ROCK GEOCHEMICAL REPORT

ON THE

COGBURN PROPERTY
(Cog 1 to 4 and Cog 11 to 15 Claims)

New Westminster Mining Division
British Columbia, Canada

NTS: 092H/5E, 092H/12E

PREPARED FOR

LEADER MINING INTERNATIONAL INC.
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BY

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Craig Payne M.Sc., P.Geo.
September 25, 2001

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SUMMARY

The Cogburn property consists of four contiguous claims and five two post claims totalling 1700ha in the New Westminster Mining Division, British Columbia. The claims are owned 50% by J.A. Chapman and 50% by KGE Management Ltd. (Gerald Carlson) and are optioned to Leader Mining international Inc. of Calgary, Alberta.

Access to the property is from the village of Harrison Hot Springs and Agassiz, the local centres for supplies and services. The claims are approximately 42km along the eastern side of Harrison Lake along well maintained forest service roads.

This report covers results of 35 rock outcrop samples of ultramafic rocks collected during the period May to July, 2001 by the owners and optionee of the property. Rock samples were analysed for whole rock, 30 element ICP and some samples were assayed for boron and sulphur. Six samples were sent to PetraScience Consultants Inc., Vancouver for petrographic and SEM study.

The central part of the property is underlain by a northwest trending package of ultramafic rocks consisting of altered dunite, peridotite and pyroxenite, locally intruded by felsite dykes. Flanking the ultramafic package to the northeast and southwest is a complex series of meta-volcanic and meta-sedimentary rocks believed to belong to the Slollicum and Cogburn Packages. The southeast corner of the property is intruded by foliated quartz diorite.

Thinsection study of the ultramafic rocks indicates the material sampled can be classified as altered pyroxenite cumulates. While the whole rock geochemistry, TiO_2 vs Zr plot suggests the rocks fall well within the dunite-peridotite field indicating only minor fractionation of the melt has occurred.

Geochemical results indicates moderately anomalous nickel values ranging from 1326ppm Ni to 2083ppm Ni. Geochemical assay values for nickel confirm the ICP results with values ranging from 0.133% Ni to 0.219% Ni.

Pt and Pd values for 23 of the rock samples range from background to 15ppb Pt and background to 10ppb Pd.

Detailed mapping and prospecting of the ultramafic package throughout the property is recommended to determine the economic potential of nickel and any PGE credits.

INTRODUCTION

The Cogburn mineral property is owned by J.A. Chapman (50%) and Gerald Carlson (50%) and is currently optioned to Leader Mining International Inc. of Calgary, Alberta. Rock sampling was carried out during the period May 23 to July 17, 2001 on the claims by the owners and Leader Mining International Inc. personnel.

This report is based on a report entitled Summary Review, Cogburn Claim Group by G. Carlson, Ph.D., P.Eng and J. Chapman, B.Sc., P.Eng. dated June 8, 2000.

LOCATION & ACCESS

The Cogburn property is located at 49° 29' 49" north latitude and 121° 39'28" west longitude, NTS sheets 092H05E and 092H12E in southwestern British Columbia, approximately 120 km east of Vancouver. The claims are centred near the junction of Talc Creek and Daioff Creek, 8 km east of Harrison Lake. The claims are readily accessible by well maintained logging roads from the east side of Harrison Lake, along Cogburn Creek and thence up Talc Creek, a road distance of some 42 km from Harrison Hot Springs. The eastern side of the claims is accessible by logging roads from the Fraser River, both from the south and from the east (see Figure 1).

CLAIMS & OWNERSHIP

The 1,700 hectare Cogburn property consists of 9 claims totalling 68 units located in the New Westminster Mining Division, British Columbia, on NTS sheets 92H05E and 92H12E. The claims straddle Talc Creek where it is joined by Daioff Creek, north of Mt. McNair and west of the Old Settler Mountain. The claims are owned 50% by KGE Management Ltd., (Gerald G. Carlson, President) and 50% by John A. Chapman as follows:

Claim Name	Tenure Number	NTS Map Sheet	Units	Expiry
COG 1	374546	092H12E	18	October 1, 2003*
COG 2	374547	092H12E	15	October 1, 2003*
COG 3	375295	092H05E	15	October 1, 2003*
COG 4	375296	092H05E	15	October 1, 2003*
COG 11	375290	092H12E	1	October 1, 2003*
COG 12	375291	092H12E	1	October 1, 2003*
COG 13	375292	092H12E	1	October 1, 2003*
COG 14	375293	092H12E	1	October 1, 2003*
COG 15	375294	092H12E	1	October 1, 2003*

** Subject to approval of 2001 assessment work.*

EXPLORATION HISTORY

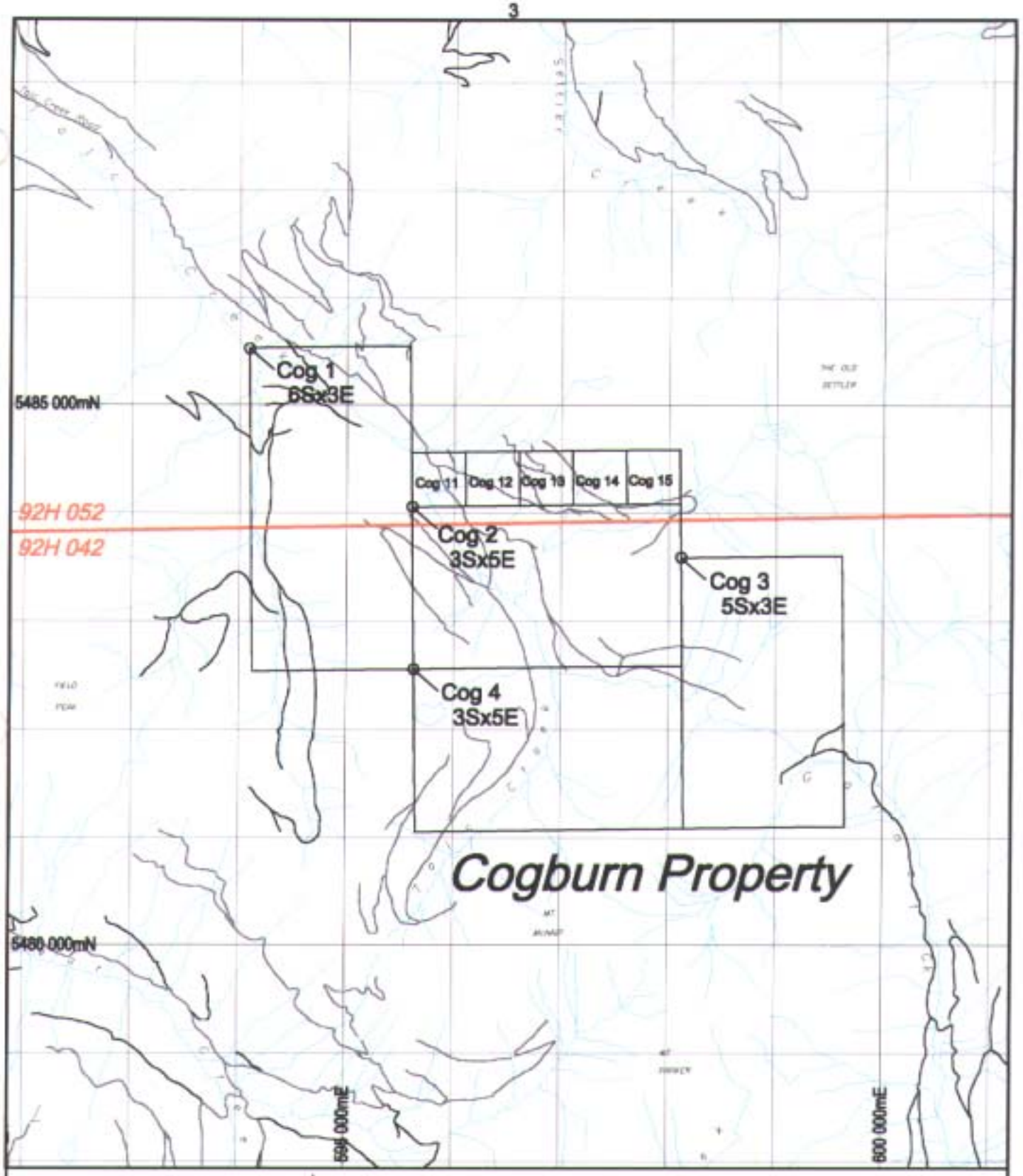
Recorded exploration in the area of the Cogburn claims started in 1969 when the NI claims were staked by the Nickel Syndicate (Giant Explorations Limited and Giant Mascot Mines Limited), work on the property continued to 1975. During this period, reconnaissance style exploration, including regional geological mapping, prospecting and stream sediment geochemistry was followed by a helicopter-borne magnetometer survey, detailed grid exploration and drilling.

LEADER MINING INTERNATIONAL INC.

Cogburn Property

LOCATION MAP

Figure 1



LEADER MINING INTERNATIONAL INC.

Project No.: 345 New Westminster Mining Division

Cogburn Project

CLAIM MAP

Figure 2

Skpt/01

Otter Geological Consultants Ltd.

The airborne magnetometer survey included 60 flight lines for a total of 335 line miles, covering an area of approximately 85 square miles (220 km^2). The sensor was flown with a mean terrain clearance of 300 ft (91m).

The early work resulted in the definition of eight target areas for detailed exploration. A grid was cut covering each target and the survey lines used to control geological mapping, soil sampling, rock chip sampling where outcrop was exposed and ground magnetics. Soil and rock samples were analyzed for nickel and copper.

During the summer of 1971, IP surveys were carried out to define specific drill targets. These were followed by 20 diamond drill holes for a total of 5,760 feet (1756m). The holes tested anomalies defined on at least two of the grid areas. Details of the drill program were not reported. Core logs, assays and most hole locations are missing, as well as the drill core. There is little reported on subsequent work from 1972 through to 1975.

In 1985, John McGoran collected three rock chip samples and a heavy mineral sample from Daioff Creek area. However, it appears that the samples collected by Mr. McGoran were taken from outside the mineralized area.

GEOLOGY

Regional Geology

The geology in the region of the claim area is complex, dominated by northwest-trending fault bounded blocks of diverse geology. There appears to be at least three separate packages or terranes that underlie the claim group. These include, from west to east, the Harrison Terrane, the Cogburn Group, which is correlated with the Bridge River and Hozameen complexes, and the Cayoosh Assemblage. These have later been intruded by middle Jurassic to Cretaceous Coast Plutonic intrusives.

The Harrison Terrane includes a variety of sedimentary and arc volcanic rocks of middle Triassic to Early Cretaceous age (see Figure 3). These rocks occur on the western edge of the claim group in a complex fault relationship with the Cogburn Group, as indicated by airborne magnetics.

The core of the claims is underlain by the Cogburn Group, which has been correlated with the Bridge River Complex and the Hozameen Complex to the north, mainly on the basis of similar lithology. The Cogburn Group consists of bedded chert, argillite, basic volcanics and alpine-type ultramafic rocks with minor amounts of marble. This is a fault-emplaced assemblage of oceanic crust or ophiolite. Ages of rocks within the Bridge River Complex range from Mississippian to earliest Jurassic, suggesting that it now represents the remnants of a (+190 Ma), large oceanic basin.

East, north and south of the claim group, Lower to Middle Jurassic Cayoosh Assemblage rocks, are exposed and comprise an upward-coarsening succession of argillite, siltstone and sandstone, possibly emplaced over the Bridge River Complex. The Settler Schist, believed to be a metamorphic equivalent, consists of pelitic and quartzofeldspathic schists, amphibolite and minor quartzite. Metamorphic grade is up to amphibolite with staurolite and, to the north, kyanite and sillimanite schists.

Intrusive rocks in the area belong to the Spuzzum Pluton, a post-accretion (mid-Cretaceous, approx. 100 Ma) quartz diorite body which lies to the southeast of and intrudes the Cogburn Group ultramafic package and adjacent Cayoosh Assemblage rocks. An easterly trending Early Tertiary quartz-diorite to granodiorite dyke cuts across Talc Creek just north of Daioff Creek. North of the property is metadiorite believed to be Paleozoic or older in age which belongs to the Yellow Aster Complex (Baird Diorite).

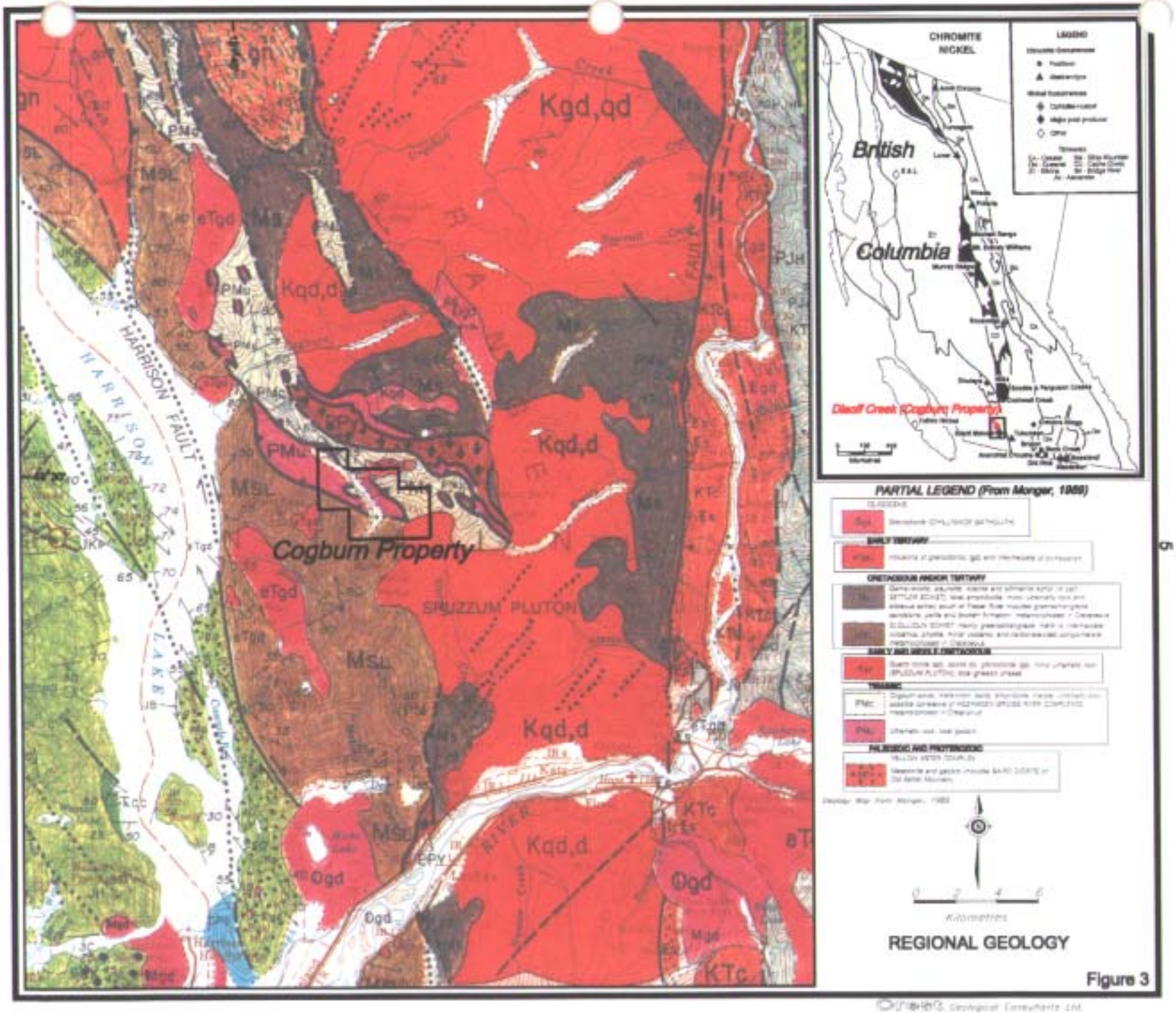

Kgd,qd
Kgd,d
Cogburn Property
HARRISON FAULT
HARRISON LAKE
SPUZZUM PLUTON
MSL
eTgd
PMu
PMc
PMs
Ogd
KTc
CHROMITE
NICKEL
LEGEND
British
Columbia
Diadf Creek (Cogburn Property)
PARTIAL LEGEND (From Monger, 1989)
EARLY TERTIARY
CRETACEOUS AND/OR TERTIARY
EARLY AND MIDDLE CRETACEOUS
TRIASSIC
PALEOZOIC AND PROTEROZOIC
REGIONAL GEOLOGY

Figure 3

Property Geology

The central and western area of the claims is underlain by ultramafic rocks of the Cogburn Group and metamorphic rocks of the Cogburn Schist to the north and east. These rocks have been intruded by porphyritic aplite dyke (some 60m wide) that extends easterly through the central part of the claim group (see Figure 4).

