	ICP	Hg	3	10000	ppm	Hg ICP	Mercury	08
09	717P	ICP	Mo	1	1000	ppm	Mo ICP	Molybdenum	09
10	747P	ICP	Tl	10	1000	ppm	Tl ICP 10 ppm (Incomplete)	Thallium	10
11	705P	ICP	Bi	2	10000	ppm	Bi ICP	Bismuth	11
12	707P	ICP	Cd	0.1	10000	ppm	Cd ICP	Cadmium	12
13	710P	ICP	Co	1	10000	ppm	Co ICP	Cobalt	13
14	718P	ICP	Ni	1	10000	ppm	Ni ICP	Nickel	14
15	704P	ICP	Ba	2	10000	ppm	Ba ICP (Incomplete Digest)	Barium	15
16	727P	ICP	W	5	1000	ppm	W ICP (Incomplete Digest)	Tungsten	16
17	709P	ICP	Cr	1	10000	ppm	Cr ICP (Incomplete Digest)	Chromium	17
18	729P	ICP	V	2	10000	ppm	V ICP	Vanadium	18
19	716P	ICP	Mn	1	10000	ppm	Mn ICP	Manganese	19
20	713P	ICP	La	2	10000	ppm	La ICP (Incomplete Digest)	Lanthanum	20
21	723P	ICP	Sr	1	10000	ppm	Sr ICP (Incomplete Digest)	Strontium	21
22	731P	ICP	Zr	1	10000	ppm	Zr ICP	Zirconium	22
23	736P	ICP	Sc	1	10000	ppm	Sc ICP	Scandium	23
24	726P	ICP	Ti	0.01	1.00	%	Ti ICP (Incomplete Digest)	Titanium	24
25	701P	ICP	Al	0.01	5.00	%	Al ICP (Incomplete Digest)	Aluminum	25
26	708P	ICP	Ca	0.01	10.00	%	Ca ICP (Incomplete Digest)	Calcium	26
27	712P	ICP	Fe	0.01	5.00	%	Fe ICP	Iron	27
28	715P	ICP	Mg	0.01	10.00	%	Mg ICP (Incomplete Digest)	Magnesium	28
29	720P	ICP	K	0.01	10.00	%	K ICP (Incomplete Digest)	Potassium	29
30	722P	ICP	Na	0.01	5.00	%	Na ICP (Incomplete Digest)	Sodium	30
31	719P	ICP	P	0.01	5.00	%	P ICP	Phosphorus	31

EN=Envelope # RT=Report Style CC=Copies IN=Invoices  
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BL=BBS(1=Yes 0=No)

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Approved



INTERNATIONAL PLASMA LABORATORY LTD.

# CERTIFICATE OF ANALYSIS

## iPL 96I0924

2036 Columbia St  
 Vancouver, B.C.  
 Canada V5Y 3E1  
 Phone (604) 879-7878  
 Fax (604) 879-7898

Report: 96I0924 R First Point Capital Corporation

Project: None Given

Page 1 of 1

Section 1 of 2

Sample Name	Type	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Hg ppm	Mo ppm	Tl ppm	Bi ppm	Cd ppm	Co ppm	Ni ppm	Ba ppm	W ppm
96RMB 42	Rock	<2	0.6	22	4	32	<5	<5	<3	4	<10	<2	0.3	89	1858	8	<5
96RMB 43	Rock	3	0.1	15	16	36	<5	17	<3	3	<10	<2	1.1	78	1756	6	<5
96RMB 44	Rock	<2	0.1	14	14	30	<5	14	<3	3	<10	<2	0.7	85	1864	<2	<5
96RMB 45	Rock	5	<0.1	34	6	15	<5	12	<3	3	<10	<2	0.3	82	1659	<2	<5
96RMB 48	Rock	<2	<0.1	10	6	18	<5	10	<3	3	<10	<2	<0.1	92	1801	<2	12

Minimum Detection	2	0.1	1	2	1	5	5	3	1	10	2	0.1	1	1	2	5
Maximum Detection	10000	100.0	20000	20000	20000	10000	1000	10000	1000	1000	10000	10000.0	10000	10000	10000	1000
Method	FA/AAS	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

---No Test ReC=ReCheck ins=Insufficient Sample m=Est/1000 %=Est % Max=No Est



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Report: 96I0924 R First Point Capital Corporation

