

GEOLOGICAL, GEOCHEMICAL, GEOPHYSICAL AND  
DIAMOND DRILLING REPORT

CHACO BEAR PROJECT

FOR

IMPERIAL METALS CORPORATION

OMINECA MINING DIVISION  
NTS 94D/2W

56°08'N, 126°56'W

SUB-RECORDER RECEIVED
FEB 21 1997
M.R. # ..... \$ .....
VANCOUVER, B.C.

Wesley Raven, P. ~~Geo~~ **GEOLOGICAL SURVEY BRANCH**  
**ASSESSMENT REPORT**  
November 27th, 1996

24,882

**OREQUEST**



TITLE OF REPORT [type of survey(s)] <b>DRILLING</b>	TOTAL COST
--	------------

AUTHOR(S) Wesley Raven SIGNATURE(S) Wesley Raven

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S) PGR 1996-1300293-7702 YEAR OF WORK 1996

STATEMENT OF WORK - CASH PAYMENT EVENT NUMBER(S)/DATE(S) \_\_\_\_\_

PROPERTY NAME CHACO BEAR

CLAIM NAME(S) (on which work was done) CHACO BEAR 1

COMMODITIES SOUGHT Au, Ag, Cu, Pb, Zn

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN 940 003

MINING DIVISION Omineca NTS 94D/2W

LATITUDE 56° 08' LONGITUDE 126° 50' \* (at centre of work)

OWNER(S)  
1) J.M. Ashton 2) \_\_\_\_\_

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OPERATOR(S) [who paid for the work]  
1) Imperial Metals Corporation 2) \_\_\_\_\_

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Vancouver, BC  
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PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):  
The property is underlain by a thick succession of lower to Middle Jurassic  
Hazleton Group volcanics comprised mainly of andesitic tuffs, flows and  
agglomerates. A prominent joint set strikes 330-340°, dips 50°-60° southwest  
and hosts a number of shear brecciated vuggy quartz vein from 5-100 cm  
~~wide~~ wide containing chalcopysite, bornite, chalcosite, tetrahedrite, pyrite & specular hematite

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS  
14,424 ; 14,678  
22958 24567

## SUMMARY

A Phase I and II exploration program consisting of prospecting, mapping, rock and soil geochemical sampling, geophysical surveys (Max-Min) and diamond drilling was completed on the Chaco Bear Project on behalf of Imperial Metals Corporation. The property is located approximately 160 kilometres north of Smithers, B. C., in the Skeena Mountains. The property initially consisted of four 4-post claims (totalling 80 units) with five 4-post claims (totalling 100 units) that were added to the land position at the start of the Phase II program.

This report describes the exploration program completed intermittently on the claims from August 29 to September 11, 1996 (Phase I) and October 15 to October 27, 1996 (Phase II). Phase I work consisted of general prospecting, geological mapping and rock sampling throughout the property with a total of 193 rock samples collected and sent for assay. Phase II work consisted of claim staking, grid based geophysical surveys (Max-Min) totalling 3.85 line-km and 455.8 metres (1495 feet) of BQ-size diamond drill core in five holes.

The Phase I program was highly successful in outlining numerous areas throughout the claims reporting anomalous gold-copper-silver values. The anomalous samples are mostly all from narrow carbonate-quartz veins, 0.1 to 1.0 metres wide, that have been brecciated, enclosing angular fragments of andesitic wallrock often with well

developed quartz crystals indicating open space growth. Mineralogy of the veins includes pyrite, chalcopyrite, bornite, tetrahedrite (?) specular hematite, and lesser galena and sphalerite with malachite and azurite stain. Values obtained from grab samples include highs of 25.52 g/t gold (0.744 oz/ton); 10,530 g/t silver (307.09 oz/ton), 36.90% copper, 2.93% lead and 5.63% zinc.

The Phase II program attempted to follow up on some of the better areas outlined during Phase I exploration. Severe winter conditions hampered the program throughout its duration and severely limited the number of suitable drill pad locations. The weather confined the drilling to the northwest trending creek located off the northwest edge of the unnamed centrally located lake. Four holes from two setups were drilled to test an area of fault bounded carbonate-quartz veining and the final hole was drilled to test a geophysical conductor outlined by the Max-Min survey.

The results received from the Phase I and II programs are very encouraging and further work is recommended. Prior to undertaking further field surveys, a Phase III exploration program should include acquisition of both the landsat and radar images of the property and preparation of an orthophoto base map to provide better control for data plotting. Field surveys should be broken down into two types: preliminary prospecting, mapping, stream sediment geochemistry and rock sampling on the newly staked Chaco Bear 5-9 claims (Phase IIIa), and follow-up surveys on the original Chaco Bear 1-4 claims (Phase IIIb). The follow-up surveys should include continued prospecting, detailed geological mapping, grid based ground geophysics (magnetic, VLF-EM,

horizontal loop and induced polarization), trenching, and diamond drilling. It is estimated that 1,500 metres (5,000 feet) will be required to test targets that were not drilled during the Phase II program. The Phase IIIa program on the new claims is estimated to cost \$77,000 and take three weeks to complete. The Phase IIIb program on the original claims is estimated to cost \$475,000 and take 1-2 months to complete for an aggregate cost of \$552,000. The Phase IIIb program is not contingent upon successful completion of Phase IIIa.

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## INTRODUCTION

This report summarizes the results of Phase I and Phase II exploration programs completed on the Chaco Bear Project on behalf of Imperial Metals Corporation. Imperial is optioning the property from a private individual, J. Ashton, over a seven year agreement. Phase I work consisted of preliminary prospecting, geological mapping and rock sampling (August 29 to September 11, 1996). Phase II surveys consisted of claim staking, ground geophysics, and diamond drilling (October 15 to 27, 1996).

## LOCATION AND ACCESS

The property is located in the Omineca Mining Division in NTS map area 94D/2. The claims are located at the headwaters of the Driftwood River approximately five kilometres west of Bear Lake, which is approximately 160 kilometres north of Smithers, B. C. The claims are centred at  $56^{\circ}08'N$  latitude and  $126^{\circ}56'W$  longitude (Figure 1).

Access to the property is obtained by helicopter from Smithers, B. C. A network of logging roads up the Nilkitkwa River valley to the Nilkitkwa logging camp provide road access to within 45 kilometres south-southeast of the property. Alternatively, a larger camp could be mobilized to the north end of the Bear Lake via float plane with helicopter support providing daily access to the claims. The B.C.R. Takla Lake extension rail line leaves from Fort. St. James and passes by the east side of Bear Lake providing the closest non-airsupported access. The rail access would provide the cheapest transportation of heavy equipment to the area.





## PHYSIOGRAPHY AND VEGETATION

The Chaco Bear claims encompass the headwaters of the Driftwood River valley in the Skeena Mountains district. The topography is quite rugged with steep sided mountain slopes and knife edge ridges. Elevations range from 1,380 metres in the Driftwood River Valley and 1,020 metres in the northeast portion of the property, to 2,183 metres on the ridge traversing the southwestern portion of the claims.

Most of the property is above treeline in alpine terrain. Alpine vegetation consists of small bushes and grasses with local areas of moss. Lower portions of the Driftwood River valley contain stunted trees including spruce and some pine. Large talus slopes are present throughout the claims and are generally devoid of vegetation except for small mosses and lichen.

The claims are snow covered for a good portion of the year resulting in a fairly narrow window within which to conduct exploration surveys. A typical field season would last from roughly mid-June to mid-October.

## CLAIM STATUS

The property is comprised of nine contiguous mineral claims, the Chaco Bear 1-9 claims, located in the Omineca Mining Division. The claims are comprised of 180 units encompassing an area of 4500 hectares (11,120 acres). The property initially consisted of four claim blocks totalling 80 units, owned by J.M. Ashton who has a 100% interest. At

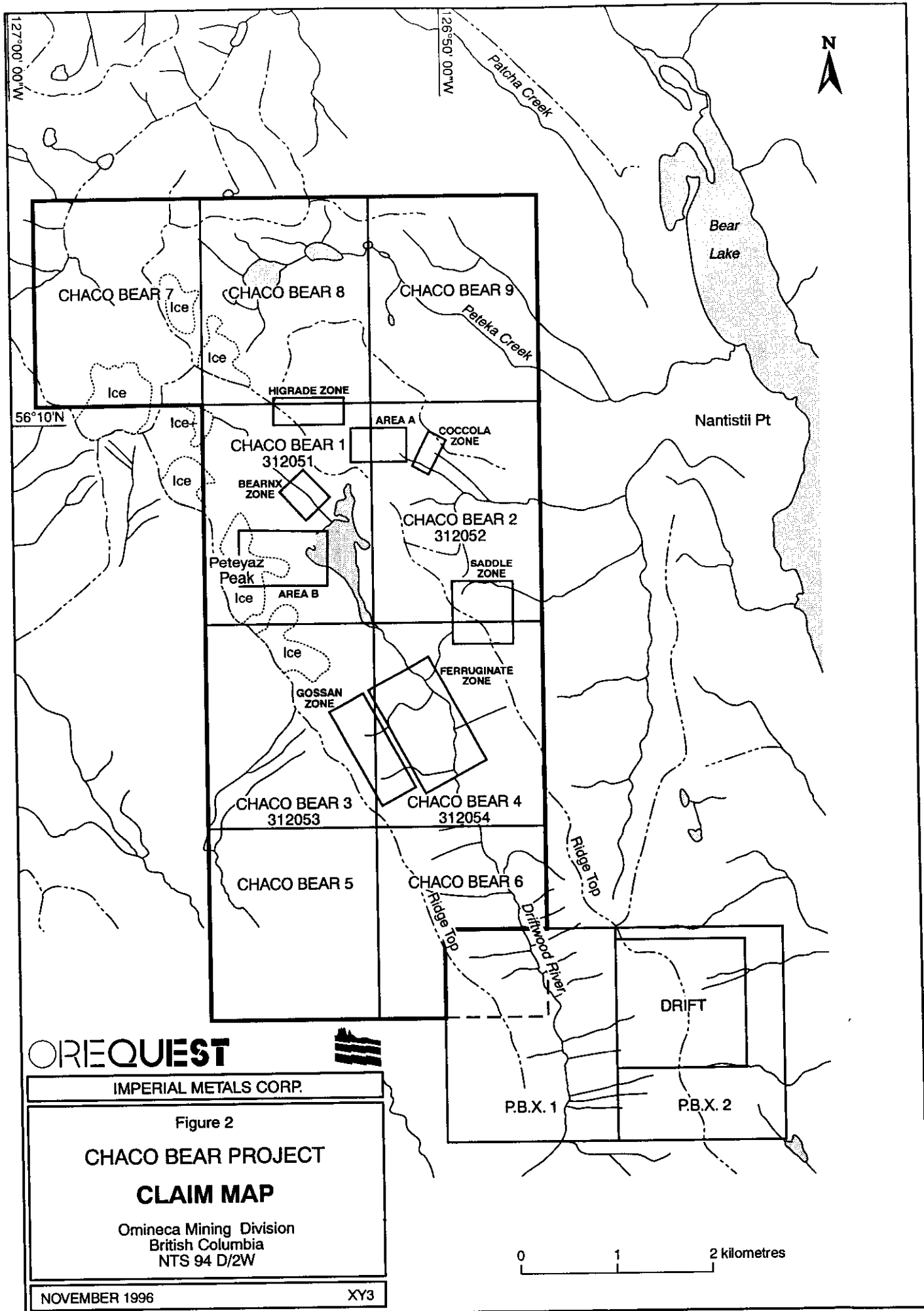
the start of the Phase II program five additional claim blocks totalling 100 units were added to the property. These additional claims were staked by Imperial on behalf of J.M. Ashton. Imperial Metals has the option to earn a 100% interest in the project from the vendor over a seven year period. The claim blocks are shown in Figure 2. Table 1 lists relevant information for the respective claims. Complete title opinions and individual option agreements are beyond the scope of this report. Detailed information on these matters can be obtained from the company or its solicitors.

**TABLE 1 - CLAIM INFORMATION**

<b>Claim Name</b>	<b>Record No.</b>	<b>No. of units</b>	<b>Current Expiry Date</b>
Chaco Bear 1	312051	20	August 6, 1997
Chaco Bear 2	312052	20	August 6, 1997
Chaco Bear 3	312053	20	August 6, 1997
Chaco Bear 4	312054	20	August 6, 1997
Chaco Bear 5	352114	20	October 18, 1997
Chaco Bear 6	352115	20	October 18, 1997
Chaco Bear 7	352116	20	October 17, 1997
Chaco Bear 8	352117	20	October 17, 1997
Chaco Bear 9	352118	20	October 17, 1997

## REGIONAL GEOLOGY

The area was first mapped by C. S. Lord between 1941 to 1945, the results of that work were reported in 1948 in Geological Survey of Canada Memoir 251. Lord classified the rocks in the area as belonging to the Upper Jurassic division of the Takla Group Volcanics. He further subdivided the units into a lower section of predominantly volcanic rocks and an upper section of mostly sedimentary rocks, with lesser intercalated



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Figure 2

**CHACO BEAR PROJECT**

**CLAIM MAP**

Omineca Mining Division  
British Columbia  
NTS 94 D/2W

NOVEMBER 1996

XY3

0 1 2 kilometres

volcanic units. Richards, 1976, has re-classified the rocks as forming part of the Hazelton Group volcanics.

The Lower to Middle Jurassic aged Hazelton Group, in the McConnell Creek map area, is further subdivided into an upper unit of mostly sedimentary rocks and a lower unit of mostly volcanic rocks. The Chaco Bear claims are underlain primarily by lower members of the Hazelton Group volcanics (Figure 3).

#### HISTORY AND PREVIOUS WORK

Very little recorded exploration work has been completed on the Chaco Bear claims but the property has been examined by previous operators. A brief summary of the previous work history is provided below:

- 1948 - Area is mapped as part of a regional survey of the McConnell Creek Area by C. S. Lord, Geological Survey of Canada Memoir 251.
- 1968 - Cominco stakes the Dave claims over a portion of the present day claims and completes electromagnetic (horizontal loop) geophysical surveys totalling 7.8 line-miles. The survey was unsuccessful in locating any conductive zones.
- 1984 - Suncor Inc. Resources Group of Calgary, Alberta, stakes the Peteka 1-4 claims and completes preliminary stream sediment sampling and prospecting. The surveys outline anomalous gold and copper values in the stream sediments collected from the Driftwood River valley as well as from the rock samples.
- 1985 - Suncor Inc. Resources Group completes further detailed exploration surveys consisting of prospecting, geological mapping, soil geochemical surveys, rock sampling, and magnetic and VLF-EM geophysical surveys. Most of the work was completed over a 15.25 line km grid along the Driftwood River valley



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Figure 3

# CHACO BEAR PROJECT REGIONAL AND PROPERTY GEOLOGY

Omineca Mining Division  
British Columbia  
NTS 94 D/2W

NOVEMBER 1996

XY3

## LEGEND

### UPPER CRETACEOUS TO CENOZOIC

- ITB Sustut Group  
Brothers Peak Formation - conglomerate, sandstone, siltstone, acid tuff, minor coal
- uKT Tango Creek Formation - conglomerate, sandstone, siltstone, minor coal

### LOWER AND MIDDLE JURASSIC

- IJT Hazelton Group  
Telkwa Formation - basalt, andesite, dacite, rhyolite, conglomerate, sandstone, siltstone

### INTRUSIVES

- ETqm Eocene  
Kastberg Intrusion - quartz monzonite, quartz eye porphyry and felsite

● Minifile occurrence location and name

~ Fault

== Geographical contact, defined inferred

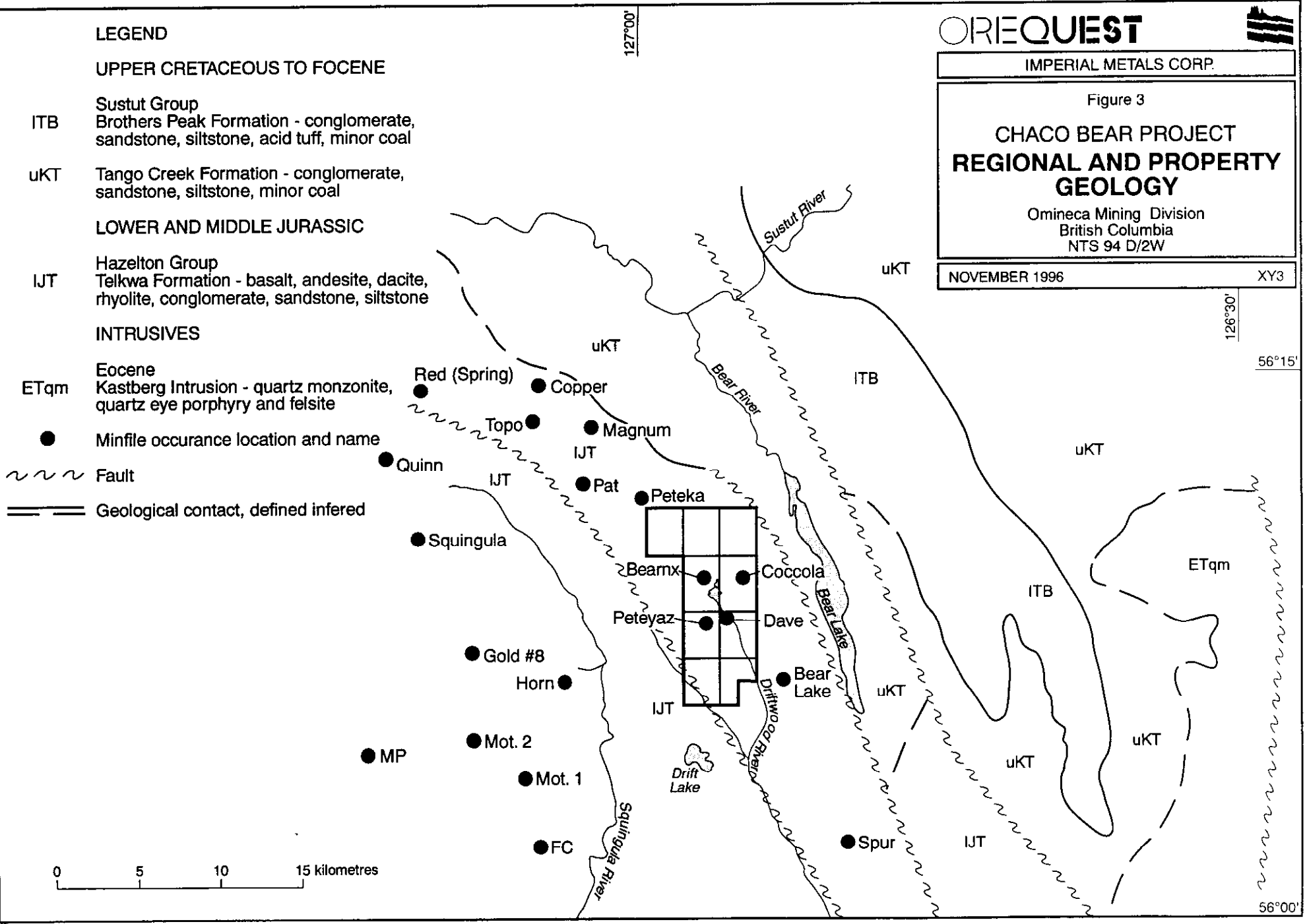
127°00'

126°30'

56°15'

56°00'

0 5 10 15 kilometres



over the central portion of the present day Chaco Bear 3 claim. The surveys were successful in locating several areas of anomalous soil and rock geochemistry as well as zones of anomalous magnetics and several VLF-EM conductors.

A number of showings with various degrees of development are indicated as being on or close to the property based on information from Minfile map 94D, McConnell Creek, 1992. Within the fault bounded block of Hazelton volcanics between the Driftwood River and Bear Lake there are 12 showings; west of the fault block there are 8 showings.

A review of the Minefile data has provided the following generalizations: all of the showings west of the fault block are hosted in sedimentary rocks of the Middle and Upper Jurassic Bowser Lake Group. These invariably have been intruded by intrusive rocks ranging from diorite to granodiorite to felsic dykes, all believed to be related to either the Eocene Kastberg Intrusions or the Cretaceous Bulkley Intrusions. Five of the eight showings (Mot 1, Squingula, Mot 2, FC, and Gold #8) are hydrothermal veins/shear veins hosting variable amounts of pyrite, chalcopyrite, galena, sphalerite, tetrahedrite, pyrrhotite and arsenopyrite. Most have reported anomalous values of gold and silver, with lesser copper.

The most advanced of these is the Mot 1, where five shear zones are hosted in a three kilometre long gossan zone. The best results have come from the Huestis Zone, where a 1.5 metre wide drill intersection assayed 20.6 g/t gold and 322.3 g/t silver. On the Goudridge Zone, a 3.0 metre surface chip sample assayed 11.9 g/t gold and 16.1 g/t

silver. Other encouraging results are found on the Squingula showing, 23.5 g/t gold and 115 g/t silver, and the Gold #8 showing, where a 5.0 cm wide quartz vein assayed 0.53% lead, 0.29% zinc, 368.3 g/t silver and 16.73 g/t gold.

The remaining three showings are characteristic of porphyry style mineralization. The Quin Showing has reported low grade disseminated molybdenum with assays of 0.05% molybdenum. The MP showing hosts disseminated chalcopyrite in fault bounded metavolcanic rocks and disseminated molybdenum in pyrite felsic dykes and sills. The Horn showing is comprised of a 300 by 2000 metre porphyry plug intruding argillite with disseminated molybdenite and variable chalcopyrite mineralization.

The showings within the fault bounded block fall into three main categories, shear veins, (8) stratabound sedimentary replacements, (3) and porphyry style (1) with shear veins the most prevalent. Four of the twelve showings, all shear veins, lie within the property, the Bearnx, Dave, Coccola and Peteyaz. The Bearnx and Dave were likely examined by Canadian Superior Exploration Ltd., 1973 and also by Suncor, 1985. A grab sample of a quartz-carbonate vein collected by Suncor (Bearnx - Chaco Bear 1) assayed 5.97 g/t gold and 4.4% copper, this same target area was tested by four of five drill holes that are the subject of this report.

The Dave showing (Chaco Bear 4) consists of chalcopyrite, specular hematite and calcite in quartz veins and localized shear zones. The veins are narrow, irregular, and fracture controlled. The Coccola (Chaco Bear 2) and Peteyaz (Chaco Bear 3) are both



high grade narrow shear veins assaying 460.8 g/t silver and 2.6 g/t gold; and 8.25% copper, 5.6 g/t gold and 185.8 g/t silver respectively. Three of the remaining four shear vein systems, the Magnum, Spur, and Copper, have also returned anomalous gold and silver assays. At the Magnum showing a north-northwest trending fault bisects the property and contains chloritization and silicification. Samples of bornite and chalcopyrite in malachite stained fractures and veins from a blasted surface cut assayed 1.84% copper and 32.9 g/t silver over 8.23 metres. The Copper Showing is similar to the Magnum with a 2.44 m sample assaying 1.2% copper and 226.1 g/t silver. At the Spur Showing near the contact between volcanic and volcanoclastic rocks, chalcocite, covellite, bornite, and chalcopyrite as disseminations and fracture fillings were drill tested by the Canadian Nickel Company Limited (Cominco) with a 5.79 m intersection assaying 2.36% copper and 48.34 g/t silver.

Two of the three stratabound sedimentary replacement type deposits are hosted in Hazelton Group sedimentary rocks (Red and Topo) with the third, the Pat showing confined to a volcanic horizon and maybe better described as a stratabound shear zone. The most advanced of the three is the Red, or Spring occurrence, where finely disseminated chalcopyrite, pyrite and lesser bornite is found in a fossiliferous dolomitic limestone that can be in excess of 30 metres thick. Diamond drilling has outlined a drill indicated resource of 5,000,000 tonnes grading 0.5% copper and 11.25 g/t silver.

More recent work has been undertaken by International Skyline Gold Corp. on its Bear Lake Property which adjoins the Chaco Bear property along the southern border.

The property has been previously examined by Inco as a porphyry copper-molybdenum prospect hosted in Eocene Kastberg Intrusions. The stock is comprised primarily of quartz monzonite porphyry and quartz latite porphyry and intrudes Hazelton Group volcanic and volcanoclastic rocks. Alteration includes intense potassic alteration within the monzonite, the strongest mineralization is associated with this alteration and consists of quartz veinlets bearing chalcopyrite, molybdenite, and pyrite.

Previous drilling by Inco in the 1970's consisted of ten holes, two of which returned encouraging results including 0.226% copper and 0.05% molybdenum over 140 metres in hole DDH 03 and 0.270% copper and 0.061% molybdenum over 159 metres in hole DDH 08. Skyline drilled four holes, the best results came from DDH 14 which assayed 0.320% copper and 0.106% molybdenum over 121 metres. Skyline concluded that the grades tended to increase with depth and towards the north and plan further work in 1997 (George Cross Newsletter, Oct., 10, 1996).

One of the most important discoveries in the area include the Sustut copper deposit, hosted in Upper Triassic Savage Mountain Formation (Takla Group) volcanics of predominantly andesitic to basaltic composition. The volcanics are mostly red to green in colour and range from massive to pillowed flows, to breccia and bedded tuffs to tuffaceous siltstones and sandstones and a thick pile of volcanoclastic units, mainly agglomerates. The volcanics are overlain by a sequence of argillaceous to arenaceous clastic sedimentary rocks, largely of volcanic composition. Intrusive rocks in the vicinity of the deposit are restricted to subvolcanic andesite to dolerite dykes.

The deposit consists of a sheet-like or tabular zone that is up to 76 metres thick containing hematite, pyrite, chalcocite, bornite, chalcopyrite, and native copper. The mineralization is believed to have been derived from the metamorphism of copper-rich basaltic rocks with the more porous and permeable sections of the host lithology providing a conduit for the solutions. The ore fluid was derived at depth in an oxidizing environment with sulphide precipitation occurring when a reducing environment was encountered. Unclassified reserves for the deposit are 50 million tons grading 1.25% copper.

#### PROPERTY GEOLOGY

No detailed geological mapping was undertaken during the Phase I and II exploration programs. The Phase I program was comprised of prospecting and very general geological mapping around areas of interesting surface mineralization. The most detailed work available on the property was completed by Suncor Inc. Resources Group in 1984 and 1985. That work focused on the southern half of the present day claims, east and west of the Driftwood River.

The property is underlain by a thick succession of intermediate to basic metavolcanic rocks of the Hazelton Group with minor intercalated sedimentary units. Most of the units mapped are believed to be of andesitic composition and consist of purple to grey-green massive flows, ash tuff, lapilli tuff and agglomerate. Minor felsic volcanics were observed in the east-central portion of the claims. These units are cut by

fine grained, greenish-white, locally flow banded felsic dykes possibly of rhyolitic composition or aphanitic dykes related to the Kastberg intrusions. Minor siliceous metasedimentary volcanoclastic rock was observed in a few outcrops and a black, well bedded mudstone was mapped at higher elevations on the western portion of the property.

The volcanic flows are fine grained, massive, generally darker green units that are locally amygdaloidal and moderately chloritized. The amygdules are mostly calcite filled but occasionally silica is observed and slender laths of plagioclase feldspar are common. The unit is locally magnetic and contains minor traces of disseminated pyrite.

The most common unit observed is a grey-green to purple andesite tuff. It ranges in colour from green to reddish purple to a grey-green colour with a faint reddish-purple tinge. This unit underlies the bulk of the property and varies from a fine grained ash tuff to lapilli tuff with subangular fragments, to a coarse agglomerate with subangular to sub-rounded fragments up to 50 cm. The fragments are often the same composition as the matrix making them hard to distinguish on fresh surfaces but they are easily identifiable on weathered surfaces. Locally the agglomerate fragments are weakly to moderately epidote altered making them quite prominent.

Local sections of reddish-purple feldspar porphyry were observed. These are believed to be volcanic in origin as they do not appear to cross-cut the volcanic lithologies. They may represent thicker portions of flows or have a trachytic texture.

Felsic volcanic rocks were observed in the east central portion of the claims in an area locally called the Saddle Zone. It is not clear if this unit is a primary rhyolite or if the felsic nature of the rock is due to intense silicification. The unit consists of a fine grained, almost cherty to coarser grained, sugary, white coloured rock. The unit contains trace to 2% fine grained disseminated pyrite and weathers a rusty yellow-brown gossanous colour.

Minor sedimentary rocks were observed in two areas of the property. The first area is located in the central portion of the claims where minor outcrops of a pale green coloured, weakly laminated volcanoclastic unit were observed. The unit was observed over a very local extent in an area of faulting and may represent relic fault blocks of some pre-existing unit.

On the central portion of the Chaco Bear 3 claim a banded mudstone was observed at higher elevations. The unit is comprised of dark black muddy layers alternating with yellowish-green silty layers and varies in thickness from 5 to 15 metres. The rugged nature of the terrain makes it difficult to trace this unit.

General structures observed on the claims are confined primarily to major joint sets and shear zones; primary bedding was observed in a mudstone unit and at what is believed to be a conformable contact between a fine andesite tuff and a coarse agglomerate unit.

The most prominent joint set strikes approximately 330° to 340° and dips 50° to 60° southwest. The three prominent gossan zones on the Chaco Bear 3 claim follow this trend as do many of the mineralized vein systems. Another strong fracture pattern is orientated 040° to 050° dipping 60° to 70° to the northwest. A weaker pattern is also observed trending 000 to 010° dipping moderately to the west. The 330°-340° is considered the most important as most of the better assays received are from veins orientated along this trend.

Bedding, and flow direction of the volcanics, is also oriented at 330° to 340° but dips to the northeast at approximately 40°. One fault zone, following the dominant joint trend, hosts the Bearnx showing; no determination of offset was possible.

#### EXPLORATION PROGRAM

The work completed on the property was conducted in two phases. Phase I was completed between August 29/96 and September 11/96 with Phase II work from October 15 to October 27, 1996. The Phase I program consisted of prospecting, reconnaissance geological mapping and rock sampling throughout the property. The work was intended to re-examine anomalous areas reported by Suncor (1984 & 1985) and to gain a general understanding of the styles of mineralization (epithermal veins/porphyry) present within the claims. A fly camp was established on the east side of the large lake in the central part of the property to facilitate examining the northern half of the property. The camp

was then moved to the west side of the Driftwood River to work the southern half of the property. A total of 193 rock chip and grab samples were collected and sent to Eco-Tech Laboratories Ltd. for a 28 element ICP analysis. Any gold, silver, or copper values exceeding the ICP detection limits were subsequently assayed.

The Phase II program was intended to follow up anomalous results from the Phase I work. Phase II exploration was comprised of claim staking (5 new claims totalling 100 units), electromagnetic (Max-Min) geophysical surveys (3.85 line kilometres) and diamond drilling of five BQ-sized holes totalling 455.8 metres (1490 feet) (Figure 4). The program was hampered throughout its duration by winter conditions which deteriorated as the program progressed. Rapidly accumulating snow limited the duration of the Max-Min survey and hampered the drill program. Several highly prospective areas targeted for drilling were inaccessible due to deep snow conditions on steep mountainous slopes.

The Max-Min survey was completed by personnel from S. J. Geophysics Ltd. of Delta, B. C. utilizing an Apex Parametrics Ltd. Max-Min I-10. The survey was completed on a flagged line grid which was not slope corrected.