The ultramafic rocks comprise altered pyroxenite?, and lenses? of peridotite evident in talus on the south side of Daioff Ridge, but not seen in outcrop.

The pyroxenite? is medium grained, greenish-grey and weathers a buff to light brown colour. It is strongly uralitized, with up to 75% of the pyroxene altered to uralite, sometimes occurring as randomly oriented blades to 1 cm long. Talc and serpentine are also common adjacent to shears and fractures. Pyrrhotite with minor magnetite and traces of pyrite, chalcopyrite and pentlandite are locally finely disseminated throughout the rock. Locally throughout the ultramafic package are zones of relatively unaltered pyroxenite?. The rock is grey to dark grey, medium grained cut by veinlets of pyrite and chromite. Thin section study of the rock (2 samples) indicates it is composed of up to 95% fine to coarse grained, fractured orthopyroxene, 3% talc along pyroxene grain boundaries, up to 2% fine grained pyrite veinlets, 1% disseminated fine grained chromite associated with the pyrite and trace amounts of tremolite and chlorite. All samples contain varying amounts of pentlandite, pyrrhotite, chalcopyrite and magnetite (see Appendix I for Petrographic and SEM Study).

Altered varieties of pyroxenite? (4 samples) have been serpentinized. The rocks are green-grey, fine grained, moderately foliated and cut by serpentine veinlets and stringers of magnetite. The rock is composed of up to 65% fine grained orthopyroxene, 25% to 65% fine grained, acicular serpentine, 3% to 5% carbonate, up to 2% magnetite with trace chromite and pentlandite.

Whole rock chemical results on 12 of the ultramafic samples show the rocks range from 37% to 40% SiO_2, 8% to 9.6% Fe_2O_3 and 42% to 48% MgO. The TiO_2 (%), Zr (ppm) plot shows the samples fall well within the peridotite field (see Figure 5) and also suggest that the rocks are "relatively" undifferentiated. The TiO_2 vs Zr plot was used since both TiO_2 and Zr do not suffer from metasomatic effects. Zirconium is similar in behaviour to that of the alkali elements which become progressively enriched during fractionation. Titanium resembles FeO* in deportment becoming enriched in the tholeiitic intermediate members during fractionation.

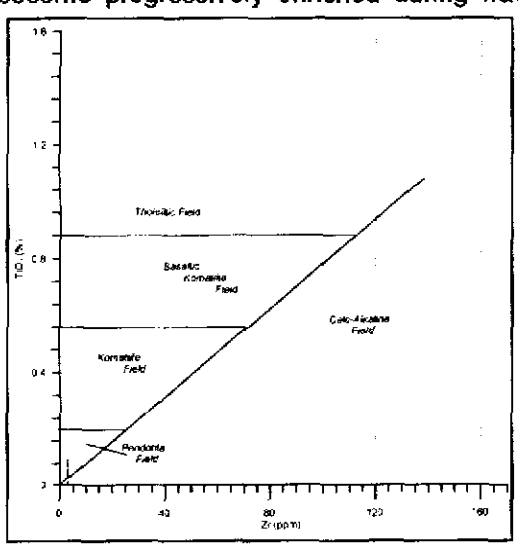


Figure 5: TiO_2(%) vs Zr(ppm) plot.

Chemical classification of the ultramafic rocks indicates they fall in the dunite-peridotite field.

The peridotite is fine grained to aphanitic, dark green to black and buff weathering. It typically contains 2% to 3% disseminated magnetite in fine seams, but with little or no sulphide.

Metamorphic rocks outcrop to the east of the ultramafic rocks. They are described as fine-grained, dark, altered volcanic rocks which in turn are overlain by meta-sediments consisting of grey psammitic rocks and phyllite locally graphitic with garnet porphyroblasts. Thin ribbon banded chert-argillite units are found within the upper part of the meta-sedimentary package.

Cgs
Bmg
Um
Cgp
Cgpc
Tonalite/aplite
Tt
Claim Boundary
Cgs
Bmg
Um
Cgp
Cgs
Cgs
Cgp
Um
Bmg
Bmg
Um
Cgs
Cgs
Cgp
Um
SLmv
Sp
Tt
Tonalite

723821 723819 723818 723820 723810 723822 723809 723808 723811 723817 723812 723833 723834 723831 723803 723802 723828A 723829 723828B 723830 723827 723832 723826 723801 723835 723807 723836 723837 723813 723814 723824 723840 723841 723816 723838 723825

LEGEND

TERTIARY?

Tt — Tonalite (undeformed) including aplite dykes

CRETACEOUS

Sp — Spuzzum Pluton: foliated quartz diorite

LOWER CRETACEOUS

Skilloum Group

SLmv — Amphibolite schist

TRIASSIC?

Cogburn Group

Cgpc — Ribbon banded chert-argillite

Cgp — Phyllite, schist locally graphitic/ garnet

Cgs — Metavolcanics

Um — Ultramafic rock: dunite-peridotite locally pyroxenite, serpentinite

Bmg — Baird Pluton: Meta-gabbro/ meta-diorite

Geology compiled from: Lowes(1972) and Troost(1999)

SYMBOLS

Geological Contact

Thrust/fault

723826 Rock Sample Location and Number

Road - gravel

Road - overgrown

Creek

N

26692

Metres

P9.10

To Accompany Rock Geochemical Report on the Cogburn Property by C. Payne M.Sc., P.Geo.

LEADER MINING INTERNATIONAL INC.

Vancouver, B.C.

Cogburn Property

GENERALIZED GEOLOGY
ROCK SAMPLES LOCATION MAP

SCALE	DATE	BY	NTS NO	FIGURE
1:20,000	Sept/01	CMP	92H/02 92H/03	4

These rocks are believed to belong to the Cogburn package.

South of the ultramafic package is a mixed sequence of meta-sediments and meta-volcanic rocks believed to belong to the Slollicum package.

MINERALIZATION

Ultramafic Rock Sampling

A total of 35 rock samples were collected by Leader Mining international Inc. personnel covering the central part of the ultramafic unit. No samples were collected by the author. Samples were collected from bedrock and placed in a plastic bag and given a unique sample number. The samples were sent to Assayers Canada, Vancouver, B.C. Thirty samples were analysed for 30 elements by ICP techniques, 12 samples were analysed for whole rock geochemistry, 23 samples were analysed for Pt, Pd, Rh, sulphide Ni%, Mg%, Bppm and Mg% in both a hot and cold acid leach.

Sample locations are plotted on Figure 4 and analytical certificates are presented in Appendix II.

ICP results for five of the rock samples (723803, 723810, 723812, 723813 and 723819) contain weakly anomalous values of chromium ranging from 1008ppm to 1225ppm Cr. Nineteen of the samples contain moderately anomalous (>1000ppm Ni) nickel values ranging from 1326ppm Ni to 2083ppm Ni. Geochemical assay results (23 samples) for nickel using a hot acid leach ranged from 0.133% to 0.219%.

Whole rock results for the twelve samples analysed contain significant MgO values ranging from 42.59% to 47.46%.

Pt and Pd values for the 23 rock samples analysed range from background to 15ppb Pt and background to 10ppb Pd.

PROPOSED 2001 EXPLORATION PROGRAM

Based on the results from the 2001 exploration program, limited exploration work is recommended on the Cogburn property.

Detailed mapping and prospecting is required to define the edges of the ultramafic package on the property. Rock sampling should concentrate on the nickel and PGM potential within the package. Cost of the mapping prospecting program is estimated at $35,000.

Contingent on the success of the rock sampling an airborne mag-EM survey should be initiated followed by core drilling of significant targets.

Respectfully Submitted

CREST GEOLOGICAL CONSULTANTS LTD.

Craig Payne M.Sc., P.Geo.
September 25, 2001

REFERENCES

Bennett, J. D., 1989: Timing and Conditions of Deformation and Metamorphism of the Structural Packages East of Harrison Lake, B.C., Master of Science Thesis, Western Washington University.

Carlson, G.G., and Chapman, J.A., 2000: Summary Review, Cogburn Claim Group, New Westminster Mining Division, British Columbia.

Monger, J.H.W., 1989: Geology, Hope, B.C.; GSC Map 41-1989, Sheet 1, scale 1:250,000.

Troost, M. L., 1999: Structure and metamorphism of the Talc Creek Area, Harrison Lake, B.C., Master of Science Thesis, Western Washington University.

ITEMIZED COST STATEMENT

Assays/Geochem	
35 rock samples of whole rock, ICP, assay	$ 2,594.75
Petrographic – SEM Study	1,380.30
Truck Rental 4 days at $114.5 per day	458.00
Accommodation and Board (4 days)	863.29
Airfare (Calgary – Vancouver return x2)	894.56
Field Equipment/Consumables	25.00
Salaries - 22 mandays during the period May 23 to July 17 and Sept. 10 to 14, 2001	
J. Chapman at $450 per day(3 days)	1,350.00
G. Carlson at $450 per day(1 day)	450.00
J. Nikhanj at $500 per day(5 days)	2,500.00
M. MacLeod at $300 per day(4 days)	1,200.00
C. Payne at $300 per day(4 days, assessment report)	1,200.00
Data Compilation (Leader Mining personnel)	1,650.00
Assessment Report	1,800.00
TOTAL	**$16,365.90**

STATEMENT OF QUALIFICATIONS

I, Craig W. Payne of Coquitlam, British Columbia do hereby certify that I:

1. am a graduate of Brock University, St. Catharines, Ontario with a Master of Science degree in Geological Sciences, 1979.

2. am a Fellow of the Geological Association of Canada.

3. am a member of the Association of Professional Engineers and Geoscientists of British Columbia.

4. have practiced my profession since 1972.

5. am a consulting geologist with Crest Geological Consultants Limited.

6. am the author of the report entitled "Rock Geochemical Report on the Cogburn Property"; New Westminster Mining Division, dated: September 25, 2001.

Dated at Coquitlam, B.C. this 25th day of September, 2001.

Respectfully submitted,

CREST GEOLOGICAL CONSULTANTS LIMITED

Craig W. Payne M.Sc., P.Geo.
September 25, 2001

APPENDIX I

PETROGRAPHIC AND SEM STUDY
PetraScience Consultants Inc.

PETROGRAPHIC AND SEM STUDY: COGBURN PROJECT, BRITISH COLUMBIA

August 10, 2001

Prepared for: Jasi Nikhanj
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T2P 0L6

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Phone: 604.684.5857

info@petrascience.com
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Summary

Background

Six samples from the Cogburn Project, British Columbia, were received from Gerry Carlson of Copper Ridge Explorations on July 18, 2001 for petrographic and subsequent scanning electron microprobe (SEM) analysis. Four of the samples are strongly altered and two are fresh. The goal of the work was to determine the major mineralogy with particular emphasis on the opaque minerals and the Mg-bearing silicates. Two samples were selected for SEM analysis in order to further characterize the silicate and opaque minerals. Details of the SEM spectra with back scatter electron (BSE) images for each analysis are included with the petrographic descriptions. Anne Thompson and Vanessa Gale carried out the analyses and interpretation in the PetraScience office and at the University of British Columbia, Department of Earth and Ocean Sciences, both in Vancouver, B.C.

Petrography

Fresh Samples (723835 and 723837)
These samples are essentially fresh and consist of over 90% massive orthopyroxene, possibly of cumulate origin. Minor talc, tremolite and chlorite are present along cracks and orthopyroxene grain boundaries. Sample 723837 is highly fractured and exhibits bimodal grain size of the orthopyroxene, with grain size reduction possibly due to deformation. This sample is slightly more altered than 723835. Both samples host microveinlets of orthopyroxene-pyrite-chromite-pentlandite, locally with chlorite and partial tremolite selvages. Generally euhedral grains of Cr-spinel are typically present as inclusions within the orthopyroxene, implying a magmatic origin. The Cr-spinel is replaced along rims and fractures by chromite and by an outer layer of magnetite (locally hosting pentlandite). The fresh samples host the following opaque minerals distributed along fractures and grain boundaries: magnetite, pyrite, pentlandite, pyrrhotite, and chalcopyrite.

Altered samples (723826A, 723826B, 723831, 723841)
These samples also appear to also have been orthopyroxene cumulates, although the amount of alteration may obscure possible olivine in the protoliths. No pseudomorphs of olivine, however, were observed. The remnant orthopyroxene is anhedral and is replaced along cracks and rims by serpentine (approximately 25-60 volume %). A foliation is present in all of the samples, consistent with deformation. The altered samples (with the exception of 723841) host very fine-grained orthopyroxene veinlets similar to those in the fresh samples. Patches and veinlets of microcrystalline carbonate ($\pm$ orthopyroxene and magnetite) are present in the altered samples. Sample 723831 is the only altered sample that hosts talc. Chlorite occurs along cleavage planes and grain boundaries. Several samples host chlorite along fractures, grain boundaries and cleavage planes in orthopyroxene, as well as at the centre of an orthopyroxene veinlet. Magnetite and pentlandite are fracture-controlled and occur as stringers and individual grains. As in the fresh samples, grains of Cr-spinel (replaced by chromite and magnetite) are disseminated.

Vanessa G. Gale
Anne J.B. Thompson, P.Geo.

SEM Analysis

Samples 723831 and 723837 were analyzed on the scanning electron microscope (SEM) in the Earth and Ocean Sciences Department at the University of British Columbia, Vancouver. The SEM is a Philips XL30 with a Princeton Gamma Tech energy dispersion X-ray spectrometer (EDS). Vanessa Gale and Anne Thompson carried out the analysis and interpretation. EDS analyses are qualitative and, therefore, tentative mineral identifications are made based on relative element peak heights on EDS spectra.

Sample 723831

Pentlandite in the sample was observed to host irregular pyrite laminations. One grain hosts well-developed pyrite exsolution lamellae. Pentlandite is also intergrown with coarser-grained pyrite. One grain of pentlandite contains irregular zones hosting Co. Cr-spinel is present as cores, replaced along fractures and rims by chromite. The Cr-spinel/chromite grains are rimmed by an outer layer of magnetite, locally hosting pentlandite inclusions and stringers. The Cr-spinel contains Cr, Al, Fe and Mg, and hosts minor Zn. The chromite also hosts minor Zn.

Sample 723837

Orthopyroxene in this sample is strongly enriched in Mg, with minor Fe and is probably enstatite. Chlorite is also Mg-rich, with minor Fe and Cr. The Cu-sulphide identified in this sample contains minor Fe. The tremolite consists of Si, Mg and Ca. Mn was not identified in Cr-spinel, pentlandite or orthopyroxene in either sample.

Summary Table of SEM analyses

Sample	Observed minerals	Contained elements
723831	Pentlandite	Fe, Ni, S, (Co)
	Pyrite	Fe, S
	Cr-spinel	Cr, Al, Fe, Mg, O, (Zn)
	Chromite	Cr, Fe, O, (Zn)
723837	Orthopyroxene	Mg, Si, Fe, O
	Chlorite	Mg, Si, Al, O, (Fe, Cr)
	Cu-sulphide	Cu, S, Fe
	Tremolite	Si, Mg, Ca, O

Vanessa G. Gale
Anne J.B. Thompson, P.Geo.

Sample: 723826A

LITHOLOGY: Serpentinized orthopyroxenite
ALTERATION TYPE: Serpentine, carbonate

Hand Sample Description:
Fine-grained, dark gray-green rock with weak foliation.