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Page 1 of 1

Section 2 of 2

Sample Name	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
96RMB 42	229	7	688	<2	<1	<1	3	<0.01	0.12	0.10	4.22	10%	<0.01	0.01	<0.01
96RMB 43	1001	26	615	<2	<1	<1	8	<0.01	0.43	0.30	2.68	9.53	<0.01	0.01	<0.01
96RMB 44	860	18	724	<2	1	<1	8	<0.01	0.23	0.30	3.25	10%	<0.01	0.01	<0.01
96RMB 45	794	27	461	<2	8	<1	7	<0.01	0.45	0.60	3.09	9.06	<0.01	0.01	<0.01
96RMB 48	514	20	696	<2	1	1	6	<0.01	0.39	0.41	4.54	7.16	<0.01	0.01	<0.01

Minimum Detection	1	2	1	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Maximum Detection	10000	10000	10000	10000	10000	10000	10000	1.00	5.00	10.00	5.00	10.00	10.00	5.00	5.00
Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

--=No Test ReC=ReCheck ins=Insufficient Sample m=Est/1000 %=Est % Max=No Est



# Bondar Clegg

## Inchcape Testing Services

Vancouver, B.C. Canada

" U R G E N T &amp; C O N F I D E N T I A L "

To: FIRST POINT MINERALS CORPORATION  
 Attention: Mr. Peter Bradshaw  
 Reference:  
 Submitter: UNKNOWN

Our Fax No: (604) 985-1071  
 Your Fax No: 681-8799  
 Number of Pages: 5 including this page.

Report: V96-01219.0

Status: COMPLETE

Total number of samples: 35

Element Method	Totl	Element Method	Totl	Element Method	Totl
Wet Au ATOMIC ABSORPTION	35	Ag INDUC. COUP. PLASMA	35	AgOL INDUC. COUP. PLASMA	1
Cu INDUC. COUP. PLASMA	35	CuOL INDUC. COUP. PLASMA	1	Pb INDUC. COUP. PLASMA	35
Zn INDUC. COUP. PLASMA	35	ZnOL INDUC. COUP. PLASMA	2	Mo INDUC. COUP. PLASMA	35
Ni INDUC. COUP. PLASMA	35	Co INDUC. COUP. PLASMA	35	Cd INDUC. COUP. PLASMA	35
Bi INDUC. COUP. PLASMA	35	As INDUC. COUP. PLASMA	35	Sb INDUC. COUP. PLASMA	35
Fe INDUC. COUP. PLASMA	35	Mn INDUC. COUP. PLASMA	35	Te INDUC. COUP. PLASMA	35
Ba INDUC. COUP. PLASMA	35	Cr INDUC. COUP. PLASMA	35	V INDUC. COUP. PLASMA	35
Sn INDUC. COUP. PLASMA	35	W INDUC. COUP. PLASMA	35	La INDUC. COUP. PLASMA	35
Al INDUC. COUP. PLASMA	35	Mg INDUC. COUP. PLASMA	35	Ca INDUC. COUP. PLASMA	35
Na INDUC. COUP. PLASMA	35	K INDUC. COUP. PLASMA	35	Sr INDUC. COUP. PLASMA	35
Y INDUC. COUP. PLASMA	35	Ga INDUC. COUP. PLASMA	35	Li INDUC. COUP. PLASMA	35
Nb INDUC. COUP. PLASMA	35	Sc INDUC. COUP. PLASMA	35	Ta INDUC. COUP. PLASMA	35
Tl INDUC. COUP. PLASMA	35	Zr INDUC. COUP. PLASMA	35		

Sample Preparations	Totl	Sample Type	Totl	Size Fraction	Totl	Remarks
DRY, SIEVE -80	9	STREAM SED, SILT	8	-80	9	ZINC AND ARSENIC CONCENTRATION >1% WILL ENHANCE
CRUSH/SPLIT & PULV.	26	SOIL	1	-150	26	TUNGSTEN AND CADMIUM RESULTS RESPECTIVELY.
		ROCK	26			THEREFORE, TUNGSTEN AND CADMIUM RESULTS WOULD
						BE GREATER THAN TRUE VALUES. THANK YOU, GEN

Notes:

If you do not receive the entire transmission in legible form, please call us at (604) 985-0681.