The diamond drilling was completed by Falcon Drilling Ltd. of Prince George, B. C. utilizing a Falcon 1000 drill designed for fly jobs. A total of 125 core samples were split and sent to Eco-Tech Laboratories Ltd. in Kamloops, B. C. All samples were



Figure 4

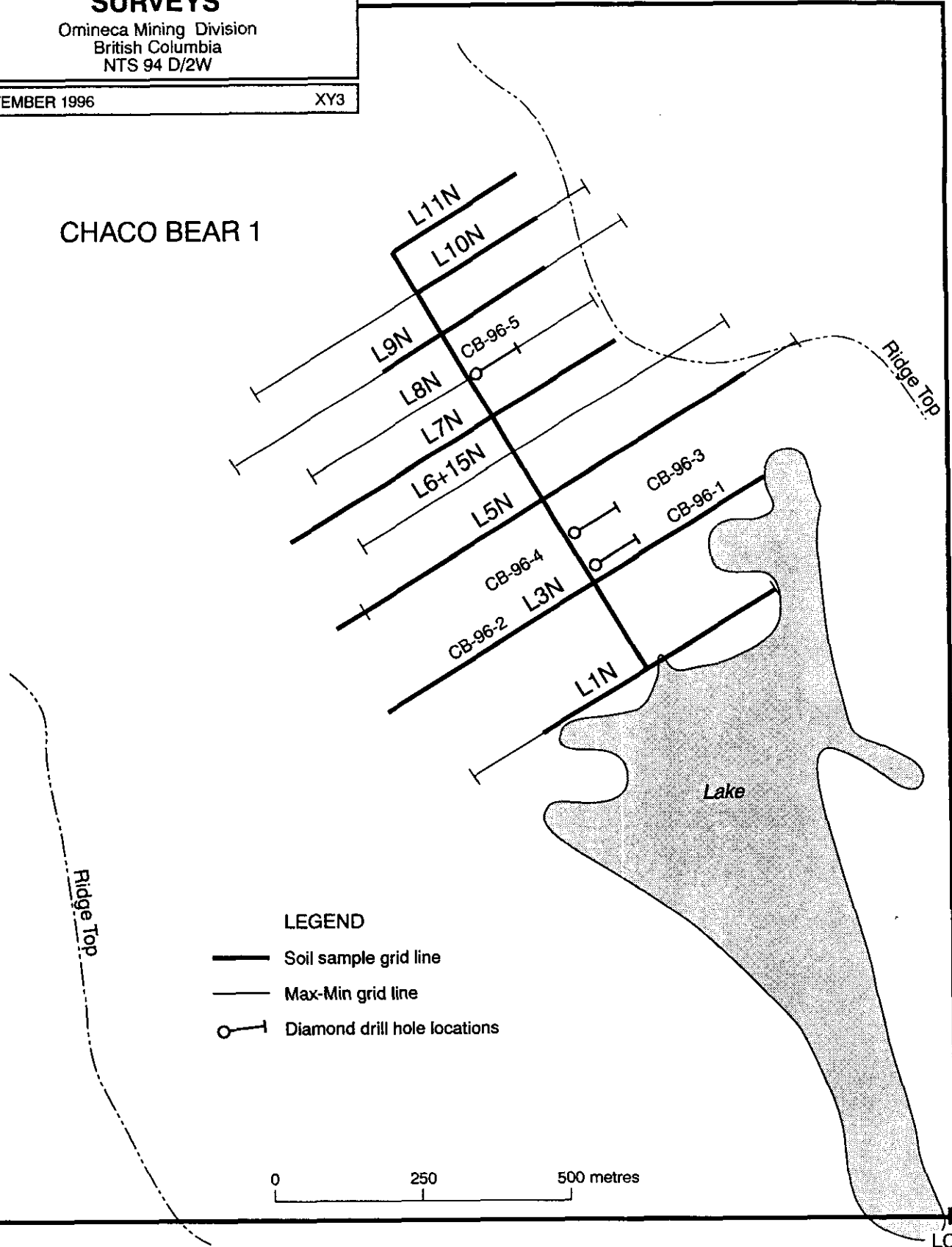
**CHACO BEAR PROJECT  
AREA OF DETAILED  
SURVEYS**

Omineca Mining Division  
British Columbia  
NTS 94 D/2W




NOVEMBER 1996

XY3

CHACO BEAR 1



**LEGEND**

-  Soil sample grid line
-  Max-Min grid line
-  Diamond drill hole locations

0 250 500 metres



analyzed for gold by fire assay and a 28 element ICP analysis. Selected samples were also assayed for copper.

### Mapping and Prospecting

The preliminary mapping and prospecting program was highly successful in outlining several areas with anomalous gold-silver-copper results (Figures 5a, 5b, and 5c). In the northeastern claim block (Chaco Bear 2), three main areas were located, two in the north of the claim (Area A, Coccoła) and one in the south (Saddle Zone). Several anomalous samples were found on a ridge located north-northeast of the fly camp location, tested by samples BD 1 to 6 in an anomalous region called Area A.

Mineralization consists of pyrite, chalcopyrite, bornite, possible tetrahedrite and galena, and specular hematite with malachite staining in quartz-carbonate shear-breccia veins.

Assays ranged up to 13.28 g/t gold (BD96-3) 276.6 g/t silver (BD96-5) and 3.72% copper (BD96-6) with samples BD96-3 and 5 also assaying 3.52% and 3.63% copper respectively.

Further east of this area, samples BD96-8 to 12 were collected in the area of what is believed to be the Coccoła showing, as several old pits, now filled with debris, were located and sampled. All of the samples reported anomalous gold assays, BD96-8 assayed 555 ppb gold with the remaining samples ranging from 2.01 to 6.16 g/t gold and up to 100.7 g/t silver. Sample BD96-11, a grab sample of a 6-10 cm wide siliceous vein assayed 6.16 g/t gold, 47.4 g/t silver, 6.48% copper and 1.76% zinc.

In the southern portion of the Chaco Bear 2 claim block, an area known as the Saddle Zone returned highly anomalous values from float material believed to be weathered in situ. The float boulders from the weathered outcrop form a linear trend before disappearing under snow. There is evidence of previous work in the area of these boulders as one old picket was found together with a small trench; the trench did not hit bedrock and was still in talus. Float boulders consist of vuggy quartz veins with strong limonite staining. Mineralization consists of chalcopyrite and tetrahedrite(?) with strong malachite and azurite staining in total concentrations of up to 30%. Sample WR96-12 assayed 17.63 g/t gold, 1,066 g/t silver, 2.41% arsenic and 6.16% copper.

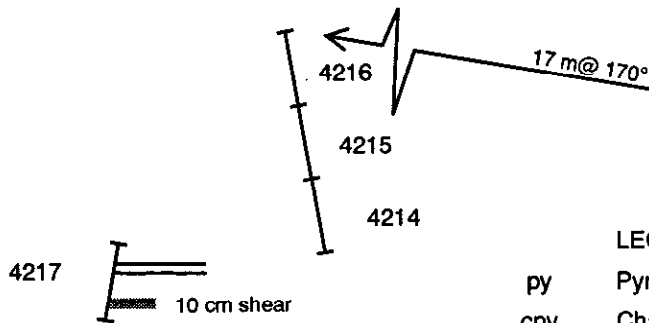
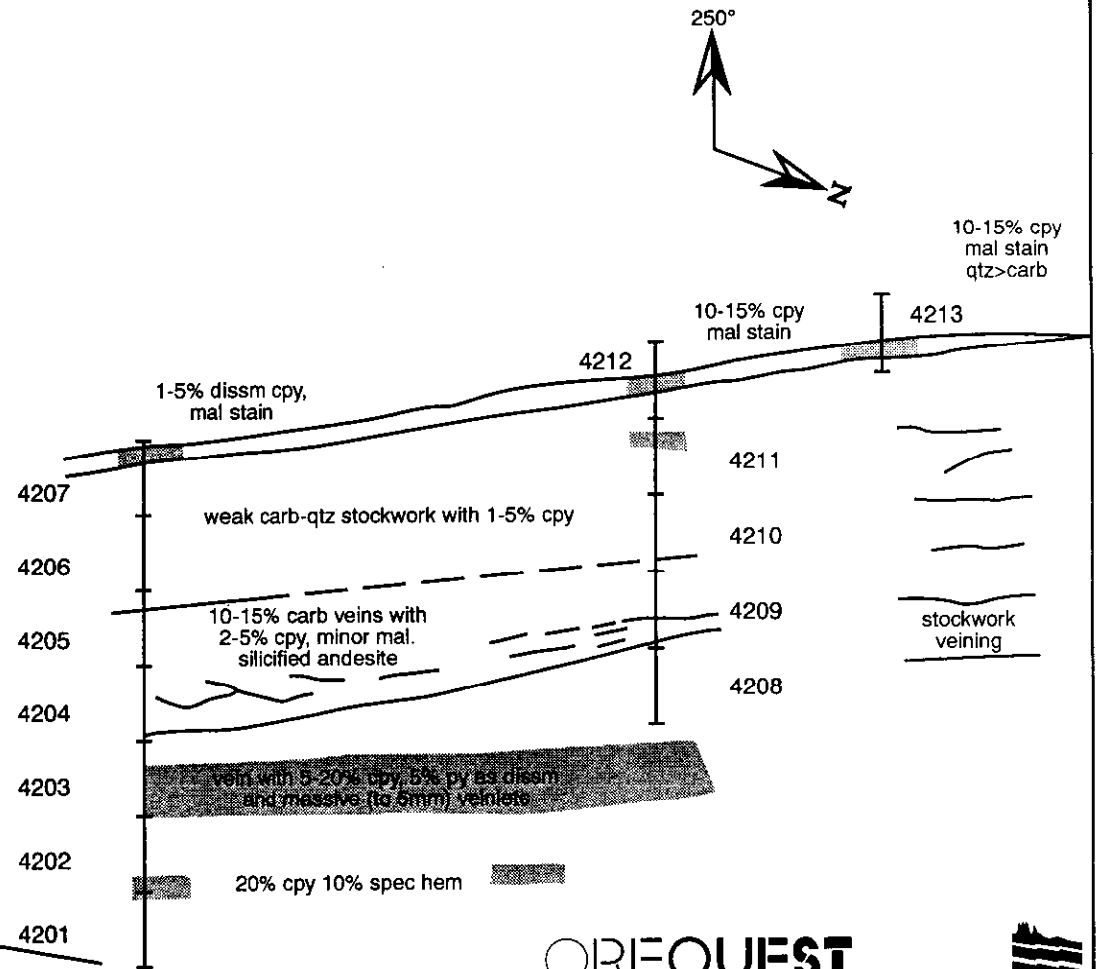
The northwestern claim block, Chaco Bear 1, is also host to areas of multiple carbonate-quartz shear/breccia veins, with three main areas of interest. The first area, known as the Bearx showing, is located in a creek, northwest of the main lake, and was the focus of the Phase II diamond drilling program. The showing consists of a fault bounded zone of carbonate-quartz veining with veins up to 0.4 m wide. The zone is hosted in a green to reddish andesite tuff. Mineralization consists of 5-20% chalcopyrite and 5-10% specular hematite over narrow widths of 10-20 cm in quartz flooded sections within carbonate veins. The chip sampling was completed across the width of the zone in one location and across portions of the zone in other locations with the sampling restrained by topography (Figure 6a). The longest chip line across the zone assayed 1.493 g/t gold, 14.7 g/t silver and 0.58% copper over 7.0 metres. A second line, 7 metres north, assayed 0.486 g/t gold, 1.2 g/t silver and 0.85% copper over 5.0 metres.

Sample #	Length(m)	Au ppb(g/t)	Ag ppm(g/t)	Cu ppm(%)	Pb ppm	Zn ppm
4201	1.0	130	2.4	932	78	148
4202	1.0	(4.52)	(90.7)	(2.84)	224	228
4203	1.0	(5.47)	7.0	4085	308	202
4204	1.0	55	1.2	1249	152	150
4205	1.0	5	0.4	387	46	57
4206	1.0	5	0.6	1054	36	29
4207	1.0	265	0.6	4791	96	53
4208	1.0	470	2.0	2613	214	357
4209	1.0	(1.26)	2.0	(1.62)	488	872
4210	1.0	335	1.4	(1.59)	100	134
4211	1.0	205	1.6	3344	352	717
4212	1.0	(1.13)	1.4	4615	298	192
4213	1.0	(1.82)	1.2	7158	108	349
4214	1.0	5	0.4	22	12	77
4215	1.0	5	<0.2	29	6	67
4216	1.0	5	0.4	23	<2	43
4217	1.0	5	<0.2	8	12	91

Chip Line 4201-4207 = 1493ppb = Au= 1.493g/t over 7m  
 Ag= 14.7g/t over 7m  
 Cu= 5842 ppm= 0.58% Cu over 7m

Chip Line 4208-4212 = 0.486 g/t Au over 5m  
 1.2 g/t Ag over 5m  
 0.85% Cu over 5m

Zone is hosted in green to reddish andesite tuff with strong pervasive carbonate alteration. Stockwork zones have 20-50% quartz-carbonate veining and 5-20% cpy, 5-10% specular hematite and trace to moderate malachite.



LEGEND

- |          |                   |      |   |
|----------|-------------------|------|---|
| py       | Pyrite            | qtz  | Quartz                                    |
| cpy      | Chalcopyrite      | carb | Carbonate                                 |
| spec hem | Specular hematite | 4213 | Chip sample location and assay tag number |
| mal      | Malachite         |      | Carbonate-quartz vein                     |
| dissm    | Disseminated      |      |   |

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Figure 6a

CHACO BEAR PROJECT

CHIP LINE #1

Omineca Mining Division  
 British Columbia  
 NTS 94 D/2W

NOVEMBER 1996

XY3

The second area, *Higrade Zone*, occurs on a ridge top near the claim boundary between the Chaco Bear 1 & 2 and Chaco Bear 6 & 7 mineral claims. One grab sample, RR96-22, assayed 2.31 g/t gold, 31.0 g/t silver and 3.68% copper. Spectacular results were obtained from a float sample (WR96-5), which assayed 10,530 g/t silver (307.09 oz/ton) and 36.9% copper. The sample is likely the result of weathering in place of outcrop that has formed a very linear trend up to near the top of the ridge. Trenching will be required to locate the vein in place.

The third area of interest, *Area B*, occurs in an area of rugged terrain on the west side of the central lake. In this area there are a number of vuggy quartz-carbonate shear/breccia veins which range in width from 0.05 to 1.0 metres and have been traced over a strike length of several hundred metres. Grab and chip samples from these veins have returned a number of anomalous gold-silver-copper assays in samples RR96-7 to 19. The results are given in Table 2 - Anomalous Rock Samples.

TABLE 2 - ANOMALOUS ROCKS SAMPLES

Sample No.	Sample Type & Width (Grab or Chip)	Rock Type	Au g/t (ppb)	Ag g/t (ppm)	Cu% (ppm)	Vein Width cm
RR96-7	Grab	vein	(5)	(5.8)	(5242)	30
RR96-8	Grab	vein	(5)	(<0.2)	(834)	5
RR96-9	Grab	vein	2.75	(3.4)	4.67	80
RR96-10	Grab	vein	1.86	(1.0)	(8743)	3
RR96-11	Grab	vein	4.94	(2.4)	2.86	5
RR96-12	Grab	wallrock	(60)	(6.8)	0.32	300-400
RR96-13	Grab	vein	7.69	(1.4)	(2973)	50
RR96-14	Grab	vein	(125)	(6.8)	2.69	30
RR96-15	Chip-1.0 m	vein	(680)	(1.4)	(1357)	100
RR96-16	Grab	vein	7.35	392.2	6.94	50
RR96-17	Grab	vein	(105)	(2.0)	2.56	3-20
RR96-18	Grab	vein	5.01	61.8	1.84	10-20
RR96-19	Chip-1.0 m	vein	(355)	(1.8)	(6073)	100
WR96-15	Chip-20 cm	vein	(5)	(0.4)	(11)	20

These results demonstrate the ability of the veins to carry economic grades of gold and copper. Although generally narrow, the veins are clustered together and may have a source at depth that coalesces into a larger, singular vein or a deeper porphyry style vein stockwork; further work is certainly warranted in this area.

In the southern portion of the property, Chaco Bear 3 & 4 claims, the zones of interest can be divided into three main types: narrow shear veins, porphyry style pyritic halo or broad shear zone, and possible stratabound mineralization.

Brecciated, shear hosted carbonate-quartz veins are present throughout the area, like those observed in the northern half of the property. The veins are generally narrow, 5-20 cm, but locally attain widths of up to 1.2 metres. The mineralogy is slightly

different than that observed on the northern half of the property in that pyrite and specular hematite are much more common at the expense of chalcopyrite and tetrahedrite (?).

Anomalous results were obtained from some of the samples including 22.03 g/t gold from sample RR96-43, a grab from a 10 cm wide carbonate vein containing minor pyrite.

Other anomalous assays include 2.82 g/t gold, 5.0 ppm silver and 7452 ppm copper from sample RR96-37, a selected sample from a 5.0 cm wide quartz-calcite vein with up to 20% specular hematite, and 7.06 g/t gold from sample BD96-47, a grab from a 15.0 cm wide quartz-hematite vein.

On the Chaco Bear 3 claim there is a large ridge which transects the claim from southeast to northwest. Approximately halfway up this ridge is a prominent gossan zone well exposed on three "knobs" with a strike length of 1.3 km where exposed. This "Gossan Zone" appears to line up with that seen on the east side of the Driftwood River which corresponds to the Bear Lake Property drilled by Skyline Gold Corp. The zone is hosted in purple to grey green andesite tuff which is believed to have been variably altered to a pale greenish-white colour due to silicification and sericitization. Pyrite is ubiquitous as fine disseminations in concentrations of 2 to 10%.

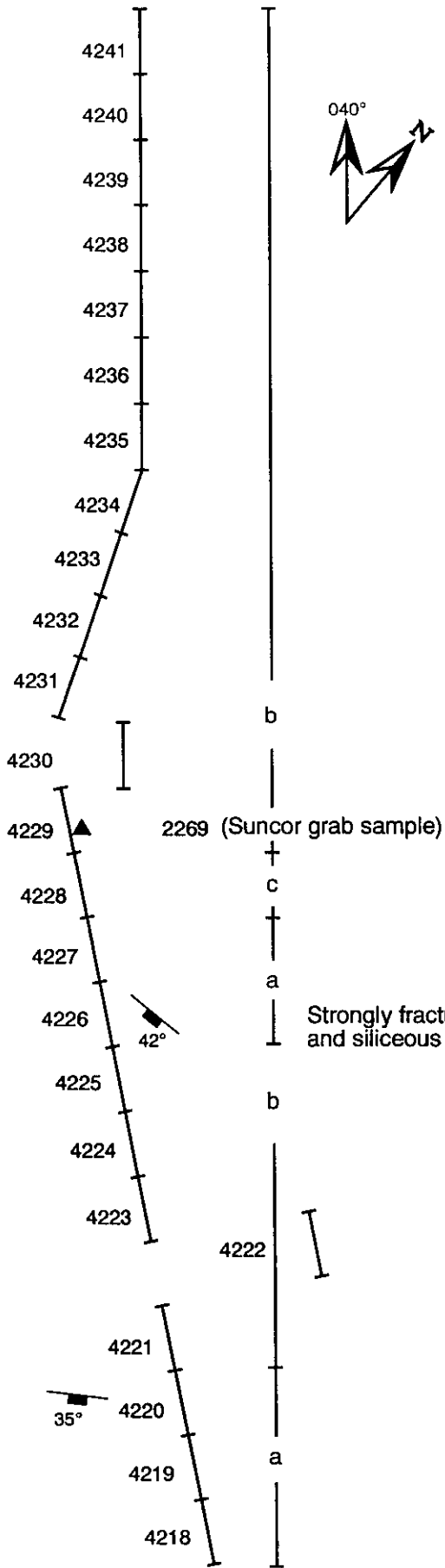
Grab samples were collected from various locations along the Gossan Zone and returned some encouraging assays though none of the magnitude received from the narrow shear/breccia veins. Assay values from various samples ranged from 5 to 190 ppb gold and 0.6 to 13.0 ppm silver. Base metal values are generally low, less than 100 ppm though elevated results were received including highs of 315 ppm copper, 1194 ppm lead

and 827 ppm zinc, all from sample BD96-42. One chip sample (Chip Line #2) was completed over a portion of the gossan in the middle of the exposed zone. A total of 24 samples, each 2.0 metres in length, for a total length of 48.0 metres, was completed. Gold assays are generally low, ranging from 5 to 30 ppb, silver ranged from 0.2 to 2.4 ppm. Copper values were also low however some interesting results were received for lead and zinc. The lead and zinc assays are consistently higher than those obtained from any other area sampled within the claims. The entire sample line assayed 1.2 g/t silver, 220 ppm lead and 293 ppm zinc over 48.0 metres including 1.7 g/t silver, 387 ppm lead and 316 ppm zinc over 26.0 metres (Figure 6b).

The final area of interest was not fully defined during the surveys as it appears to have a large extent. It consists of a very rusty weathering agglomerate called the Ferruginate Zone. The unit is well exposed at the headwaters of the two easterly draining tributaries of the Driftwood River on the Chaco Bear 4 claim and crops out both sporadically in the creek beds down to the Driftwood River itself and partway up the eastern side of the valley. In places it appears as a cap (3-4 m thick) on a less iron altered andesitic agglomerate. In other outcrops, by the Driftwood River, it appears to be at least 30 m thick. Exposures of the unit give the impression that it forms a dip slope. It is unclear whether the intense gossan is the result of surficial weathering or hydrothermal alteration.

Massive specular hematite veins were found at various locations and elevations throughout the unit; the veins range from 0.05 to 0.4 m thick. A narrow quartz vein

Sample #	Length(m)	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm
4218	2.0	20	0.2	67	22	223
4219	2.0	15	0.2	15	26	273
4220	2.0	25	0.6	24	22	277
4221	2.0	5	0.4	43	10	264
4222	2.0	5	0.4	41	56	296
4223	2.0	5	0.6	102	14	254
4224	2.0	10	0.8	135	10	273
4225	2.0	5	0.8	182	4	236
4226	2.0	10	1.4	70	66	330
4227	2.0	30	0.6	24	12	214
4228	2.0	10	0.4	11	14	283
4229	2.0	15	2.0	10	356	269
4230	2.0	30	1.4	12	362	345
4231	2.0	10	1.4	101	62	308
4232	2.0	15	1.6	42	304	289
4233	2.0	25	1.2	25	198	332
4234	2.0	20	2.2	13	310	273
4235	2.0	20	2.4	42	518	355
4236	2.0	5	2.0	32	544	353
4237	2.0	5	1.8	28	132	368
4238	2.0	5	1.8	30	452	421
4239	2.0	5	1.6	34	892	292
4240	2.0	5	1.6	35	430	202
4241	2.0	5	1.6	48	478	297



**LEGEND**

- a Fine grained, pale greenish coloured andesite that is partially silicified. Has 5-10% fine grained disseminated pyrite and 3-5% fine epidote, fractured.
- b As above only less silicified, more chloritic. Has 3-8% fine grained disseminated pyrite and is moderately fractured.
- c Feldspar porphyry
- 4229 | Chip sample interval and assay tag number
- 42° ↘ Fracture, inclined

**OREQUEST**

IMPERIAL METALS CORP.

Figure 6b

**CHACO BEAR PROJECT**

**CHIP LINE #2**

Omineca Mining Division  
British Columbia  
NTS 94 D/2W

NOVEMBER 1996

XY3

0 2 4 6 8 10 metres



containing up to 40% massive specular hematite, 10% pyrite and minor magnetite, sample RR96-24, assayed 25.52 g/t gold and 1.16% copper. One chip sample line was completed across what is believed to be the strike of the unit; no anomalous results were obtained from this line (Figure 6c).

### Soil Geochemical Surveys

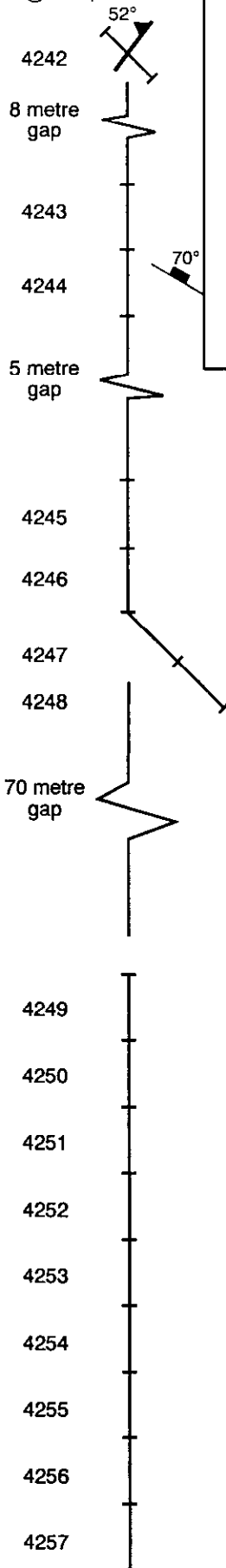
A limited soil sampling program was completed on the property in mid-July, 1996. The data was discussed in an assessment report on the property by the author dated Oct. 10/96. That information is summarized in this report so that all surveys completed on the property in 1996 are contained within one report.

The soil sampling was completed on the same flagged-line grid as the geophysical surveys, as shown on Figure 4. A total of 91 B-horizon samples were collected at approximately 50 metre intervals along the cross-lines; snow conditions dictated the availability of sample locations.

Gold distribution in the soil samples is mostly as single station highs. The majority of samples returned assays results below detection limits, with only three samples reporting values greater than 15 ppb gold. These locations and assays are as follows: L5N, 3+50E (>1000 ppb), L7N, 4+50W (40 ppb) and L7N, 0+70E (45 ppb). The value of >1000 ppb gold is highly anomalous and should be followed up (Figure 7a).

20cm massive specular hematite vein @ 187/52°W

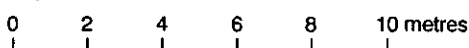
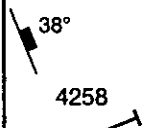
Sample #	Length(m)	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm
4242	2.0	5	<0.2	15	8	19
4243	2.0	5	0.2	10	4	9
4244	2.0	5	0.2	13	<2	9
4245	2.0	5	<0.2	17	2	25
4246	2.0	5	<0.2	10	4	6
4247	2.0	5	<0.2	12	2	8
4248	2.0	5	<0.2	7	<2	5
4249	2.0	5	0.2	24	4	8
4250	2.0	5	0.2	19	8	10
4251	2.0	5	0.2	12	6	8
4252	2.0	55	<0.2	20	6	8
4253	2.0	60	<0.2	20	4	9
4254	2.0	40	0.2	10	4	5
4255	2.0	5	<0.2	18	6	6
4256	2.0	10	0.4	14	8	4
4257	2.0	10	0.2	15	4	12
4258	2.0	5	<0.2	38	12	86



All samples are of an andesitic/dactic agglomerate unit that is cemented together with limonite and manganese (ferruginate). Has 1-5% fine disseminated pyrite on fresh surfaces. Forms a "cap" over fresher chloritic andesite.

LEGEND

- 4258 | Chip sample interval and assay tag number
- 38° | Fracture, inclined



**OREQUEST**

IMPERIAL METALS CORP.

Figure 6c

**CHACO BEAR PROJECT**

**CHIP LINE #3**

Omineca Mining Division  
British Columbia  
NTS 94 D/2W

NOVEMBER 1996

XY3



Figure 7a

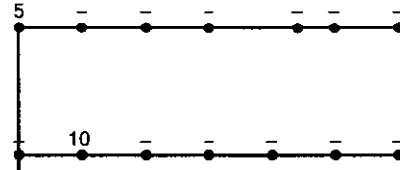
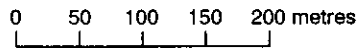
CHACO BEAR PROJECT  
SOIL GEOCHEMISTRY (Au)

Omineca Mining Division  
British Columbia  
NTS 94 D/2W

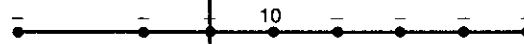
- Assay below detection limit (<5 ppb)
- 10 • Soil sample location and assay (ppb)

OCTOBER 1996 XY3

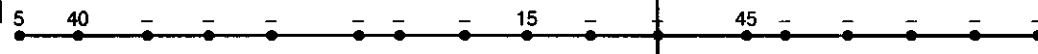
L11N



L9N



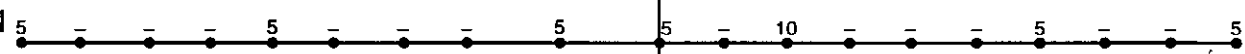
L7N



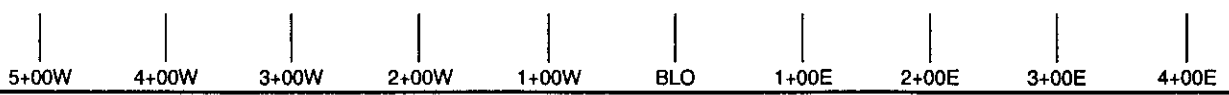
L5N



L3N



L1N



Silver assays are generally fairly low with over half the samples returning values below the detection limits. An arbitrary value of 1.0 ppm was chosen as anomalous. All results  $\geq 1.0$  ppm silver are found on the two southernmost lines, L1N and L3N, with the exception of one value of 1.8 ppm on L11N, 2+20E. Most of these higher values are found as single station highs though there is a north-northeast trend, east of the baseline, on lines 1N and 3N with assays ranging from 1.0 to 2.4 ppm silver. Follow-up work would be required to evaluate the elevated silver values and determine their source (Figure 7b).

Copper assays are also fairly low throughout the grid area with 9 samples assaying greater than 100 ppm copper. These elevated copper results are located in two main areas, one near the west end of the grid on lines 5N and 7N with a high of 162 ppm copper, and the other just east of the baseline, on L3N and L5N, with a high of 218 ppm copper. Single station anomalies are found on L1N, 2+50W (179 ppm) and L1N, 2+50E (339 ppm) (Figure 7c).

In summary, no broadly anomalous trends for gold, silver, and copper are evident from the geochemical survey. However, the line and sample spacing is wide; a more detailed survey may further refine the anomalous areas outlined by the survey. Other elements were analysed but have not been plotted. Ranges for some of these elements are as follows: molybdenum (<1 to 6 ppm), lead (8 to 126 ppm) and zinc (42 to 275 ppm).



IMPERIAL METALS CORP.