MAJOR MINERALS

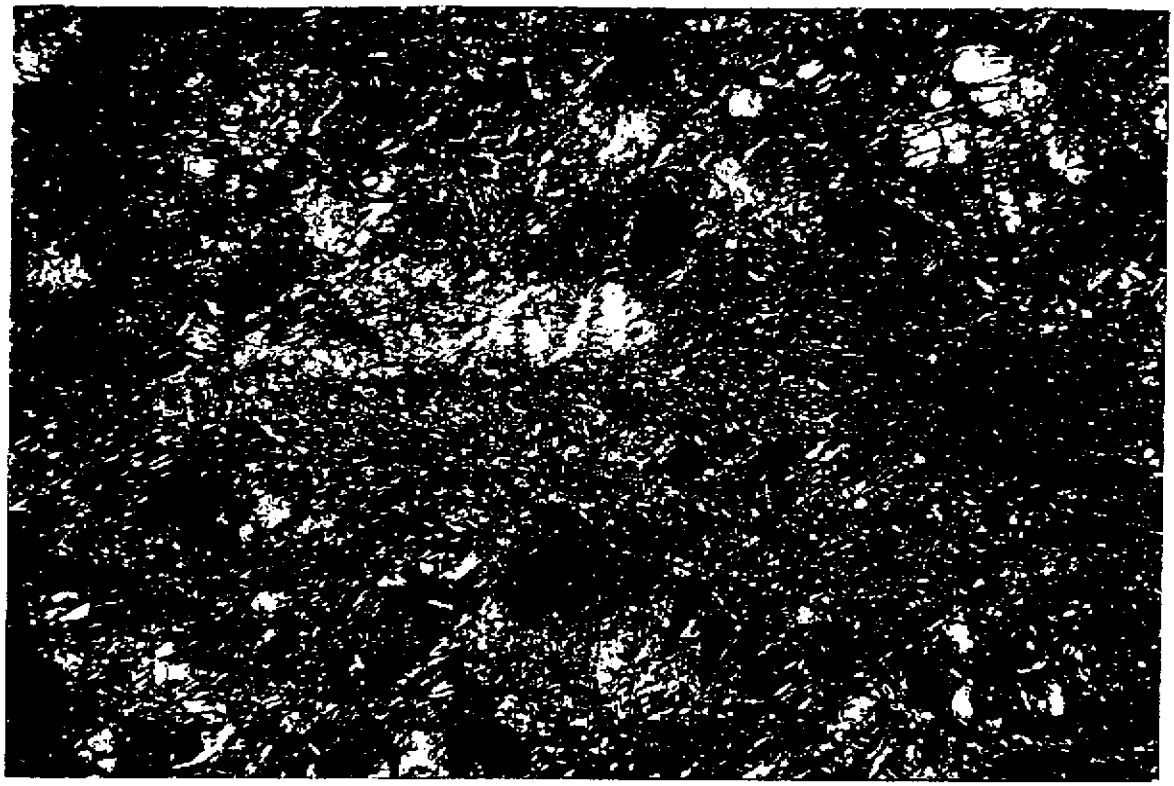
Mineral	%	Distribution & Characteristics	Optical
Serpentine	45	very fine-grained, acicular, locally massive, also in clots/bands, defining moderate foliation	low δ
Orthopyroxene	40	fine-grained, stubby, anhedral, colourless (low Fe), strongly resorbed (rims replaced by serpentine), disseminated and in clots/bands, in a veinlet with carbonate and magnetite (the orthopyroxene is possibly as brecciated fragments included in the vein)	mod δ par ext
Carbonate	10	microcrystalline to very fine-grained, grungy, in stringers and clots (commonly with orthopyroxene); in irregular veinlets with magnetite and orthopyroxene	

MINOR MINERALS

Mineral	%	Distribution & Characteristics	Optical
Magnetite	03	very fine to fine-grained, acicular to equant (anhedral), disseminated and in stringers (parallel serpentine), in carbonate veinlet, also along shear planes within vein	iso
Chlorite	trace	microcrystalline, pale green, fills open space at centre of carbonate-magnetite-orthopyroxene vein	
Chromite	trace	fine-grained, anhedral, inclusions in magnetite, possibly rimming Cr-spinel core	brn int ref
Pentlandite	trace	very fine-grained, anhedral, disseminated and in stringers, intergrown with magnetite, in carbonate-magnetite-orthopyroxene vein	

Thin Section Description:
This sample consists of fine-grained, anhedral, strongly resorbed, disseminated orthopyroxene and bands/clots of acicular, weakly aligned serpentine, with stringers and clots of grungy, microcrystalline to very fine-grained carbonate. One irregular vein of carbonate-orthopyroxene-magnetite with minor chlorite and pentlandite is roughly parallel to the serpentine foliation. Fine-grained magnetite is disseminated and in stringers (parallel serpentine) and hosts inclusions of chromite (possibly with Cr-spinel core).

Vanessa G. Gale
Anne J.B. Thompson, P.Geo.



723826A: Anhedral orthopyroxene rimmed by serpentine (gray, flaky), cross-cut by microcrystalline carbonate and magnetite veinlets. Field of view = 5mm. XPL.

723826A: Veinlet of orthopyroxene (bright birefringence), microcrystalline carbonate (grungy brown-beige) and magnetite (opaque), cross-cutting serpentine groundmass. Field of view = 5mm. XPL.

Vanessa G. Gale and Anne J.B. Thompson, P.Geo.

Sample: 723826B

LITHOLOGY: Serpentinized orthopyroxenite
ALTERATION TYPE: Serpentine, carbonate

Hand Sample Description:
Fine-grained, green-gray rock with weak foliation, cross-cut by serpentine veinlets and abundant fine-stringers of magnetite. Also with disseminated fine-grained magnetite.

MAJOR MINERALS

Mineral	*%*	*Distribution & Characteristics*	*Optical*
Orthopyroxene	65	fine-grained, equant, anhedral, strongly resorbed (rims and cracks in grains are replaced by very fine-grained pyroxene), massive; also very fine-grained, platey, anhedral, in irregular veinlets	mod δ par ext
Serpentine	25	fine-grained, acicular, disseminated	

MINOR MINERALS

Mineral	**%**	**Distribution & Characteristics**	**Optical**
Carbonate	03	microcrystalline to fine-grained, intergrown with magnetite as clots, cross-cut by orthopyroxene veinlets	
Magnetite	02	very fine to fine-grained, anhedral to subhedral, larger poikilitic grains intergrown with chromite, in stringers, clusters and disseminated, also in patches with carbonate and in orthopyroxene veinlets	
Chromite	trace	fine-grained, anhedral, intergrown with magnetite in poikilitic grains, magnetite is probably replacing chromite along rims, chromite is possibly rimming Cr-spinel core	brn int ref
Pentlandite	trace	fine-grained, anhedral, in disseminated clusters, commonly intergrown or in clusters with magnetite, in disseminated clusters, in orthopyroxene veinlet	creamy yellow

Thin Section Description:
This sample consists of massive fine-grained orthopyroxene (possibly cumulous) that is highly resorbed and replaced along cracks and rims by fine-grained, platey serpentine. The orthopyroxene grains appear to be replaced along cracks by very fine-grained orthopyroxene (a result of deformation or alteration). Patches of microcrystalline carbonate with fine-grained magnetite are present. Irregular veinlets of platey, fine-grained, anhedral orthopyroxene (also hosting magnetite and pentlandite) cross-cut the massive orthopyroxene-serpentine matrix and carbonate-magnetite patches. Very fine-grained magnetite occurs mainly in stringers and clusters, and is locally intergrown with pentlandite. Larger, poikilitic, disseminated grains of magnetite are intergrown with chromite (which may host Cr-spinel cores).

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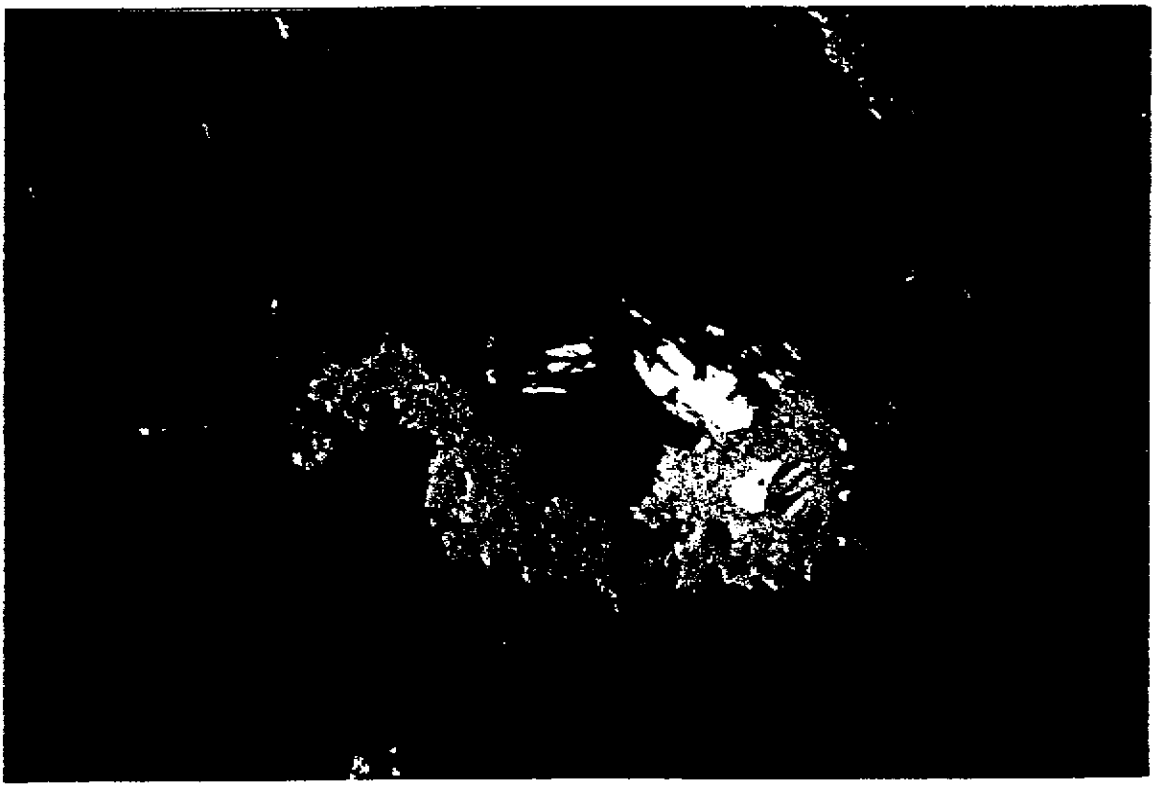
723826B: Massive orthopyroxene (altered to fine-grained orthopyroxene along cracks and cut by serpentine stringers), cross-cut by veinlet of platey orthopyroxene, magnetite and pentlandite. Field of view = 5mm. XPL.



723826B: Probable Cr-spinel remnant cores (blue-gray) rimmed by chromite (light gray), in magnetite (light gray), with inclusions of pentlandite (beige). Field of view = 2.5mm. RL.

Sample: 723831

LITHOLOGY: Serpentinized orthopyroxenite
ALTERATION TYPE: Serpentine, talc

Hand Sample Description:
Fine-grained massive gray rock with dark and medium gray patches, cross-cut by dark veinlets, locally with soft blue-green mineral on surface.

MAJOR MINERALS

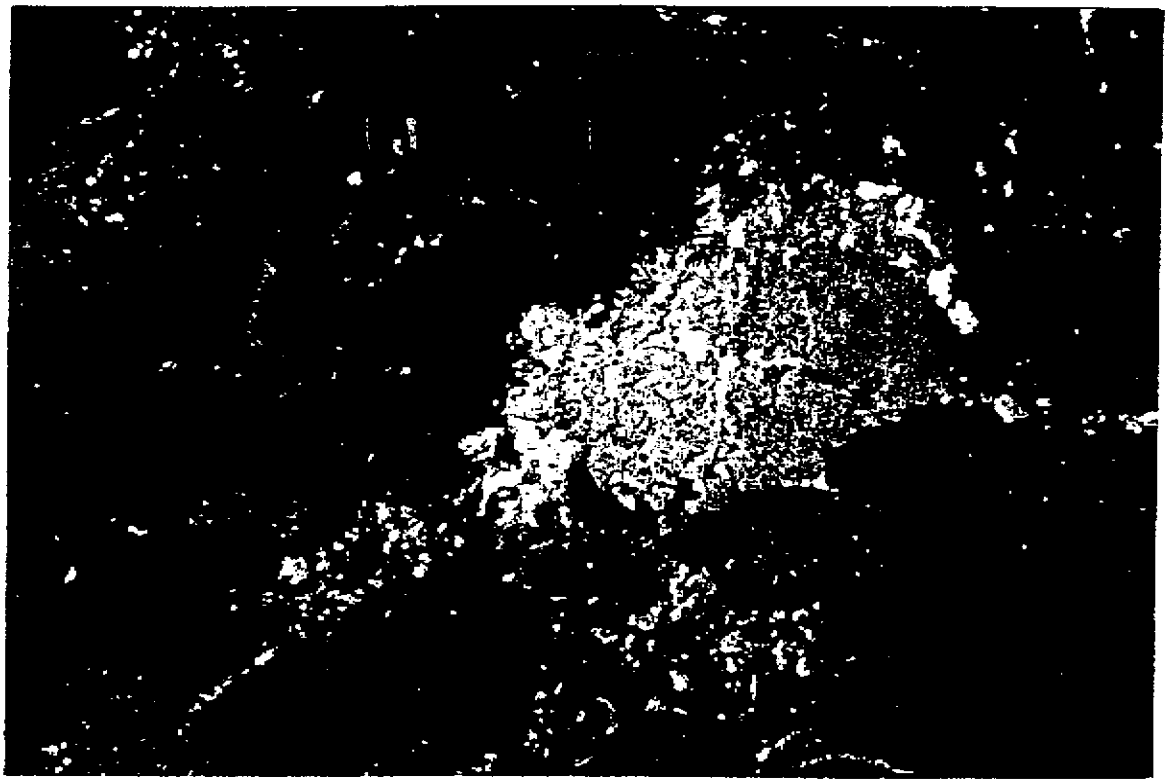
Mineral	%	Distribution & Characteristics	Optical
Serpentine	60	fine-grained, feathery, massive and cross-cutting relict orthopyroxene grains	
Orthopyroxene	30	fine to medium-grained, anhedral, with lamellar twinning, strongly resorbed (rimmed and cross-cut by serpentine and very fine-grained orthopyroxene), disseminated and in clusters within serpentine matrix, also as very fine-grained, equant to acicular grains in irregular veinlets with magnetite and pentlandite	mod δ par ext

MINOR MINERALS

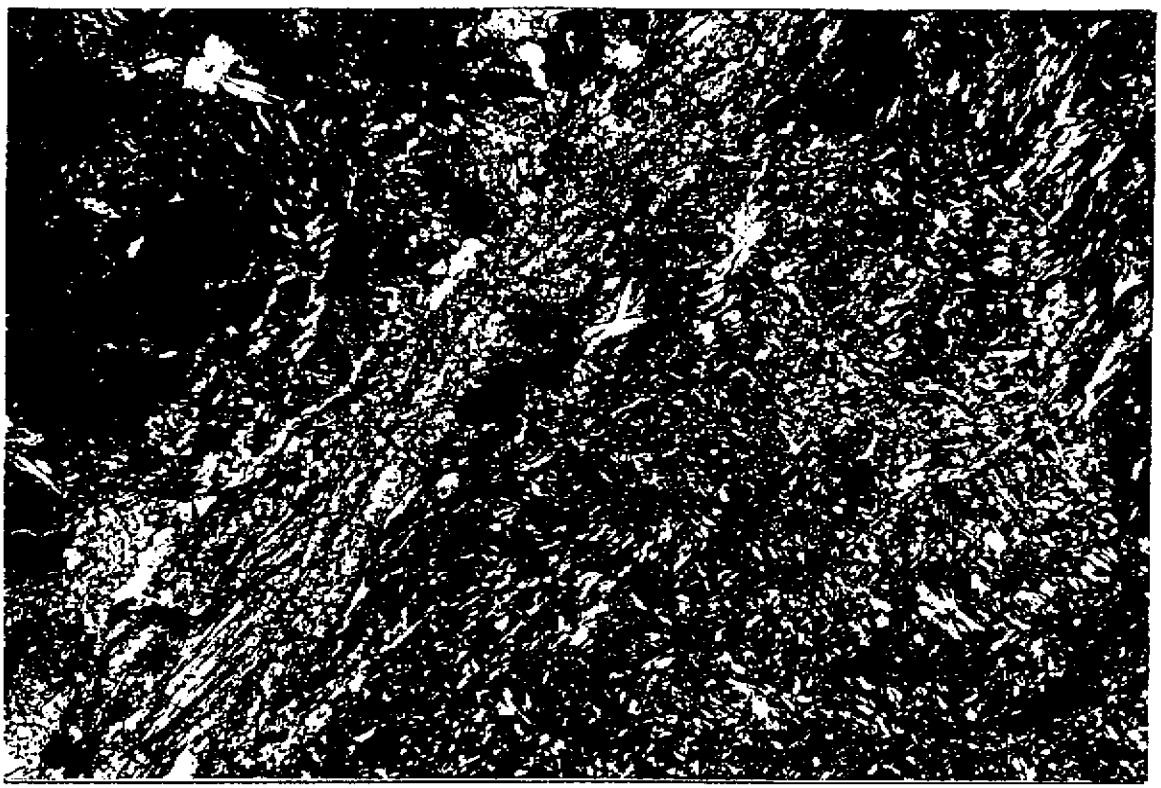
Mineral	%	Distribution & Characteristics	Optical
Talc	02	very fine-grained, anhedral, in clusters (with magnetite and pentlandite) within serpentine groundmass	high δ 1 stg clv
Magnetite	02	fine-grained, anhedral to subhedral, in clusters/stringers, in fine-grained orthopyroxene veinlets, in clusters with talc, replaces Cr-spinel/chromite grains along rims and cracks (the magnetite layer hosts pentlandite inclusions)	
Pentlandite	01	very fine to fine-grained, anhedral, commonly intergrown with magnetite, disseminated and in clusters/stringers in serpentine, some grains are finely interlayered with pyrite, one grain with patchy Co distribution	creamy yellow
Pyrite	trace	fine-grained, anhedral, resorbed, intergrown with pentlandite, also as fine laminations and exsolution lamellae in pentlandite	
Cr-spinel	trace	fine-grained, anhedral, highly resorbed, replaced along fractures and rims by chromite and by an outer rim of magnetite	
Chromite	trace	replaces Cr-spinel grains along cracks and rims, is rimmed by magnetite	
Chlorite	trace	very fine-grained, platey, in small clusters in serpentine patches	1 stg clv pal ext an bl int

Thin Section Description:

This sample consists of fine-grained, feathery serpentine with disseminated grains and clusters of fine to medium-grained, anhedral, resorbed orthopyroxene. The orthopyroxene is replaced along rims and fractures by serpentine and by very fine-grained orthopyroxene. Very-fine grained orthopyroxene also occurs as equant to acicular grains in veinlets with magnetite and pentlandite. Small clusters of talc and magnetite and clusters of chlorite are disseminated in the serpentine groundmass. Magnetite and pentlandite also occur in stringers and clusters throughout the serpentine groundmass. Locally, pyrite occurs as fine laminations and exsolution lamellae in pentlandite. Fine to medium-grained disseminated Cr-spinel is replaced by chromite along rims and fractures. The Cr-spinel/chromite grains are in turn rimmed by magnetite, which hosts grains and stringers of pentlandite.