# Bondar Clegg

inchcape Testing Services

CLIENT: FIRST POINT  
REPORT: V96-01210.1 ( COMPLETE )

PROJECT: NICKEL  
DATE PRINTED: 3-SEP-96 PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Co EX1	Co EX2	Co EX3	Co EX4	Ni EX1	Ni EX2	Ni EX3	Ni EX4
		PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
R2 96RMB-42		<1	5	20	29	<2	89	372	822
R2 96RMB-43		<1	22	21	22	<2	126	667	1515
R2 96RMB-44		<1	2	33	33	<2	26	963	1455
R2 96RMB-45		<1	38	13	21	<2	665	381	770
R2 96RMB-48		<1	8	5	11	<2	220	375	928



**Bondar Clegg**  
Inchcape Testing Services

CLIENT: FIRST POINT MINERALS CORPORATION  
REPORT: V96-01219.0 ( COMPLETE )

PROJECT: NONE GIVEN  
DATE PRINTED: 3-JAN-97 PAGE 1A

SAMPLE NUMBER	ELEMENT UNITS	Mat Au PPB	Ag PPM	AgOL PPM	Cu PPM	CuOL PCT	Pb PPM	Zn PPM	ZnOL PCT	Mo PPM	Ni PPM	Co PPM	Cd PPM
R2 96RMB-38		23	<0.2		21		14	17		3	1767	85	<0.2
R2 96RMB-39		9	0.4		64		16	41		3	48	18	0.7
R2 96RMB-40		9	<0.2		3		11	2		<1	1831	84	1.8
R2 96RMB-41		6	<0.2		12		18	49		<1	1639	82	0.8
R2 96RMB-46		2513	1.3		69		20	55		<1	211	39	<0.2
R2 96RMB-47		12	<0.2		5		7	16		<1	1912	104	<0.2



**Bondar Clegg**  
Inchcape Testing Services

CLIENT: FIRST POINT MINERALS CORPORATION  
REPORT: V96-01219.0 ( COMPLETE )

PROJECT: NONE GIVEN  
DATE PRINTED: 3-JAN-97 PAGE 1B

SAMPLE NUMBER	ELEMENT UNITS	Bi PPM	As PPM	Sb PPM	Fe PCT	Mn PPM	Ta PPM	Ba PPM	Cr PPM	V PPM	Sn PPM	W PPM	La PPM
R2 96RMB-38		<5	<5	14	4.34	805	<10	10	835	22	<20	<20	<1
R2 96RMB-39		<5	33	10	3.63	526	<10	25	46	144	<20	<20	<1
R2 96RMB-40		<5	<5	13	3.91	650	<10	3	1039	24	<20	<20	<1
R2 96RMB-41		<5	<5	19	4.40	803	<10	2	1084	26	<20	<20	<1
R2 96RMB-46		<5	3284	35	5.36	1108	<10	45	137	114	102	<20	<1
R2 96RMB-47		<5	25	17	5.03	1378	<10	6	1318	26	<20	<20	<1



**Bondar Clegg**  
Inchcape Testing Services

CLIENT: FIRST POINT MINERALS CORPORATION  
REPORT: V96-01219.0 ( COMPLETE )

PROJECT: NONE GIVEN  
DATE PRINTED: 3-JAN-97 PAGE 1C

SAMPLE NUMBER	ELEMENT UNITS	Al PCT	Mg PCT	Ca PCT	Na PCT	K PCT	Sr PPM	Y PPM	Ga PPM	Li PPM	Nb PPM	Sc PPM	Ta PPM
R2 96RMB-38		0.27	5.62	0.10	<0.01	<0.01	<1	<1	<2	<1	<1	6	<10
R2 96RMB-39		2.98	2.14	2.03	0.27	0.04	33	9	6	9	4	7	<10
R2 96RMB-40		0.29	5.76	0.02	<0.01	<0.01	<1	<1	<2	<1	<1	6	<10
R2 96RMB-41		0.35	5.46	0.12	<0.01	<0.01	<1	<1	<2	<1	<1	6	<10
R2 96RMB-46		2.90	2.20	0.58	0.13	0.19	11	11	3	14	5	22	<10
R2 96RMB-47		0.39	5.41	0.05	<0.01	<0.01	<1	<1	<2	<1	<1	6	<10





# Bondar Clegg

Inchcape Testing Services

CLIENT: FIRST POINT MINERALS CORPORATION  
REPORT: V96-01219.0 ( COMPLETE )

PROJECT: NONE GIVEN

DATE PRINTED: 3-JAN-97

PAGE 1D

SAMPLE NUMBER	ELEMENT UNITS	Ti PCT	Zr PPM
------------------	------------------	-----------	-----------

R2 96RMB-38		<0.01	<1
R2 96RMB-39		0.25	4
R2 96RMB-40		<0.01	<1
R2 96RMB-41		<0.01	<1
R2 96RMB-46		0.01	2
R2 96RMB-47		<0.01	<1







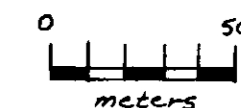


ROCK SAMPLE AND  
DRILL HOLE LOCATION MAP

- 1994 drill hole
- previous drill holes
- conductors
- x rock sample

GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT

24,906



contour interval 100 m.