Figure 7b

CHACO BEAR PROJECT  
SOIL GEOCHEMISTRY (Ag)

Omineca Mining Division  
British Columbia  
NTS 94 D/2W

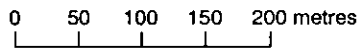
OCTOBER 1996

XY3



- NA No assay
  - Assay below detection limit (<0.2 ppm)
  - 1.0 Soil sample location and assay (ppm)
- Contour interval = 1.0 ppm

L11N



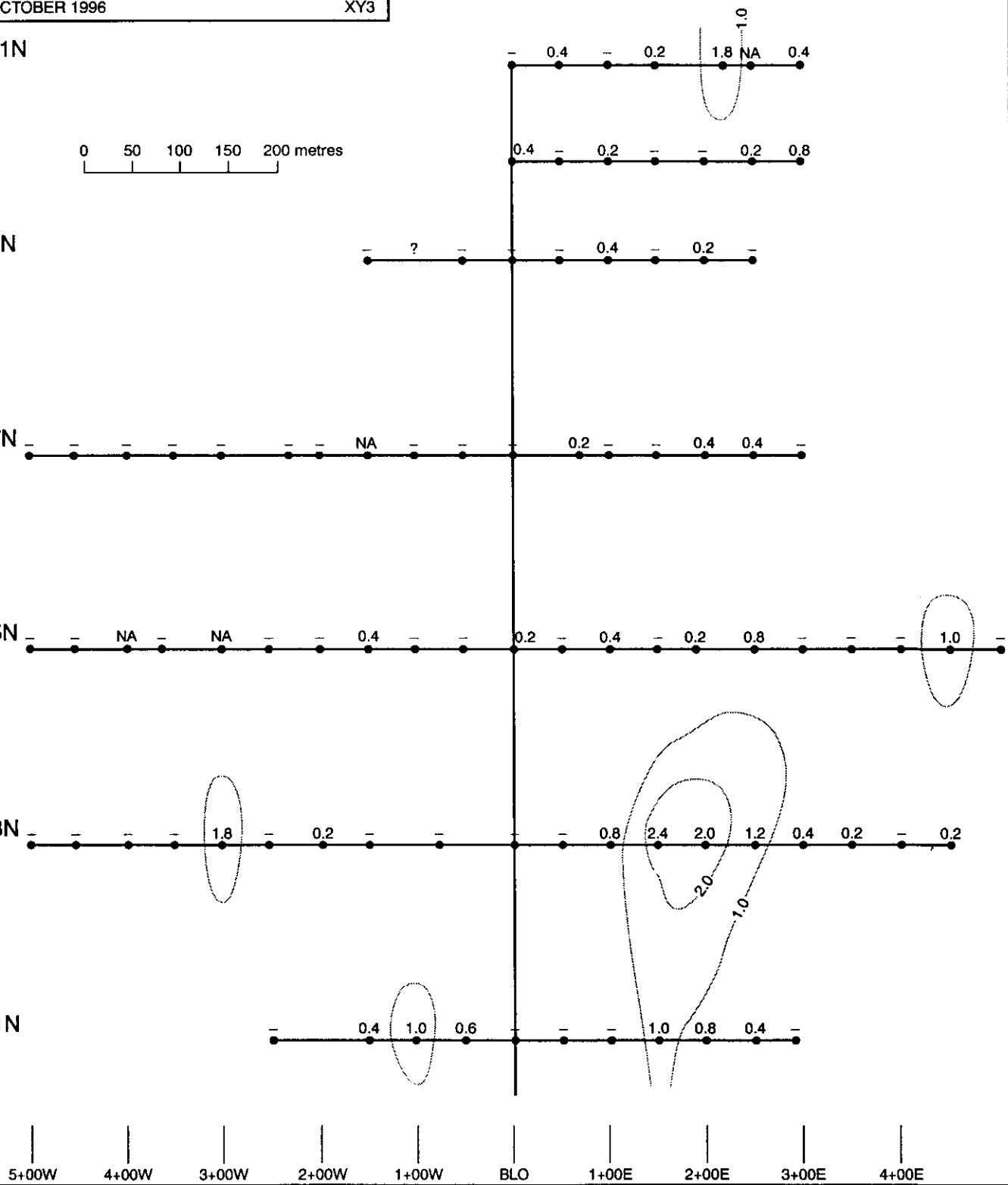
L9N

L7N

L5N

L3N

L1N



5+00W 4+00W 3+00W 2+00W 1+00W BLO 1+00E 2+00E 3+00E 4+00E



IMPERIAL METALS CORP.

Figure 7c

## CHACO BEAR PROJECT SOIL GEOCHEMISTRY (Cu)

Omineca Mining Division  
British Columbia  
NTS 94 D/2W

OCTOBER 1996

XY3

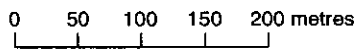


NA No assay

17 Soil sample location and assay (ppm)

Contour interval = 100 ppm

L11N



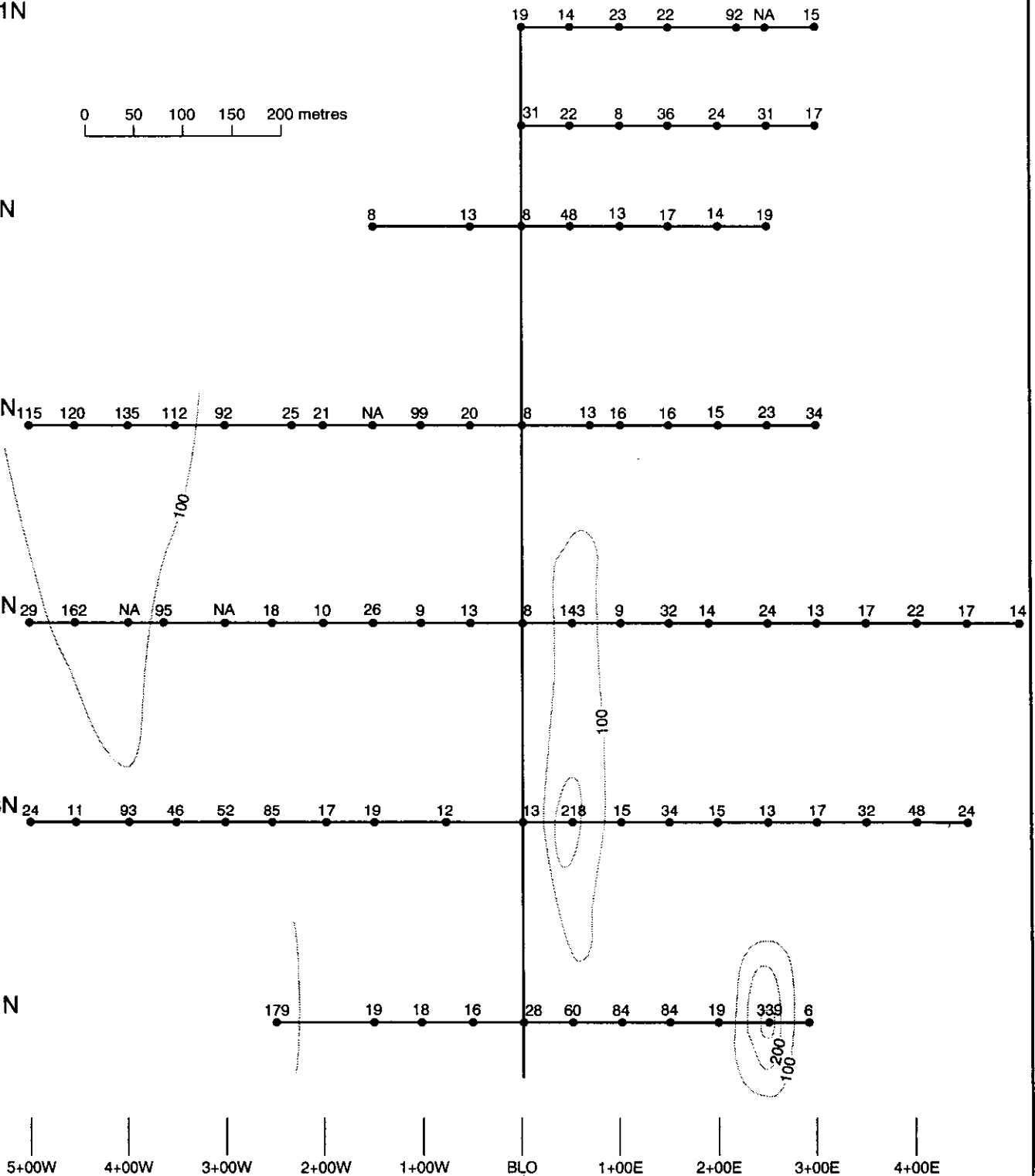
L9N

L7N

L5N

L3N

L1N



### Property Geophysics

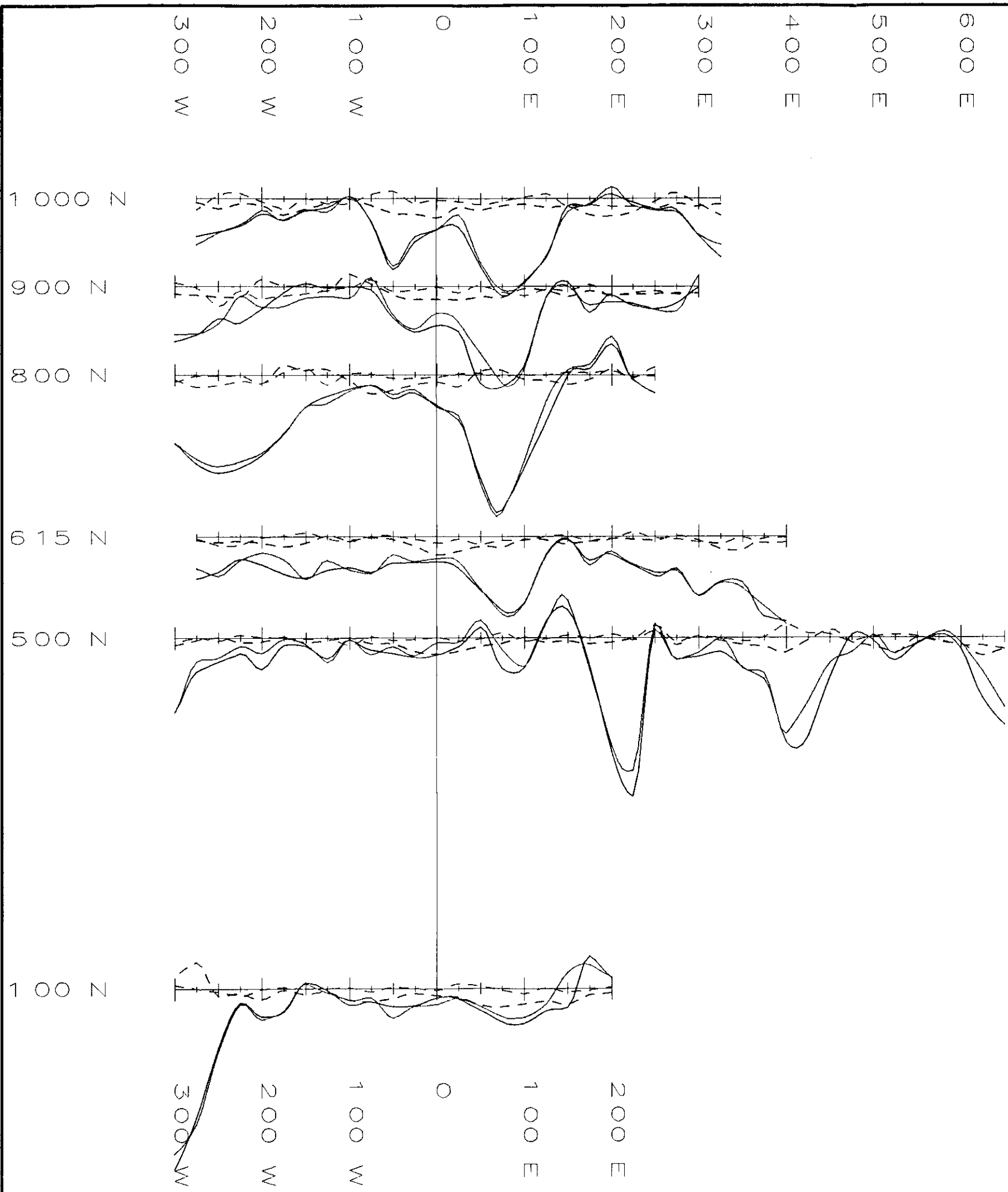
A limited horizontal loop (Max-Min) survey was completed over several flagged lines in the northern part of the property (3.85 line-km) and one line in the south. The survey was of a reconnaissance nature to test for possible massive sulphide mineralization at depth, coincident with the mineralization seen at the Bearnx showing which is fault related.

The survey outlined several distinct anomalies. However, these anomalies are suspicious because they are in phase responses alone without any out of phase response which is theoretically possible for a highly conductive feature but is rarely seen in practice. In addition, the anomalies have the same amplitude for both frequencies used. This cannot occur if the anomalies are due to electromagnetic induction in a conductor but can occur if topography and slope are not taken into account by the survey and subsequent data processing.

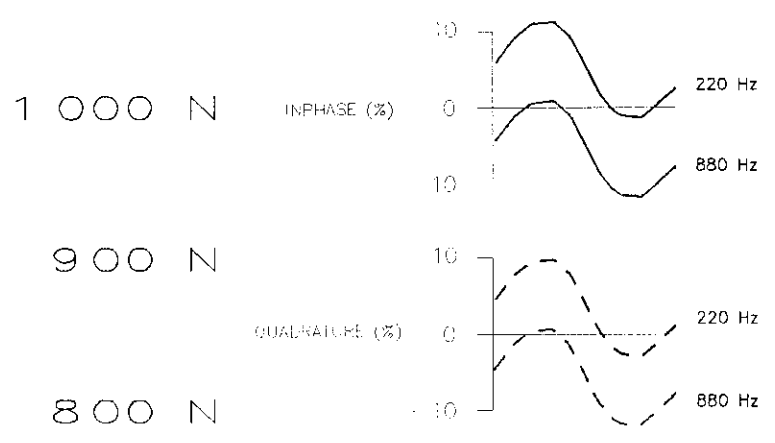
The out of phase component which is not affected by topography and slope exhibits a few subtle anomalies the most distinct of which indicates a weak conductor at 200E on line 1000N (Figures 8a, 8b, and 8c). The VLF-EM method would be more appropriate given the style of mineralization on the property

### Diamond Drilling

The diamond drilling program was intended to test several prospective target areas but inclement weather conditions confined the program to the area of the Bearnx



LEGEND



INSTRUMENTATION:  
APEX PARAMETRICS MAXMIN I-10

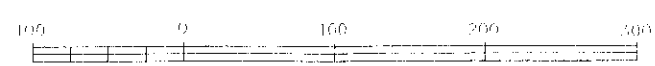


IMPERIAL METALS CORPORATION

CHACO BEAR PROJECT

HLEM SURVEY

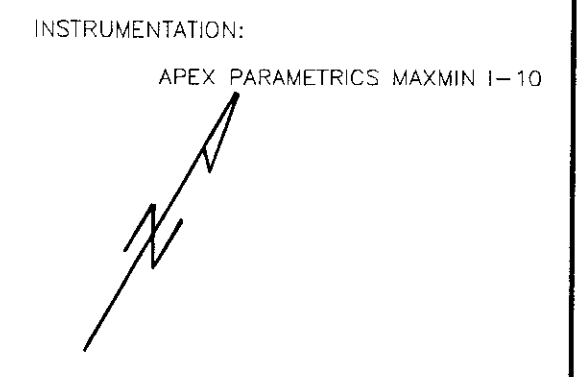
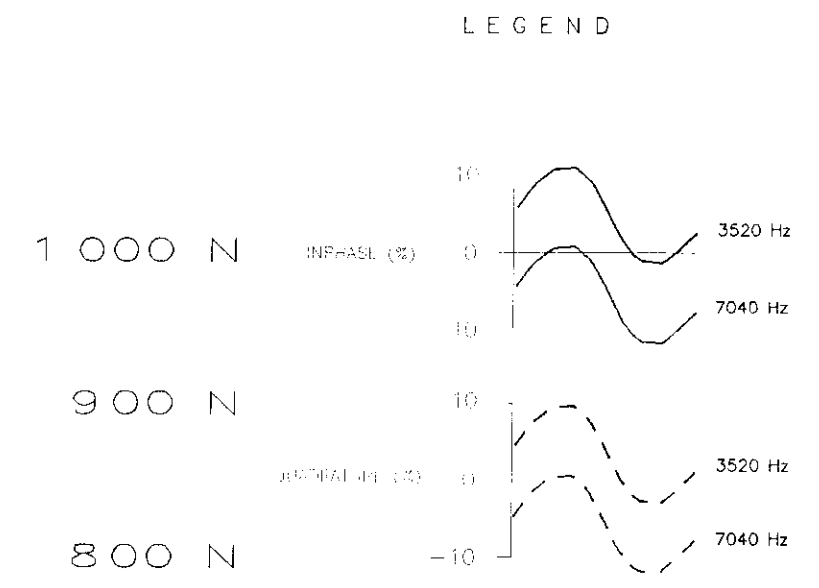
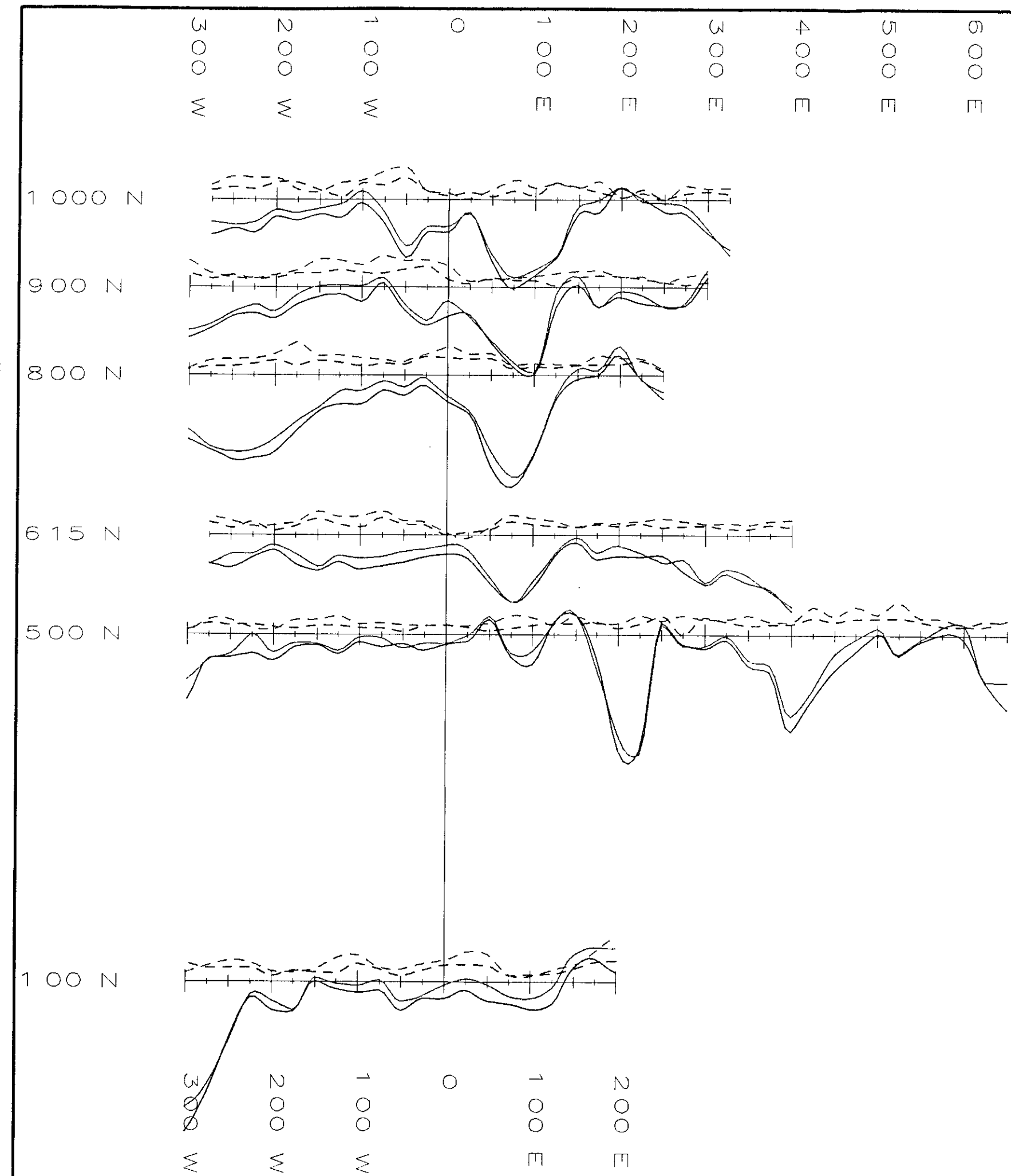
IN PHASE AND QUADRATURE PROFILES



SCALE IN METRES

Figure 8a



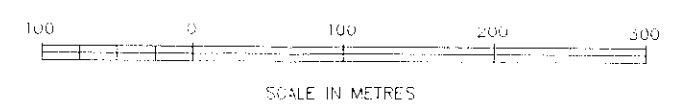


**IMPERIAL METALS CORPORATION**

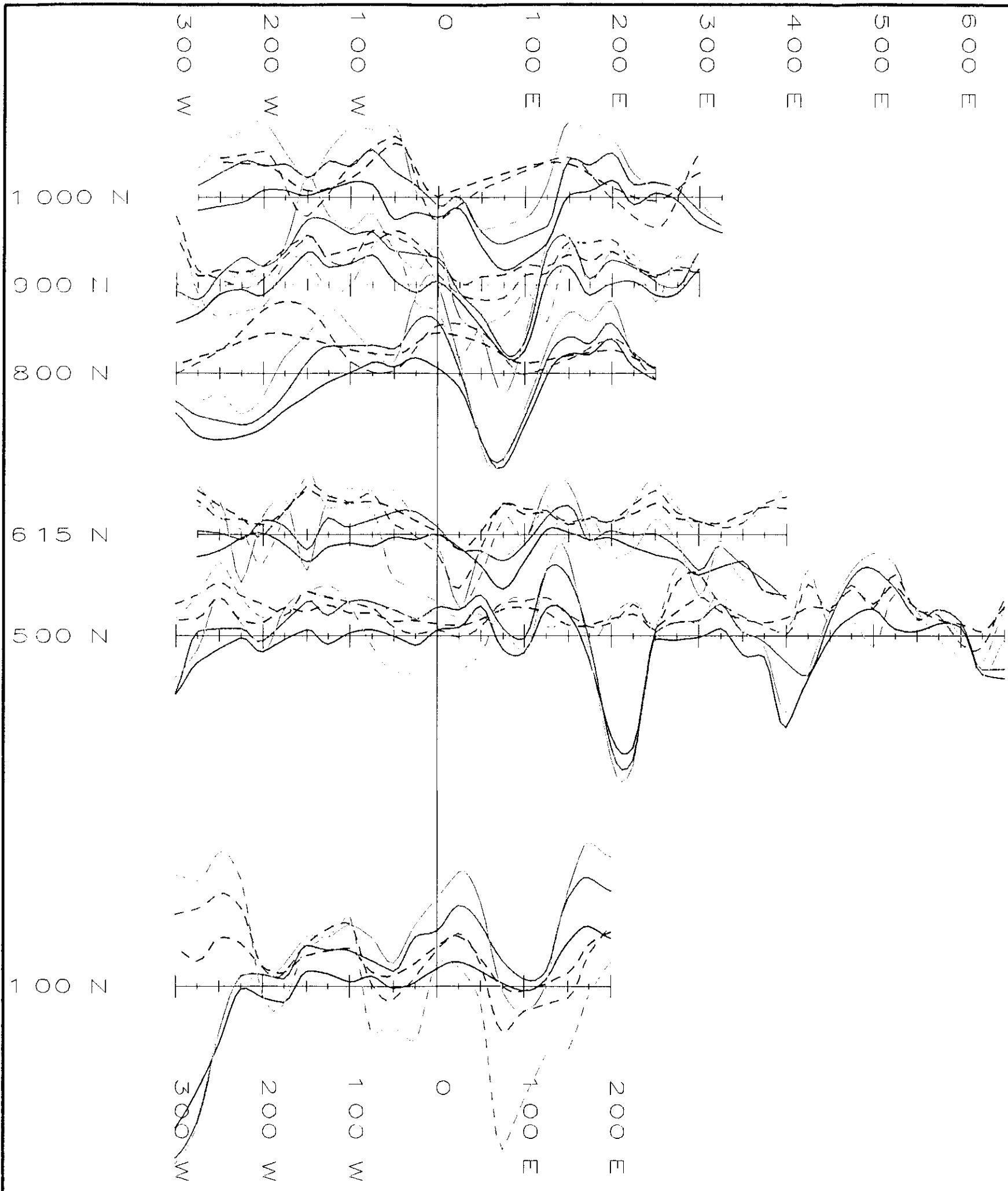
CHACO BEAR PROJECT

**HLEM SURVEY**

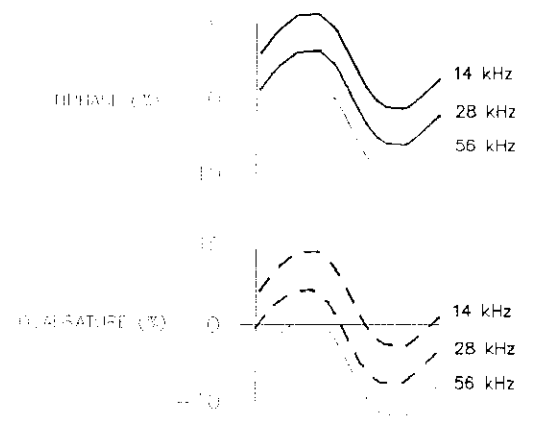
IN PHASE AND QUADRATURE PROFILES



**Figure 8b**

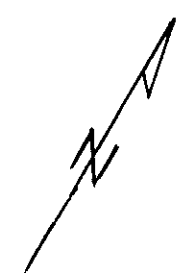


LEGEND



INSTRUMENTATION:

APEX PARAMETRICS MAXMIN I-10



IMPERIAL METALS CORPORATION

CHACO BEAR PROJECT

HLEM SURVEY

IN PHASE AND QUADRATURE PROFILES

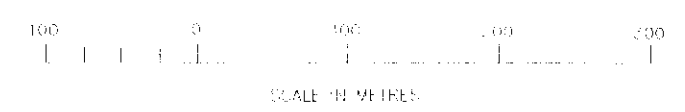


Figure 8c

showing, the only area of relatively level ground requiring minimal pad building to accommodate the drill. All holes were drilled to the east to test westerly dipping structures which, in the case of the  $-45^\circ$  holes, was essentially drilling down dip on stratigraphy. As a result most of the holes were in the same rock unit throughout their length, encountering subtle variations of the same unit or same volcanic pile. A total of five BQ-sized holes totalling 455.8 metres were drilled from three locations. Relevant drillhole information is summarized on Table 3 - Drillhole Location Information.

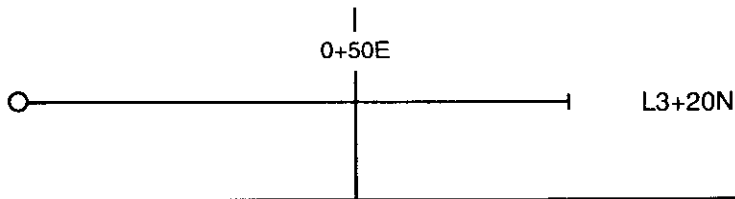
**TABLE 3 - DRILLHOLE LOCATION INFORMATION**

Hole No.	Northing	Easting	Azimuth	Dip	Length (metres)
CB-96-1	3+20	0+25	060	-45	57.93
CB-96-2	3+20	0+25	N/A	-90	155.49
CB-96-3	4+00	0+25	060	-55	43.29
CB-96-4	4+00	0+25	N/A	-90	90.55
CB-96-5	8+00	0+25	060	-45	108.54

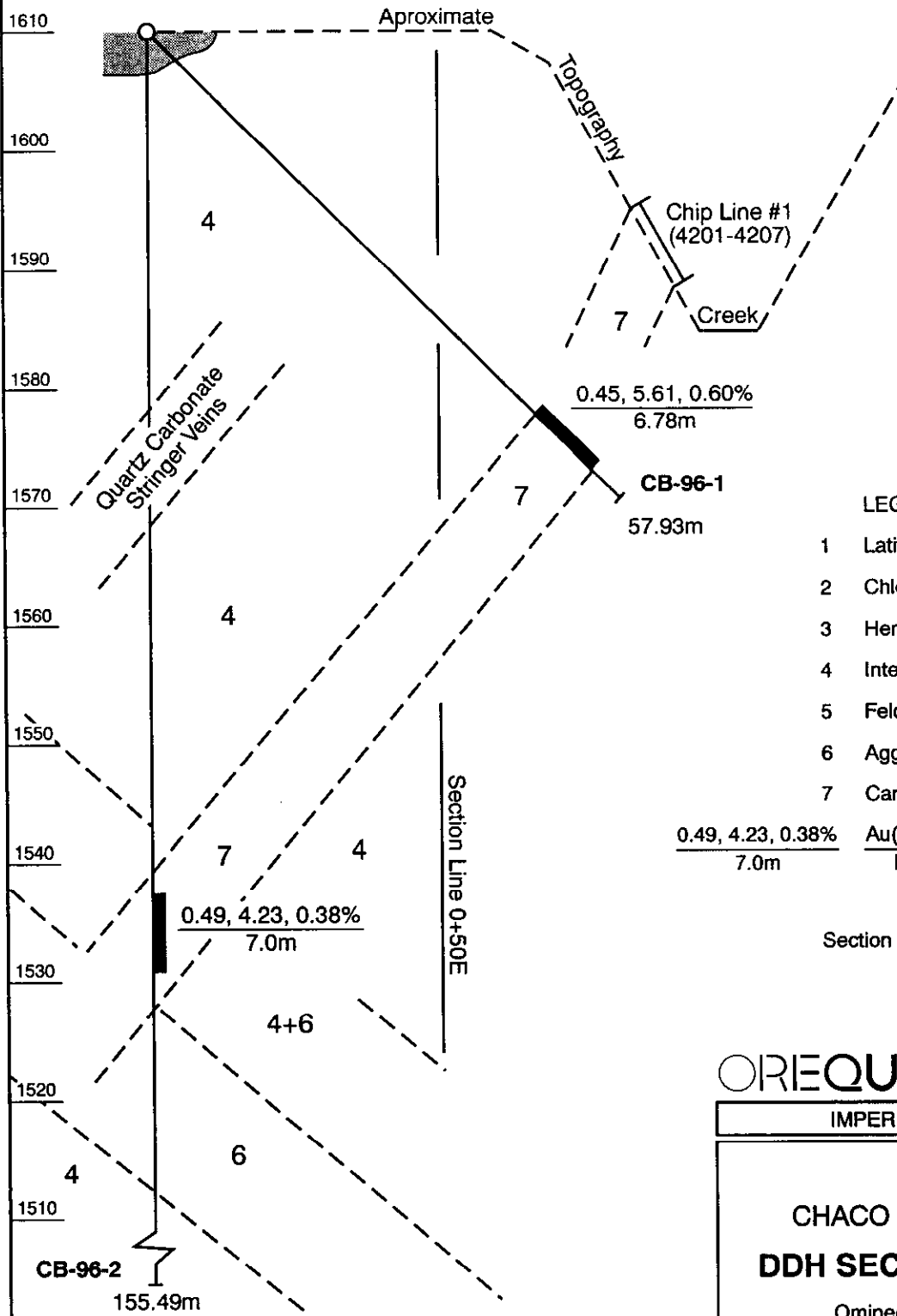
#### CB-96-1&2

Both these holes were collared from the same set-up to test the Bearnx showing in the same area as surface chip line #1. They encountered predominantly chlorite and hematite altered andesite tuff throughout their length. The unit is a red-purple-maroon colour with darker green chloritic sections with coarser grained tuffaceous fragments. The hematite is found as a pervasive constituent throughout the matrix and in sections as a secondary alteration comprised of contorted bands appearing as a stain. Local sections of the unit are a deep reddish colour with no chlorite present (Figure 9a).

**PLAN VIEW**



**SECTION VIEW**



**LEGEND**

- 1 Latite Flow
- 2 Chloritic Andesite Tuff
- 3 Hematitic Andesite Tuff
- 4 Intercalated units 2+3
- 5 Feldspar Porphyry
- 6 Agglomerate / Lapilli Tuff
- 7 Carbonate-Quartz Breccia Zone

0.49, 4.23, 0.38%  
7.0m

Au(g/t), Ag(g/t), Cu(%)  
length in metres

Section Looking 330°

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Figure 9a

**CHACO BEAR PROJECT**  
**DDH SECTION CB-96-1+2**

Omineca Mining Division  
British Columbia  
NTS 94 D/2W

NOVEMBER 1996

XY3

0 5 10 15 20 25 metres

Both holes successfully intersected the carbonate-quartz fault bounded breccia zone structure. The zone is comprised of quartz-carbonate veins up to 0.5 metres wide and as stringer veinlets flooding the fault structure. Tension gash infillings, 5-10%, are present throughout the zone which was fractured and brecciated by faulting and subsequently healed with sulphide bearing carbonate-quartz veining. Within the zone are local patches of pale green highly siliceous rock, a product of secondary silicification. Mineralization consists mostly of chalcopyrite as fine disseminations and euhedral cubes up to 4 mm<sup>2</sup> with trace amounts of disseminated pyrite and specular hematite, total sulphide concentration ranges from 2 to 4%.