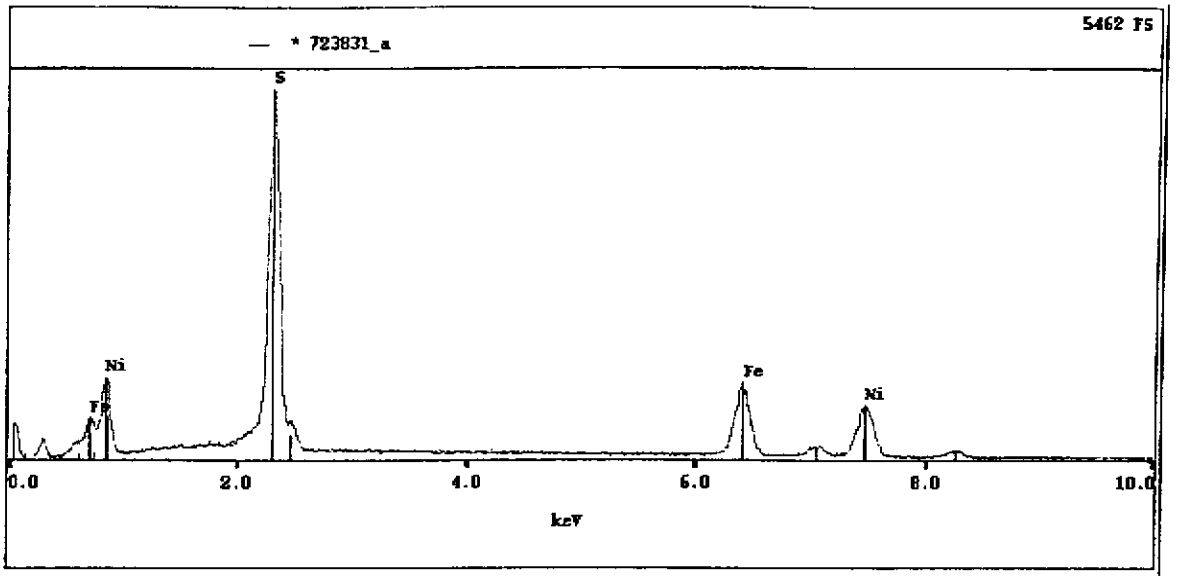


723831: Probable Cr-spinel remnant cores (blue-gray) rimmed by chromite (also blue gray), in magnetite (light gray), with stringers and inclusions of pentlandite (beige). Field of view = 2.5mm. RL.

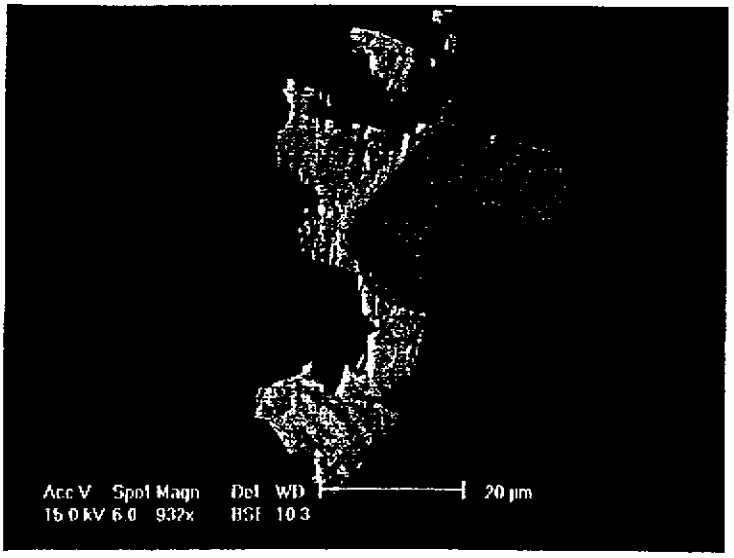


723831: Serpentine groundmass (gray, flaky), hosting resorbed orthopyroxene (centre right), cross-cut by veinlet of very fine-grained orthopyroxene (both equant and acicular grains). Field of view = 5mm. XPL.

Sample: 723831

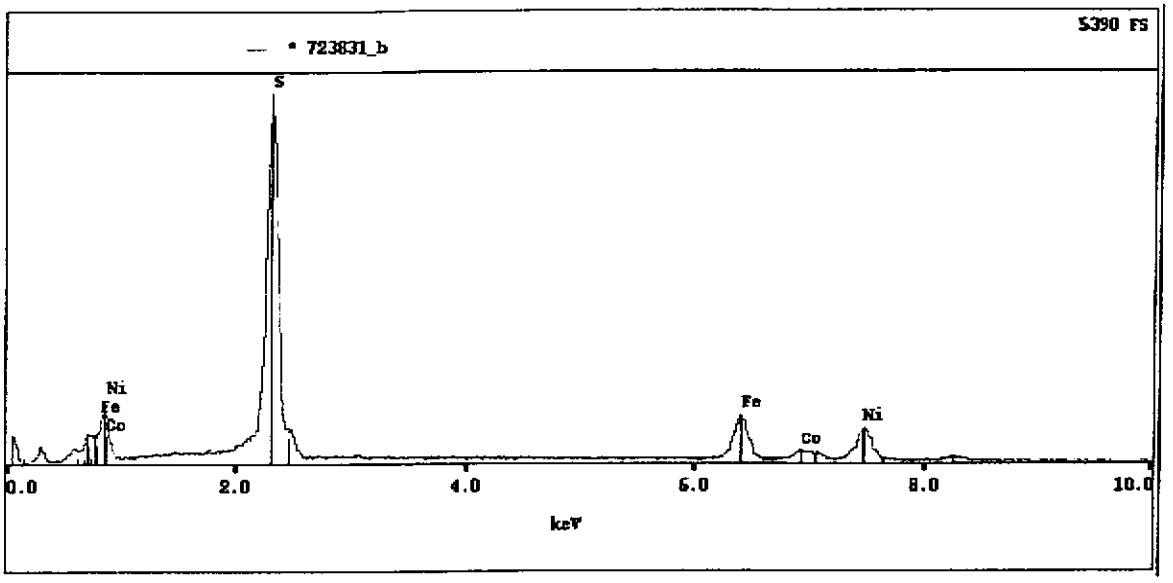


EDS spectrum of pentlandite.



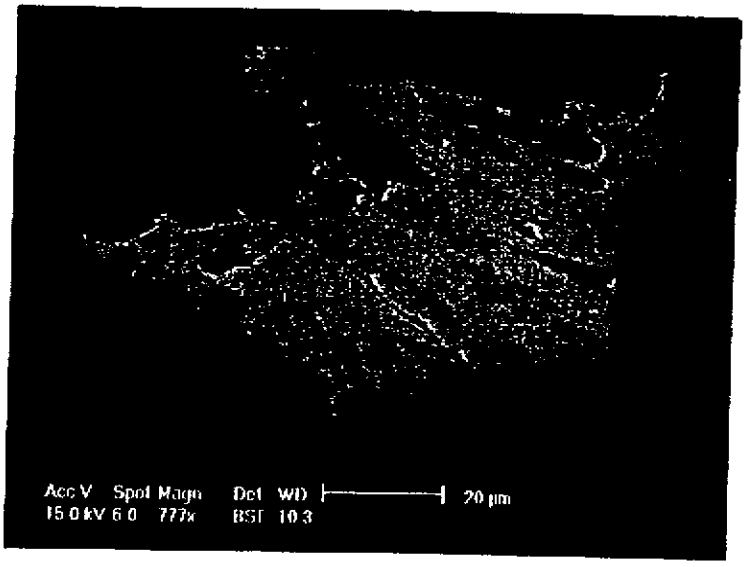
BSE image of pentlandite (light gray) intergrown with magnetite (subhedral, medium gray). Irregular, dark patches in pentlandite due to variable Co distribution (see EDS spectra on following page).

Sample: 723831

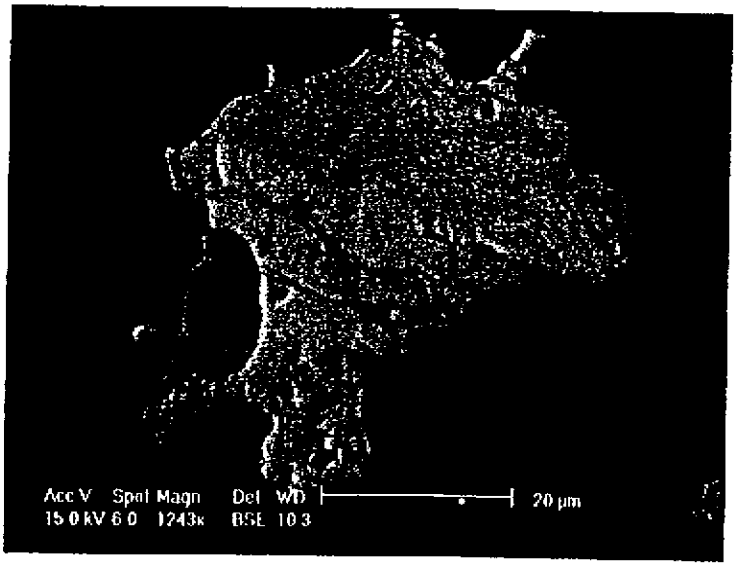


EDS spectrum of pentlandite hosting Co (see BSE image on previous page).

Sample: 723831



BSE image of pentlandite (light gray) with irregular pyrite laminations (medium gray).



BSE image of pentlandite (light gray) with pyrite exsolution lamellae (medium-gray), intergrown with magnetite (dark gray).

Petrography and SEM report: Leader Mining International Inc.

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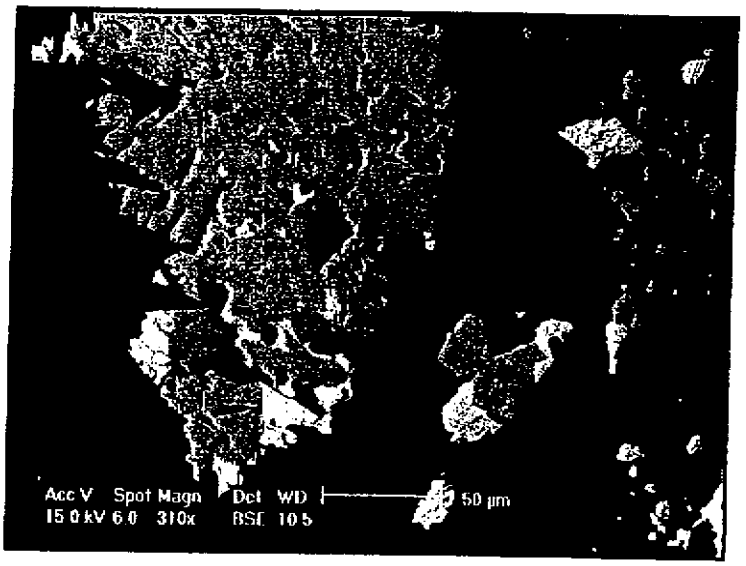
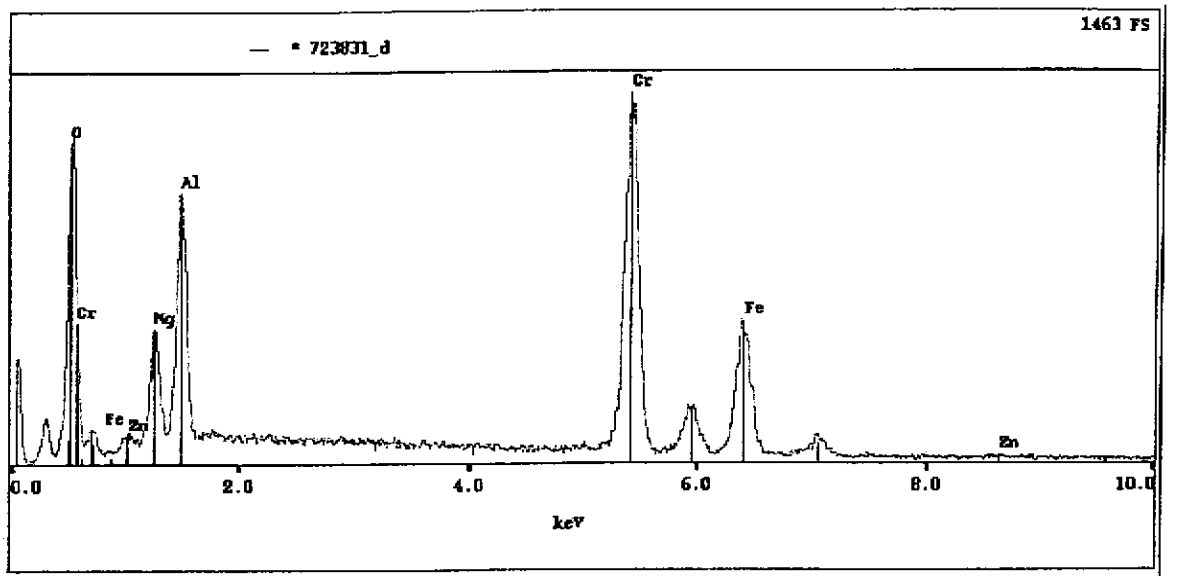
Sample: 723831

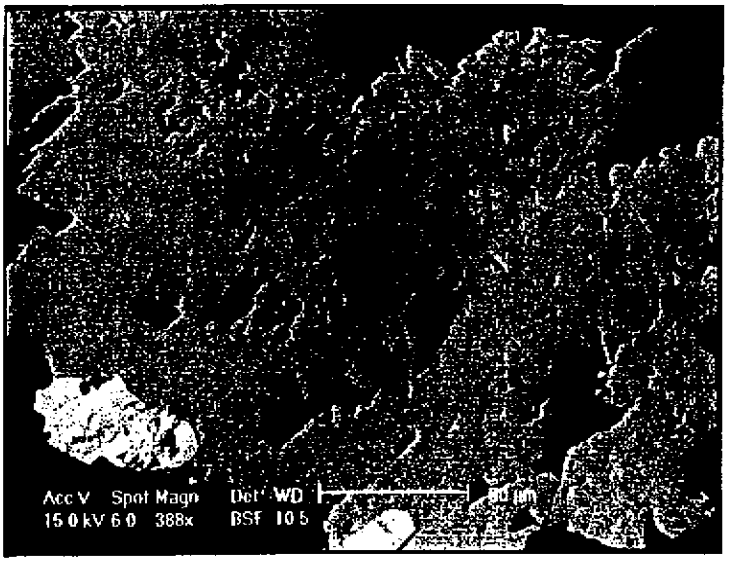


BSE image of anhedral, poikilitic pyrite (medium gray) intergrown with pentlandite (light gray).

Sample: 723831



EDS spectrum of Cr-spinel.



BSE image of Cr-spinel core (dark gray), rimmed by chromite (medium gray), within magnetite (light-medium gray) with inclusion of pentlandite/pyrite at grain rim.

Petrography and SEM report: Leader Mining International Inc.

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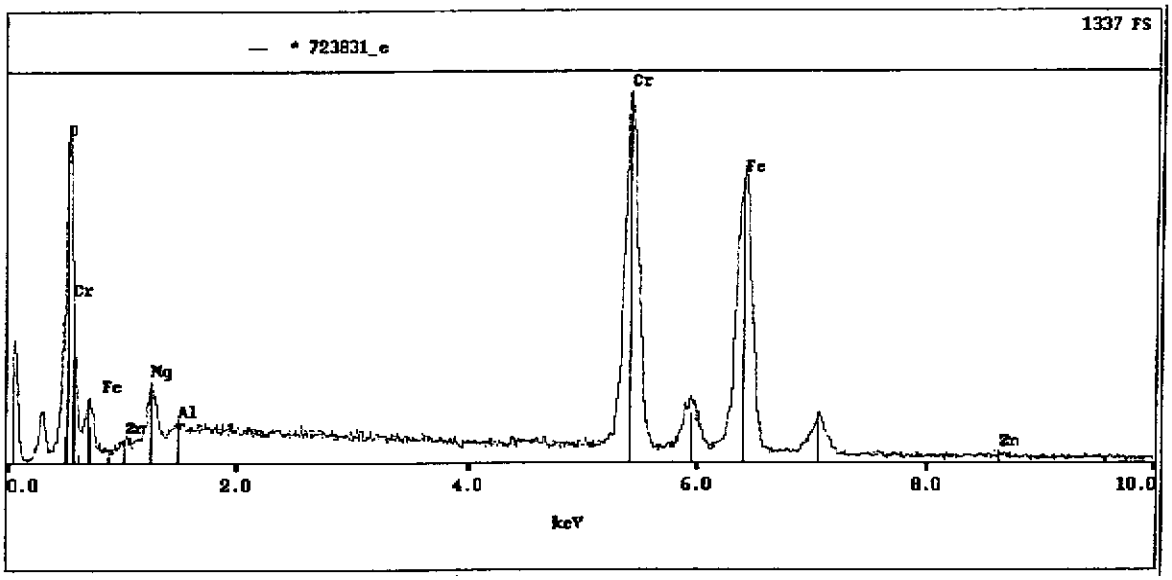
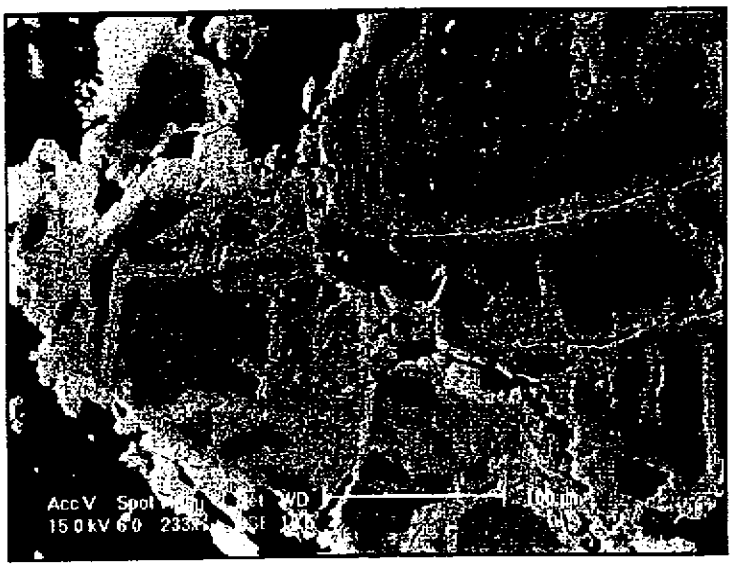
Sample: 723831

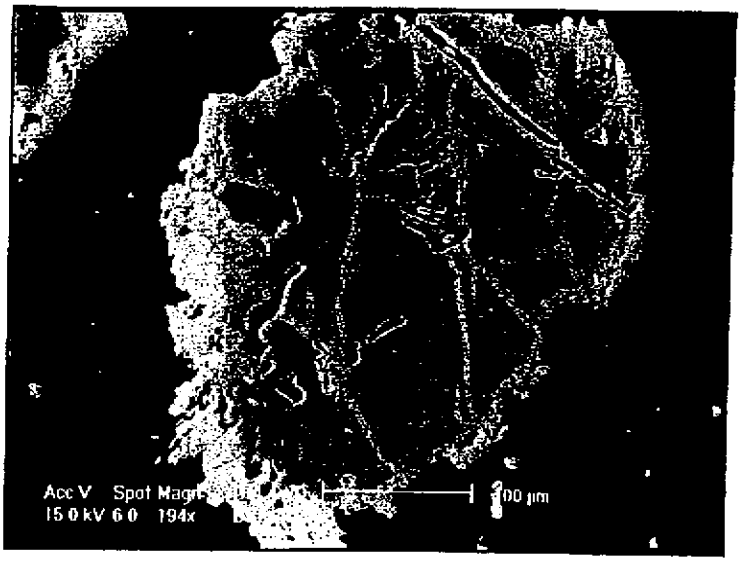


EDS spectrum of chromite.

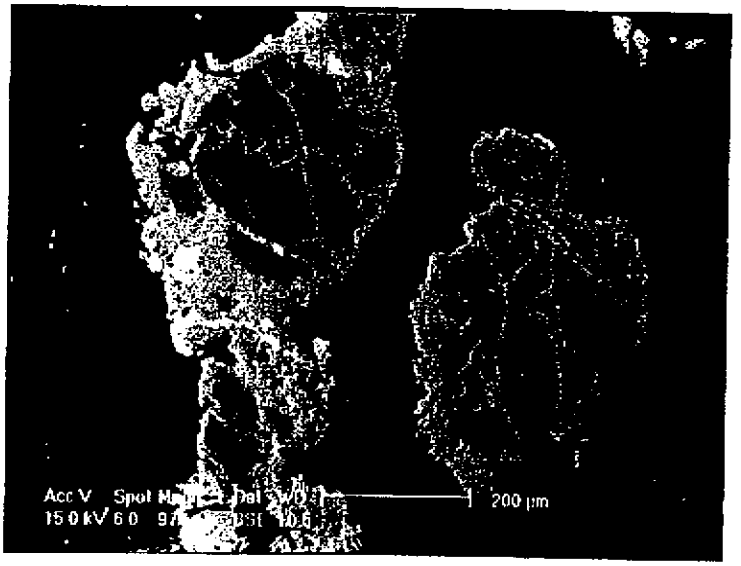


BSE image of Cr-spinel cores (dark gray), rimmed by thin layer of chromite, with an outer rim of magnetite (light gray).

Sample: 723831



BSE image of Cr-spinel core (dark gray), cross-cut and rimmed by chromite (medium gray) with an outer rim of magnetite (lightest gray).



BSE image of Cr-spinel cores (dark gray), cross-cut by chromite (medium gray), rimmed by magnetite (light gray) with pentlandite inclusions.

Sample: 723835

LITHOLOGY: Orthopyroxenite
ALTERATION TYPE: Talc

Hand Sample Description:
Medium-grained, massive grey rock cross-cut by pyrite-chromite veinlets with partial pale grey selvages.

MAJOR MINERALS

Mineral	%	Distribution & Characteristics	Optical
Orthopyroxene	90	fine to coarse-grained, bimodal grain size (pockets of smaller grains and sporadic coarse grains), anhedral, with lamellar twinning, strongly fractured, also in veinlets with pyrite, chlorite and tremolite	mod δ par ext

MINOR MINERALS

Mineral	%	Distribution & Characteristics	Optical
Talc	03	fine-grained, platey, along cracks and orthopyroxene grain boundaries	high δ par ext
Pyrite	02	fine-grained, anhedral, in veinlets with orthopyroxene and chlorite, in clusters along grain boundaries, as inclusions in chromite, locally hosting pentlandite inclusions	
Chromite	01	fine-grained, anhedral, poikilitic, disseminated, intergrown with pyrite, in pyrite-orthopyroxene veinlets, possibly rimming Cr-spinel core	red int ref dark grey
Tremolite	trace	fine-grained, columnar, intergrown with chlorite at margin of pyrite veinlets	
Chlorite	trace	fine-grained needles in pyrite veinlets (esp in fractures in pyrite grains)	anom bl int col
Pentlandite	trace	fine-grained, anhedral, along fractures, as inclusions in pyrite, locally rimmed by chlorite, in pyrite-orthopyroxene veinlets	creamy yellow
Pyrrhotite	trace	fine-grained, anhedral, in fractures, locally intergrown with pyrite (as inclusion in chromite)	pink-grey aniso
Chalcopyrite	trace	very fine-grained, anhedral, as inclusions in pyrite and in fractures	
Magnetite	trace	fine-grained, anhedral, along fractures	

Thin Section Description:
The sample consists of fine and coarse-grained, fractured orthopyroxene. The bimodal grain size and fractured character of the orthopyroxene suggests that the sample has been deformed resulting grain size reduction. Fine-grained talc is present along grain boundaries and cracks in the orthopyroxene. Several veinlets of fine-grained orthopyroxene and pyrite, with minor chromite and pentlandite, cross-cut the orthopyroxene host. The veinlets host chlorite (mainly filling cracks in pyrite) and are partly rimmed by tremolite.

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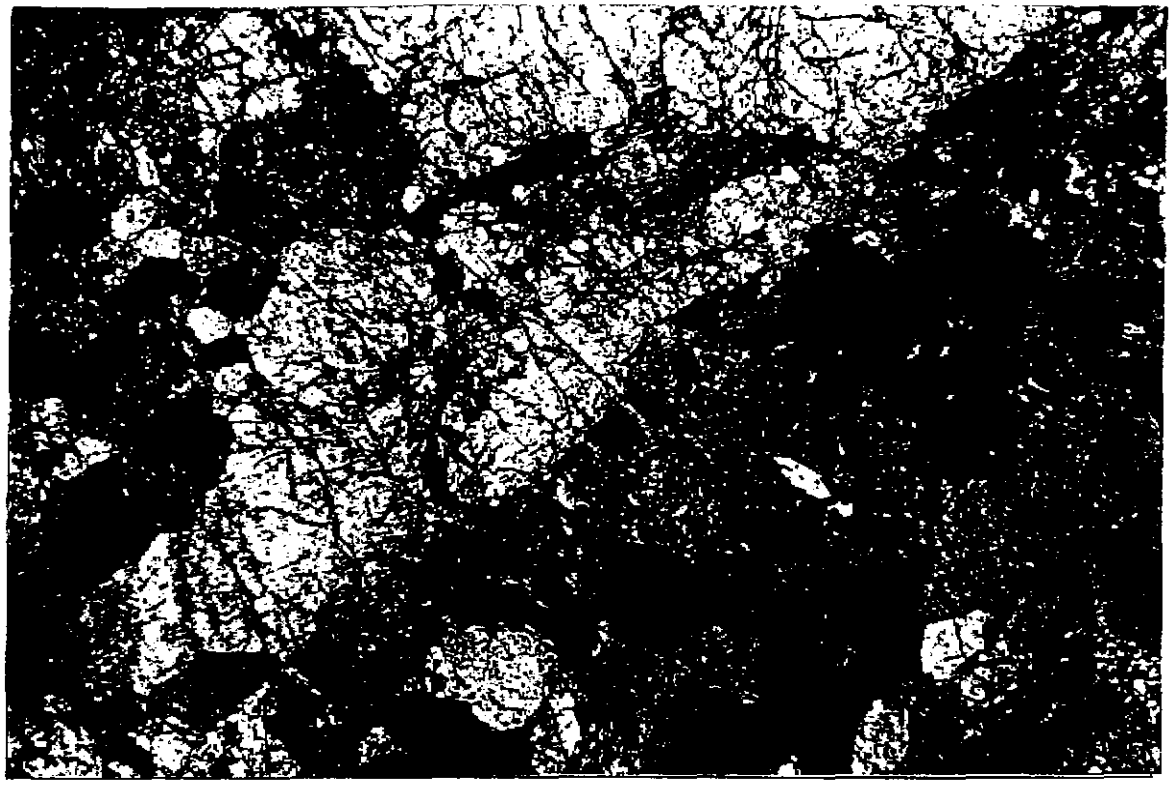
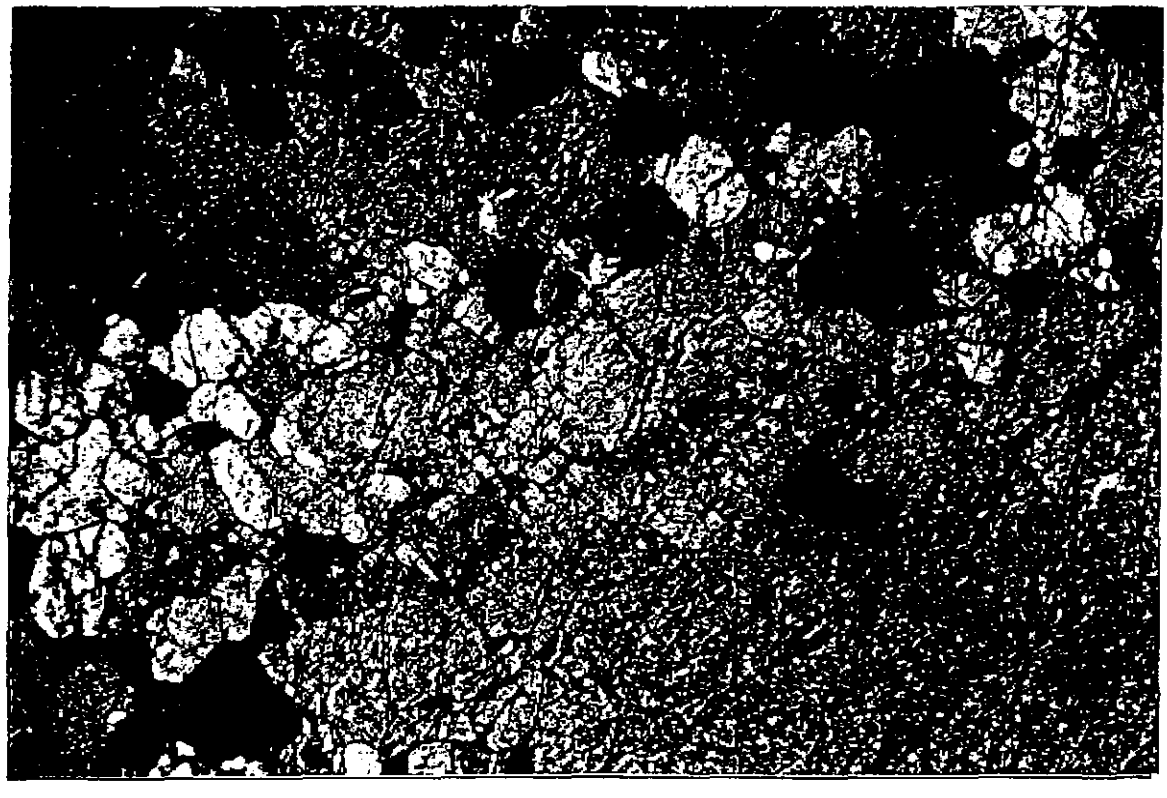
Fine-grained, anhedral, poikilitic chromite is mainly disseminated and as inclusions in orthopyroxene, but also occurs intergrown with pyrite, which is generally present along grain boundaries. Fine-grained pentlandite and pyrrhotite are fracture-controlled and are intergrown with pyrite and chromite. This sample hosts significantly less magnetite than in other samples. Very fine-grained chalcopyrite is generally intergrown with pyrite or is fracture-controlled.



723835: Massive orthopyroxene cross-cut by pyroxene-magnetite veinlet (bottom left to top right corner); clusters of acicular tremolite (lower left of centre) and talc (above centre). Field of view = 5mm. XPL.



723835: Massive orthopyroxene with talc in parallel fractures. Field of view = 5mm. XPL.

Sample: 723837

LITHOLOGY: Orthopyroxenite
ALTERATION TYPE: Tremolite, talc

Hand Sample Description:
Massive, medium-grained, gray rock with disseminated black grains, cross-cut by a gray veinlet.