Hole CB-96-1 intersected the zone from 47.42 to 54.20 metres, an interval which assayed 0.45 g/t gold, 5.61 g/t silver and 0.60% copper over 6.78 m including 0.75 g/t gold, 9.17 g/t silver and 0.86% copper over 3.70 metres from 50.50 to 54.20 metres.

Hole CB-96-2 intersected the zone from 73.65 to 82.42 metres with the interval from 75.5 to 82.5 metres assaying 0.49 g/t gold, 4.23 g/t silver and 0.38% copper over 7.0 metres.

#### CB-96-3&4

These two holes were collared from the same location, 80 metres north-northwest of holes CB-96-1&2. Both holes intersected a fine grained pale greenish-grey coloured unit with orange-brown limonite staining, tentatively identified as a volcanoclastic unit with local foliated or laminated sections representing bedding. Minor tight isoclinal folding was observed in the foliated/laminated intervals. The unit also contains 5-10%

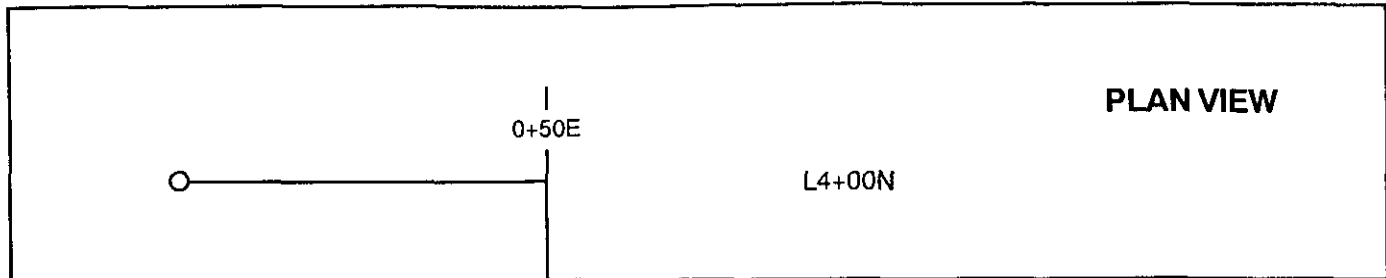
fine grained white carbonate specks with no obvious preferential alignment. Sulphides consist of minor disseminations of fine grained pyrite (Figure 9b).

Underlying the volcanoclastic unit is a narrow interval of pervasively hematite stained feldspar porphyry or trachyandesite containing 30-40% euhedral porphyritic feldspar crystals up to 10 mm long by 3 mm wide. Carbonate is found throughout the unit as partial replacement of the feldspars and as irregularly shaped white to pink blebs. Mineralization consists of traces of pyrite and specular hematite. This is underlain by a thin layer of mottled chlorite-hematite altered andesitic lapilli tuff to coarse agglomerate. The unit is predominately reddish due to pervasive hematite staining with angular fragments of green to black andesite. Fragments are several centimetres square up to 5x10 cm.

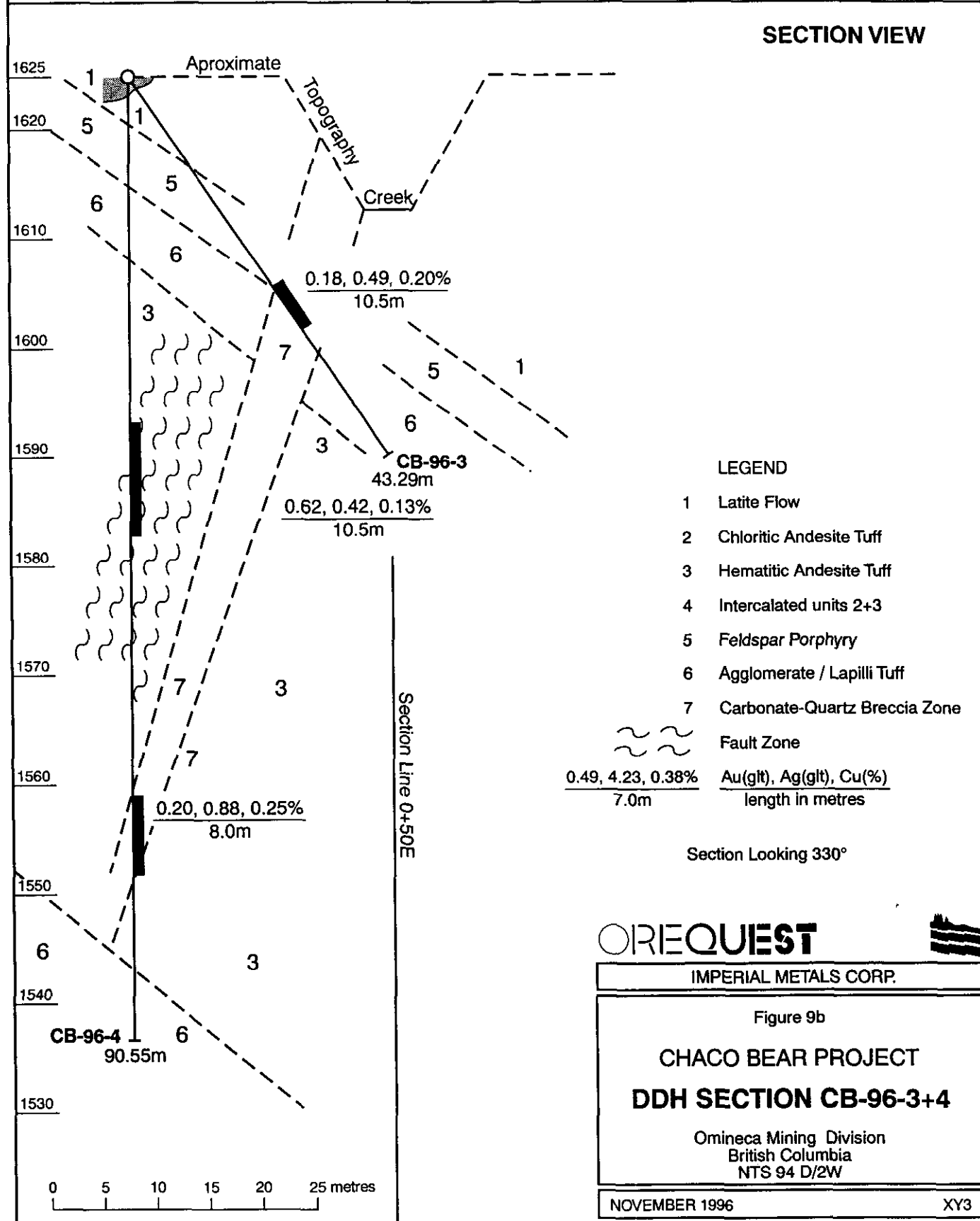
Underlying this unit is a thick succession of hematitic andesite tuff, with local coarser grained fragmental sections. The tuff has a brownish-red to deep red colour with small contorted blebs of white to pink carbonate. This is underlain by the same agglomerate/lapilli tuff unit as above in hole CB-96-4 only.

Both holes intersected the carbonate-quartz breccia zone which was similar to that seen in holes CB-96-1 and 2. The only obvious difference in the zone from the two setups is the lack of larger carbonate-quartz veins. In holes 1 & 2 there are 0.5 m wide pure carbonate-quartz veins whereas in holes 3 & 4 all the veins are generally no wider than 1 cm, just narrow stockwork/stringer veins.

**PLAN VIEW**



**SECTION VIEW**



In hole CB-96-3 the carbonate-quartz breccia zone was intersected from 24.20 to 31.37 metres with the interval from 24.20 to 29.00 metres assaying 0.18 g/t gold, 0.49 g/t silver and 0.20% copper over 4.8 metres. In hole CB-96-4 the carbonate-quartz breccia zone was intersected from 67.96 to 75.15 metres with the interval from 67.5 to 75.5 metres assayed 0.20 g/t gold, 0.88 g/t silver and 0.25% copper over 8.0 metres including 0.25 g/t gold, 0.80 g/t silver and 0.30% copper over 6.0 metres.

Also in hole CB-96-4 there is a zone of faulting from 36.8 to 58.23 metres with patchy quartz-carbonate veining. This same fault zone was not observed in hole CB-96-3. It was assumed that this shear zone is dipping the same as all others observed on the property, which is 50° to 60° southwest, and thus should have been intersected by hole CB-96-3. It is possible that this shear zone dips to east and thus lies underneath hole CB-96-3, or was not of sufficient intensity to express itself in hole CB-96-3. Portions of this shear zone, and the overlying unit, are mineralized as the interval from 32.5 to 43.0 metres assayed 0.62 g/t gold, 0.42 g/t silver and 0.13% copper over 10.5 metres including 3.32 g/t gold, 0.60 g/t silver and 0.15% copper over 1.5 metres.

#### CB-96-5

This hole was collared 400 metres north-northwest of holes CB-96-3 & 4 to test a max-min conductor outlined over several hundred metres. It is also in an area of carbonate-quartz-chalcopyrite bearing narrow shear veins. The hole intersected similar



lithologies to those seen around the Bearnx showing, predominantly pervasive hematite stained andesite tuff, lapilli tuff and agglomerate. No well mineralized zones were intersected to explain the max-min conductor. Local pyrite bearing intervals in andesite tuff and quartzite were intersected which produced a few weak anomalies. The two most encouraging intersections are from 24.0 to 25.5 metres which assayed 3.4 g/t silver and 559 ppm copper over 1.5 metres and from 71.5 to 76.0 metres which assayed 0.08 g/t gold, 1.13 g/t silver and 581 ppm copper over 4.5 m (Figure 9c).

The better assay intersections are summarized in Table 4- Drill Intersections.

**TABLE 4 - DRILLING ASSAY INTERSECTIONS**

Hole No.	From	To	Length (m)	Au (g/t)	Ag (g/t)	Cu (%)
CB-96-1	47.42	54.20	6.78	0.45	5.61	0.60
"	50.50	54.20	3.70	0.75	9.17	0.86
"	50.50	56.00	5.50	0.54	6.95	0.63
CB-96-2	75.5	82.5	7.0	0.49	4.23	0.38
CB-96-3	24.20	29.00	4.8	0.18	0.49	0.20
CB-96-4	32.5	43.0	10.5	0.62	0.42	0.13
"	35.5	37.0	1.5	3.32	0.60	0.15
"	67.5	75.5	8.0	0.20	0.88	0.25
"	67.5	73.5	6.0	0.25	0.80	0.30
CB-96-5	24.0	25.5	1.5	<0.03	3.4	559 ppm
"	71.5	76.0	4.5	0.08	1.13	581 ppm

A petrographic study on selected core samples was completed by Vancouver Petrographics Ltd. with a total of seven samples sent for thin section analysis. This analysis grouped the seven samples into three main lithologies which are as follows: porphyritic, hematitic, basalt/andsite; latite flow; and latite tuff. A brief summary of the

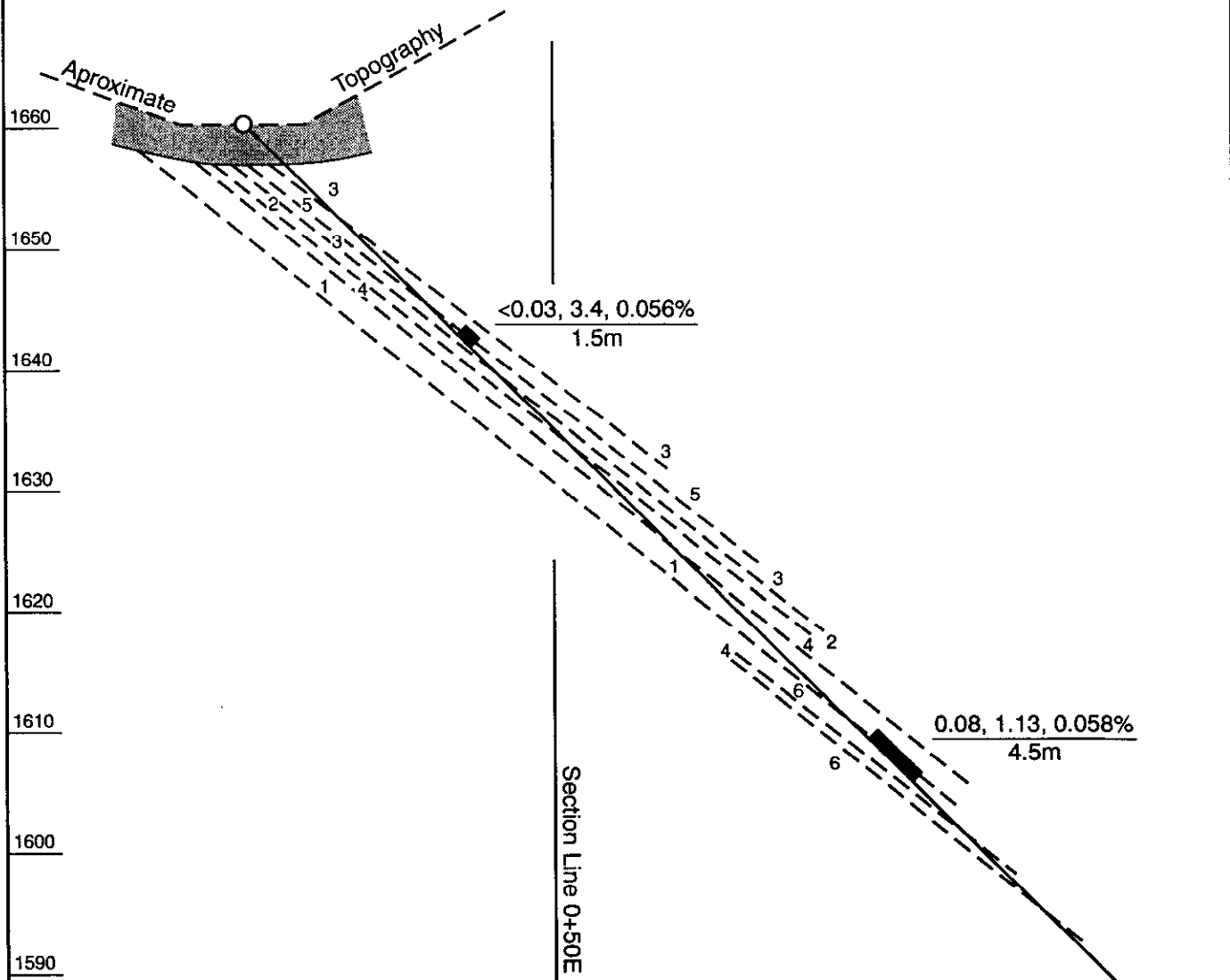
**PLAN VIEW**

CB-96-5

0+50E

L8+00N

**SECTION VIEW**



**LEGEND**

- 1 Latite Flow
- 2 Chloritic Andesite Tuff
- 3 Hematitic Andesite Tuff
- 4 Intercalated units 2+3
- 5 Feldspar Porphyry
- 6 Agglomerate / Lapilli Tuff
- 7 Carbonate-Quartz Breccia Zone

CB-96-5  
108.54m

0.49, 4.23, 0.38%  
7.0m

Au(g/t), Ag(g/t), Cu(%)  
length in metres

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Figure 9c

**CHACO BEAR PROJECT**  
**DDH SECTION CB-96-5**

Omineca Mining Division  
British Columbia  
NTS 94 D/2W

NOVEMBER 1996

XY3

samples analysed is presented in Table 5 - Thin Section Analysis, with the full report enclosed as Appendix III.

**TABLE 5 - PETROGRAPHIC ANALYSIS**

<b>Hole No.</b>	<b>Depth (m)</b>	<b>Rock Type</b>	
		<b>Field Name</b>	<b>Petrographic Analysis</b>
CB96-1	44.5	Andesite Lapilli Tuff/Agglomerate	Porphyritic, Hematitic Basalt/Andesite
CB96-1	48.9	Carbonate-Quartz Breccia Zone	Latite Tuff
CB96-3	2.7	Volcaniclastic	Latite Flow
CB96-3	42.7	Andesite Lapilli Tuff	Porphyritic, Hematitic Basalt/Andesite
CB96-4	4.0	Volcaniclastic	Latite Flow
CB96-4	8.8	Hematitic Feldspar Porphyry	Porphyritic, Hematitic Basalt/Andesite
CB96-4	72.2	Green Andesite Tuff	Latite Tuff

A few general characteristics of the three main rock types are summarized below. The porphyritic, hematitic andesite/basalt unit has a fine grained groundmass comprised of plagioclase and devitrified volcanic glass containing abundant hematite. Phenocrysts are comprised of plagioclase with much lesser biotite and occasionally magnetite. Plagioclase phenocrysts are altered completely to sericite and calcite, biotite phenocrysts to muscovite and the magnetite is replaced by hematite. One sample, CB96-1, 44.5 m contains abundant amygdules of calcite, with lesser quartz-calcite and quartz-sericite.

The latite flow unit is comprised of fine grained plagioclase with less abundant quartz. In some sections the plagioclase is relatively fresh while in others it has been

completely replaced with cryptocrystalline sericite. Other minor constituents of this unit include calcite, dolomite, and titanium oxides.

The two samples identified as latite tuff are both from the carbonate-quartz breccia zone and as such have undergone considerable hydrothermal alteration. Sample CB96-1, 48.9 metres contains fragments of latite tuff and latite flow in a matrix comprised largely of fine grained quartz and calcite. The sample also contains patches of medium to coarse grained calcite and a few dark grey fragments of basalt/andesite similar to sample CB96-1, 44.5 metres. Also within the matrix are minor amounts of sericite, muscovite and sphalerite. Sample CB96-4, 72.2 metres, is similar to the above sample but the various stages of hydrothermal replacement are more evident. The host rock is comprised mainly of sericite and quartz with rare phenocrysts of plagioclase. The early replacement was comprised mainly of calcite as both fine and coarse grained patches with inclusions of hematite. The later replacement is patches and veins of sulphide-bearing calcite and quartz with sulphides consisting mainly of chalcopyrite with lesser bornite and minor tetrahedrite and galena. The boundaries between the two stages of replacement are often diffuse and difficult to identify.

## DISCUSSION

The surveys completed to date indicate the property has good potential to host economic concentrations of base and/or precious metals. Several encouraging areas have been outlined for detailed geological evaluation to gain a better understanding of the

controls on mineralization. Work to date indicates that there are three possible style of mineralization: vein, porphyry, and stratabound.

There are numerous carbonate-quartz breccia veins varying in width from a few centimetres to 1.2 metres found throughout the property with good potential for additional discoveries. None of the veins individually are economic, however, there may be areas where the vein density is sufficient to justify mining or some of the larger veins may widen with depth. Alternatively, areas of several smaller veins may coalesce into one larger vein system at depth.

Within the claims are several areas of very strong epidote and chlorite alteration as well as pyritic halos indicative of porphyry type alteration. The abundant, narrow, high-grade shear/breccia veins may be the expression of a larger, buried porphyry system. Careful geological mapping, particularly of alteration assemblages may refine areas of porphyry-type mineralization potential.

There appears to be some potential for stratabound mineralization within an altered agglomerate unit. The unit has a large extent with extensive alteration to gossan and appears to be cemented with iron. Values for precious and base metals are generally low though secondary specular hematite veins with quartz have yielded anomalous gold assays. The agglomerate unit may have had a higher porosity and permeability than surrounding units and acted as a favourable trap for mineralized solutions related to a porphyry event or structural shear zone.

## CONCLUSIONS AND RECOMMENDATIONS

Work completed on the Chaco Bear project located approximately 160 kilometres north of Smithers, B.C. in the Skeena Mountains, west of Bear Lake included a Phase I program of reconnaissance style mapping, prospecting, and rock sampling and a Phase II program of diamond drilling and electromagnetic (Max-Min) geophysical surveys

The Phase I rock sampling program outlined several areas of anomalous precious and base metal mineralization. The anomalous results are virtually all from carbonate-quartz-sulphide-bearing veins over widths ranging from a few centimetres to in excess of one metre. Assays are typically in the range of 1.0 to 5.0 g/t gold and 1-5% copper with silver, lead, and zinc also present. A float sample believed to be weathered in place vein material assayed 10,530 g/t silver (307.09 oz/ton). Values from numerous grab samples returned assays of up to 25.52 g/t gold (0.744 oz/ton), 36.9% copper, 2.93% lead and 5.63% zinc.

The Phase II diamond drilling program was intended to test several target areas however early winter conditions limited the availability of suitable drill pad locations. All of the drilling was confined to the northwest trending valley at the northwest end of the unnamed central lake. Five holes from three pad locations, totalling 455.8 metres, were completed; four of the holes tested the Bearnx Showing. All of the holes intersected the zone which returned assays of up to 0.45 g/t gold, 5.61 g/t silver and 0.60% copper over 6.78 metres from hole CB-96-1. Grades obtained from the other holes were lower,

though still encouraging, and the core thickness of the zone was fairly consistent, ranging from 4.8 to 8.0 metres.

Given the successful results from the two-phased program further detailed geological evaluation of the Chaco Bear project is warranted. The work should consist of two separate programs: Phase IIIa reconnaissance work on the new claims, and Phase IIIb detailed geological surveys on the original core of the property. Phase IIIa exploration on the new claims (Chaco Bear 5 to 9) should consist of preliminary mapping, prospecting, stream sediment geochemistry, and rock sampling to locate new areas of mineralization and to see if zones seen on the original claims trend onto the new claims.

The Phase IIIb program for the original Chaco Bear 1-4 claims should consist of continued prospecting, detailed geological mapping, grid based ground geophysics (magnetic, VLF-EM, horizontal loop and induced polarization), trenching, and diamond drilling. It is also recommended that the company obtain the landsat and radar image of the property to assist in completing alteration and structural studies. In addition an orthophoto base map should be prepared to provide accurate positioning control for the subsequent surveys.

The Phase IIIa reconnaissance program is estimated to cost \$77,000 and the Phase IIIb program \$475,000 for an aggregate cost of \$552,000, with both programs to run concurrently for approximately 1 to 2 months. Phase IIIb is not contingent upon successful completion of Phase IIIa.



**STATEMENT OF COSTS**  
**Chaco Bear - Phase I & II**

Mob/Demob	
Airtfares	\$1,318.03
Fixed Wing Charter	2,720.52
Meals, Taxi, Motel, Etc.	504.23
Wages	
W. Raven 4 days @ \$350/day	1,498.00
R. Riedel 4 days @ \$300/day	1,284.00
Wages	
W. Raven 22.5 days GL @ \$350/day	8,426.25
W. Raven 13.5 days DD @ \$350/day	5,055.75
R. Riedel 19.5 days PR @ \$300/day	6,259.50
R. Riedel 10 days DD @ \$300/day	3,210.00
Contractors	
Canadian Helicopters	9,811.49
Pacific Western Helicopters	65,692.65
Falcon Drilling Ltd.	58,319.23
SJ Geophysics Ltd.	8,140.84
Hobson Contracting	12,511.24
Room & Board	11,897.66
Assays	6,089.53
Shipping	989.97
Communication	297.02
Field Supplies	273.16
Expediting Fees	385.20
Miscellaneous	717.51
Report & Typing	5,336.62
Drafting	<u>1,296.36</u>
<b>TOTAL</b>	<b><u>\$212,034.76</u></b>

**BUDGET ESTIMATE - PHASE IIIa**  
**Bear 5-9 claims**

**PHASE IIIa:**

Mob/Demob (4 man crew)	\$6,100
Wages	
Sr. Geologist 14 days @ \$400/day	5,600
Jr. Geologist 14 days @ \$350/day	4,900
Prospector 14 days @ \$300/day	4,200
Field Assistant 14 days @ \$300/day	4,200
Project Manager 1 day @ \$450/day	450
Support Costs	
Motel Room & Board	400
Camp Costs - 56 man days @ \$110/man/day	6,160
Camp Supplies	1,000
Transportation	
Fixed Wing - 2 flight @ \$1,200/flight	2,400
Helicopter - 25 hours @ \$900/hr	22,500
Assays	
250 rock samples @ \$25/sample	6,250
50 silt samples @ \$25/sample	1,250
Report <u>4,700</u>	
Subtotal	\$70,110
Contingencies @ 10%	<u>7,011</u>
<b>TOTAL</b>	<b>\$77,121</b>
<b>TOTAL PHASE IIIa (SAY)</b>	<b><u>\$77,000</u></b>

**BUDGET ESTIMATE - PHASE IIIb****Chaco Bear 1-4 Claims****PHASE IIIb:**

Mob/Demob	\$13,000
Wages	
Project Manager    6 days @ \$450/day	2,700
Sr. Geologist      30 days @ \$400/day	12,000
Jr. Geologists (2) 30 days @ \$300/day/man	9,000
Geophysicist      15 days @ \$400/day	6,000
Prospector         30 days @ \$350/day	10,500
Field Assistants (2) 30 days @ \$250/day/man	15,000
Cook               30 days @ \$300/day	9,000
Support Costs	
Motel Room & Board	2,000
Camp Costs    400 man days @ \$110/man (including drillers)	44,000
Camp Supplies	8,000
Transportation	
Fixed Wing - Caravan - 2 flights @ \$1200/flight	2,400
Cessna 206 - 3 flights @ \$600/flight	1,800
Helicopter - 100 hours @ \$1100/hour	110,000
Communication	3,000
Freight	3,000
Equipment Rental	
VLF-EM - 10 days @ \$75/day	750
Magmetometer - 10 days @ \$75/day	750
I.P. - 10 days @ \$250/day	2,500
Contractors	
Trenching	25,000
Diamond Drilling	
Mob/Demob	8,000
1500 m @ \$90/m	135,000
Analysis	
500 rocks (geochem) @ \$20/sample	10,000
100 rocks (assay) @ \$30/sample	3,000
500 core (assay) @ \$30/sample	15,000
Landsat Imagery	5,000
Radar Imagery	5,000
Orthophoto base map preparation	5,000
Report and drafting	<u>10,000</u>
Subtotal	\$431,800
Contingencies @ 10%	<u>43,180</u>
TOTAL	<u>\$474,980</u>
<b>PHASE IIIb TOTAL (SAY)</b>	<b><u>\$475,000</u></b>
<b>TOTAL PHASE IIIa &amp; IIIb (SAY)</b>	<b><u>\$552,000</u></b>

## CERTIFICATE OF QUALIFICATIONS

I, Wesley D.T. Raven, of #108 - 1720 West 12th Avenue, Vancouver, British Columbia, hereby certify:

1. I am a graduate of the University of British Columbia (1983) and hold a B.Sc. degree in geology.
2. I have been employed as an exploration geologist on a full time basis since 1983.
3. I am a Fellow of the Geological Association of Canada.
4. I am currently retained as an independent consulting geologist by OreQuest Consultants Ltd., I hold no interest in OreQuest Consultants Ltd.
5. I am a Professional Geologist registered with the Association of Professional Engineers and Geoscientists of British Columbia.
6. The information contained in this report is from information listed in the Bibliography, and from onsite supervision of the exploration program.
7. I do not have nor expect to receive direct or indirect interest in the Chaco Bear project nor in the securities of Imperial Metals Corporation.
8. I consent to and authorize the use of the attached report and my name in the Company's Prospectus, Statement of Material Facts or other public document, providing the report is used in its entirety or any summary thereof is approved by the author.

*Wesley Raven*



Wesley D.T. Raven, P.Geol.

DATED at Vancouver, British Columbia, this 27th day of November, 1996.

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**APPENDIX I**

Analytical Results



ASSAYING  
GEOCHEMISTRY  
ANALYTICAL CHEMISTRY  
ENVIRONMENTAL TESTING

10041 E. Trans Canada Hwy., R.R. #2, Kamloops, B.C. V2C 6T4 Phone (604) 573-5700  
Fax (604) 573-4557

## CERTIFICATE OF ASSAY AK 96-1074

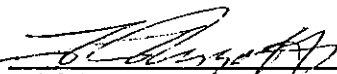
**OREQUEST CONSULTANTS**  
306-595 HOWE STREET  
VANCOUVER, B.C.  
V6C 2T5

23-Sep-96

**ATTENTION: WES RAVEN**

*No. of samples received: 88*  
*Sample type: ROCK*  
*PROJECT #: CHACO BEAR*  
*SHIPMENT #: NONE GIVEN*  
*Samples submitted by: W.RAVEN*

ET #.	Tag #	Au (g/t)	Au (oz/t)	Ag (g/t)	Ag (oz/t)	As (%)	Cu (%)	Pb (%)	Zn (%)
1	RR96-1	-	-	49.0	1.43	-	-	-	-
3	RR96-3	2.32	0.068	79.2	2.31	-	1.42	-	-
4	RR96-4	-	-	47.2	1.38	-	3.18	-	-
9	RR96-9	2.75	0.080	-	-	-	4.67	-	-
10	RR96-10	1.86	0.054	-	-	-	-	-	-
11	RR96-11	4.94	0.144	-	-	-	2.86	-	-
12	RR96-12	-	-	-	-	-	0.32	-	-
13	RR96-13	7.69	0.224	-	-	-	-	-	-
14	RR96-14	-	-	-	-	-	2.69	-	-
16	RR96-16	7.35	0.214	392.2	11.44	-	6.94	-	-
17	RR96-17	-	-	-	-	-	2.56	-	-
18	RR96-18	5.01	0.146	61.8	1.80	-	1.84	2.93	5.63
24	WR96-5	-	-	10530.0	307.09	-	36.90	-	-
25	WR96-6	-	-	56.5	1.65	-	-	-	-
31	WR96-12	17.63	0.514	1066.0	31.09	2.41	6.16	-	-
39	BD96-1	-	-	45.9	1.34	-	-	-	-
40	BD96-2	4.89	0.143	-	-	-	1.90	-	-
41	BD96-3	13.28	0.387	75.7	2.21	-	3.52	-	-
43	BD96-5	-	-	276.6	8.07	-	3.63	-	-
44	BD96-6	2.77	0.081	-	-	-	3.72	-	-
46	BD96-8	-	-	-	-	-	1.64	-	-
47	BD96-9	3.59	0.105	100.7	2.94	-	5.45	-	-

  
**ECO-TECH LABORATORIES LTD.**  
 Frank J. Pezzotti, A.Sc.T.  
 B.C. Certified Assayer



ET #.	Tag #	Au (g/t)	Au (oz/t)	Ag (g/t)	Ag (oz/t)	As (%)	Cu (%)	Pb (%)	Zn (%)
48	BD96-10	2.01	0.059	-	-	-	-	-	-
49	BD96-11	6.16	0.180	47.4	1.38	-	6.48	-	1.76
50	BD96-12	5.32	0.155	-	-	-	-	-	-
51	BD96-13	-	-	-	-	-	-	-	-
58	BD96-20	-	-	67.7	1.97	-	-	-	-
60	BD96-22	-	-	198.0	5.77	-	5.23	-	-
66	BD96-27	4.19	0.122	90.4	2.64	-	10.32	-	-
67	BD96-28	-	-	179.7	5.24	-	2.26	-	-
68	BD96-29	3.04	0.089	-	-	-	-	-	-
70	BD96-31	-	-	-	-	-	-	-	-
73	4202	4.52	0.132	90.7	2.65	-	2.84	-	-
74	4203	5.47	0.160	-	-	-	-	-	-
80	4209	1.26	0.037	-	-	-	1.62	-	-
81	4210	-	-	-	-	-	1.59	-	-
83	4212	1.13	0.033	-	-	-	-	-	-
84	4213	1.82	0.053	-	-	-	-	-	-

**QC DATA:**

Resplit:

1	RR96-1	-	-	50.8	1.48	-	-	-	-
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**Standard:**

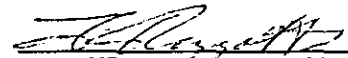
MPI-a	-	-	-	-	-	-	1.45	4.33	19.02
CPb-I	-	-	631.0	18.40	-	-	-	-	-
CD-I	-	-	-	-	-	0.66	-	-	-

XLS/96Orquest#2

Fax @: 604-688-6788 - Attn: Wes Raven

cc: results/inv: Imperial Metals Corp. - Attn: Patrick McAndless

Fax @: 604-687-4030 - Attn: Pat McAndless

  
**ECO-TECH LABORATORIES LTD.**  
 Frank J. Pezzotti, A.Sc.T.  
 B.C. Certified Assayer

23-Sep-96

ECO-TECH LABORATORIES LTD.  
10041 East Trans Canada Highway  
KAMLOOPS, B.C.  
V2C 6T4

ICP CERTIFICATE OF ANALYSIS AK 96-1074

OREQUEST CONSULTANTS  
306-595 HOWE STREET  
VANCOUVER, B.C.  
V6C 2T5

Phone: 604-573-5700  
Fax : 604-573-4557

ATTENTION: WES RAVEN

No. of samples received: 88  
Sample type: ROCK  
PROJECT #: CHACO BEAR  
SHIPMENT #: NONE GIVEN  
Samples submitted by: W.RAVEN

Values in ppm unless otherwise reported

Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	RR96-1	15	>30	0.70	150	100	<5	4.15	<1	14	82	6095	3.84	<10	0.14	3779	13	<0.01	4	570	80	<5	<20	18	0.01	<10	40	<10	9	139
2	RR96-2	5	19.2	0.53	<5	360	<5	3.29	2	4	74	6910	2.66	40	0.30	1409	6	0.03	1	820	4	<5	<20	24	0.02	<10	23	<10	5	35
3	RR96-3	>1000	>30	0.31	<5	45	<5	1.21	2	3	179	>10000	0.91	<10	0.08	1123	9	<0.01	3	190	4134	<5	<20	10	<0.01	<10	6	<10	2	10
4	RR96-4	205	>30	0.26	<5	110	<5	>10	<1	3	36	>10000	1.63	20	0.14	8015	2	<0.01	2	<10	58	<5	<20	94	0.03	<10	22	<10	6	14
5	RR96-5	5	<0.2	0.40	<5	70	<5	>10	<1	23	19	30	3.31	<10	0.46	3895	1	<0.01	9	200	14	<5	<20	122	0.02	<10	68	<10	<1	355
6	RR96-6	5	14.2	0.22	<5	20	<5	>10	<1	2	23	2802	0.52	<10	0.08	1755	<1	<0.01	<1	50	<2	<5	<20	24	0.03	<10	11	<10	6	9
7	RR96-7	5	5.8	1.42	<5	45	<5	3.92	1	9	106	5242	7.85	<10	0.48	1544	6	<0.01	3	250	1196	<5	<20	5	0.03	<10	51	<10	<1	47
8	RR96-8	5	<0.2	0.51	<5	40	<5	0.96	<1	3	78	834	2.31	<10	0.06	648	6	<0.01	1	570	422	<5	<20	3	0.03	<10	18	<10	3	10
9	RR96-9	>1000	3.4	1.00	<5	40	<5	0.13	2	8	186	>10000	7.63	<10	0.24	816	19	<0.01	8	<10	104	<5	<20	<1	0.02	<10	20	10	<1	56
10	RR96-10	>1000	1.0	0.37	<5	35	<5	0.94	17	6	101	8743	2.34	<10	0.03	1187	10	<0.01	3	350	260	<5	<20	2	0.01	<10	6	<10	3	57
11	RR96-11	>1000	2.4	0.07	<5	40	<5	6.10	26	10	126	>10000	3.82	<10	0.01	1106	6	<0.01	4	<10	1442	<5	<20	14	0.01	<10	3	<10	2	53
12	RR96-12	60	6.8	0.56	<5	50	<5	0.12	8	11	148	<1	>10	<10	0.16	445	12	<0.01	2	>10000	506	<5	<20	1	<0.01	<10	19	10	<1	245
13	RR96-13	>1000	1.4	4.30	<10	100	<5	0.59	6	22	33	2973	>10	<10	2.56	3983	34	0.02	8	650	154	<5	<20	16	0.22	<10	136	<10	<1	222
14	RR96-14	125	6.8	1.31	<5	50	<5	4.35	<1	13	64	>10000	6.30	<10	0.45	1553	52	<0.01	5	160	942	<5	<20	5	0.02	<10	31	<10	<1	57
15	RR96-15	680	1.4	0.82	<5	410	<5	0.64	<1	4	106	1357	3.47	<10	0.17	704	3	<0.01	3	680	66	<5	<20	8	0.03	<10	18	<10	1	52
16	RR96-16	>1000	>30	0.14	120	25	<5	0.07	5	7	164	>10000	2.66	<10	<0.01	259	12	<0.01	4	<10	<2	45	<20	3	0.02	<10	3	30	<1	60
17	RR96-17	105	2.0	1.48	<5	70	<5	3.69	49	27	89	>10000	6.35	<10	0.38	1631	5	<0.01	4	160	2266	<5	<20	3	0.01	<10	10	<10	<1	400
18	RR96-18	>1000	>30	0.38	3025	40	<5	8.17	>1000	26	63	>10000	3.16	<10	0.23	2164	<1	<0.01	3	<10	>10000	475	<20	48	<0.01	<10	38	<10	<1	>10000
19	RR96-19	355	1.8	0.21	<5	50	<5	0.10	5	7	257	6073	7.53	<10	<0.01	166	8	<0.01	6	90	1314	<5	<20	<1	0.01	<10	24	<10	<1	150
20	WR96-1	5	<0.2	0.83	<5	125	<5	5.24	3	20	30	54	6.53	<10	0.73	1533	<1	0.05	2	850	38	<5	<20	41	0.19	<10	139	<10	7	86
21	WR96-2	5	<0.2	0.43	<5	105	<5	1.54	<1	6	72	22	3.02	20	0.08	1049	1	0.03	2	840	8	<5	<20	8	0.04	<10	25	<10	5	36
22	WR96-3	5	<0.2	1.79	<5	55	<5	2.79	<1	23	27	19	6.08	<10	1.89	3561	2	0.04	5	1050	12	<5	<20	22	0.10	<10	135	<10	<1	407
23	WR96-4	5	0.4	1.62	<5	55	10	2.71	<1	20	68	22	5.40	<10	1.20	1768	<1	0.07	3	1150	26	<5	<20	279	0.31	<10	164	<10	5	303
24	WR96-5	5	>30	0.17	5	55	<5	2.47	75	15	29	<1	1.02	<10	0.06	493	6	<0.01	4	>10000	190	15	<20	7	<0.01	<10	12	200	<1	18
25	WR96-6	5	>30	0.38	<5	210	<5	1.77	1	3	70	633	0.79	<10	0.13	1323	1	0.01	2	40	2	<5	<20	12	<0.01	<10	2	<10	6	23

OREQUEST CONSULTANTS

ICP CERTIFICATE OF ANALYSIS AK 96-1074

ECO-TECH LABORATORIES LTD.

Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn		
26	WR96-7	5	10.4	0.32	<5	135	<5	3.82	<1	1	102	217	0.58	<10	0.05	1858	7	0.02	2	30	<2	<5	<20	43	<0.01	<10	<1	<10	6	26		
27	WR96-8	10	1.8	0.42	<5	55	<5	2.45	<1	<1	87	43	0.33	10	0.03	937	2	<0.01	2	40	<2	<5	<20	10	<0.01	<10	<1	<10	13	4		
28	WR96-9	5	9.0	3.69	<5	70	<5	4.30	1	35	63	6353	7.63	<10	2.97	2387	<1	0.03	18	630	184	<5	<20	184	0.21	<10	178	<10	<1	245		
29	WR96-10	20	0.8	0.48	<5	140	5	0.05	<1	7	156	41	2.42	<10	0.14	816	11	<0.01	3	370	10	<5	<20	<1	<0.01	<10	11	<10	<1	45		
30	WR96-11	5	0.4	0.54	<5	150	<5	1.27	1	9	54	31	3.76	20	0.26	1368	6	0.04	2	1070	4	<5	<20	14	0.03	<10	43	<10	3	79		
31	WR96-12	>1000	>30	0.26	>10000	45	<5	4.50	262	42	110	>10000	6.78	<10	0.80	6198	8	<0.01	6	<10	3896	6745	<20	43	0.03	<10	18	<10	<1	7743		
32	WR96-13	15	1.8	0.18	35	85	<5	0.02	1	<1	95	103	1.10	10	<0.01	79	15	<0.01	2	180	126	<5	<20	2	<0.01	<10	1	<10	<1	54		
33	WR96-14	20	3.2	0.28	65	45	<5	0.06	2	4	175	142	0.98	10	<0.01	211	17	<0.01	3	180	34	<5	<20	2	<0.01	<10	1	<10	<1	179		
34	WR96-15	5	0.4	0.06	<5	1120	<5	2.09	<1	<1	13	11	0.84	<10	0.03	1226	1	<0.01	2	<10	<2	<5	<20	395	<0.01	<10	6	<10	<1	43		
35	BR96-1	80	1.0	0.30	20	40	<5	0.08	<1	6	143	62	3.48	<10	0.02	413	11	<0.01	1	660	52	<5	<20	8	<0.01	20	5	<10	<1	50		
36	BR96-2	15	11.0	0.15	5	70	10	0.02	3	6	107	279	3.38	<10	<0.01	921	25	<0.01	4	260	3682	<5	<20	<1	<0.01	<10	9	<10	<1	472		
37	BR96-3	10	2.2	0.80	<5	210	<5	0.29	5	4	16	38	4.78	<10	0.19	269	6	<0.01	<1	1680	180	<5	<20	13	0.07	30	28	<10	<1	201		
38	BR96-4	195	1.4	0.29	10	355	<5	0.04	<1	<1	127	255	1.48	<10	0.02	72	14	<0.01	2	500	98	<5	<20	<1	<0.01	20	4	<10	<1	4		
39	BD96-1	10	>30	0.14	10	170	<5	8.10	3	23	62	4740	4.81	<10	2.00	10000	10	<0.01	5	10	8	<5	<20	151	0.02	<10	85	<10	3	379		
40	BD96-2	>1000	25.4	0.10	<5	35	<5	0.07	1	4	139	>10000	5.77	<10	<0.01	423	9	<0.01	3	<10	42	<5	<20	<1	<0.01	<10	5	<10	<1	20		
41	BD96-3	>1000	>30	0.16	180	55	<5	1.01	30	126	115	>10000	4.47	<10	0.12	3779	56	<0.01	5	<10	834	<5	<20	3	0.02	<10	6	<10	1	698		
42	BD96-4	55	28.4	0.29	35	510	<5	7.06	3	11	45	3285	2.87	<10	1.42	4190	3	<0.01	2	500	50	5	<20	75	<0.01	<10	35	<10	7	266		
43	BD96-5	505	>30	0.14	150	30	<5	3.44	5	10	79	>10000	2.49	<10	0.91	2539	11	<0.01	2	<10	4	5	<20	109	0.01	<10	14	<10	<1	148		
44	BD96-6	>1000	15.0	0.13	<5	50	<5	0.85	95	3	105	>10000	4.43	<10	<0.01	835	8	<0.01	1	<10	1316	<5	<20	2	0.01	<10	6	<10	<1	73		
45	BD96-7	115	6.4	1.63	15	45	<5	0.24	1	34	61	4707	8.12	<10	0.82	3931	38	<0.01	9	600	90	<5	<20	<1	<0.01	<10	76	<10	<1	364		
46	BD96-8	555	6.6	0.19	25	<5	<5	6.74	<1	7	110	>10000	2.28	<10	0.02	2632	42	<0.01	3	<10	24	<5	<20	41	<0.01	<10	4	<10	4	15		
47	BD96-9	>1000	>30	0.34	<5	25	<5	0.15	22	4	65	>10000	6.20	<10	0.02	466	14	<0.01	<1	<10	158	<5	<20	<1	0.02	20	10	<10	<1	2134		
48	BD96-10	>1000	29.4	0.14	1360	40	<5	1.10	4	168	123	9276	3.38	<10	<0.01	462	130	<0.01	1	<10	386	10	<20	<1	<0.01	10	4	<10	<1	295		
49	BD96-11	>1000	>30	0.11	795	50	<5	2.12	161	264	92	>10000	6.59	<10	<0.01	975	211	<0.01	<1	<10	1082	<5	<20	7	0.02	<10	<1	<10	<1	>10000		
50	BD96-12	>1000	28.0	0.11	35	10	<5	<0.01	67	6	125	1971	2.41	<10	<0.01	52	587	<0.01	3	<10	3222	<5	<20	<1	<0.01	<10	3	<10	<1	7738		
51	BD96-13	10	>30	0.06	120	90	<5	0.03	2	25	10	<1	>10	<10	<0.01	66	5	<0.01	2	>10000	112	90	<20	11	<0.01	80	14	150	<1	69		
52	BD96-14	10	7.0	0.10	10	65	<5	0.53	<1	2	275	351	1.18	<10	0.09	579	7	<0.01	3	20	6	<5	<20	1	<0.01	<10	15	<10	<1	82		
53	BD96-15	5	1.2	1.67	<5	30	<5	3.14	<1	3	121	287	0.97	<10	0.20	570	8	<0.01	2	280	24	<5	<20	93	0.08	<10	49	<10	<1	42		
54	BD96-16	5	0.8	0.74	<5	20	5	6.66	<1	9	115	23	3.39	<10	0.91	2588	3	0.01	5	310	4	<5	<20	23	0.06	<10	132	<10	<1	330		
55	BD96-17	5	16.6	0.29	<5	20	<5	0.42	<1	<1	98	1478	0.58	<10	0.12	463	8	<0.01	<1	110	2	<5	<20	<1	<0.01	<10	3	<10	<1	55		
56	BD96-18	5	3.2	0.53	<5	5	<5	>10	<1	5	75	29	1.37	<10	0.51	1720	2	<0.01	3	140	<2	<5	<20	94	0.01	<10	58	<10	<1	46		
57	BD96-19	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
58	BD96-20	5	>30	2.97	<5	85	<5	1.33	<1	35	15	7949	9.17	10	2.72	3686	4	0.03	10	1340	34	<5	<20	10	0.04	<10	163	<10	<1	443		
59	BD96-21	5	0.2	0.05	<5	65	<5	6.05	<1	2	140	22	0.64	<10	0.07	2697	11	<0.01	3	70	<2	<5	<20	69	<0.01	<10	9	<10	2	20		
60	BD96-22	5	>30	2.79	<5	45	<5	0.64	<1	29	14	>10000	8.14	<10	2.54	3348	5	0.02	10	80	52	<5	<20	13	0.03	<10	220	<10	<1	592		

OREQUEST CONSULTANTS

ICP CERTIFICATE OF ANALYSIS AK 96-1074

ECO-TECH LABORATORIES LTD.

Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
61	BD96-23	5	1.0	0.24	<5	210	<5	1.88	<1	2	63	193	1.14	<10	0.03	1103	5	<0.01	1	480	8	<5	<20	8	<0.01	<10	4	<10	2	24
62	BD96-24	140	1.0	0.07	<5	<5	<5	>10	67	<1	18	204	0.17	10	<0.01	2900	4	<0.01	<1	60	1222	10	<20	26	<0.01	<10	1	<10	10	65
63	BD96-25A	80	3.0	0.43	<5	65	<5	8.06	2	2	63	2755	1.19	<10	0.18	1779	6	<0.01	1	250	424	<5	<20	13	<0.01	<10	4	<10	4	28
64	BD96-25B	10	3.8	0.14	<5	35	<5	>10	6	<1	51	1785	0.44	<10	0.05	3463	2	<0.01	2	70	1234	5	<20	32	<0.01	<10	2	<10	6	18
65	BD96-26	90	10.6	2.51	<5	55	<5	5.97	2	21	43	6650	5.37	<10	1.60	1788	5	<0.01	6	630	342	<5	<20	29	0.07	<10	75	<10	<1	137
66	BD96-27	>1000	>30	2.13	<5	50	<5	2.81	6	21	30	>10000	6.05	<10	1.67	2495	<1	<0.01	3	<10	358	<5	<20	115	0.17	<10	67	<10	<1	200
67	BD96-28	470	>30	0.22	300	40	<5	0.03	2	19	105	>10000	>10	<10	<0.01	180	33	<0.01	2	<10	1664	<5	<20	<1	<0.01	30	15	<10	<1	188
68	BD96-29	>1000	4.4	0.14	75	140	<5	0.02	22	1	165	353	2.18	<10	0.01	43	26	<0.01	2	410	2376	<5	<20	<1	<0.01	10	5	<10	<1	2362
69	BD96-30	10	1.4	1.77	<5	60	<5	1.21	2	20	39	115	4.78	<10	0.97	2460	<1	0.01	4	1300	50	<5	<20	26	0.19	<10	46	<10	2	291
70	BD96-31	5	>30	0.17	1070	95	<5	5.64	30	21	114	2780	6.50	<10	0.91	7332	8	<0.01	9	100	32	540	<20	54	0.01	<10	22	<10	<1	1054
71	BD96-32	5	1.6	1.64	5	65	5	0.28	<1	10	37	39	4.58	<10	1.19	948	<1	0.03	1	1220	40	<5	<20	2	0.27	30	95	<10	<1	109
72	4201	130	2.4	0.41	<5	70	<5	>10	8	4	25	932	3.14	<10	0.10	5611	9	<0.01	2	540	78	<5	<20	33	0.01	<10	26	<10	7	148
73	4202	>1000	>30	0.62	<5	80	<5	3.47	20	14	65	>10000	>10	<10	0.10	10000	39	<0.01	8	<10	224	<5	<20	32	0.06	<10	40	<10	<1	228
74	4203	>1000	7.0	0.35	<5	65	<5	7.60	8	11	57	4085	8.40	<10	0.10	10000	35	<0.01	4	50	308	<5	<20	24	0.03	<10	28	<10	4	202
75	4204	55	1.2	0.68	<5	205	<5	>10	6	5	26	1249	3.36	<10	0.15	4586	2	<0.01	1	470	152	<5	<20	18	0.03	<10	39	<10	8	150
76	4205	5	0.4	0.69	<5	125	<5	8.88	<1	8	21	387	3.99	<10	0.18	3495	3	<0.01	2	700	46	<5	<20	30	0.06	<10	67	<10	7	57
77	4206	5	0.6	0.38	<5	150	<5	9.76	<1	5	27	1054	3.31	<10	0.07	3818	<1	<0.01	2	680	36	<5	<20	22	0.07	<10	51	<10	6	29
78	4207	265	0.6	0.55	<5	60	<5	7.22	1	8	51	4791	3.42	<10	0.14	3589	6	<0.01	<1	470	96	<5	<20	23	0.04	<10	46	<10	4	53
79	4208	470	2.0	0.52	<5	95	<5	9.43	26	4	41	2613	1.84	<10	0.07	4673	5	<0.01	<1	480	214	<5	<20	25	<0.01	<10	15	<10	7	357
80	4209	>1000	2.0	0.37	<5	45	<5	9.55	55	6	36	>10000	3.08	<10	0.06	3538	7	<0.01	1	<10	488	<5	<20	21	<0.01	<10	10	<10	2	872
81	4210	335	1.4	0.38	5	60	<5	6.38	8	7	34	>10000	3.26	<10	0.04	2459	3	<0.01	1	190	100	<5	<20	22	<0.01	<10	9	<10	3	134
82	4211	205	1.6	0.94	<5	40	<5	6.31	49	13	22	3344	3.97	<10	0.21	3355	10	<0.01	3	370	352	<5	<20	16	<0.01	<10	20	<10	2	717
83	4212	>1000	1.4	0.85	<5	20	<5	4.21	9	13	36	4615	3.74	<10	0.32	2222	14	<0.01	2	390	298	<5	<20	14	<0.01	<10	25	<10	<1	192
84	4213	>1000	1.2	1.38	<5	25	<5	1.71	14	15	28	7158	4.49	<10	0.61	1693	8	<0.01	3	550	108	<5	<20	7	<0.01	<10	38	<10	<1	349
85	4214	5	0.4	0.52	<5	115	10	3.82	<1	21	11	22	4.94	<10	0.71	1995	4	<0.01	3	1110	12	<5	<20	48	0.03	<10	110	<10	2	77
86	4215	5	<0.2	0.61	<5	80	15	5.62	<1	21	13	29	5.00	<10	0.72	2368	2	<0.01	3	1050	6	<5	<20	56	0.07	<10	131	<10	4	67
87	4216	5	0.4	0.40	<5	85	5	6.07	<1	17	20	23	4.50	<10	0.26	2465	<1	<0.01	4	880	<2	<5	<20	51	0.11	<10	84	<10	5	43
88	4217	5	<0.2	1.01	<5	130	<5	3.39	<1	21	12	8	4.79	<10	1.43	1518	2	0.02	2	960	12	<5	<20	58	0.05	<10	122	<10	4	91

OREQUEST CONSULTANTS

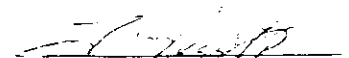
ICP CERTIFICATE OF ANALYSIS AK 96-1074

ECO-TECH LABORATORIES LTD.

Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn	
<b>QC DATA:</b>																															
<i>Resplit:</i>																															
R/S 1	RR96-1	20	>30	0.66	150	115	<5	4.04	<1	13	95	5882	3.81	<10	0.13	3733	8	<0.01	5	630	86	<5	<20	21	0.01	<10	39	<10	9	140	
R/S 36	BR96-3	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R/S 71	BD96-32	5	1.2	1.39	10	60	<5	0.25	<1	8	42	37	4.13	<10	0.98	908	<1	0.03	2	1200	38	<5	<20	5	0.23	<10	82	<10	<1	97	
<i>Repeat:</i>																															
1	RR96-1	20	>30	0.60	140	90	<5	3.84	1	13	78	5619	3.57	<10	0.13	3513	11	<0.01	2	550	78	<5	<20	19	0.01	<10	37	<10	9	130	
10	RR96-10	>1000	0.8	0.36	<5	35	<5	0.93	17	6	103	8562	2.31	<10	0.02	1165	10	<0.01	2	340	260	<5	<20	<1	0.01	<10	6	<10	3	76	
19	RR96-19	300	2.2	0.21	<5	50	<5	0.11	5	8	253	5814	7.36	<10	<0.01	174	9	<0.01	4	90	1284	<5	<20	1	0.01	10	24	<10	<1	147	
31	WR96-12	>1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
40	BD96-2	>1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
45	BD96-7	-	6.2	1.58	15	50	<5	0.24	2	33	61	4453	7.82	<10	0.78	3760	36	<0.01	6	580	86	<5	<20	<1	<0.01	<10	74	<10	<1	353	
50	BD96-12	>1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
54	BD96-16	-	1.0	0.74	<5	20	5	6.58	<1	8	120	20	3.40	<10	0.92	2570	3	0.01	6	300	6	<5	<20	22	0.06	<10	134	<10	<1	329	
61	BD96-23	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
63	BD96-25A	-	2.6	0.44	<5	65	<5	7.90	2	2	65	2793	1.18	<10	0.17	1764	7	<0.01	<1	240	440	<5	<20	15	<0.01	<10	4	<10	4	26	
70	BD96-31	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
71	BD96-32	-	1.2	1.62	10	70	15	0.30	<1	9	48	44	4.46	<10	1.12	932	<1	0.03	4	1200	40	<5	<20	6	0.24	<10	93	<10	<1	108	
80	4209	>1000	2.2	0.36	<5	45	<5	9.35	57	6	37	>10000	3.08	<10	0.07	3500	8	<0.01	3	<10	486	<5	<20	20	<0.01	<10	10	<10	2	879	
88	4217	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Standard:</i>																															
GEO'96		150	1.0	2.06	60	150	<5	1.97	<1	20	71	76	4.28	<10	1.06	734	<1	0.03	23	760	20	<5	<20	69	0.15	<10	90	<10	3	70	
GEO'96		145	1.2	1.71	65	165	<5	1.76	<1	18	62	74	3.86	<10	0.92	656	<1	0.02	23	720	22	<5	<20	54	0.13	<10	78	<10	1	70	
GEO'96		145	0.6	1.74	70	155	<5	1.73	<1	18	62	74	3.69	<10	0.76	654	<1	0.02	20	630	24	<5	<20	51	0.11	<10	76	<10	1	67	

Note: \* = No Sample

df/1074  
 XLS/96Orequest  
 Fax @: 604-688-6788 - Attn: Wes Raven  
 cc: results/invt: Imperial Metals Corp. - Attn: Patrick McAndless  
 Fax @: 604-687-4030 - Attn: Pat McAndless

  
 ECO-TECH LABORATORIES LTD.  
 Frank J. Pezzotti, A.Sc.T.  
 B.C. Certified Assayer



ASSAYING  
GEOCHEMISTRY  
ANALYTICAL CHEMISTRY  
ENVIRONMENTAL TESTING

10041 E. Trans Canada Hwy., R.R. #2, Kamloops, B.C. V2C 6T4 Phone (250) 573-5700  
Fax (250) 573-4557

**CERTIFICATE OF ASSAY AK 96-1099**

OREQUEST CONSULTANTS  
306-595 HOWE STREET  
VANCOUVER, B.C.  
V6C 2T5

7-Oct-96

ATTENTION: WES RAVEN

No. of samples received: 105  
Sample type: ROCK  
PROJECT #: CHACO BEAR  
SHIPMENT #: NOT GIVEN  
Samples submitted by: W. RAVEN

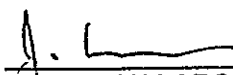
ET #.	Tag #	Au (g/t)	Au (oz/t)	Ag (g/t)	Ag (oz/t)	Cu (%)
17	RR96- 21	-	-	397.6	11.60	8.62
18	RR96- 22	2.31	0.067	31.0	0.90	3.68
19	RR96- 23	-	-	-	-	1.67
20	RR96- 24	25.52	0.744	-	-	1.16
25	RR96- 29	-	-	-	-	1.11
27	RR96- 31	5.79	0.169	-	-	1.17
33	RR96- 37	2.82	0.082	-	-	-
37	RR96- 41	1.02	0.030	-	-	-
39	RR96- 43	22.03	0.642	-	-	-
84	BD96- 33	2.66	0.078	-	-	-
98	BD96- 47	7.06	0.206	-	-	-
101	BR96- 6	10.72	0.313	-	-	4.73
105	BR96- 10	5.03	0.147	-	-	-

**QC DATA:**

Standard:

SUI-a	-	-	-	-	1.44
CPb-1	-	-	632.0	18.43	0.25

XLS/96Orequest#2  
fax:688-6788/w.raven  
cc:fax:687-4030/p.mcandless

  
FRANK J. PEZZOTTI, A.Sc.T.  
B.C. Certified Assayer

1-Oct-96

ECO-TECH LABORATORIES LTD.  
10041 East Trans Canada Highway  
KAMLOOPS, B.C.  
V2C 6T4

ICP CERTIFICATE OF ANALYSIS AK 96-1099

OREQUEST CONSULTANTS  
306-595 HOWE STREET  
VANCOUVER, B.C.  
V6C 2T5

Phone: 604-573-5700  
Fax : 604-573-4557

ATTENTION: WES RAVEN

No. of samples received: 105  
Sample type: ROCK  
PROJECT #: CHACO BEAR  
SHIPMENT #: NOT GIVEN  
Samples submitted by: W. RAVEN

Values in ppm unless otherwise reported

Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	WR96-16	105	0.8	1.53	<5	125	10	0.14	1	11	23	28	9.97	70	0.87	1510	10	<0.01	5	650	<2	<5	<20	3	0.01	<10	50	<10	<1	52
2	WR96-17	5	0.6	0.25	<5	45	<5	0.54	<1	2	99	127	0.74	20	0.03	438	9	0.02	3	140	4	<5	<20	9	<0.01	<10	<1	<10	3	11
3	WR96-18	240	2.4	0.12	<5	115	<5	0.71	5	12	63	571	>10	70	0.13	594	11	<0.01	4	400	76	<5	<20	5	<0.01	<10	<1	<10	<1	560
4	WR96-19	80	3.6	0.30	25	75	<5	2.35	30	14	64	567	6.15	50	0.77	3101	6	<0.01	16	760	312	<5	<20	51	0.02	<10	14	<10	<1	4000
5	WR96-20	235	0.4	0.14	<5	150	<5	0.15	11	19	27	1975	>10	90	0.16	197	17	<0.01	3	<10	26	<5	<20	4	<0.01	20	13	50	<1	112
6	WR96-21	5	2.2	0.58	<5	75	<5	0.12	<1	5	81	30	1.46	10	0.31	909	7	0.05	3	310	506	<5	<20	12	0.07	<10	9	<10	<1	69
7	WR96-22	25	1.8	1.78	25	110	<5	0.36	<1	37	59	9	5.32	40	1.54	1047	4	0.01	5	960	<2	<5	<20	22	0.11	<10	52	<10	<1	69
8	WR96-23	10	<0.2	0.38	15	45	<5	0.04	<1	7	15	31	3.43	20	0.03	17	6	0.01	6	190	<2	<5	<20	7	<0.01	<10	10	<10	<1	2
9	WR96-24	5	<0.2	0.08	<5	380	20	0.34	6	9	<1	2	>10	350	0.60	<1	24	<0.01	<1	<10	12	<5	<20	1	<0.01	90	2	<10	<1	165
10	WR96-25	805	<0.2	0.19	<5	150	<5	0.51	2	4	23	1334	>10	90	0.16	1000	9	<0.01	5	<10	2	<5	<20	3	<0.01	<10	7	60	<1	16
11	WR96-26	10	1.8	0.91	<5	90	<5	0.14	<1	6	29	52	3.66	30	0.50	1250	8	0.02	2	630	48	<5	<20	8	0.10	<10	14	<10	<1	69
12	WR96-27	10	3.2	2.78	<5	135	<5	0.35	<1	17	9	49	9.21	80	2.55	3706	<1	0.03	5	1420	<2	<5	<20	11	0.20	<10	122	<10	<1	167
13	WR96-28	190	13.0	1.36	15	100	10	0.16	1	16	29	39	7.36	50	0.97	2811	9	<0.01	6	1290	<2	<5	<20	3	0.02	<10	55	<10	<1	57
14	WR96-29	75	0.2	1.83	<5	100	<5	0.44	23	26	59	435	8.03	60	0.62	1168	3	<0.01	7	470	12	<5	<20	3	0.06	<10	39	<10	<1	254
15	WR96-30	100	1.0	1.11	<5	65	<5	7.22	2	7	127	1227	4.22	30	0.33	1760	12	<0.01	4	250	66	<5	<20	18	0.03	<10	33	<10	<1	35
16	RR96-20	10	>30	0.02	10	25	<5	>10	2	<1	24	6951	0.15	10	0.07	6035	<1	<0.01	1	<10	<2	15	<20	183	0.06	<10	<1	<10	11	2
17	RR96-21	5	>30	1.03	<5	105	<5	9.83	1	14	43	>10000	3.57	30	0.54	1495	<1	<0.01	3	>10000	<2	<5	<20	20	<0.01	<10	60	80	<1	65
18	RR96-22	>1000	>30	0.33	<5	115	<5	>10	1	6	76	>10000	4.77	30	0.21	5499	<1	<0.01	3	>10000	44	<5	<20	57	<0.01	<10	12	50	<1	83
19	RR96-23	465	14.6	1.87	<5	110	<5	0.23	2	25	162	>10000	5.82	40	0.94	2557	10	<0.01	68	<10	60	<5	<20	3	0.06	<10	40	<10	<1	248
20	RR96-24	>1000	5.0	0.19	<5	100	<5	0.12	2	8	49	>10000	9.17	50	0.08	97	11	<0.01	3	<10	16	<5	<20	2	0.03	20	1	30	<1	53

OREQUEST CONSULTANTS

ICP CERTIFICATE OF ANALYSIS AK 96-1099

ECO-TECH LABORATORIES LTD.

Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bl	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
21	RR96-25	110	<0.2	0.34	<5	85	<5	0.10	<1	7	80	151	7.65	40	0.11	169	12	<0.01	2	320	<2	<5	<20	<1	<0.01	<10	18	10	<1	6
22	RR96-26	50	<0.2	0.26	<5	245	10	0.07	1	4	58	33	7.72	40	0.05	274	12	<0.01	3	110	8	<5	<20	3	<0.01	<10	4	<10	<1	7
23	RR96-27	330	5.4	1.73	50	80	<5	1.26	67	21	54	515	5.58	40	1.52	2064	17	0.01	8	880	294	<5	<20	39	0.12	<10	48	<10	<1	5549
24	RR96-28	35	<0.2	1.27	<5	415	15	0.35	6	17	<1	49	>10	330	1.06	1776	7	<0.01	2	<10	6	<5	<20	3	0.01	10	69	40	<1	119
25	RR96-29	605	21.0	1.83	<5	90	<5	1.75	2	9	103	>10000	6.70	50	1.04	1912	10	<0.01	8	<10	98	<5	<20	20	0.06	<10	56	<10	<1	101
26	RR96-30	5	0.4	1.52	<5	60	<5	0.73	<1	11	126	58	2.74	20	0.95	1459	<1	0.02	5	710	<2	<5	<20	63	0.08	<10	40	<10	<1	95
27	RR96-31	>1000	8.0	1.26	<5	260	<5	0.57	4	20	47	>10000	>10	170	0.93	1713	11	<0.01	7	<10	4	<5	<20	9	0.05	<10	66	<10	<1	86
28	RR96-32	15	0.8	0.91	<5	110	<5	0.18	<1	25	88	35	7.31	40	0.57	377	4	<0.01	6	450	<2	<5	<20	22	0.03	<10	30	20	<1	28
29	RR96-33	5	<0.2	0.26	<5	120	5	0.47	1	7	113	33	9.82	60	0.13	593	13	<0.01	2	<10	<2	<5	<20	2	0.01	<10	34	20	<1	15
30	RR96-34	10	<0.2	0.27	<5	105	5	0.13	1	50	110	12	8.04	40	0.08	325	8	<0.01	4	170	22	<5	<20	2	<0.01	<10	15	20	<1	10
31	RR96-35	280	0.6	0.14	<5	80	<5	2.27	<1	51	122	11	5.53	20	0.11	832	17	<0.01	5	160	6	<5	<20	12	<0.01	<10	9	<10	<1	20
32	RR96-36	100	0.8	2.40	<5	110	5	8.57	2	20	76	43	7.93	50	1.11	3026	3	<0.01	6	620	<2	<5	<20	15	0.03	<10	60	<10	<1	74
33	RR96-37	>1000	5.0	0.61	<5	85	<5	>10	7	8	33	7452	5.03	30	0.30	5536	2	<0.01	2	<10	<2	<5	<20	33	0.07	<10	24	<10	6	41
34	RR96-38	5	1.8	1.95	<5	100	<5	>10	40	12	28	4372	6.81	30	1.02	2933	<1	<0.01	6	640	386	<5	<20	15	0.05	<10	62	<10	2	650
35	RR96-39	5	<0.2	0.99	120	65	<5	1.51	1	22	38	151	7.25	20	0.77	715	8	0.01	10	1210	8	<5	<20	8	<0.01	<10	84	<10	<1	69
36	RR96-40	5	<0.2	0.65	<5	35	<5	0.49	<1	9	62	24	3.72	<10	0.27	205	5	0.02	<1	860	8	<5	<20	9	0.18	<10	16	<10	5	12
37	RR96-41	>1000	<0.2	0.25	<5	140	15	0.09	3	9	57	58	>10	<10	<0.01	26	19	<0.01	<1	<10	6	<5	<20	2	<0.01	30	17	110	<1	41
38	RR96-42	745	0.6	0.63	<5	75	<5	0.58	17	8	115	8484	>10	<10	0.17	517	17	<0.01	1	<10	348	<5	<20	2	0.02	<10	27	<10	<1	460
39	RR96-43	>1000	2.2	0.43	<5	90	<5	0.09	19	3	63	1585	>10	<10	0.07	657	38	<0.01	34	<10	88	55	<20	6	<0.01	<10	15	<10	<1	223
40	RR96-44	45	0.6	0.70	<5	60	<5	2.73	5	24	235	559	4.92	<10	0.26	1003	11	<0.01	6	190	252	<5	<20	6	0.02	<10	27	<10	<1	32
41	RR96-45	5	0.4	2.34	<5	85	<5	3.49	1	18	99	2672	6.81	<10	1.24	1833	4	<0.01	7	980	60	<5	<20	22	0.08	<10	61	<10	<1	93
42	RR96-46	125	1.6	0.67	5	45	5	1.06	2	149	160	21	7.92	<10	0.16	547	17	<0.01	5	680	22	<5	<20	4	0.02	<10	21	<10	<1	19
43	4218	20	0.2	3.29	<5	80	<5	0.82	2	25	47	67	7.95	10	3.17	4304	<1	0.02	7	1590	22	<5	<20	21	0.24	<10	103	<10	<1	223
44	4219	15	0.2	3.18	<5	65	<5	0.80	<1	24	45	15	7.75	<10	3.29	4431	<1	0.02	4	1760	26	<5	<20	18	0.25	<10	114	<10	<1	273
45	4220	25	0.6	3.55	25	65	10	0.46	<1	23	30	24	8.61	<10	3.90	4750	<1	<0.01	7	1150	22	<5	<20	5	0.27	<10	103	<10	<1	277
46	4221	5	0.4	3.46	<5	70	<5	0.74	1	25	38	43	8.45	<10	3.31	4510	<1	0.01	9	1310	10	<5	<20	15	0.34	<10	119	<10	<1	264
47	4222	5	0.4	3.44	<5	60	5	0.75	1	29	45	41	8.12	<10	3.91	4932	<1	0.02	7	1420	56	<5	<20	16	0.35	<10	135	<10	<1	296
48	4223	5	0.6	3.16	<5	70	<5	0.90	1	22	34	102	8.17	<10	2.84	4692	<1	0.01	8	1360	14	<5	<20	23	0.37	<10	128	<10	<1	254
49	4224	10	0.8	3.04	<5	70	<5	0.55	2	23	38	135	8.36	<10	2.80	4538	<1	0.01	7	1460	10	<5	<20	11	0.24	<10	103	<10	<1	273
50	4225	5	0.8	2.94	<5	70	<5	0.82	1	22	37	182	7.70	<10	2.64	4403	<1	0.01	8	1370	4	<5	<20	18	0.28	<10	108	<10	<1	236
51	4226	10	1.4	3.40	<5	70	5	0.90	2	24	32	70	8.96	10	3.32	5851	<1	0.01	5	1500	66	<5	<20	20	0.19	<10	130	<10	<1	330
52	4227	30	0.6	3.14	<5	75	<5	0.72	<1	18	29	24	7.72	<10	2.70	3897	<1	0.01	6	1180	12	<5	<20	24	0.19	<10	105	<10	<1	214
53	4228	10	0.4	4.04	<5	70	10	0.99	1	30	24	11	8.04	10	4.27	5444	<1	0.02	5	1520	14	<5	<20	23	0.27	<10	154	<10	2	283
54	4229	15	2.0	3.36	45	70	5	0.62	2	20	28	10	8.13	10	3.74	5341	<1	0.02	6	1510	356	<5	<20	21	0.17	<10	132	<10	<1	269
55	4230	30	1.4	2.97	40	80	5	0.80	2	19	34	12	7.16	<10	2.99	5054	<1	0.02	5	1490	362	<5	<20	30	0.29	<10	133	<10	<1	345



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ICP CERTIFICATE OF ANALYSIS AK 96-1099

ECO-TECH LABORATORIES LTD.

Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
56	4231	10	1.4	2.71	10	90	<5	0.74	2	16	52	101	7.33	10	2.21	5863	3	0.01	5	1530	62	<5	<20	21	0.10	<10	88	<10	<1	308
57	4232	15	1.6	2.88	<5	95	10	0.99	2	17	38	42	6.65	10	2.27	5472	<1	0.01	4	1780	304	<5	<20	49	0.23	<10	102	<10	<1	289
58	4233	25	1.2	2.76	<5	85	5	1.26	2	22	52	25	6.53	10	2.27	7025	<1	0.02	6	1930	198	<5	<20	37	0.28	<10	106	<10	1	332
59	4234	20	2.2	2.42	35	95	10	0.77	1	15	82	13	6.51	<10	2.08	5812	<1	0.02	4	1700	310	<5	<20	27	0.22	<10	83	<10	<1	273
60	4235	20	2.4	2.94	25	80	5	0.63	2	17	53	42	7.08	10	2.59	7345	<1	0.01	4	1730	518	<5	<20	20	0.19	<10	91	<10	<1	355
61	4236	5	2.0	2.83	10	70	<5	0.78	2	21	48	32	7.09	10	2.57	6783	<1	0.01	6	1650	544	<5	<20	26	0.26	<10	98	<10	<1	353
62	4237	5	1.8	3.22	<5	80	5	0.61	2	20	46	28	7.36	10	2.95	8195	<1	0.01	6	1430	132	<5	<20	16	0.18	<10	93	<10	<1	368
63	4238	5	1.8	2.91	10	95	<5	0.62	3	16	58	30	6.96	10	2.62	7480	<1	0.01	6	1500	452	<5	<20	17	0.22	<10	84	<10	<1	421
64	4239	5	1.6	1.82	10	120	<5	0.30	2	9	88	34	5.04	<10	1.37	4186	1	<0.01	5	1100	892	<5	<20	11	0.16	<10	49	<10	<1	292
65	4240	5	1.6	1.96	5	95	<5	0.42	1	7	81	35	4.95	10	1.37	4344	2	<0.01	1	1150	430	<5	<20	18	0.14	<10	51	<10	<1	202
66	4241	5	1.6	2.22	10	105	<5	0.53	2	9	62	48	5.60	10	1.60	4890	2	0.01	5	1320	474	<5	<20	23	0.14	<10	69	<10	<1	297
67	4242	5	<0.2	0.48	<5	100	10	0.12	2	15	96	15	>10	10	<0.01	75	16	<0.01	2	250	8	<5	<20	3	<0.01	20	5	40	<1	19
68	4243	5	0.2	0.52	<5	80	<5	0.39	1	6	68	10	3.30	30	<0.01	785	7	<0.01	2	840	4	<5	<20	5	<0.01	<10	2	<10	4	9
69	4244	5	0.2	0.50	<5	195	<5	0.17	1	4	44	13	3.17	30	<0.01	748	5	<0.01	3	850	<2	<5	<20	4	<0.01	<10	2	<10	5	9
70	4245	5	<0.2	0.43	<5	80	5	0.12	2	19	86	17	8.31	<10	<0.01	163	11	<0.01	2	560	2	<5	<20	2	<0.01	<10	4	<10	<1	25
71	4246	5	<0.2	0.33	<5	55	10	0.05	1	22	84	10	7.14	<10	<0.01	51	11	<0.01	3	300	4	<5	<20	<1	<0.01	10	3	20	<1	6
72	4247	5	<0.2	0.36	<5	70	5	0.07	2	18	106	12	8.75	<10	<0.01	61	13	<0.01	3	370	2	<5	<20	2	<0.01	10	4	20	<1	8
73	4248	5	<0.2	0.43	<5	60	<5	0.09	<1	6	77	7	3.12	30	<0.01	66	9	<0.01	2	740	<2	<5	<20	4	<0.01	<10	2	<10	<1	5
74	4249	5	0.2	0.60	15	70	<5	0.25	1	6	57	24	3.35	20	0.04	316	9	0.01	1	870	4	<5	<20	6	<0.01	<10	4	<10	1	8
75	4250	5	0.2	0.46	<5	60	<5	0.34	1	9	73	19	4.32	20	0.02	341	9	<0.01	<1	760	8	<5	<20	6	<0.01	<10	4	<10	<1	10
76	4251	5	0.2	0.52	<5	40	<5	0.80	1	9	56	12	3.37	40	0.01	412	7	<0.01	<1	910	6	<5	<20	9	<0.01	<10	2	<10	3	8
77	4252	55	<0.2	0.47	<5	50	<5	0.16	1	21	59	20	4.97	30	<0.01	185	11	<0.01	3	900	6	<5	<20	4	<0.01	<10	3	<10	<1	8
78	4253	60	<0.2	0.40	<5	60	10	0.09	2	39	85	20	9.33	<10	<0.01	98	15	<0.01	2	500	4	<5	<20	2	<0.01	<10	4	20	<1	9
79	4254	45	0.2	0.51	<5	35	5	0.42	1	15	64	10	4.18	<10	<0.01	199	10	<0.01	2	880	4	<5	<20	2	<0.01	<10	3	<10	<1	5
80	4255	5	<0.2	0.42	<5	50	10	0.10	1	18	61	18	5.39	<10	<0.01	67	9	<0.01	2	700	6	<5	<20	2	<0.01	<10	4	<10	<1	6
81	4256	10	0.4	0.34	<5	100	10	0.03	2	7	48	14	4.79	10	<0.01	45	12	<0.01	<1	610	8	<5	<20	3	<0.01	<10	3	<10	<1	4
82	4257	10	0.2	0.38	<5	65	10	0.08	2	8	50	15	5.37	10	<0.01	114	9	<0.01	2	810	4	<5	<20	3	<0.01	<10	3	10	<1	12
83	4258	5	<0.2	2.10	<5	95	5	0.04	1	4	25	38	8.13	10	2.14	723	6	<0.01	2	1020	12	<5	<20	2	<0.01	<10	61	<10	<1	86
84	BD96-33	>1000	3.2	0.16	<5	30	<5	0.03	2	12	172	754	5.88	<10	<0.01	38	8	<0.01	3	250	142	<5	<20	1	<0.01	<10	3	<10	<1	19
85	BD96-34	760	4.4	0.25	<5	85	<5	5.85	18	7	197	4687	1.43	20	<0.01	6035	17	<0.01	4	230	248	<5	<20	13	0.02	<10	1	<10	6	23
86	BD96-35	400	1.4	0.25	<5	360	<5	0.08	1	2	192	836	2.18	<10	<0.01	366	13	<0.01	2	410	78	<5	<20	4	<0.01	<10	3	<10	<1	4
87	BD96-36	410	5.0	0.35	<5	105	<5	9.24	15	9	221	4060	1.65	10	<0.01	7555	18	<0.01	3	420	260	<5	<20	17	0.03	<10	1	<10	3	19
88	BD96-37	5	<0.2	1.58	<5	160	<5	0.17	2	12	20	126	>10	<10	0.87	451	1	0.01	4	1700	14	<5	<20	7	0.27	<10	94	<10	<1	57
89	BD96-38	50	0.8	0.79	140	140	15	0.08	1	50	18	78	>10	<10	0.11	1913	22	<0.01	7	3170	16	<5	<20	5	<0.01	<10	57	<10	<1	70
90	BD96-39	5	<0.2	1.08	<5	60	<5	0.09	2	39	23	75	>10	<10	0.58	319	10	0.01	7	1450	12	<5	<20	4	0.01	10	54	<10	<1	31

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ICP CERTIFICATE OF ANALYSIS AK 96-1099

ECO-TECH LABORATORIES LTD.

Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
91	BD96-40	875	0.2	0.31	<5	150	<5	0.06	3	11	134	2165	>10	<10	0.03	114	19	<0.01	3	<10	6	<5	<20	2	0.01	30	18	130	<1	14
92	BD96-41	275	<0.2	0.24	<5	145	20	0.47	4	16	102	65	>10	10	0.05	329	27	<0.01	4	<10	8	<5	<20	1	0.01	30	43	150	<1	24
93	BD96-42	100	8.4	0.74	<5	215	<5	0.12	5	22	22	315	>10	<10	0.04	1843	25	<0.01	2	1030	1194	<5	<20	3	<0.01	<10	16	<10	<1	827
94	BD96-43	25	2.8	0.25	<5	145	<5	>10	12	19	9	27	>10	20	5.47	6766	3	<0.01	13	90	122	<5	<20	114	0.02	<10	33	<10	<1	827
95	BD96-44	15	1.2	0.28	5	55	<5	0.74	2	2	102	12	1.43	20	0.07	441	13	0.02	1	290	22	<5	<20	9	<0.01	<10	1	<10	2	62
96	BD96-45	145	<0.2	1.27	<5	200	10	0.08	2	12	8	80	>10	<10	0.41	386	15	<0.01	4	1960	10	<5	<20	2	0.02	10	79	<10	<1	45
97	BD96-46	10	7.8	>10	70	235	<5	0.29	8	108	4	1019	>10	110	0.43	10000	23	<0.01	42	220	<2	<5	<20	10	0.12	<10	20	<10	42	223
98	BD96-47	>1000	0.6	0.66	<5	120	<5	0.19	3	15	108	1469	>10	<10	0.25	703	14	<0.01	6	<10	14	<5	<20	3	0.06	<10	53	10	<1	36
99	BD96-48	65	1.0	1.12	<5	95	<5	0.44	5	10	157	3217	>10	<10	0.35	994	20	<0.01	5	60	282	<5	<20	2	0.02	<10	34	<10	<1	134
100	BR96-5	5	0.2	0.26	<5	45	<5	0.03	2	19	107	17	5.45	<10	<0.01	58	7	<0.01	5	40	4	<5	<20	3	<0.01	10	3	10	<1	6
101	BR96-6	>1000	10.8	0.09	<5	160	<5	0.09	6	12	13	<1	>10	10	0.01	3	21	<0.01	<1	>10000	60	<5	<20	1	<0.01	50	9	140	<1	69
102	BR96-7	135	<0.2	0.20	<5	260	<5	0.08	4	16	35	322	>10	<10	<0.01	211	35	<0.01	3	<10	72	<5	<20	3	<0.01	50	29	50	<1	71
103	BR96-8	10	0.4	1.84	<5	70	<5	0.87	2	14	64	100	5.42	20	1.41	3836	3	0.02	2	990	20	<5	<20	14	0.19	<10	41	<10	3	205
104	BR96-9	500	0.4	1.65	<5	100	<5	0.23	2	36	147	134	7.76	<10	0.54	2024	8	<0.01	4	860	54	<5	<20	3	0.01	<10	29	<10	<1	75
105	BR96-10	>1000	1.8	1.24	<5	100	<5	1.24	6	10	123	5492	>10	<10	0.47	1367	17	<0.01	2	210	124	<5	<20	4	0.02	<10	39	<10	<1	116

QC DATA:

<b>Resplit:</b>																															
1	WR96-16	110	0.8	1.43	10	110	10	0.16	<1	13	26	22	>10	60	0.81	1541	12	<0.01	4	750	14	<5	<20	1	0.01	<10	60	20	<1	56	
36	RR96-40	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
71	4246	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Repeat:</b>																															
1	WR96-16	120	1.0	1.58	<5	130	15	0.15	2	11	25	30	>10	80	0.90	1623	13	<0.01	6	700	<2	<5	<20	3	0.01	<10	53	<10	<1	56	
10	WR96-25	550	<0.2	0.18	<5	150	<5	0.50	2	5	23	1279	>10	80	0.14	992	9	<0.01	3	<10	4	<5	<20	3	<0.01	<10	7	60	<1	15	
19	RR96-23	420	14.2	1.78	<5	105	<5	0.21	2	24	158	>10000	5.61	40	0.91	2414	8	<0.01	68	<10	62	<5	<20	3	0.06	<10	36	<10	<1	234	
31	RR96-35	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
36	RR96-40	-	<0.2	0.68	<5	35	<5	0.51	<1	10	63	24	3.80	<10	0.28	229	5	0.02	<1	860	6	<5	<20	9	0.19	<10	18	<10	5	14	
40	RR96-44	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
45	4220	-	0.6	3.58	35	65	10	0.46	<1	24	29	25	8.52	10	3.93	4670	<1	<0.01	4	1120	22	<5	<20	5	0.27	<10	103	<10	<1	272	
49	4224	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
54	4229	-	2.0	3.26	55	75	5	0.64	1	20	29	10	8.23	10	3.63	5420	<1	0.02	5	1510	362	<5	<20	18	0.17	<10	134	<10	<1	274	
71	4246	5	<0.2	0.34	<5	60	10	0.05	1	24	94	11	7.77	<10	<0.01	59	12	<0.01	2	330	2	<5	<20	<1	<0.01	<10	3	30	<1	6	

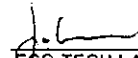
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ICP CERTIFICATE OF ANALYSIS AK 96-1099

ECO-TECH LABORATORIES LTD.

Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
80	4255	5	<0.2	0.42	<5	50	5	0.10	1	18	58	19	5.18	<10	<0.01	65	8	<0.01	2	690	4	<5	<20	2	<0.01	<10	4	<10	<1	6
89	BD96- 38	60	0.8	0.81	115	145	20	0.08	3	50	11	82	>10	<10	0.11	1986	22	<0.01	6	3190	20	<5	<20	5	<0.01	<10	56	<10	<1	70
98	BD96- 47	>1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
105	BR96- 10	>1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Standard:</b>																														
GEO'96		150	1.8	2.08	50	180	<5	2.08	1	23	71	87	4.19	<10	1.08	740	<1	0.02	24	780	22	<5	<20	59	0.19	<10	84	<10	2	83
GEO'96		155	1.6	2.09	50	180	<5	2.02	1	23	71	85	4.04	<10	1.05	740	<1	0.02	26	770	20	<5	<20	57	0.19	<10	85	<10	2	79
GEO'96		150	1.6	1.82	25	170	<5	2.02	1	18	73	83	4.73	20	0.98	740	<1	<0.01	25	720	<2	<5	<20	56	0.14	<10	86	<10	<1	80
GEO'96		145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

df/1099  
 XLS/96OREQUEST#2  
 fax@688-6788/w.raven  
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*per*   
 ECO-TECH LABORATORIES LTD.  
 Frank J. Pezzotti, A.Sc.T.  
 B.C. Certified Assayer



ASSAYING  
GEOCHEMISTRY  
ANALYTICAL CHEMISTRY  
ENVIRONMENTAL TESTING

10041 E. Trans Canada Hwy., R.R. #2, Kamloops, B.C. V2C 6T4 Phone (250) 573-5700  
Fax (250) 573-4557

**CERTIFICATE OF ASSAY AK 96-1284**

**OREQUEST CONSULTANTS**  
306-595 HOWE STREET  
VANCOUVER, B.C.  
V6C 2T5

4-Nov-96

**ATTENTION: WES RAVEN**

No. of samples received: 7  
Sample type: CORE  
PROJECT #: NONE GIVEN  
SHIPMENT #: NONE GIVEN  
Samples submitted by: NOT INDICATED

ET #.	Tag #	Au (g/t)	Au (oz/t)	Cu (%)
1	4265	<.03	<.001	-
2	4266	<.03	<.001	-
3	4267	<.03	<.001	-
4	4268	<.03	<.001	-
5	4269	<.03	<.001	0.13
6	4270	0.04	0.001	0.21
7	4271	0.18	0.005	0.56

**QC/DATA:**

**Repeat:**


1	4265	<.03	<.001	-
5	4269	-	-	0.13

**Resplit:**

1	4265	<.03	<.001	-
---	------	------	-------	---

**Standard:**

Mp-IA	-	-	-	1.44
Std-m	1.50	0.044	-	-

  
FRANK J. PEZZOTTI, A.Sc.T.  
B.C. Certified Assayer

XLS/96OREQUEST#2

8-Nov-96

ECO-TECH LABORATORIES LTD.  
10041 East Trans Canada Highway  
KAMLOOPS, B.C.  
V2C 6T4

ICP CERTIFICATE OF ANALYSIS AK 96-1284

OREQUEST CONSULTANTS  
306-595 HOWE STREET  
VANCOUVER, B.C.  
V6C 2T5

ATTENTION: WES RAVEN

Phone: 604-573-5700  
Fax : 604-573-4557

No. of samples received: 7  
Sample type: CORE  
PROJECT #: NONE GIVEN  
SHIPMENT #: NONE GIVEN  
Samples submitted by: NOT INDICATED


Values in ppm unless otherwise reported

Et #.	Tag #	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	4265	<0.2	0.65	<5	100	10	7.12	<1	14	17	14	4.51	<10	0.49	2161	1	0.01	1	810	<2	<5	<20	90	0.14	<10	25	<10	17	25
2	4266	<0.2	0.67	<5	520	15	8.04	<1	13	23	13	4.72	<10	0.52	2820	2	<0.01	2	840	<2	<5	<20	101	0.14	<10	36	<10	17	27
3	4267	<0.2	1.18	<5	195	10	6.89	<1	20	14	18	5.53	<10	0.89	2809	3	<0.01	2	770	2	<5	<20	92	0.08	<10	75	<10	11	65
4	4268	<0.2	1.56	<5	155	<5	5.93	<1	17	8	316	5.79	<10	0.92	3242	5	<0.01	2	900	4	<5	<20	84	0.03	<10	81	<10	9	122
5	4269	1.2	0.36	<5	130	<5	>10	29	3	23	882	1.08	<10	0.10	4149	4	<0.01	<1	250	116	<5	<20	72	<0.01	<10	10	<10	42	372
6	4270	1.4	0.27	<5	55	<5	>10	114	3	23	1278	1.28	<10	0.09	5682	7	<0.01	1	100	126	<5	<20	49	0.01	<10	8	<10	43	1329
7	4271	1.4	0.84	<5	70	<5	7.71	13	9	53	4679	5.01	<10	0.19	4670	24	<0.01	3	320	86	<5	<20	42	0.02	<10	57	<10	7	217

QC/DATA:

Repeat:																														
1	4265	<0.2	0.63	<5	90	15	6.79	<1	15	20	14	4.68	<10	0.48	2121	1	0.01	2	830	<2	<5	<20	86	0.16	<10	26	<10	17	25	
Resplit:																														
1	4265	<0.2	0.69	<5	105	10	6.99	<1	15	17	17	4.68	<10	0.48	2170	<1	0.01	2	830	<2	<5	<20	88	0.16	<10	26	<10	17	25	
Standard:																														
GEO 96		1.2	1.91	65	170	<5	1.76	<1	19	64	76	4.08	<10	1.13	684	2	0.02	25	610	16	10	<20	61	0.13	<10	83	<10	11	72	

df/1284  
XLS/96OREQUEST#2

  
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Frank J. Pezzotti, A.Sc.T.  
B.C. Certified Assayer

**APPENDIX II**

Drill Logs



FROM	TO	ROCK TYPE	ALT	POL C/A	DESCRIPTION	% SULPHIDE	SAMPLE No.	FROM	TO	LENGTH	Au gpt	Ag ppm	Cu pct	Cu ppm	Pb ppm	Zn ppm
					throughout. Some well defined carb veinlets 3-10 mm wide at 30 deg to SCA. Minor disseminated mineralization as py & specular hematite (tr-1%), quite fine grained.											
23.17	23.60				- hematite gouge on fractures as thin (1-2 mm) coatings.											
24.56	24.70				- contorted Fe-carb, carb and qtz veining with minor sericite, some brecciated wallrock fragments.											
25.70	26.00				- as above interval											
32.75	35.00				- has 5-10% carb-qtz tension gash infillings, looks fractured then healed with carb-qtz.											
35.00	36.50	4	hem,chl		- mod to strong qtz-carb tension gash infillings, locally quite brecciated. At 35.92 is contact @ 60 deg to SCA with pervasive lim-hem altered rock to end of interval, hem gouge at contact, upper 25 cm above contact is breccia.	tr-1	4261	35.00	36.50	1.50	<0.03	<0.2		9	6	77
36.50	38.00	4	hem,chl		- moderate hem as pervasive in matrix and as narrow bands or stains, 2-3% carb-qtz tension gash infillings.	tr-1	4262	36.50	38.00	1.50	<0.03	<0.2		8	10	84
38.00	39.50	4	hem,chl		- as above, from 38.83-38.96 is 15% carb-qtz veining and hem gouge stringers @ 70 deg to SCA.	tr-1	4263	38.00	39.50	1.50	<0.03	<0.2		7	8	86
39.50	41.00	4	hem,chl		- more greenish-black minor hem, lower 25 cm is strong pervasive hem	tr-1	4264	39.50	41.00	1.50	<0.03	<0.2		13	2	44
40.75	46.18				RED ANDESITE LAPILLI TUFF TO AGGLOMERATE.											
					Strong to intense, pervasive hematite stain. Contains sub-angular to sub-rounded fragments 1/4 cm up to 3/8 cm of the dark green-black andesite. Contains 10-15% fine blebs of white carbonate and 1-3% 1-2 mm carb-qtz stringer veins @ 20, 60 and 80 deg to SCA. Mineralization is trace amounts of dissem specular hematite. Upper & lower contacts gradational.											
41.00	42.50	6	hem		- as general description	tr	4265	41.00	42.50	1.50	<0.03	<0.2		14	<2	25
42.50	44.00	6	hem		- as general description	tr	4266	42.50	44.00	1.50	<0.03	<0.2		13	<2	27
44.00	46.18	6	hem		- as general description	tr	4267	44.00	46.18	2.18	<0.03	<0.2		18	2	65
46.18	47.42				GREEN ANDESITE TUFF											
					As 3.05-12.40 metres. Gradational upper contact, lower contact sharp at 20 deg to SCA at gouge contact. Has 20% white carb specks throughout, trace dissem. py except over lower 10 cm where py=1-4%.											
46.18	47.42	2	chl		- as above description	tr	4268	46.18	47.42	1.24	<0.03	<0.2		316	4	122
47.42	54.20				CARBONATE-QUARTZ BRECCIA ZONE											
					Zone is hosted in paler green andesite tuff which is brecciated and flooded with carb-qtz veining. Local patches of pale green highly											







FROM	TO	ROCK TYPE	ALT	FOG C/A	DESCRIPTION	% SULPHIDE	SAMPLE No.	FROM	TO	LENGTH	Au gpt	Ag ppm	Cu pct	Cu ppm	Pb ppm	Zn ppm
59.90	60.30				- moderately broken and fractured											
67.86	69.04				Green Andesite Tuff Broken upper contact, lower contact sharp at 40 deg to SCA at 2 cm qtz vein. From 68.40-68.60 m is carb-qtz-ep-ser vein @ 70 deg to SCA with tr blebs of cpy.											
69.04	73.65				PURPLE ANDESITE/CARB-QTZ STRINGER VEIN ZONE  The same red-purple-maroon volcanic unit with 5-10% veining and tension gash infilling. Unit is disrupted as it lies above the faulted carb-qtz brx zone.											
69.00	70.50	3,7	hem,chl		- as general description, local breccia veining, minor traces of py and specular hematite	tr	4281	69.00	70.50	1.50	<0.03	<0.2		72	8	111
70.50	72.00	3,7	hem,chl		- as general description, from 70.50-70.70 is well fractured, from 70.70-70.95 is bleached grey-green chl-ser altered with tr py, from 71.47 to 71.75 is brecciated with ep fragments up to 2x2 cm and deep red hematite, there are trace blebs of py & cpy	tr	4282	70.50	72.00	1.50	0.04	0.6		379	20	101
72.00	73.50	3,7	hem,chl		- as general description, chlorite altered green andesite from 73.28 to 73.65	tr	4283	72.00	73.50	1.50	0.06	<0.2		56	8	239
73.65	82.42				CARBONATE-QUARTZ BRECCIA ZONE  Fault bounded mineralized zone with carb-quartz veins as narrow stringers and 0.5m veins as well as tension gash infillings. Upper contact sharp at gouge zone, 5 cm wide, at 50 deg to SCA, lower contact also sharp at 45 deg to SCA, looks brecciated and subsequently healed, no gouge though 10 cm of broken core 20 cm above contact. Zone is hosted in strongly hematitized andesite to 82.30 m then in a yellow-green epidote (?) to end of zone at 82.42 m. Mineralization is comprised mainly of cpy as fine to coarse disseminated blebs averaging 2-4%. Minor py and specular hematite.											
73.50	74.50	7	car,qtz		- as general description, minor disseminated sulphides	tr	4284	73.50	74.50	1.00	<0.03	0.4	0.02		4	76
74.50	75.50	7	car,qtz		- as general description, from 74.61-74.98 is carb vein but barren looking, rest of interval has 10-15% veining with 1% cpy	tr-1	4285	74.50	75.50	1.00	0.03	1.4	0.14		<2	38
75.50	76.50	7	car,qtz		- as general description 70% carb-qtz vein with brx fragment to 76.34 m with 2-3% cpy throughout vein, from 75.50 to 75.95 has approximately 4-5% cpy	3	4286	75.50	76.50	1.00	1.81	4.4	0.89		138	79
76.50	77.50	7	car,qtz		- as general description, from 76.67-77.09 is carb-qtz vein with tr-1% chalcocopyrite	1	4287	76.50	77.50	1.00	0.09	1.0	0.09		2	14
77.50	78.50	7	car,qtz		- as general description, from 77.89 to 78.50 is strong breccia with 2-5% cpy in carb-qtz veins and host volcanic	3	4288	77.50	78.50	1.00	0.53	3.0	0.52		34	39