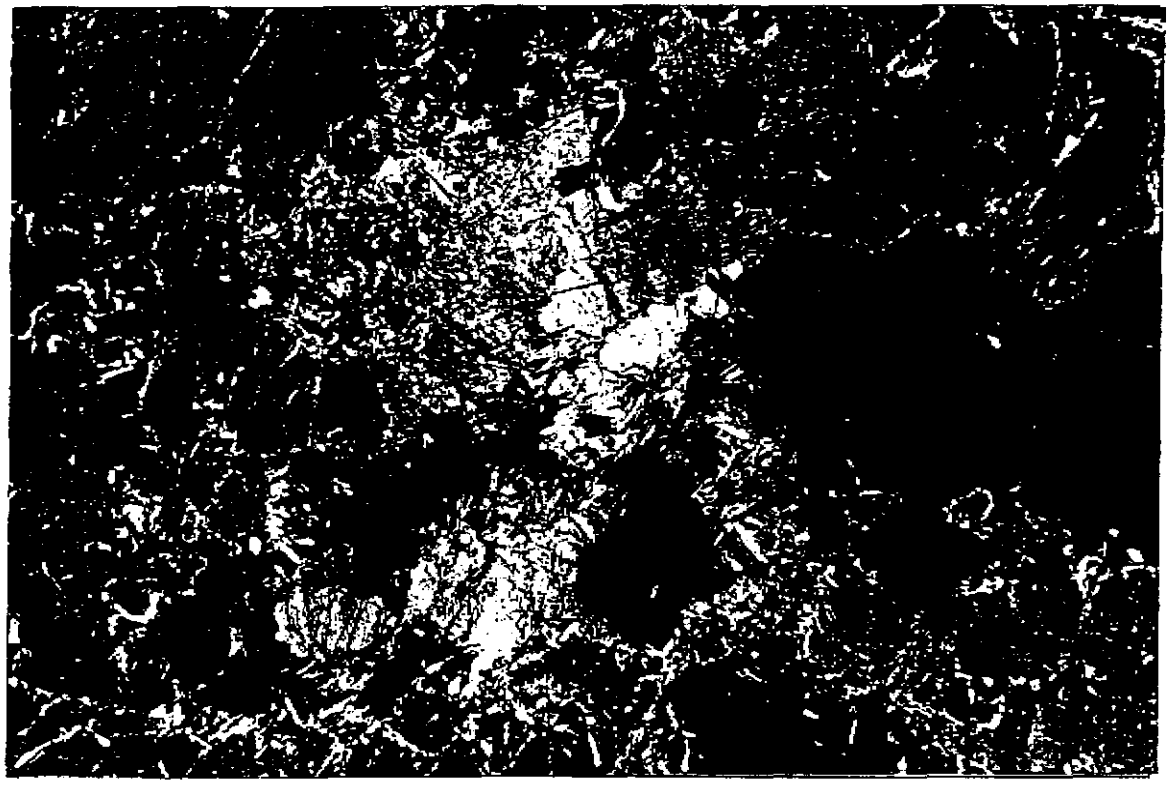
MAJOR MINERALS

Mineral	%	Distribution & Characteristics	Optical
Orthopyroxene	95	fine to medium-grained, anhedral (irregular grain boundaries), massive, lamellar banding; in uncommon, late veinlets as fine-grained, anhedral grains	mod δ par ext

MINOR MINERALS

Mineral	%	Distribution & Characteristics	Optical
Tremolite	02	fine-grained, columnar to acicular (occ. diamond-shaped), in pockets, and along cracks and orthopyroxene grain boundaries	mod δ 60-120 cl
Talc	01	fine-grained, platey, along cracks and orthopyroxene grain boundaries	high δ par ext
Cr-spinel	trace	fine-grained, anhedral to euhedral (square, diamond-shaped, trapezoidal), highly resorbed, replaced along fractures and rims by chromite and by an outer rim of magnetite	
Chromite	trace	rimming Cr-spinel along rims and cracks, rimmed by magnetite	red int ref
Magnetite	trace	replacing Cr-spinel/chromite grains along rims and cracks	
Pentlandite	trace	very fine to fine-grained, anhedral to subhedral, disseminated and along orthopyroxene grain boundaries	creamy yellow
Cu-sulphide	trace	very fine-grained, mainly along cracks in Cr-spinel, hosts minor Fe, one larger euhedral grain in Cr-spinel (possibly filling vug)	
Chlorite	trace	fine-grained, tabular to platey, in cracks in orthopyroxene and in pockets with tremolite	low δ

Thin Section Description:
The sample consists mainly of massive, fine to medium-grained orthopyroxene with irregular, sutured grain boundaries. Fine-grained tremolite, talc and chlorite are present along grain boundaries and cracks in the orthopyroxene. Several, probably late veinlets of fine-grained orthopyroxene cross-cut the massive pyroxene.
Fine-grained Cr-spinel, which generally occurs as inclusions in orthopyroxene, is replaced along rims and cracks by chromite. The Cr-spinel/chromite grains are in turn rimmed by magnetite. The Cr-spinel hosts a Cu-sulphide mineral, mainly along cracks. Pentlandite occurs along grain boundaries and is disseminated.



723837: Massive orthopyroxene with pocket of Cr-spinel/chromite/magnetite (below centre) and acicular tremolite. Dark patches are chlorite. Field of view = 5mm. XPL.

723837: Resorbed, euhedral grains of Cr-spinel (blue gray), cross-cut by chromite (light grains veinlets) and rimmed by magnetite (light gray rims). Disseminated euhedral magnetite (lower right) and pentlandite (upper right of centre, beige). Field of view = 2.5mm. RL.

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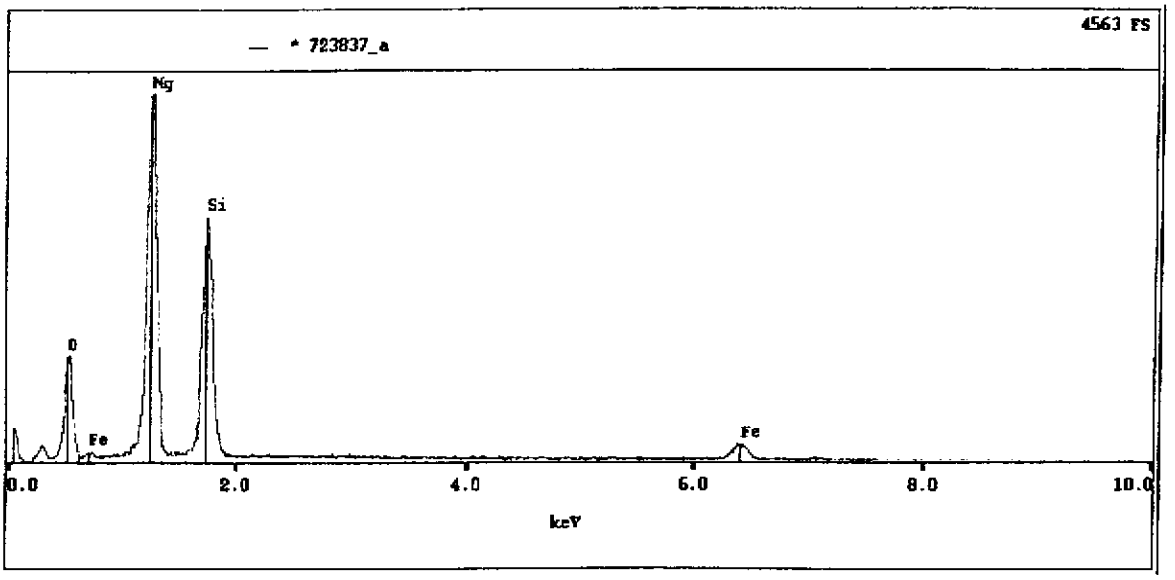
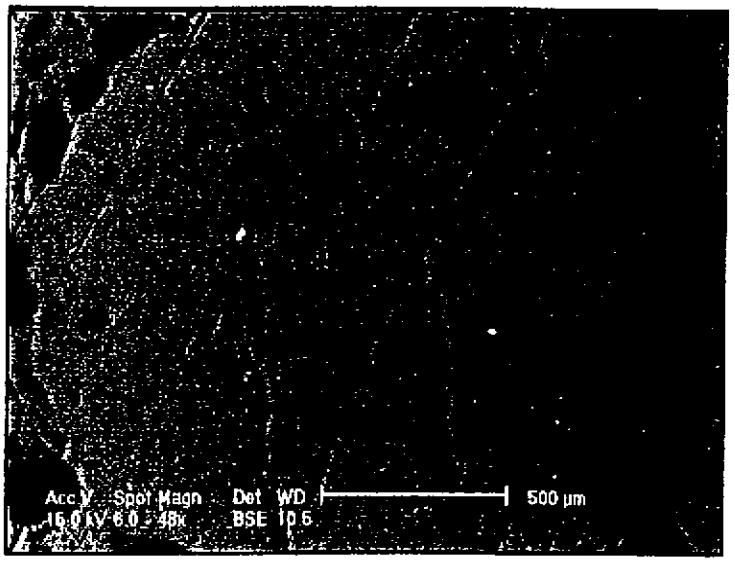
Sample: 723837



EDS spectrum of orthopyroxene, with high Mg and little Fe, probably enstatite.



BSE image of orpthopyroxene (medium gray) with talc along cleavage planes (dark gray) and inclusion of pentlandite (white).

Petrography and SEM report: Leader Mining International Inc.

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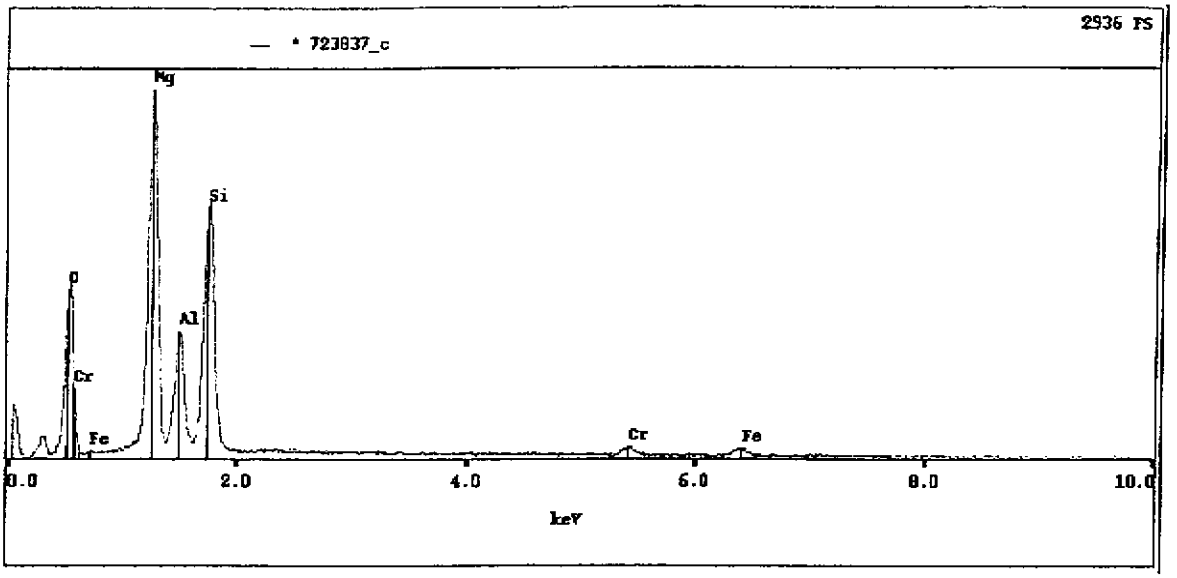
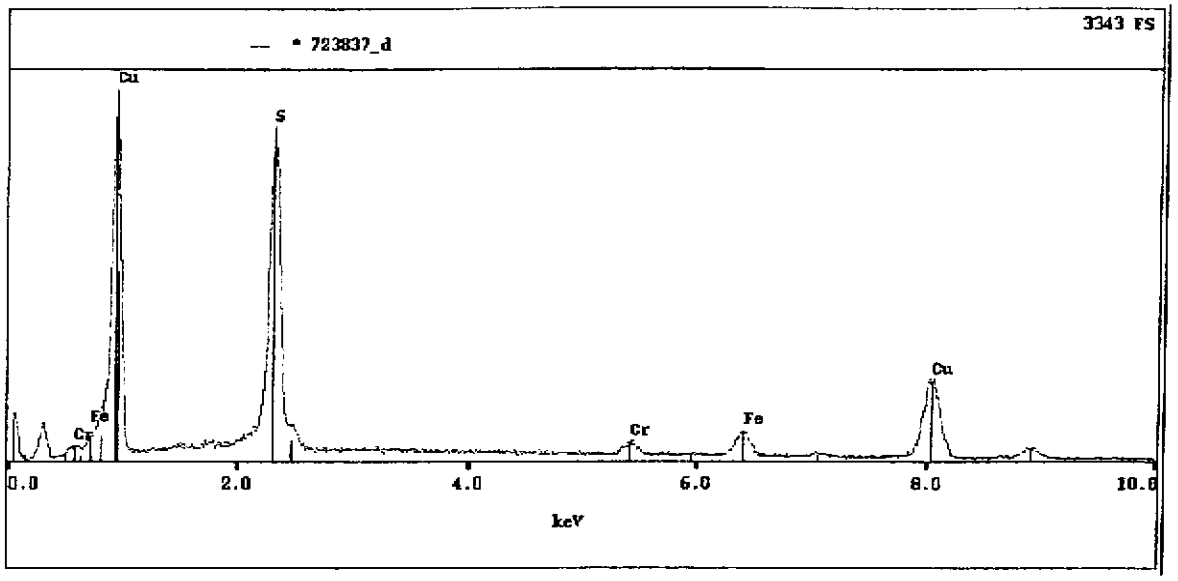
Sample: 723837

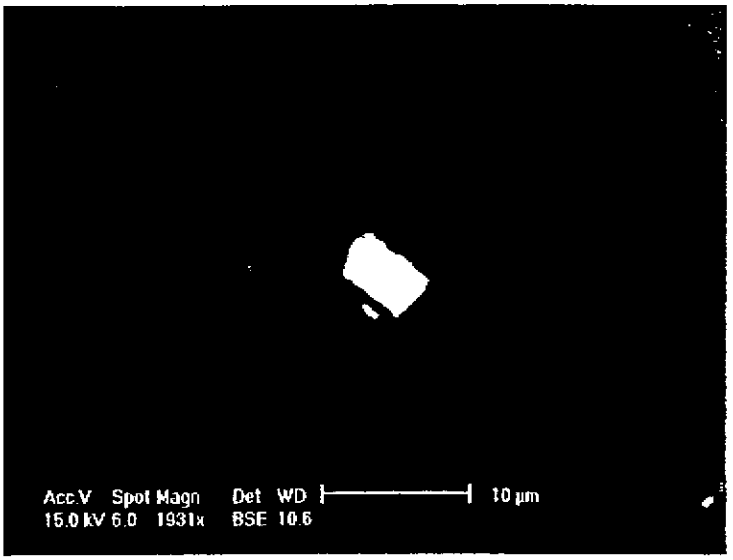


EDS spectrum of chlorite with high Mg and little Fe, probably clinochlore.

Sample: 723837

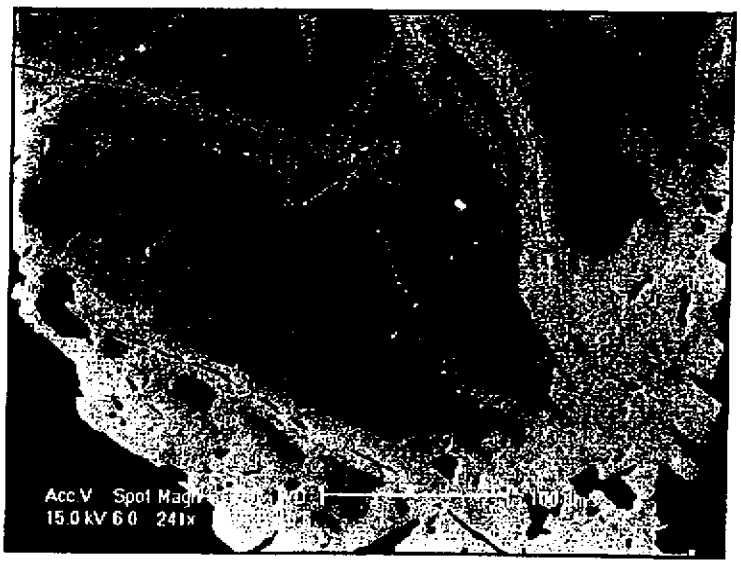


EDS spectrum of Cu-sulphide inclusion in Cr-spinel. Hosts minor Fe. Cr is most likely from host rock.



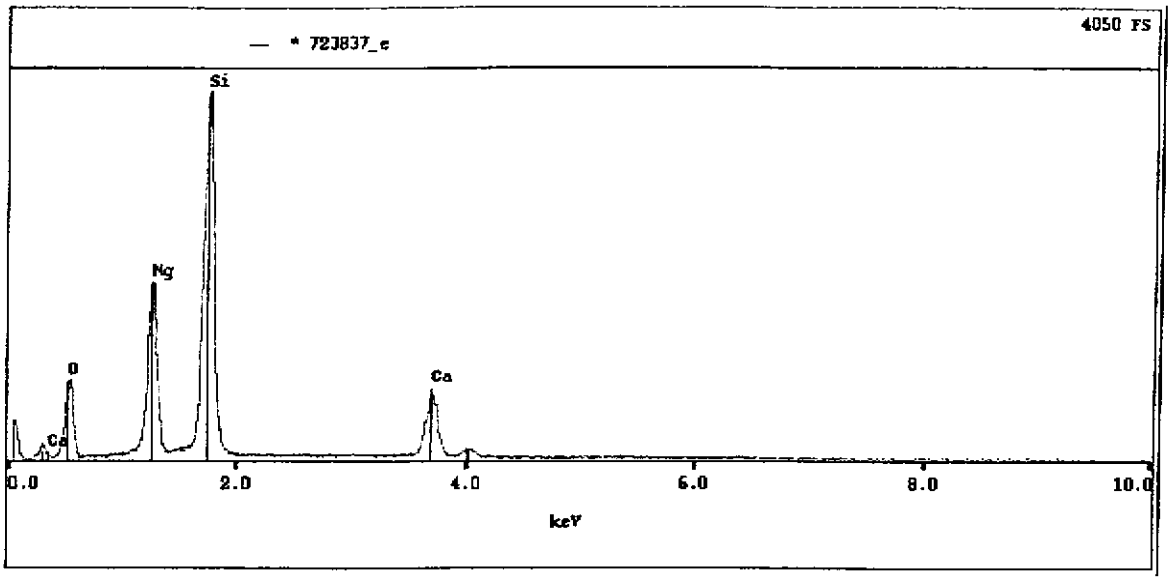
BSE image of Cu-sulphide inclusion (white) in Cr-spinel host.

Sample: 723837

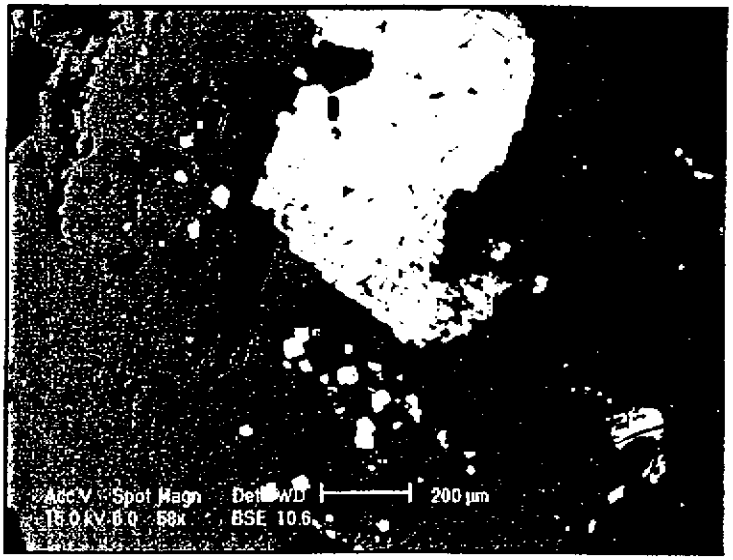


BSE image of Cr-spinel (dark gray) cross-cut by chromite and rimmed by magnetite (lightest gray). Cracks in Cr-spinel and along chromite host very fine-grained Cu-suphide (white).

Sample: 723837

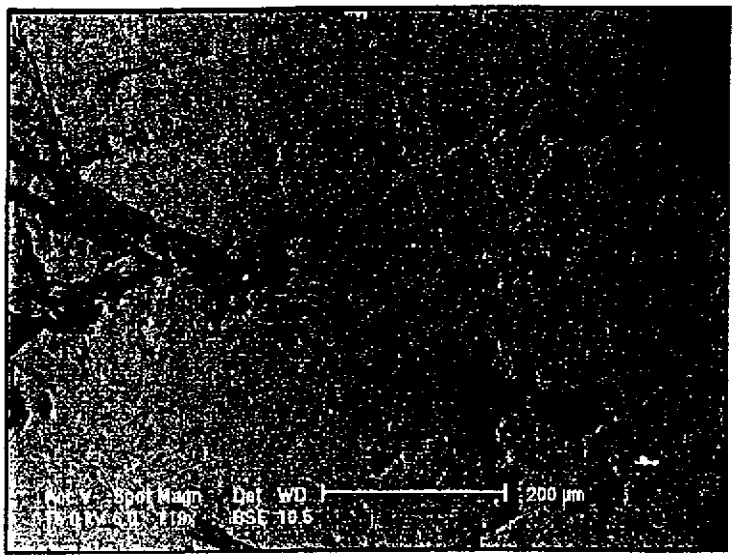


EDS spectrum of probable tremolite.



BSE image of pocket in orthopyroxene hosting Cr-spinel/chromite/magnetite grain (bright) and acicular tremolite grains (same brightness as orthopyroxene), with chlorite (dark gray).

Sample: 723837



BSE image of orthopyroxene cross-cut by 1) talc and 2) chlorite.

Sample: 723841

LITHOLOGY: Serpentinized orthopyroxenite
ALTERATION TYPE: Serpentine, carbonate

Hand Sample Description:
Fine-grained, massive medium gray rock.

MAJOR MINERALS

Mineral	%	Distribution & Characteristics	Optical
Orthopyroxene	60	fine to medium-grained, anhedral, strongly replaced along rims and cracks by serpentine, some grains with lamellar banding	mod δ par ext
Serpentine	30	fine-grained, acicular, disseminated, in patches and replacing orthopyroxene along rims, defines weak foliation	
Carbonate	05	microcrystalline, colourless, in patches	

MINOR MINERALS

Mineral	%	Distribution & Characteristics	Optical
Magnetite	01	fine-grained, anhedral, in clusters with orthopyroxene, also rimming and replacing chromite, along fractures, in patches, disseminated	
Chromite	01	fine-grained, anhedral to euhedral, very poikilitic and resorbed, with magnetite along rims and fractures, in clusters and disseminated, possibly rimming Cr-spinel core	red int ref
Pentlandite	trace	fine-grained, anhedral, disseminated and along fractures, locally intergrown with orange-yellow mineral and magnetite	creamy yellow

Thin Section Description:
The sample consists of anhedral, fine to medium-grained massive orthopyroxene that is replaced along rims and fractures by fine-grained, platey serpentine. Massive serpentine also occurs in patches. In general, serpentine defines a weak foliation. Small patches of colourless, very fine-grained carbonate are disseminated. Fine-grained, anhedral to subhedral, strongly resorbed chromite (disseminated and in clusters) may be replacing Cr-spinel along rims and cracks. The chromite (+/- Cr-spinel) is in turn replaced by magnetite along rims and cracks. Fine-grained magnetite occurs mainly along fractures, in patches and is disseminated. Fine-grained, anhedral pentlandite occurs along fractures and disseminated and is locally intergrown with magnetite.

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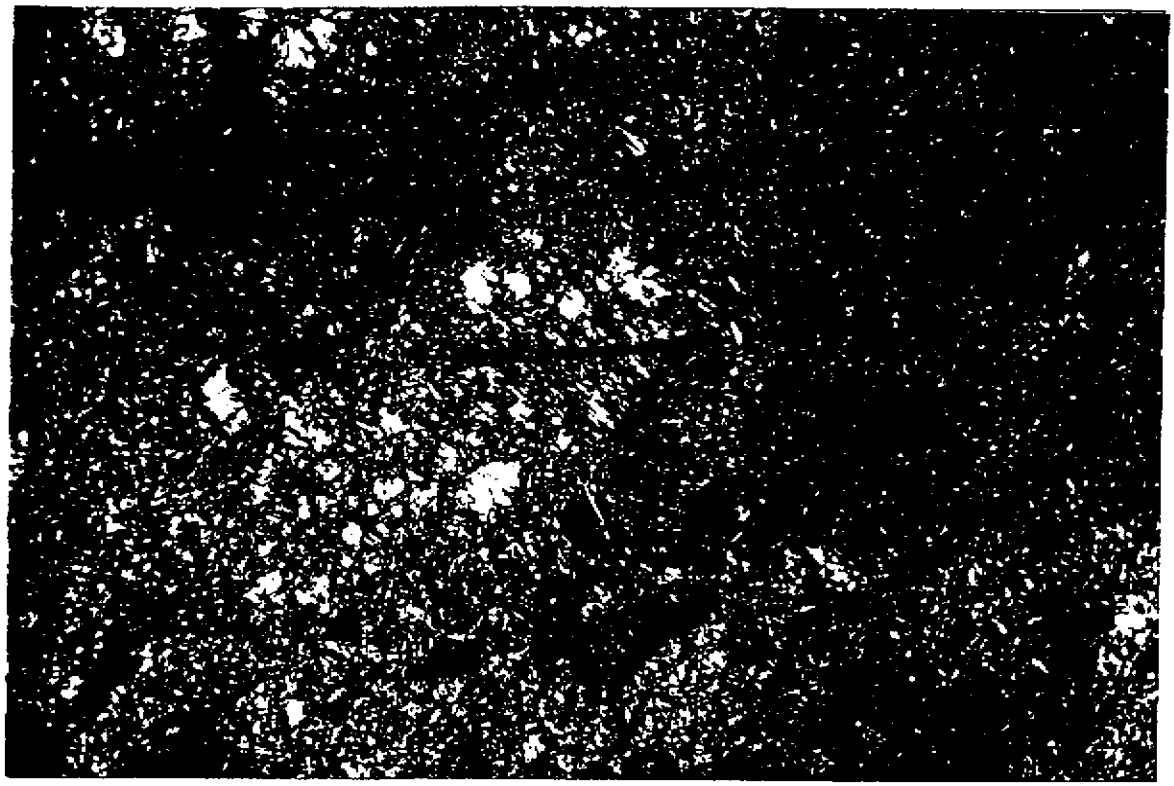
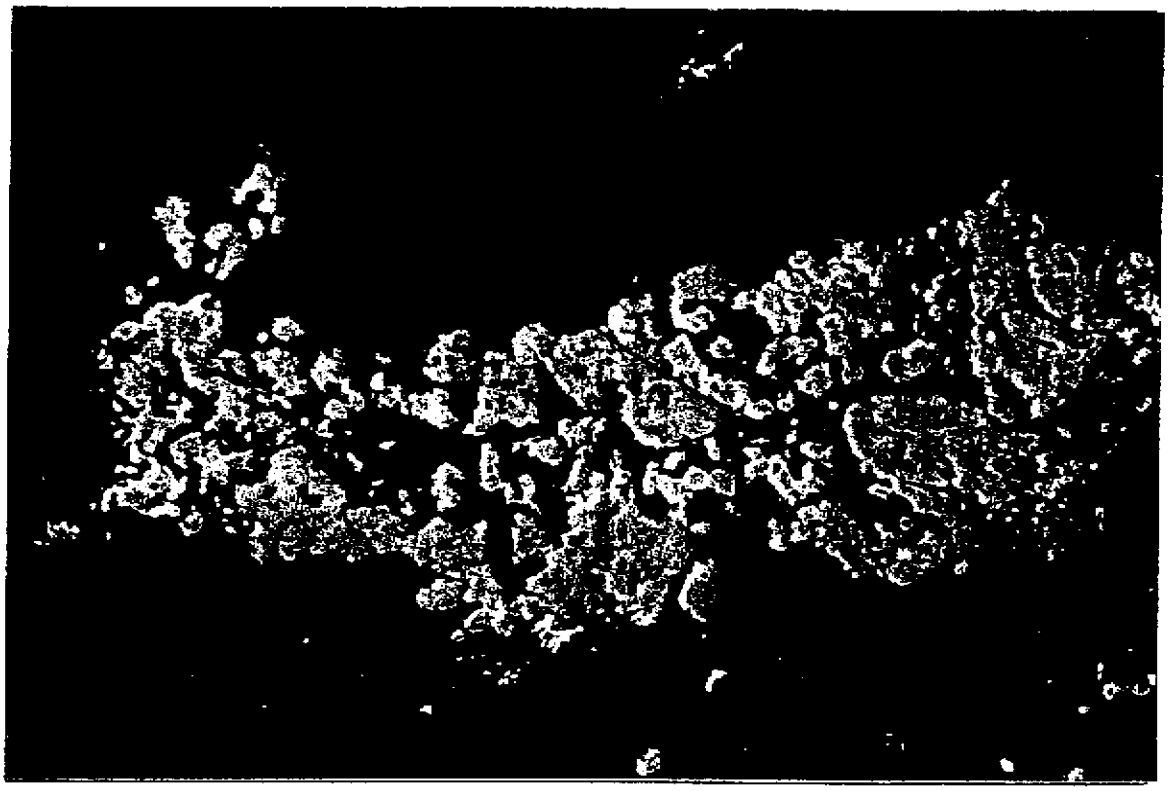


723841: Large orthopyroxene grains with fine-grained orthopyroxene along cracks; disseminated serpentine (gray, flaky); fractures filled by magnetite and pentlandite. Field of view = 5mm. XPL.



723841: Resorbed Cr-spinel/chromite grain, rimmed by magnetite with pentlandite (beige) at grain margin. Field of view = 1.25mm. RL.

APPENDIX II

WHOLE ROCK, ICP AND ASSAY CERTIFICATES
Assayers Canada

Ass. rs Canada
8282 Sherbrooke St., Vancouver, B.C., V5X 4R6
Tel: (604) 327-3436 Fax: (604) 327-3423

Leader Mining International Inc
Attention: Mike MacLeod
Project:
Sample: rock chip

Report No : 1V0315 RL
Date : Jul-20-01

ICP Whole Rock Assay

Lithium Metaborate Fusion

Sample Number	SiO_2 %	Al_2O_3 %	Fe_2O_3 %	CaO %	MgO %	Na_2O %	K_2O %	TiO_2 %	MnO %	P_2O_5 %	Ba ppm	Sr ppm	Zr ppm	Y ppm	Sc ppm	LOI %	Total %
713826	38.39	0.68	8.47	0.29	45.05	0.02	0.05	0.01	0.13	0.02	30	10	<10	<5	5	6.12	99.24
713827	37.95	0.90	8.04	0.18	42.58	0.01	0.08	0.02	0.12	0.02	30	10	<10	<5	10	9.14	99.05
713829	38.16	0.86	8.35	0.19	43.81	0.01	0.09	0.02	0.12	0.03	30	10	<10	<5	5	7.51	99.16
713830	37.64	1.00	7.85	0.16	44.01	<0.01	0.07	0.02	0.11	0.02	30	10	<10	<5	10	8.45	99.33
713831	39.26	0.49	8.23	0.49	48.45	<0.01	0.07	0.01	0.12	0.02	30	10	<10	<5	5	1.86	99.02
713832	39.08	2.17	8.50	0.18	44.87	<0.01	0.06	0.01	0.14	0.02	40	10	<10	<5	10	4.02	99.07
713834	39.57	0.74	7.99	0.25	46.32	0.02	0.04	0.02	0.11	0.02	30	10	<10	<5	5	4.22	99.31
713835	40.03	0.59	9.60	0.06	45.07	0.01	0.03	0.02	0.19	0.02	30	10	<10	<5	5	3.60	99.23
713836	39.86	0.68	9.22	0.17	45.26	0.01	0.03	0.02	0.18	0.02	30	20	<10	<5	5	3.77	99.25
713837	39.86	0.77	9.08	1.07	47.23	0.01	0.01	0.01	0.14	0.01	30	20	10	<5	10	1.09	99.29
713840	39.56	1.07	8.51	0.75	43.56	0.01	<0.01	0.02	0.13	0.02	30	10	<10	<5	5	5.25	98.88
713841	38.77	0.61	8.20	0.44	44.85	<0.01	<0.01	0.02	0.11	0.02	30	10	<10	<5	5	6.10	99.12

Sample is fused with Lithium metaborate and dissolved in dilute HNO3.

Signed: _____

Assa s Canada
8282 Sherbrooke St., Vancouver, B.C., V5X 4R6
Tel: (604) 327-3436 Fax: (604) 327-3423

Leader Mining International Inc
Attention: Mike MacLeod
Project:
Sample: rock chip

Report No : 1V0315 RJ
Date : Jul-20-01

MULTI-ELEMENT ICP ANALYSIS

Aqua Regia Digestion

Sample Number	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sn ppm	Sr ppm	Ti %	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
713826	<0.2	0.17	5	20	<0.5	<5	0.20	<1	86	835	<1	5.43	<0.01	>15.00	850	<2	<0.01	2081	50	10	10	4	<10	<1	<0.01	12	<10	<1	24	3
713827	<0.2	0.24	70	10	<0.5	<5	0.14	<1	76	1063	<1	5.10	<0.01	>15.00	850	<2	<0.01	1777	50	10	15	5	<10	<1	<0.01	16	<10	<1	31	3
713829	<0.2	0.20	10	10	<0.5	<5	0.13	<1	82	967	<1	5.16	<0.01	>15.00	780	<2	<0.01	1903	60	6	15	5	<10	<1	<0.01	13	<10	<1	25	3
713830	<0.2	0.26	10	10	<0.5	<5	0.10	<1	73	1159	<1	4.85	<0.01	>15.00	695	<2	<0.01	1774	50	6	15	5	<10	<1	<0.01	16	<10	<1	23	3
713831	<0.2	0.10	<5	10	<0.5	<5	0.02	<1	88	465	1	5.20	<0.01	>15.00	830	<2	0.01	2161	50	10	5	4	<10	<1	<0.01	10	<10	<1	38	3
713832	<0.2	0.32	<5	20	<0.5	<5	0.01	<1	81	439	19	5.03	0.02	>15.00	870	<2	0.01	1672	60	8	5	4	<10	<1	<0.01	19	<10	<1	47	3
713834	<0.2	0.15	<5	10	<0.5	<5	0.01	<1	82	721	1	4.84	<0.01	>15.00	735	<2	<0.01	2126	50	8	10	3	<10	<1	<0.01	14	<10	<1	36	3
713835	<0.2	0.12	85	10	<0.5	<5	0.01	<1	90	383	52	5.73	<0.01	>15.00	1185	<2	<0.01	1853	70	8	5	3	<10	<1	<0.01	10	<10	<1	57	4
713836	<0.2	0.11	50	10	<0.5	<5	0.01	<1	79	405	37	5.20	<0.01	>15.00	1035	<2	0.01	1671	60	8	10	4	<10	<1	<0.01	11	<10	<1	54	3
713837	<0.2	0.14	<5	10	<0.5	<5	0.04	<1	84	641	2	5.28	<0.01	>15.00	870	<2	<0.01	1932	60	8	10	4	<10	<1	<0.01	12	<10	<1	33	3
713840	<0.2	0.17	<5	10	<0.5	<5	0.05	<1	74	592	12	4.82	<0.01	>15.00	835	<2	<0.01	1649	70	10	10	3	<10	<1	<0.01	15	<10	<1	29	3
713841	<0.2	0.10	5	10	<0.5	<5	0.28	<1	72	411	<1	4.73	<0.01	>15.00	660	<2	<0.01	1750	50	6	5	3	<10	<1	<0.01	10	<10	<1	19	3

A .5 gm sample is digested with 5 ml 3:1 HCl/HNO3
at 95c for 2 hours and diluted to 25ml with D.I.H20.