FROM	TO	ROCK TYPE	ALT	FOG C/A	DESCRIPTION	% SULPHIDE	SAMPLE No.	FROM	TO	LENGTH	Au gpt	Ag ppm	Cu pct	Cu ppm	Pb ppm	Zn ppm	
78.50	79.50	7 car,qtz			- strong breccia as above to 78.92 then fairly barren looking carb-qtz vein to 79.50	2	4289	78.50	79.50	1.00	0.23	1.6	0.32		<2	21	
79.50	80.50	7 car,qtz			- carb-qtz vein as above to 79.74 then silica-hem breccia to 80.00, from 80.0-80.50 is mod to strongly fractured	1-2	4290	79.50	80.50	1.00	0.38	0.6	0.26		<2	37	
80.50	81.50	7 car,qtz			- moderately to strongly fractured to 80.86 m, then barren carb vein to 81.20 m, strong gouge at upper contact of vein @ 50 deg to SCA, from 81.20 to 81.50 is brecciated hematitic andesite with 30-50% qtz-carb flooding, minor cpy throughout	1-2	4291	80.50	81.50	1.00	0.13	8.6	0.17		<2	71	
81.50	82.50	7 car,qtz			- strong hematite breccia to 82.42 m then last 8 cm is yellow-green epidote altm(?)	tr-1	4292	81.50	82.50	1.00	0.27	10.4	0.39		<2	60	
82.42	85.42				YELLOW-GREEN TRANSITION ZONE(?)  Bleached yellow-green epidote(?) altered rock to 83.28 then brecciated green unit to 85.42. Upper contact is gouge @ 50 deg to SCA, lower contact sharp at 45 deg to SCA, looks like healed gouge. Has 1-5% specks of hematite throughout and some darker green epidote crystals. Trace pyrite.												
82.50	83.50	2 chl,ep			- as general description, mostly yellow-green unit with 5% qtz-carb veining	tr	4293	82.50	83.50	1.00	<0.03	0.8		215	<2	177	
83.50	84.50	2 chl,ep			- mostly green andesite with 20% anastomosing qtz-carb stringers and 5-10% porphyritic feldspar crystals, some with hem replacement	tr	4294	83.50	84.50	1.00	<0.03	0.4		21	4	252	
84.50	85.50	2 chl,ep			- yellow green unit, brecciated	tr	4295	84.50	85.50	1.00	<0.03	2.8		1338	10	244	
85.42	101.80				RED-PURPLE-MAROON ANDESITE LAPILLI TUFF/AGGLOMERATE  Strong pervasive blood red hematite stain in a purple tuff/ agglomerate. Has some large 5x5 cm fragments of purple tuff, locally even larger fragments up to 6x12 cm. Up to 30-40% carbonate (porphyritic) crystals in the fragments. Also has 1-2% carb-qtz stringer veins generally at 45 deg to SCA. Very little mineralization, minor traces of pyrite and specular hematite.												
85.50	87.00	6 hem			- as general description, paler reddish-pink colour to 86.23 then the deep purple/red	tr	4296	85.50	87.00	1.50	<0.03	0.4		111	4	170	
87.00	88.50	6 hem			- as general description	tr	4297	87.00	88.50	1.50	<0.03	<0.2		20	4	106	
88.50	90.00	6 hem			- as general description	tr	4298	88.50	90.00	1.50	0.07	<0.2		17	4	168	
90.00	91.50	6 hem			- as general description, from 90.45-91.00 has abundant green fragments, from 91.00-91.20 is carb-qtz vein with 3-4% cpy, upper contact sharp at 60 deg to SCA, lower contact sharp along 1 cm gouge @ 60 deg to SCA	tr	4299	90.00	91.50	1.50	0.05	0.6		745	130	240	
101.80	106.28				GREEN & PURPLE ANDESITE & CARB QTZ VEIN  Intercalated lithologies, upper green unit from 101.80-103.15 with												

FROM	TO	ROCK TYPE	ALT C/A	DESCRIPTION	% SULPHIDE	SAMPLE No.	FROM	TO	LENGTH	Au gpt	Ag ppm	Cu pct	Cu ppm	Pb ppm	Zn ppm
				hematite stained breccia fragments, Carb-gtz vein from 103.15-104.08 then brecciated purple tuff to 105.67 then fine grained green andesite to 106.28											
101.80	103.15	4,7	car,qtz	- as above, green andesite with tr-1% cpy in carb-gtz stringers	tr-1	4300	101.80	103.15	1.35	0.12	1.2		731	144	260
103.15	104.08	4,7	car,qtz	- carb-gtz vein with 2-3% pale green siliceous fragments with tr cpy in fragments	tr	4324	103.15	104.08	.93	0.09	1.0		228	66	1132
104.08	105.67	4,7	car,qtz	- brecciated pink-purple andesite with 5-10% pale green-grey siliceous patches, 5% carb-gtz veins and 1-2% blebs of cpy	1-2	4325	104.08	105.67	1.59	0.12	0.8		3220	304	538
105.67	106.28	4,7	car,qtz	- fine grained medium green andesite, chlorite on fractures, 1% py, ends abruptly at irregular contact.	1	4326	105.67	106.28	.61	0.03	<0.2		184	20	344
106.28	155.49			GREEN AND PURPLE ANDESITE TUFF											
				As described 101.80 to 106.28 metres											
113.00	113.24			- gouge-carb-gtz vein @ 60-70 deg to SCA with chlorite and hematite											
117.59	117.82			- 5 mm carb-gtz-hematite gouge vein @ 80 deg to SCA											
120.65	121.34			- moderately fractured and broken											
121.62	122.70			- very fine grained											
132.01	133.54			- greener & more chloritic especially over the last 50 cm which has 5% carb-gtz veining											
133.54	155.79			- all undifferentiated hematitic andesite lapilli tuff to agglomerate											
	155.49			END OF HOLE											



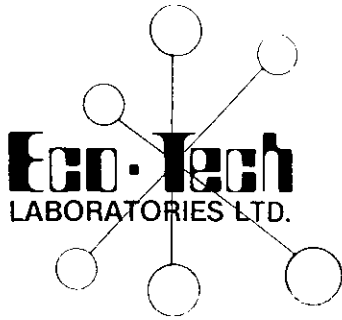


Hole No.	CB-96-4	Northing	4+00N	Core Size	BQ	Depth	Dip	Azimuth	Depth	Dip	Azimuth	Started	OCT.19,1996	Target	BEARNX ZONE
Property	CHACO BEAR	Easting	0+25E	Casing	Pulled							Completed	OCT.20,1996	Comments	
Location	BEAR LAKE	Elevation	1625	Length	90.55							Drill Co.	FALCON DRILLING		
RTS	94D/2M	Latitude		Dip-Collar	-90							Logged By	W.RAVEN		
Claim No	CHACO BEAR 1	Longitude		Bearing	N/A							Units	METERS		

FROM	TO	ROCK TYPE	ALT	POL C/A	DESCRIPTION	% SOLPHIDE	SAMPLE No.	FROM	TO	LENGTH	Au gpt	Ag ppm	Cu pct	Cu ppm	Pb ppm	Zn ppm
	2.13				CASING - OVERBURDEN											
	2.13	4.51			VOLCANICLASTIC UNIT											
					Massive, fine grained pale greenish-grey colour with orange-brown limonite stained sections. Fractures have manganese staining. Lower contact fairly sharp at 40 deg to SCA with clay gouge. Minor traces of disseminated py.											
	4.51	10.00			HEMATITIC FELDSPAR PORPHYRY											
					Reddish-black matrix with 30-40% euhedral feldspar crystals. Limonite staining on fractures. Partial carbonate replacement of feldspars. Has 1-2% qtz-carb veinlets. Mineralization is minor traces of pyrite & specular hematite. Upper contact fairly sharp @ 40 deg to SCA, lower contact is fairly sharp @ 35-40 deg to SCA. A few contorted blebs of pink carbonate.											
	10.00	16.89			MOTTLED RED & GREEN ANDESITE LAPILLI TUFP/AGGLOMERATE											
					Coarse fragmental unit with very mottled appearance. Predominantly red hematite stained with minor green-black chloritic patches. Has 2-10% contorted blebs of white carbonate. Very little mineralization, traces of pyrite and specular hematite. Upper contact fairly sharp at 35-40 deg to SCA, lower contact is gradational. Has 2-5% carb-qtz stringer veins and minor tension gash infillings. Some pink carbonate.											
	16.89	36.80			HEMATITIC ANDESITE TUFP											
					Similar to above unit but not as coarse, more of a tuff to lapilli tuff, gradational contact. Hematite pervasive throughout matrix and as secondary brownish-red stain. Still has contorted blebs of white to pink carbonate. Gradational upper contact, broken lower contact.											
	27.40	28.94			- deep red colour & coarser fragmental											
	32.50	34.00	3	hem	- as general description, 10% carb-qtz veins with brx fragments of black andesite, most of the veins have a rose-pink colour,		4344	32.50	34.00	1.50	0.16	<0.2		5	8	71



FROM	TO	ROCK TYPE	ALT	POL C/A	DESCRIPTION	% SULPHIDE	SAMPLE No.	FROM	TO	LENGTH	Au gpt	Ag ppm	Cu pct	Cu ppm	Pb ppm	Zn ppm
					no visible sulphides											
34.00	35.50	3	hem		- as above, 65% recovery	-	4345	34.00	35.50	1.50	0.18	<0.2		5	14	98
35.50	37.00	3	hem		- as above, solid core to 36.80 m then broken, remainder of interval is green andesite with gouge and rubble, local dissem cpy with silicification	tr-1	4346	35.50	37.00	1.50	3.32	0.6		1514	680	291
36.80	58.23				<b>FAULT ZONE</b>											
					Broad interval of strongly broken and fractured core comprised of intermixed red (hematite) and green (chlorite) andesite, Patchy carb-qtz veining but not consistent throughout the zone. Broken upper and lower contacts. Variable sulphides as trace cpy, py and specular hematite.											
37.00	38.50	3	hem,chl		- as above, green andesite to 36.5 m then red andesite to 38.50 m	tr	4347	37.00	38.50	1.50	0.15	<0.2		320	140	253
38.50	40.00	3	hem,chl		- as above, red andesite to 39.63 then green andesite to 40.00	tr	4348	38.50	40.00	1.50	0.14	<0.2		68	16	163
40.00	41.50	3	hem,chl		- as above, green andesite throughout interval, from 41.28-41.50 is strong qtz-carb flooding with 5% cpy in this interval, also minor traces of grey sulphide = galena/tetrahedrite	2	4349	40.00	41.50	1.50	0.34	1.6		4620	854	149
41.50	43.00	3	hem,chl		- strong qtz-carb flooding to 42.00 m with 5% cpy & trace galena/tetrahedrite, balance of interval is green andesite, coarse cpy blebs over 5 cm @ 42.60 m	3	4350	41.50	43.00	1.50	0.06	1.2		2534	668	150
43.00	44.50	3	hem,chl		- green andesite throughout, minor competent core	1	4351	43.00	44.50	1.50	0.07	0.6		338	16	159
44.50	46.00	3	hem,chl		- red andesite throughout, minor carb-qtz veins	1	4352	44.50	46.00	1.50	0.06	<0.2		246	20	141
46.00	47.50	3	hem,chl		- red andesite, 10% carb-qtz to 48.86, some sericite on fractures	1	4353	46.00	47.50	1.50	0.14	<0.2		16	14	84
47.50	49.00	3	hem,chl		- intermixed green & red andesite with 5% broken carb-qtz veining	tr	4354	47.50	49.00	1.50	0.31	<0.2		16	10	107
49.00	50.50	3	hem,chl		- mostly red andesite, minor stringers	tr	4355	49.00	50.50	1.50	0.15	<0.2		60	16	229
50.50	52.00	3	hem,chl		- red andesite, minor carb-qtz veins @ 50 deg to SCA	tr	4356	50.50	52.00	1.50	0.08	<0.2		138	32	611
52.00	53.50	3	hem,chl		- red andesite	tr	4357	52.00	53.50	1.50	0.14	<0.2		6	22	169
53.50	55.00	3	hem,chl		- red andesite	tr	4358	53.50	55.00	1.50	0.28	<0.2		2	20	126
55.00	56.50	3	hem,chl		- red andesite, upper half of interval is competent rock	tr	4359	55.00	56.50	1.50	<0.03	<0.2		3	20	138
56.50	58.23	3	hem,chl		- red andesite, 50% broken, 50% competent, ends in rubble zone, also end of major fault zone	tr	4360	56.50	58.23	1.73	0.15	<0.2		52	10	104
58.23	67.96				<b>HEMATITIC ANDESITE TUFF</b>											
					As described 16.89-36.80 metres. Competent core with 100% recovery. Local coarser fragmental sections. Has 3-10% carb-qtz veining, the intensity of veining increases closer to the zone. Broken upper contact, lower contact somewhat arbitrary. Trace dissem py & specular hematite.											
58.23	60.00	3	hem		- as above, 3-5% carb-qtz veins @ 35 deg to SCA	tr	4361	58.23	60.00	1.77	<0.03	<0.2		12	10	76
60.00	61.50	3	hem		- as above, has 3 carb-qtz veins 0.5, 1.0 & 1.5 cm wide @ 45 to SCA	tr	4362	60.00	61.50	1.50	0.10	<0.2		9	6	62
61.50	63.00	3	hem		- as above, from 62.33-63.00 m is very strong red hem staining	tr	4363	61.50	63.00	1.50	<0.03	<0.2		5	12	91



ASSAYING  
GEOCHEMISTRY  
ANALYTICAL CHEMISTRY  
ENVIRONMENTAL TESTING

10041 E. Trans Canada Hwy., R.R. #2, Kamloops, B.C. V2C 6T4 Phone (250) 573-5700  
Fax (250) 573-4557

## CERTIFICATE OF ASSAY AK 96-1269


OREQUEST CONSULTANTS  
306-595 HOWE STREET  
VANCOUVER, B.C.  
V6C 2T5

31-Oct-96


ATTENTION: WES RAVEN

No. of samples received: 118  
Sample type: CORE  
PROJECT #: CHACO BEAR  
SHIPMENT #: NONE GIVEN  
Samples submitted by: WES RAVEN


ET #.	Tag #	Au (g/t)	Au (oz/t)	Cu (%)
1	4259	<.03	<.001	-
2	4260	<.03	<.001	-
3	4261	<.03	<.001	-
4	4262	<.03	<.001	-
5	4263	<.03	<.001	-
6	4264	<.03	<.001	-
7	4272	0.79	0.023	1.18
8	4273	0.26	0.008	0.40
9	4274	1.38	0.040	1.32
10	4275	0.52	0.015	0.40
11	4276	0.11	0.003	-
12	4277	0.03	0.001	-
13	4278	0.03	0.001	-
14	4279	0.18	0.005	-
15	4280	0.03	0.001	-
16	4281	<.03	<.001	-
17	4282	0.04	0.001	-
18	4283	0.06	0.002	-
19	4284	<.03	<.001	0.02
20	4285	0.03	0.001	0.14

  
ECO-TECH LABORATORIES LTD.  
per Frank J. Pezzotti, A.Sc.T.  
B.C. Certified Assayer

ET #.	Tag #	Au (g/t)	Au (oz/t)	Cu (%)
21	4286	1.81	0.053	0.89
22	4287	0.09	0.003	0.09
23	4288	0.53	0.015	0.52
24	4289	0.23	0.007	0.32
25	4290	0.38	0.011	0.26
26	4291	0.13	0.004	0.17
27	4292	0.27	0.008	0.39
28	4293	<.03	<.001	-
29	4294	<.03	<.001	-
30	4295	<.03	<.001	-
31	4296	<.03	<.001	-
32	4297	<.03	<.001	-
33	4298	0.07	0.002	-
34	4299	0.05	0.001	-
35	4300	0.12	0.003	-
36	4324	0.09	0.003	-
37	4325	0.12	0.003	-
38	4326	0.03	0.001	-
39	4327	0.13	0.004	-
40	4328	0.03	0.001	-
41	4329	<.03	<.001	-
42	4330	<.03	<.001	-
43	4331	<.03	<.001	-
44	4332	<.03	<.001	-
45	4333	<.03	<.001	-
46	4334	<.03	<.001	-
47	4335	0.68	0.020	0.43
48	4336	0.04	0.001	0.13
49	4337	0.21	0.006	0.39
50	4338	0.05	0.001	0.09
51	4339	0.03	0.001	0.01
52	4340	<.03	<.001	0.01
53	4341	<.03	<.001	0.02
54	4342	<.03	<.001	-
55	4343	0.14	0.004	-
56	4344	0.16	0.005	-
57	4345	0.18	0.005	-
58	4346	3.32	0.097	-
59	4347	0.15	0.004	-
60	4348	0.14	0.004	-

  
**ECO-TECH LABORATORIES LTD.**  
 per Frank J. Pezzotti, A.Sc.T.  
 B.C. Certified Assayer

ET #.	Tag #	Au (g/t)	Au (oz/t)	Cu (%)
61	4349	0.34	0.010	-
62	4350	0.06	0.002	-
63	4351	0.07	0.002	-
64	4352	0.06	0.002	-
65	4353	0.14	0.004	-
66	4354	0.31	0.009	-
67	4355	0.15	0.004	-
68	4356	0.08	0.002	-
69	4357	0.14	0.004	-
70	4358	0.28	0.008	-
71	4359	<.03	<.001	-
72	4360	0.15	0.004	-
73	4361	<.03	<.001	-
74	4362	0.10	0.003	-
75	4363	<.03	<.001	-
76	4364	<.03	<.001	-
77	4365	<.03	<.001	-
78	4366	<.03	<.001	-
79	4367	0.08	0.002	0.01
80	4368	0.03	0.001	0.08
81	4369	<.03	<.001	0.04
82	4370	0.16	0.005	0.25
83	4371	0.34	0.010	0.53
84	4372	0.88	0.026	0.91
85	4373	<.03	<.001	0.12
86	4374	<.03	<.001	0.07
87	4375	<.03	<.001	-
88	4376	<.03	<.001	-
89	4377	<.03	<.001	-
90	4378	<.03	<.001	-
91	4379	<.03	<.001	-
92	4380	<.03	<.001	-
93	4381	<.03	<.001	-
94	4382	<.03	<.001	-
95	4383	<.03	<.001	-
96	4384	<.03	<.001	-
97	4385	0.03	0.001	-
98	4386	0.03	0.001	-
99	4387	<.03	<.001	-
100	4388	<.03	<.001	-

  
**ECO-TECH LABORATORIES LTD.**  
 per Frank J. Pezzotti, A.Sc.T.  
 B.C. Certified Assayer

ET #.	Tag #	Au (g/t)	Au (oz/t)	Cu (%)
101	4389	0.03	0.001	-
102	4390	0.36	0.010	-
103	4391	<.03	<.001	-
104	4392	<.03	<.001	-
105	4393	<.03	<.001	-
106	4394	<.03	<.001	-
107	4395	<.03	<.001	-
108	4396	0.10	0.003	-
109	4397	0.19	0.006	-
110	4398	0.08	0.002	-
111	4399	<.03	<.001	-
112	4400	<.03	<.001	-
113	85301	0.13	0.004	-
114	85302	<.03	<.001	-
115	85303	0.17	0.005	-
116	85304	<.03	<.001	-
117	85305	<.03	<.001	-
118	85306	<.03	<.001	-

**QC/DATA:**

**Resplit:**

1	4259	<.03	<.001	-
36	4324	0.10	0.003	-
71	4359	<.03	<.001	-
106	4394	<.03	<.001	-

**Repeat:**

1	4259	<.03	<.001	-
7	4272	-	-	1.21
10	4275	0.51	0.015	-
19	4284	<.03	<.001	-
36	4324	0.11	0.003	-
45	4333	<.03	<.001	-
54	4342	<.03	<.001	-
71	4359	<.03	<.001	-
80	4368	0.05	0.001	-
89	4377	<.03	<.001	-
106	4394	<.03	<.001	-

**Standard:**

Mp-IA	-	-	-	1.44
STD-M	1.37	0.040	-	-
STD-M	1.41	0.041	-	-
STD-M	1.48	0.043	-	-
STD-M	1.40	0.041	-	-

  
**ECO-TECH LABORATORIES LTD.**

per Frank J. Pezzotti, A.Sc.T.

B.C. Certified Assayer

002

4-Nov-96

ECO-TECH LABORATORIES LTD.  
10041 East Trans Canada Highway  
KAMLOOPS, B.C.  
V2C 6T4

ICP CERTIFICATE OF ANALYSIS AK 96-1269

OREQUEST CONSULTANTS  
306-595 HOWE STREET  
VANCOUVER, B.C.  
V6C 2T5

ATTENTION: WES RAVEN

Phone: 604-573-5700  
Fax : 604-573-4557

No. of samples received: 118  
Sample type: CORE  
PROJECT #: CHACO BEAR  
SHIPMENT #: NONE GIVEN  
Samples submitted by: WES RAVEN

Values in ppm unless otherwise reported

Et #.	Tag #	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	4259	<0.2	1.16	<5	215	15	3.94	<1	24	21	38	6.08	<10	1.08	1217	2	0.02	3	1000	4	<5	<20	40	0.17	<10	134	<10	16	52
2	4260	<0.2	2.03	<5	120	10	5.06	<1	28	10	6	6.62	<10	2.33	1672	3	0.03	3	1000	8	<5	<20	55	0.07	<10	185	<10	13	94
3	4261	<0.2	1.21	<5	140	10	7.76	<1	25	17	9	5.98	<10	1.60	2378	4	<0.01	3	910	6	<5	<20	108	0.06	<10	151	<10	10	77
4	4262	<0.2	1.61	<5	120	10	5.85	<1	29	13	8	6.48	<10	1.78	1873	5	0.01	1	1080	10	<5	<20	72	0.06	<10	152	<10	13	84
5	4263	<0.2	1.38	<5	955	10	5.85	<1	22	14	7	6.12	<10	2.02	1966	4	0.01	1	1020	8	<5	<20	103	0.06	<10	156	<10	12	86
6	4264	<0.2	0.76	<5	130	10	6.27	<1	19	15	13	5.58	<10	0.80	1962	1	0.01	1	970	2	<5	<20	72	0.14	<10	81	<10	16	44
7	4272	9.0	1.01	<5	100	<5	9.56	5	15	38	>10000	>10	<10	0.39	>10000	21	<0.01	4	<10	100	<5	20	34	0.08	<10	37	<10	11	126
8	4273	7.4	0.78	<5	210	<5	>10	<1	9	36	3341	>10	<10	0.32	>10000	14	<0.01	1	40	58	<5	20	66	0.08	<10	38	<10	26	39
9	4274	12.2	0.91	<5	120	<5	>10	2	12	37	>10000	>10	<10	0.36	>10000	23	<0.01	2	<10	90	<5	20	46	0.06	<10	23	<10	15	126
10	4275	7.6	1.07	<5	135	<5	>10	<1	9	45	3431	7.69	<10	0.29	>10000	16	<0.01	2	280	108	<5	20	56	0.05	<10	34	<10	21	90
11	4276	2.4	0.84	<5	80	<5	9.78	2	13	23	1536	3.93	<10	0.16	5735	4	<0.01	2	900	138	<5	<20	50	0.01	<10	22	<10	12	77
12	4277	<0.2	1.60	<5	95	<5	7.16	<1	19	18	66	6.08	<10	0.85	2448	4	0.01	2	1040	8	<5	<20	76	0.06	<10	98	<10	12	86
13	4278	<0.2	1.47	<5	135	15	6.25	<1	20	22	15	7.31	<10	0.94	1782	5	0.02	3	1160	8	<5	<20	50	0.07	<10	143	<10	13	70
14	4279	<0.2	0.62	<5	955	10	7.81	<1	19	19	5	5.96	<10	2.36	2051	4	<0.01	2	790	4	<5	<20	147	0.02	<10	147	<10	7	105
15	4280	<0.2	1.89	<5	120	5	6.22	<1	27	21	6	6.50	<10	2.28	1798	4	0.02	2	1110	8	<5	<20	52	0.10	<10	133	<10	12	87
16	4281	<0.2	1.31	<5	355	<5	6.43	<1	22	17	72	7.07	<10	1.94	2882	5	0.01	3	1120	8	<5	<20	86	0.04	<10	153	<10	12	111
17	4282	0.6	0.66	<5	140	<5	9.57	<1	18	38	379	5.30	<10	0.91	4141	6	<0.01	4	950	20	<5	<20	65	0.02	<10	80	<10	13	101
18	4283	<0.2	1.97	<5	160	15	4.41	<1	32	10	56	>10	<10	2.53	3340	8	<0.01	2	1120	8	<5	<20	56	0.03	<10	152	<10	<1	239
19	4284	0.4	0.66	<5	620	<5	8.29	<1	8	47	118	4.66	<10	0.64	4280	4	<0.01	1	1070	4	<5	<20	65	0.02	<10	75	<10	15	76
20	4285	1.4	0.38	<5	310	<5	>10	<1	4	27	1187	3.64	<10	0.21	4920	4	<0.01	1	710	<2	<5	<20	61	0.01	<10	49	<10	27	38

OREQUEST

ECO-TECH K.A.M.

250 573 4557

16:14

11/04/96

## OREQUEST CONSULTANTS

## ICP CERTIFICATE OF ANALYSIS AK 96-1269

ECO-TECH LABORATORIES LTD.

Et #.	Tag #	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
21	4286	4.4	0.22	<5	55	<5	>10	5	5	26	6657	3.47	<10	0.15	>10000	12	<0.01	3	<10	138	<5	<20	66	0.03	<10	19	<10	43	79
22	4287	1.0	0.25	5	40	<5	>10	<1	5	21	656	1.32	<10	0.08	3754	4	<0.01	<1	420	2	<5	<20	48	<0.01	<10	12	<10	34	14
23	4288	3.0	0.25	<5	50	<5	>10	<1	8	59	4702	3.13	<10	0.13	8995	26	<0.01	3	200	34	<5	<20	63	0.02	<10	21	<10	31	39
24	4289	1.6	0.12	<5	20	<5	>10	<1	3	26	2653	1.27	<10	0.06	6468	5	<0.01	<1	110	<2	<5	<20	54	0.01	<10	11	<10	54	21
25	4290	0.6	0.36	<5	115	<5	>10	<1	8	51	2086	3.55	<10	0.20	3359	6	<0.01	2	580	<2	<5	<20	38	0.01	<10	38	<10	23	37
26	4291	8.6	0.31	160	615	<5	>10	3	2	31	1503	2.28	<10	0.22	4716	3	<0.01	1	380	<2	30	<20	87	0.01	<10	22	<10	33	71
27	4292	10.4	0.30	240	375	<5	>10	3	3	72	3312	2.54	<10	0.19	8331	6	0.01	2	490	<2	10	<20	59	0.02	<10	15	<10	19	60
28	4293	0.8	0.58	<5	125	<5	6.58	<1	23	39	215	7.91	<10	1.66	6555	8	0.02	24	800	<2	<5	<20	65	0.01	<10	72	<10	<1	177
29	4294	0.4	1.90	<5	130	<5	7.63	<1	36	46	21	7.51	<10	2.85	5134	6	0.02	29	740	4	<5	<20	71	<0.01	<10	93	<10	1	252
30	4295	2.8	0.49	265	80	<5	6.16	2	28	43	1338	6.62	<10	1.97	3655	15	0.02	18	660	10	<5	<20	63	<0.01	<10	66	<10	<1	244
31	4296	0.4	0.49	<5	130	<5	7.22	<1	23	23	111	6.49	<10	1.61	3112	5	0.02	9	870	4	<5	<20	69	0.03	<10	45	<10	5	170
32	4297	<0.2	0.52	<5	220	10	7.16	<1	25	16	20	6.47	<10	1.43	2763	3	0.02	10	930	4	<5	<20	77	0.09	<10	75	<10	8	106
33	4298	<0.2	0.75	<5	135	5	7.26	<1	30	15	17	6.27	<10	1.69	3481	4	0.02	12	900	4	<5	<20	67	0.04	<10	60	<10	6	168
34	4299	0.6	1.67	10	275	<5	5.88	2	28	19	745	7.07	<10	2.00	2956	5	0.02	11	860	130	<5	<20	47	0.02	<10	66	<10	2	240
35	4300	1.2	2.52	<5	100	<5	7.00	<1	28	90	731	7.11	<10	2.43	3457	7	0.01	47	700	144	<5	<20	31	<0.01	<10	80	<10	2	260
36	4324	1.0	0.11	<5	10	<5	>10	144	2	21	228	0.50	<10	0.17	4900	2	<0.01	3	40	66	5	<20	45	0.01	<10	5	<10	85	1132
37	4325	0.8	0.62	<5	100	<5	2.44	47	15	53	3220	3.81	<10	0.48	1060	8	0.03	12	1350	304	<5	<20	52	<0.01	<10	58	<10	7	538
38	4326	<0.2	2.47	<5	70	<5	3.90	2	66	173	184	8.65	<10	3.39	2946	5	0.02	149	840	20	<5	<20	52	<0.01	<10	128	<10	<1	344
39	4327	0.2	0.37	<5	160	<5	2.73	4	1	93	68	0.57	10	0.10	566	7	0.01	4	90	60	<5	<20	33	<0.01	<10	3	<10	8	64
40	4328	<0.2	0.32	15	100	<5	3.36	4	1	112	48	0.53	10	0.09	621	8	<0.01	3	100	106	<5	<20	35	<0.01	<10	2	<10	8	61
41	4329	0.2	0.74	<5	85	<5	4.95	<1	4	64	64	1.04	20	0.29	823	3	<0.01	2	400	8	<5	<20	59	<0.01	<10	9	<10	11	38
42	4330	<0.2	2.42	<5	185	5	4.61	<1	22	28	47	6.42	20	1.94	1555	5	0.03	5	1640	12	<5	<20	60	0.01	<10	105	<10	21	127
43	4331	<0.2	2.36	<5	160	<5	4.42	<1	23	26	112	6.63	20	1.96	1518	6	0.05	6	1670	8	<5	<20	69	0.02	<10	140	<10	23	87
44	4332	<0.2	1.74	<5	155	5	5.67	<1	22	37	13	5.98	20	1.18	1751	5	<0.01	7	1520	10	<5	<20	56	0.04	<10	73	<10	13	98
45	4333	<0.2	1.44	<5	165	<5	5.96	<1	18	23	5	5.24	20	1.05	1698	4	<0.01	5	1620	12	<5	<20	68	0.04	<10	62	<10	15	74
46	4334	<0.2	1.45	<5	175	5	5.57	<1	16	32	26	5.95	10	0.82	1400	5	<0.01	5	1790	10	<5	<20	54	0.03	<10	60	<10	17	76
47	4335	1.2	2.69	<5	100	<5	5.97	2	35	97	3904	6.40	<10	2.14	2621	9	<0.01	52	710	100	<5	<20	40	0.01	<10	76	<10	4	224
48	4336	0.4	3.94	<5	80	<5	7.88	2	38	222	1240	7.07	<10	4.02	4137	8	<0.01	143	690	70	<5	<20	48	0.01	<10	108	<10	<1	308
49	4337	0.6	2.09	<5	65	<5	7.48	3	20	74	3408	4.72	<10	1.19	3062	8	<0.01	30	840	58	<5	<20	43	<0.01	<10	43	<10	4	190
50	4338	0.2	3.71	<5	80	<5	7.84	<1	34	64	858	7.44	<10	2.56	3875	7	<0.01	35	980	14	<5	<20	50	0.01	<10	83	<10	<1	326
51	4339	<0.2	1.92	<5	110	<5	6.75	<1	20	52	59	5.72	10	1.10	2626	4	<0.01	21	1250	10	<5	<20	64	0.04	<10	54	<10	9	122
52	4340	<0.2	1.85	<5	120	<5	6.76	<1	21	40	10	5.75	20	1.20	2783	3	<0.01	14	1510	10	<5	<20	71	0.04	<10	61	<10	12	101
53	4341	0.2	2.10	<5	110	<5	7.30	<1	22	25	111	5.79	10	1.22	4012	5	<0.01	8	1190	8	<5	<20	67	0.03	<10	70	<10	13	128
54	4342	<0.2	1.98	<5	100	10	1.70	1	23	53	19	6.18	<10	1.50	1084	5	<0.01	8	320	10	<5	<20	37	0.06	<10	90	<10	<1	111
55	4343	<0.2	1.82	<5	115	5	1.12	<1	23	33	8	5.84	<10	1.30	791	4	<0.01	7	270	10	<5	<20	40	0.05	<10	79	<10	<1	91

004

OREQUEST

ECO-TECH KAM.