Signed: _____

Assa[illegible]rs Canada
8282 Sherbrooke St., Vancouver, B.C., V5X 4R6
Tel: (604) 327-3436 Fax: (604) 327-3423

Report No : **1V0315 XL**
Date : Aug-02-01

Leader Mining International Inc
Attention: Mike MacLeod
Project:
Sample: rock chip

ICP Whole Rock Assay

Lithium Metaborate Fusion

Sample Number	SiO_2 %	Al_2O_3 %	Fe_2O_3 %	CaO %	MgO %	Na_2O %	K_2O %	TiO_2 %	MnO %	P_2O_5 %	Ba ppm	Sr ppm	Zr ppm	Y ppm	Sc ppm	LOI %	Total %
723826 #1	38.64	0.63	8.35	0.28	44.15	<0.01	0.04	0.01	0.12	0.01	30	<10	<10	<5	5	6.33	98.57
723826 #2	38.75	0.61	8.31	0.29	43.85	<0.01	0.03	0.01	0.12	0.02	30	<10	<10	<5	5	6.37	98.36
723826 #3	39.74	0.62	8.30	0.30	43.82	<0.01	0.03	0.01	0.12	0.01	30	<10	<10	<5	5	6.27	99.22
723831 #1	39.61	0.46	8.09	0.49	47.22	<0.01	0.05	0.01	0.12	0.02	30	<10	<10	<5	5	1.93	98.01
723831 #2	39.48	0.46	8.13	0.50	47.42	<0.01	0.04	0.01	0.12	0.01	30	<10	<10	<5	5	1.90	98.08
723831 #3	40.58	0.46	8.05	0.51	47.46	<0.01	0.06	0.01	0.12	0.02	30	<10	<10	<5	5	1.92	99.20
723832 #1	40.60	2.11	8.19	0.18	43.30	<0.01	0.05	0.01	0.14	0.02	40	<10	<10	<5	5	4.30	98.88
723832 #2	40.76	2.10	8.08	0.18	42.59	<0.01	0.05	0.01	0.14	0.02	30	<10	<10	<5	5	4.19	98.11
723832 #3	40.70	2.07	8.20	0.18	42.88	<0.01	0.05	0.01	0.14	0.02	30	<10	<10	<5	5	4.23	98.49
723834 #1	40.01	0.71	7.80	0.25	45.05	<0.01	0.05	0.02	0.11	0.02	30	<10	<10	<5	5	4.32	98.34
723834 #2	40.18	0.73	7.84	0.25	45.45	<0.01	0.06	0.02	0.11	0.02	30	<10	<10	<5	5	4.32	98.98
723834 #3	40.91	0.70	7.73	0.24	45.18	<0.01	0.05	0.02	0.11	0.02	30	<10	<10	<5	5	4.31	99.26

Sample is fused with Lithium metaborate and dissolved in dilute HNO3.

Signed:_____

Assa[illegible]s Canada
8282 Sherbrooke St., Vancouver, B.C., V5X 4R6
Tel: (604) 327-3436 Fax: (604) 327-3423

Leader Mining International Inc
Attention: Mike Macleod
Project:
Sample: rock

Report No : 1V0191 RJ
Date : May-31-01

MULTI-ELEMENT ICP ANALYSIS

Aqua Regia Digestion

Sample Number	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sn ppm	Sr ppm	Ti %	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
723801	<0.2	0.11	10	20	<0.5	<5	0.01	<1	53	407	6	4.77	0.01	>15.00	750	<2	0.02	2015	60	8	5	5	<10	<1	<0.01	6	<10	<1	44	3
723802	<0.2	0.08	5	30	<0.5	<5	0.01	<1	94	334	6	5.37	<0.01	>15.00	510	<2	0.02	2083	70	10	5	4	<10	<1	<0.01	6	<10	<1	32	4
723803	<0.2	0.17	<5	20	<0.5	<5	0.05	<1	80	1105	<1	4.69	<0.01	>15.00	765	<2	0.01	1884	50	8	15	3	<10	<1	<0.01	10	<10	<1	23	3
723805	0.4	0.16	70	10	<0.5	<5	0.02	<1	68	568	22	4.58	0.01	>15.00	825	<2	0.02	1468	60	6	5	8	<10	<1	0.01	12	<10	<1	49	4
723807	<0.2	0.15	10	20	<0.5	<5	<0.01	<1	58	603	1	3.78	<0.01	>15.00	515	<2	0.01	1700	70	4	5	2	<10	<1	<0.01	8	<10	<1	30	3
723808	<0.2	0.24	<5	20	<0.5	<5	0.25	<1	77	794	<1	5.14	0.01	>15.00	785	<2	0.01	1792	60	6	10	5	<10	<1	<0.01	18	<10	<1	24	3
723809	<0.2	0.19	<5	40	<0.5	<5	0.37	<1	67	664	5	4.69	<0.01	>15.00	825	<2	0.01	1483	60	8	10	4	<10	<1	<0.01	16	<10	<1	62	3
723810	<0.2	0.26	5	30	<0.5	<5	0.16	<1	67	1008	14	4.71	<0.01	>15.00	740	<2	0.01	1473	50	8	15	3	<10	<1	<0.01	19	<10	<1	49	3
723811	<0.2	0.08	<5	20	<0.5	<5	0.08	<1	85	376	3	5.48	<0.01	>15.00	885	<2	0.01	1821	60	8	5	3	<10	<1	<0.01	9	<10	<1	33	4
723812	<0.2	0.27	<5	30	<0.5	<5	0.17	<1	65	1183	39	4.61	<0.01	>15.00	775	<2	0.01	1516	60	8	15	4	<10	<1	<0.01	23	<10	<1	44	3
723813	<0.2	0.53	<5	20	<0.5	<5	0.03	<1	58	1177	1	5.05	<0.01	>15.00	530	<2	0.01	1471	70	8	15	5	<10	<1	<0.01	27	<10	<1	24	3
723814	<0.2	0.05	<5	20	<0.5	<5	0.04	<1	87	183	2	5.62	<0.01	>15.00	825	<2	0.01	1980	60	8	5	3	<10	<1	<0.01	[illegible]	<10	<1	30	4
723815	<0.2	1.86	<5	350	0.5	<5	0.08	<1	12	107	68	2.89	1.02	1.29	365	18	0.04	40	480	2	<5	11	<10	<1	0.24	167	<10	3	108	2
723816	<0.2	1.06	<5	100	0.5	<5	0.82	<1	16	46	139	3.61	0.13	0.42	210	2	0.16	17	1240	4	<5	4	<10	37	0.25	58	<10	8	28	6
723817	<0.2	0.13	<5	20	<0.5	<5	0.06	<1	86	741	3	5.27	0.01	>15.00	1050	<2	0.01	1918	80	10	10	3	<10	<1	<0.01	12	<10	<1	62	3
723818	<0.2	0.13	<5	30	<0.5	<5	0.18	<1	66	411	2	4.84	<0.01	>15.00	860	<2	0.01	1505	50	8	5	3	<10	<1	<0.01	12	<10	<1	55	3
723819	<0.2	0.40	70	20	<0.5	<5	0.55	<1	62	1225	9	3.93	<0.01	12.78	770	<2	0.01	1326	50	4	15	4	<10	<1	<0.01	22	<10	<1	43	3
723820	<0.2	0.21	<5	20	<0.5	<5	0.10	<1	68	899	5	4.44	<0.01	>15.00	690	<2	0.01	1536	50	6	10	4	<10	<1	<0.01	14	<10	<1	32	3
723821	<0.2	0.13	<5	20	<0.5	<5	0.10	<1	73	556	5	5.08	<0.01	>15.00	760	<2	0.01	1606	60	6	5	3	<10	<1	<0.01	10	<10	<1	31	3
723822	<0.2	0.06	5	30	<0.5	<5	0.01	<1	74	279	9	4.94	<0.01	>15.00	655	<2	0.01	1922	50	8	5	2	<10	<1	<0.01	6	<10	<1	47	3
723823	<0.2	3.43	<5	40	<0.5	<5	2.57	<1	34	54	118	3.97	0.06	1.00	195	<2	0.26	56	780	4	<5	6	<10	60	0.10	64	<10	3	41	4
723824	<0.2	0.07	<5	10	<0.5	<5	0.01	<1	81	683	<1	5.10	<0.01	>15.00	770	<2	0.01	1824	50	6	10	3	<10	<1	<0.01	10	<10	<1	30	3
723825	<0.2	5.23	<5	60	<0.5	<5	3.98	<1	34	19	172	6.10	0.07	1.99	630	<2	0.31	20	40	4	5	12	<10	167	0.14	270	<10	<1	47	4

A .5 gm sample is digested with 5 ml 3:1 HCl/HNO3 at 95c for 2 hours and diluted to 25ml with D.I.H20.

Signed: _____

Assayers Canada
8282 Sherbrooke St.
Vancouver, B.C.
V5X 4R6
Tel: (604) 327-3436
Fax: (604) 327-3423

Geochemical Analysis Certificate

1V-0191-RG1

Jun-25-01

Company: **Leader Mining International Inc**
Project:
Attn: Mike Macleod

We *hereby certify* the following geochemical analysis of 23 rock samples submitted May-28-01

Sample Name	Pt ppb	Pd ppb	Rh ppb	Sulfide Ni %	Mg %	B ppm	CAL Mg %	HAL Mg %
723801	<5	5	5	0.160	27.4	29	7.14	23.9
723802	<5	5	<5	0.146	26.5	21	7.86	22.9
723803	<5	5	<5	0.058	28.6	29	8.25	23.2
723805	15	10	<5	0.139	23.9	32	6.77	19.8
723807	<5	<5	<5	0.145	24.1	26	6.39	21.4
723808	5	10	<5	0.044	24.6	21	12.8	23.1
723809	5	10	<5	0.105	22.8	28	8.20	21.9
723810	5	10	<5	0.081	22.7	23	7.36	21.3
723811	<5	5	<5	0.056	25.5	29	8.95	23.7
723812	<5	5	5	0.093	21.8	25	6.38	18.5
723813	<5	5	<5	0.041	19.5	31	5.92	21.0
723814	<5	5	<5	0.042	22.7	21	9.38	21.5
723815	<5	5	<5	0.003	1.27			
723816	<5	<5	10	0.001	1.10			
723817	<5	<5	<5	0.080	22.4	19	10.6	22.1
723818	<5	10	<5	0.075	19.3	21	10.5	19.1
723819	<5	10	<5	0.108	17.6	24	3.09	17.0
723820	<5	10	<5	0.067	21.4	19	9.52	21.3
723821	<5	5	10	0.071	21.5	35	9.69	21.2
723822	<5	<5	<5	0.090	23.8	31	10.5	22.0
723823	<5	5	<5	0.005	6.05			
723824	<5	10	<5	0.029	24.8	25	9.36	23.9
723825	<5	10	<5	0.002	4.62			
*DUP 723801	<5	5	<5	0.162	27.0	25	7.44	24.3
*DUP 723812	<5	5	<5	0.094	21.7	32	6.43	20.6
*DUP 723822	<5	5	<5	0.089	30.1	30	10.7	22.1
*PTC-1	2750	11400	726					
*Blank	<5	<5	<5					

HAL: Hot acid (HCl) leach. CAL:Cold acid (HCl) leach. See attached procedure
Boron contamination from glassware in HAL

Certified by _____

Assayers Canada
8282 Sherbrooke St.
Vancouver, B.C.
V5X 4R6
Tel: (604) 327-3436
Fax: (604) 327-3423

Geochemical Analysis Certificate

1V-0191-RG1

Jun-25-01

Company: **Leader Mining International Inc**
Project:
Attn: Mike Macleod

We *hereby certify* the following geochemical analysis of 23 rock samples submitted May-28-01

Sample Name	HAL B ppm	HAL Cr %	HAL Fe %	HAL Ni %
723801	116	0.047	4.03	0.178
723802	47	0.041	1.61	0.138
723803	144	0.115	4.61	0.197
723805	79	0.073	2.61	0.133
723807	64	0.065	2.15	0.149
723808	153	0.104	5.13	0.187
723809	149	0.120	5.02	0.163
723810	145	0.131	4.88	0.156
723811	162	0.065	5.72	0.198
723812	128	0.150	4.84	0.151
723813	159	0.192	5.40	0.174
723814	165	0.046	5.88	0.219
723815				
723816				
723817	157	0.116	5.48	0.207
723818	150	0.088	5.25	0.171
723819	139	0.157	4.56	0.159
723820	134	0.135	4.71	0.176
723821	168	0.115	5.68	0.195
723822	161	0.050	5.58	0.231
723823				
723824	169	0.228	5.94	0.211
723825				
*DUP 723801	120	0.049	4.17	0.182
*DUP 723812	137	0.176	4.82	0.164
*DUP 723822	162	0.050	5.57	0.232
*PTC-1				
*Blank				

HAL: Hot acid (HCl) leach. CAL:Cold acid (HCl) leach. See attached procedure
Boron contamination from glassware in HAL

Certified by _____

Assayers Canada
8282 Sherbrooke St.
Vancouver, B.C.
V5X 4R6
Tel: (604) 327-3436
Fax: (604) 327-3423

Quality Assaying for over 20 Years

Assay Certificate

1V-0315-RA1

Company: **Leader Mining International Inc**
Project:
Attn: Mike MacLeod

Aug-02-01

We *hereby certify* the following assay of 12 rock chip samples submitted Jul-18-01 by Mike MacLeod.

Sample Name	B ppm	B ppm	S-total %	S-total %
713826	1	2	<0.01	<0.01
713827	16		<0.01	
713829	20		<0.01	
713830	18		<0.01	
713831	40		<0.01	
713832	48		0.87	
713834	55		0.04	
713835	52		2.54	
713836	73		1.71	
713837	47	47	<0.01	<0.01
713840	36		<0.01	
713841	23		<0.01	

Certified by _____

Assayers Canada
8282 Sherbrooke St.
Vancouver, B.C.
V5X 4R6
Tel: (604) 327-3436
Fax: (604) 327-3423

Quality Assaying for over 25 Years

Geochemical Analysis Certificate

1V-0191-RG1

Company: **Leader Mining International Inc**
Project:
Attn: Mike Macleod

Jun-08-01

We *hereby certify* the following geochemical analysis of 23 rock samples submitted May-28-01

Sample Name	Pt ppb	Pd ppb	Rh ppb	Sulfide Ni %	Mg %
723801	<5	5	5	0.160	27.4
723802	<5	5	<5	0.146	26.5
723803	<5	5	<5	0.058	28.6
723805	15	10	<5	0.139	23.9
723807	<5	<5	<5	0.145	24.1
723808	5	10	<5	0.044	24.6
723809	5	10	<5	0.105	22.8
723810	5	10	<5	0.081	22.7
723811	<5	5	<5	0.056	25.5
723812	<5	5	5	0.093	21.8
723813	<5	5	<5	0.041	19.5
723814	<5	5	<5	0.042	22.7
723815	<5	5	<5	0.003	1.27
723816	<5	<5	10	0.001	1.10
723817	<5	<5	<5	0.080	22.4
723818	<5	10	<5	0.075	19.3
723819	<5	10	<5	0.108	17.6
723820	<5	10	<5	0.067	21.4
723821	<5	5	10	0.071	21.5
723822	<5	<5	<5	0.090	23.8
723823	<5	5	<5	0.005	6.05
723824	<5	10	<5	0.029	24.8
723825	<5	10	<5	0.002	4.62
*DUP 723801	<5	5	<5	0.162	27.0
*DUP 723812	<5	5	<5	0.094	21.7
*DUP 723822	<5	5	<5	0.089	30.1
*PTC-1	2750	11400	726		
*Blank	<5	<5	<5		

Certified by