250 573 4557

11/04/98 16:16

OREQUEST CONSULTANTS

ICP CERTIFICATE OF ANALYSIS AK 96-1269

ECO-TECH LABORATORIES LTD.

Et #.	Tag #	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Tl %	U	V	W	Y	Zn
56	4344	<0.2	1.34	<5	310	15	8.57	<1	25	25	5	6.69	<10	1.03	1896	4	0.01	3	1040	8	<5	<20	69	0.08	<10	169	<10	13	71
57	4345	<0.2	1.59	<5	410	15	7.28	<1	25	18	5	6.22	<10	1.19	2371	4	<0.01	4	1080	14	<5	<20	72	0.07	<10	134	<10	15	98
58	4346	0.8	1.94	<5	220	<5	8.20	18	24	26	1514	6.55	<10	1.15	2835	5	<0.01	4	1070	680	<5	<20	64	0.05	<10	106	<10	16	291
59	4347	<0.2	2.24	<5	140	<5	7.72	8	24	15	320	6.94	<10	1.13	3115	4	<0.01	4	1050	140	<5	<20	70	0.05	<10	82	<10	9	253
60	4348	<0.2	2.30	<5	85	10	6.59	<1	28	12	68	7.27	<10	1.20	3046	5	<0.01	4	1150	16	<5	<20	75	0.05	<10	80	<10	10	163
61	4349	1.6	2.06	<5	80	<5	10.00	2	24	27	4820	5.69	<10	1.01	4105	5	<0.01	5	820	854	<5	<20	66	0.01	<10	51	<10	9	149
62	4350	1.2	1.93	<5	80	<5	8.18	7	20	38	2534	4.75	<10	0.94	3666	5	<0.01	3	950	668	<5	<20	69	<0.01	<10	53	<10	9	150
63	4351	0.6	2.35	<5	95	<5	8.17	<1	25	18	338	6.37	<10	1.27	3771	4	<0.01	2	980	16	<5	<20	94	0.02	<10	97	<10	8	159
64	4352	<0.2	2.48	<5	110	<5	6.88	<1	29	17	246	8.01	<10	1.75	3322	6	<0.01	4	1090	20	<5	<20	58	0.03	<10	151	<10	9	141
65	4353	<0.2	1.75	<5	110	10	8.50	<1	26	16	16	6.35	<10	1.41	3371	4	<0.01	2	1100	14	<5	<20	86	0.06	<10	139	<10	13	84
66	4354	<0.2	1.84	<5	120	10	7.33	<1	26	25	16	6.62	<10	1.20	2779	4	<0.01	3	1170	10	<5	<20	79	0.05	<10	136	<10	13	107
67	4355	<0.2	2.24	<5	1175	5	6.09	<1	22	14	60	6.88	<10	1.70	2592	5	0.01	<1	1130	16	<5	<20	77	0.03	<10	152	<10	11	229
68	4356	<0.2	2.12	<5	155	<5	6.26	12	27	12	138	7.12	<10	1.80	2637	4	0.02	2	1070	32	<5	<20	68	0.04	<10	162	<10	10	611
69	4357	<0.2	2.27	<5	155	5	5.88	1	29	10	6	7.18	<10	2.17	2129	5	0.03	3	1150	22	<5	<20	74	0.04	<10	196	<10	14	169
70	4358	<0.2	2.03	<5	130	10	5.25	<1	28	14	2	6.91	<10	2.10	1966	4	0.03	2	1060	20	<5	<20	64	0.05	<10	180	<10	12	126
71	4359	<0.2	2.30	<5	150	15	4.75	<1	28	9	3	7.16	<10	2.43	2020	4	0.04	2	1090	20	<5	<20	73	0.05	<10	188	<10	12	138
72	4360	<0.2	1.76	<5	110	5	7.44	<1	25	6	52	6.64	<10	1.55	2672	2	0.02	2	1040	10	<5	<20	96	0.12	<10	117	<10	14	104
73	4361	<0.2	1.56	<5	105	10	6.58	<1	25	11	12	6.36	<10	1.55	2120	1	0.02	2	1090	10	<5	<20	65	0.16	<10	103	<10	14	76
74	4362	<0.2	1.24	<5	110	10	8.71	<1	20	21	9	6.01	<10	0.92	2546	1	0.01	1	900	6	<5	<20	64	0.14	<10	93	<10	11	62
75	4363	<0.2	1.85	<5	110	10	7.00	<1	27	9	5	6.62	<10	1.73	2646	3	0.01	2	1020	12	<5	<20	59	0.10	<10	145	<10	12	91
76	4364	<0.2	2.09	<5	90	<5	7.25	<1	28	10	57	7.46	<10	1.64	2978	3	0.01	1	1160	16	<5	<20	64	0.06	<10	152	<10	11	103
77	4365	<0.2	1.87	<5	115	10	7.46	<1	23	13	46	7.37	<10	1.20	2679	4	0.01	3	1050	12	<5	<20	57	0.07	<10	128	<10	10	91
78	4366	<0.2	1.44	<5	135	<5	8.03	<1	20	12	12	6.62	<10	0.90	3382	2	0.01	2	980	8	<5	<20	73	0.11	<10	109	<10	14	69
79	4367	<0.2	1.78	<5	110	10	6.47	<1	25	17	6	7.36	<10	1.13	2961	4	0.01	2	1060	10	<5	<20	75	0.11	<10	109	<10	10	96
80	4368	<0.2	1.54	<5	355	<5	6.07	<1	16	18	631	6.68	<10	0.88	2792	4	0.01	<1	1080	12	<5	<20	58	0.05	<10	133	<10	11	88
81	4369	<0.2	1.00	<5	105	<5	7.60	<1	11	25	274	5.82	<10	0.35	3229	4	0.01	2	1070	6	<5	<20	71	0.04	<10	133	<10	14	53
82	4370	<0.2	0.92	<5	115	<5	5.39	<1	8	34	2079	5.67	<10	0.21	2215	5	0.01	3	1050	8	<5	<20	48	0.03	<10	124	<10	14	76
83	4371	1.2	0.79	<5	95	<5	>10	<1	5	32	4489	4.54	<10	0.15	3989	4	<0.01	1	810	28	<5	20	52	0.03	<10	81	<10	15	112
84	4372	2.8	0.77	<5	125	<5	>10	<1	5	74	8132	3.18	<10	0.18	5179	21	<0.01	3	300	140	<5	<20	47	0.02	<10	25	<10	10	124
85	4373	1.6	0.87	<5	145	<5	>10	1	9	84	941	2.73	<10	0.28	6225	35	<0.01	9	510	108	<5	<20	47	0.01	<10	24	<10	11	84
86	4374	0.6	1.53	<5	80	<5	8.20	<1	14	65	596	3.48	<10	0.64	3815	17	<0.01	14	950	108	<5	<20	45	<0.01	<10	40	<10	10	123
87	4375	<0.2	2.10	<5	100	<5	7.18	<1	20	17	133	6.07	<10	1.08	2774	4	<0.01	4	1200	22	<5	<20	45	0.02	<10	98	<10	9	208
88	4376	0.2	2.14	<5	140	<5	7.45	<1	22	9	86	6.53	<10	1.20	3196	4	<0.01	1	1270	20	<5	<20	60	0.03	<10	106	<10	11	271
89	4377	<0.2	1.72	<5	120	<5	9.06	2	16	12	410	5.55	<10	0.82	3291	4	<0.01	1	1270	56	<5	<20	53	0.01	<10	83	<10	16	242
90	4378	<0.2	2.01	<5	145	<5	6.65	<1	20	11	793	6.55	<10	1.30	2928	5	0.03	3	1370	24	<5	<20	61	0.02	<10	123	<10	14	135



003

OREQUEST

ECO-TECH K.A.M.

250 573 4567

16:17

11/04/96

## ICP CERTIFICATE OF ANALYSIS AK 96-1269

ECO-TECH LABORATORIES LTD.

## OREQUEST CONSULTANTS

Et #	Tag #	Ag	Al %	As	Ba	Bl	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
91	4379	<0.2	1.90	<5	190	10	6.71	<1	32	9	29	6.81	<10	2.40	3290	3	<0.01	9	1290	14	<5	<20	94	0.08	<10	148	<10	13	216
92	4380	1.0	1.72	<5	105	<5	4.61	<1	14	30	162	3.69	20	1.20	1681	6	<0.01	4	920	8	5	<20	62	<0.01	<10	34	<10	17	113
93	4381	3.4	2.15	<5	830	<5	4.67	<1	20	29	559	6.94	<10	1.45	3683	6	0.02	8	1430	18	<5	<20	76	0.04	<10	114	<10	9	393
94	4382	<0.2	1.73	<5	230	10	5.50	<1	23	23	32	7.00	10	1.09	3155	4	0.02	8	1620	22	<5	<20	68	0.06	<10	114	<10	12	367
95	4383	1.6	1.68	<5	480	<5	6.31	<1	21	23	179	6.97	10	1.05	3197	4	0.02	8	1570	22	<5	<20	81	0.05	<10	110	<10	11	354
96	4384	0.2	2.22	<5	230	<5	5.94	<1	27	59	90	6.70	<10	1.70	2883	4	0.03	24	1470	46	<5	<20	115	0.03	<10	114	<10	9	269
97	4385	0.6	1.88	5	265	<5	6.93	<1	18	51	338	4.00	<10	1.02	2777	8	0.03	17	770	44	<5	<20	146	<0.01	<10	46	<10	9	133
98	4386	1.0	0.81	15	75	<5	5.75	<1	17	70	344	3.14	<10	0.30	1977	16	0.01	11	840	60	<5	<20	46	<0.01	<10	19	<10	8	58
99	4387	0.8	1.44	10	65	<5	7.59	<1	18	82	280	4.15	<10	0.75	3116	15	0.02	24	1050	58	<5	<20	65	<0.01	<10	33	<10	10	126
100	4388	0.6	2.29	<5	75	<5	6.05	<1	28	35	149	5.94	<10	1.31	2820	6	0.02	15	1260	80	<5	<20	61	<0.01	<10	55	<10	10	187
101	4389	0.4	2.55	<5	70	<5	6.58	<1	30	28	154	6.60	<10	1.71	3103	6	0.02	11	1080	76	<5	<20	51	<0.01	<10	61	<10	7	180
102	4390	0.4	2.13	<5	145	<5	7.78	1	23	28	90	6.26	<10	1.52	3829	6	0.02	11	950	80	<5	<20	77	0.01	<10	62	<10	13	123
103	4391	0.2	2.20	<5	170	<5	6.92	<1	19	23	382	6.20	<10	1.38	4151	5	0.02	9	1220	18	<5	<20	57	0.02	<10	75	<10	16	111
104	4392	0.4	2.62	<5	110	<5	7.08	<1	28	25	253	6.87	<10	1.74	3732	6	0.02	11	1170	44	<5	<20	58	0.01	<10	66	<10	9	141
105	4393	0.2	2.65	<5	165	<5	9.07	<1	29	32	216	6.68	<10	1.66	3833	7	0.02	10	1120	42	<5	<20	72	<0.01	<10	63	<10	7	141
106	4394	0.4	2.60	<5	105	<5	7.06	<1	28	25	729	6.88	<10	1.93	3351	5	0.02	11	1020	34	<5	<20	58	<0.01	<10	64	<10	7	185
107	4395	0.4	2.23	<5	120	<5	7.10	<1	27	17	711	6.89	<10	1.70	3571	5	0.01	11	1070	60	<5	<20	53	<0.01	<10	60	<10	4	183
108	4396	0.4	0.34	<5	60	<5	4.27	<1	5	69	195	1.26	10	0.22	1470	5	<0.01	2	360	138	<5	<20	33	<0.01	<10	5	<10	9	23
109	4397	0.6	0.29	<5	45	<5	2.28	<1	3	87	86	0.80	<10	0.08	826	6	<0.01	2	240	38	<5	<20	20	<0.01	<10	2	<10	6	10
110	4398	0.4	0.33	<5	45	<5	3.42	<1	2	72	48	0.53	20	0.06	1137	4	<0.01	1	300	16	<5	<20	34	<0.01	<10	1	<10	11	6
111	4399	0.4	0.38	<5	40	<5	3.70	<1	2	104	185	0.52	<10	0.09	1225	6	<0.01	2	270	10	<5	<20	27	<0.01	<10	2	<10	11	4
112	4400	0.6	0.31	<5	45	<5	6.20	<1	4	80	322	1.22	10	0.20	3314	10	<0.01	<1	230	26	<5	<20	59	<0.01	<10	1	<10	8	12
113	85301	0.6	2.15	5	85	<5	5.69	<1	29	34	313	6.70	<10	1.69	4076	12	0.01	8	1450	64	<5	<20	55	<0.01	<10	52	<10	5	171
114	85302	0.8	2.06	<5	85	<5	5.48	<1	28	32	293	6.56	<10	1.60	3923	12	0.01	7	1410	64	<5	<20	52	<0.01	<10	50	<10	4	172
115	85303	2.0	2.27	5	85	<5	>10	<1	29	17	1103	6.96	<10	1.60	8704	11	0.01	6	1380	56	<5	<20	65	0.02	<10	50	<10	15	147
116	85304	0.6	3.25	<5	80	<5	6.51	<1	33	11	347	8.31	<10	2.43	5675	7	0.01	9	1600	34	<5	<20	54	0.01	<10	68	<10	7	203
117	85305	<0.2	2.29	<5	125	<5	6.83	<1	26	10	221	7.54	<10	2.04	4300	4	0.02	7	1450	14	<5	<20	61	0.05	<10	94	<10	9	166
118	85306	0.2	2.11	<5	265	10	7.58	<1	23	15	18	7.71	<10	1.87	5427	4	0.02	6	1500	14	<5	<20	60	0.04	<10	101	<10	8	111

006

OREQUEST

ECO-TECH LAB.

250 573 4557

16:18

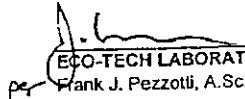
11/04/96

OREQUEST CONSULTANTS

ICP CERTIFICATE OF ANALYSIS AK 96-1269

Et #.	Tag #	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
<b>QC DATA:</b>																													
<i>Resplit:</i>																													
1	4259	<0.2	1.28	<5	220	10	4.04	<1	28	22	46	6.27	<10	1.18	1240	<1	0.02	4	1060	10	<5	<20	40	0.20	<10	140	<10	14	56
36	4324	1.0	0.16	<5	15	<5	>10	153	2	25	198	0.60	<10	0.22	5002	1	<0.01	3	50	74	10	<20	44	0.01	<10	10	<10	81	1229
71	4359	<0.2	2.37	<5	165	15	5.22	<1	30	15	6	7.79	<10	2.67	2216	4	0.04	2	1180	26	<5	<20	73	0.05	<10	197	<10	13	142
106	4394	0.4	2.76	<5	110	<5	7.33	<1	29	21	690	7.08	<10	2.04	3439	5	0.02	10	1050	30	<5	<20	64	<0.01	<10	67	<10	7	177
<i>Repeat:</i>																													
1	4259	<0.2	1.16	<5	215	10	4.01	<1	26	21	37	6.46	<10	1.06	1247	2	0.02	3	1010	6	<5	<20	38	0.19	<10	142	<10	16	56
10	4275	7.4	1.08	<5	135	<5	>10	<1	8	47	3375	7.97	<10	0.29	>10000	18	<0.01	2	280	110	<5	<20	54	0.04	<10	34	<10	20	97
19	4284	0.4	0.67	<5	645	<5	8.07	<1	8	46	119	4.62	<10	0.63	4212	4	<0.01	1	1060	4	<5	<20	63	0.02	<10	75	<10	16	75
36	4324	0.8	0.16	<5	15	<5	>10	138	2	21	225	0.54	<10	0.21	4944	2	<0.01	3	60	68	10	<20	47	0.01	<10	7	<10	84	1077
45	4333	<0.2	1.42	<5	165	5	6.21	<1	19	24	8	5.44	20	1.04	1792	4	<0.01	6	1650	12	<5	<20	66	0.04	<10	63	<10	14	84
54	4342	<0.2	1.98	<5	100	<5	1.83	1	24	53	24	6.33	<10	1.49	1160	5	<0.01	9	310	14	<5	<20	37	0.06	<10	90	<10	<1	122
71	4359	<0.2	2.31	<5	155	5	4.93	<1	29	10	3	7.45	<10	2.41	2087	5	0.04	1	1120	22	<5	<20	71	0.05	<10	192	<10	12	146
80	4368	<0.2	1.57	<5	355	<5	6.07	<1	16	18	633	6.67	<10	0.87	2799	4	0.01	2	1080	12	<5	<20	62	0.05	<10	134	<10	10	89
89	4377	0.2	1.69	<5	115	<5	8.92	2	16	13	397	5.37	<10	0.79	3228	4	<0.01	1	1230	58	<5	<20	55	0.01	<10	79	<10	15	243
106	4394	0.6	2.71	<5	110	<5	7.52	1	30	28	734	7.35	<10	2.00	3591	5	0.02	11	1110	38	<5	<20	60	<0.01	<10	67	<10	7	193
<i>Standard:</i>																													
GEO'96		1.2	2.02	65	160	<5	1.98	<1	22	70	80	4.06	<10	1.06	772	<1	0.02	20	670	22	<5	<20	56	0.10	<10	91	<10	9	69
GEO'96		1.0	1.97	70	160	<5	1.96	<1	22	71	78	4.08	<10	1.13	749	<1	0.02	22	670	20	<5	<20	54	0.12	<10	89	<10	10	77
GEO'96		1.0	2.08	70	170	<5	1.96	<1	24	78	77	4.10	<10	1.08	720	<1	0.02	26	760	22	<5	<20	54	0.14	<10	84	<10	8	83
GEO'96		1.0	2.12	65	170	<5	2.01	<1	24	79	87	4.04	<10	1.04	710	<1	0.02	20	750	24	<5	<20	56	0.10	<10	82	<10	7	82

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per   
**ECO-TECH LABORATORIES LTD.**  
 Frank J. Pezzotti, A.Sc.T.  
 B.C. Certified Assayer

FROM	TO	ROCK TYPE	ALT	POL C/A	DESCRIPTION	% SULPHIDE	SAMPLE No.	FROM	TO	LENGTH	Au gpt	Ag ppm	Cu pct	Cu ppm	Pb ppm	Zn ppm
63.00	64.50	3	hem		- strong red hem staining to 64.06	tr	4364	63.00	64.50	1.50	<0.03	<0.2		57	16	103
64.50	66.00	3	hem		- as above, coarser & more fragmental, good carb-qtz hrs vein from 64.62-64.67 m with tr blebs of cpy & py	tr	4365	64.50	66.00	1.50	<0.03	<0.2		46	12	91
66.00	67.50	3	hem		- as above, coarser fragmental, 5-10% irregular carb blebs, some with faint pink stain	tr	4366	66.00	67.50	1.50	<0.03	<0.2		12	8	69
67.96	75.15				<b>CARBONATE-QUARTZ BRECCIA ZONE</b>  Upper portion of zone from 67.96 to 70.10 is hosted in reddish-green andesite tuff with 10% carb-qtz veining and tension gash infillings. Veins at various angles, two dominant trends are 20 deg & 60 deg to SCA. From 72.10 to 73.53 is 60-70% carb-qtz veining with hematite, chlorite, rarer sericite and dissem blebs of cpy with lesser py. From 73.53 to 75.15 is pale green andesite with 10-35% carb-qtz veining. Contacts are somewhat arbitrary, upper contact chosen at gouge zone from 67.96 to 68.28 m, lower contact sharp at 50 deg to SCA however there is 3-10% carb-qtz veining below this contact, no gouge zone to define lower contact.											
67.50	68.50	7	car,qtz		- as above, tr cpy in carb-qtz veins, fault gouge from 67.96 to 68.28m	tr	4367	67.50	68.50	1.00	0.08	<0.2	0.01		10	96
68.50	69.50	7	car,qtz		- as above, 5% carb-qtz veining, at 69.25 is 8 mm wide vein with 10% chalcocopyrite, vein is truncated along hairline fracture at approximately 70 deg to SCA	tr-1	4368	68.50	69.50	1.00	0.03	<0.2	0.08		12	88
69.50	70.50	7	car,qtz		- as above, 5% carb-qtz veins, tr cpy	tr	4369	69.50	70.50	1.00	<0.03	<0.2	0.04		6	53
70.50	71.50	7	car,qtz		- as above, carb-qtz veins @ 20 & 60 deg to SCA with 5% cpy blebs in veins	2	4370	70.50	71.50	1.00	0.16	<0.2	0.25		8	76
71.50	72.50	7	car,qtz		- as above, from 72.10 to 72.58 m is 60-70% carb-qtz veins & breccia with 5% dissem cpy	2-4	4371	71.50	72.50	1.00	0.34	1.2	0.53		28	112
72.50	73.50	7	car,qtz		- 60-70% carb-qtz veining with chl & hem staining, brecciated, 2-3% dissem cpy	2-3	4372	72.50	73.50	1.00	0.88	2.8	0.91		140	124
73.50	74.50	7	car,qtz		- pale yellowish-green andesite, brecciated, 20% carb-qtz veining, has 1-2% each of cpy and py as disseminations	2-3	4373	73.50	74.50	1.00	<0.03	1.6	0.12		108	84
74.50	75.50	7	car,qtz		- pale green brecciated andesite to 75.15 m then dark green chloritic andesite to 75.50, has trace py & cpy	tr	4374	74.50	75.50	1.00	<0.03	0.6	0.07		108	123
75.15	84.20				<b>HEMATITIC ANDESITE TUFF</b>  As previously described 16.89-36.80 m. Has 3-5% carb-qtz veins, gradually fading in intensity downhole.											
75.50	76.50	3	hem		- as above, trace py and cpy	tr	4375	75.50	76.50	1.00	<0.03	<0.2		133	22	208
76.50	78.00	3	hem		- as above	tr	4376	76.50	78.00	1.50	<0.03	0.2		86	20	271
78.00	79.50	3	hem		- as above, from 78.77-78.93 is qtz-carb-chl-ser vein @ 55 deg to SCA with 1% dissem cpy	tr	4377	78.00	79.50	1.50	<0.03	<0.2		410	56	242
79.50	81.00	3	hem		- as above, from 79.81-80.33 is qtz-carb-chl-ser vein as above interval	tr	4378	79.50	81.00	1.50	<0.03	<0.2		793	24	135





FROM	TO	ROCK TYPE	ALT	FOL C/A	DESCRIPTION	% SULPHIDE	SAMPLE No.	FROM	TO	LENGTH	Au gpt	Ag ppm	Cu pct	Cu ppm	Pb ppm	Zn ppm
24.00	25.50	3	hem		- as general description, pink carb tension gash infillings	tr	4381	24.00	25.50	1.50	<0.03	3.4		559	18	393
25.50	27.00	3	hem		- as above	tr	4382	25.50	27.00	1.50	<0.03	<0.2		32	22	367
27.00	28.50	3	hem		- as above	tr	4383	27.00	28.50	1.50	<0.03	1.6		179	22	354
28.50	30.00	3	hem		- as above to 29.50 then green andesite, from 29.37-30.00 is competent clay gouge, with 1-3% very fine grained disse py and contorted blebs of carb-qtz	1	4384	28.50	30.00	1.50	<0.03	0.2		90	46	269
29.50	34.70				<b>SILICIFIED ANDESITE/DACITE</b>  Pale green unit with variable silicification. Upper portion in fault gouge is more chloritic while central portion has strong silicification/quartz flooding and looks brecciated. Faulted section is well foliated at 25 to 45 deg to SCA, rest of unit looks massive. Lower contact sharp at 40 deg to SCA. Variable sulphide mineralization, mostly 1-3% fine disse py with trace cpy.											
30.00	31.50	2	chl,sil		- chl-carb and lesser hem fault gouge to 31.36 then qtz flooded unit, sharp contact @ 65 deg to SCA	1-2	4385	30.00	31.50	1.50	0.03	0.6		338	44	133
31.50	33.00	2	chl,sil		- from 31.50-32.19 is qtz flooded with 2-4% fine pyrite, from 32.19-32.73 is silicified andesite, from 32.73-33.00 is qtz flooded as start of interval	2-3	4386	31.50	33.00	1.50	0.03	1.0		344	60	58
33.00	34.50	2	chl,sil		- qtz flooded to 33.46 then aphanitic green andesite with 5% white carb blebs, 2-4% fine py and tr cpy in siliceous unit, 1% fine py in andesite	2-3	4387	33.00	34.50	1.50	<0.03	0.8		280	58	126
34.70	46.26				<b>MOTTLED GREEN ANDESITE TUFF</b>  Unit is disrupted as has 5-10% carb-qtz tension gash infillings. Predominantly chlorite altered though local sections with strong, pervasive hematite. Also has white and pink irregularly shaped blebs of carbonate (5%). Relic mafic minerals, probably hornblende, (10-15%) Variable sulphide content, mostly pyrite as disseminations (1-5%). Also has small (1x2 mm) yellow-green blebs of epidote(?). Upper contact sharp at 40 deg to SCA, lower contact is gradational over 10 cm and is not clearly defined. Some black glassy fragments											
34.50	36.00	4	hem,chl		- as general description	1-2	4388	34.50	36.00	1.50	<0.03	0.6		149	80	187
36.00	37.50	4	hem,chl		- as general description, from 36.76 to 36.98 is 10% py as euhedral cubes up to 4 mm sq., minor traces of cpy	3-4	4389	36.00	37.50	1.50	0.03	0.4		154	76	180
37.50	39.00	4	hem,chl		- as general description, from 38.41 to 39.00 is moderately hematite stained, from 37.70 to 37.87 is 5-8% disse py, one 5-8 mm carb-hem vein from 37.95-38.41	2	4390	37.50	39.00	1.50	0.36	0.4		90	80	123
39.00	40.50	4	hem,chl		- as general description, mod hem stain to 39.46 and from 39.80-40.50, last 20 cm is brecciated with py & cpy in stringer veins @ 50 deg to SCA	3	4391	39.00	40.50	10.50	<0.03	0.2		382	18	111

FROM	TO	ROCK TYPE	ALT	POD C/A	DESCRIPTION	% SULPHIDE	SAMPLE No.	FROM	TO	LENGTH	Au gpt	Ag ppm	Cu pct	Cu ppm	Pb ppm	Zn ppm
40.50	42.00	4 hem,chl			- as general description, has 5-8% py from 40.90 to 41.18 m centered around 8 cm qtz flooded zone with 10% cpy & 2% cpy	3	4392	40.50	42.00	1.50	<0.03	0.4		253	44	141
42.00	43.50	4 hem,chl			- as general description	3	4393	42.00	43.50	1.50	<0.03	0.2		216	42	141
43.50	45.00	4 hem,chl			- as general description	1-2	4394	43.50	45.00	1.50	<0.03	0.4		729	34	185
45.00	46.50	4 hem,chl			- as general description, from 45.23-45.60 has 5-6% dissem py, tr cpy, at 45.93 is 8 mm wide carb-qtz-hem vein with 10% cpy in vein, last 15 cm of interval is strongly altered at contact with pale green siliceous unit	3-5	4395	45.00	46.50	1.50	<0.03	0.4		711	60	183
46.35	71.95				GREEN QUARTZITE(?)  Aphanitic, massive homogeneous unit. Looks like it is almost pure quartz but is not hard enough as is fairly easily scratched. The contact zone with overlying volcanic unit is definitely silicified to 47.51 m then softer. Gradational upper contact from 46.35 to 46.67 m then silicified with ep stringers to 47.51. Unit has 1-5% narrow qtz-carb stringers @ 55 deg to SCA and minor veinlets of black chlorite(?) Tr-1% dissem py & cpy throughout											
46.50	48.00	1 chl,ep			- as general description, silicified, gradational upper contact has mod hem staining and a bit of gouge @ 50 deg to SCA with sericite, has trace to 1% each of dissem py & cpy	1	4396	46.50	48.00	1.50	0.10	0.4		195	138	23
48.00	49.50	1 chl,ep			- as general description	1	4397	48.00	49.50	1.50	0.19	0.6		86	35	10
49.50	51.00	1 chl,ep			- as general description	1	4398	49.50	51.00	1.50	0.08	0.4		48	16	6
51.00	52.50	1 chl,ep			- as general description, local sections of black chlorite/manganese veins	1	4399	51.00	52.50	1.50	<0.03	0.4		185	10	4
52.50	54.00	1 chl,ep			- as above	1	4400	52.50	54.00	1.50	<0.03	0.6		322	26	12
54.00	71.95	1 chl,ep			- Same as general description, 2-4% carb-qtz veins with traces of py & chalcopyrite	3	85301	70.00	71.50	1.50	0.13	0.6		313	64	171
70.00	71.50				- as general description, strong (10-15%) carb-qtz-chl-mang veins @ 80 deg to SCA with 1% py and tr-1% cpy as dissem blebs											
71.95	75.93				MOTTLED GREEN ANDESITE TUFF  As described 34.70-46.26 m. Some coarser fragmental sections. Upper contact at approx 55 deg to SCA, lower contact approx 50 deg to SCA, neither are clearly defined. Variable sulphides = 1-2% blebs of py, 2-4% carb-qtz stringer veins and minor larger pink coloured veins.											
71.50	73.00	4 chl,hem			- quartzite(?) unit to 71.95 m then as general description	2-3	85302	71.50	73.00	1.50	<0.03	0.8		293	64	172
73.00	74.50	4 chl,hem			- as general description from 73.70-74.05 is contorted & broken pink carb veining, one vein is 5 cm wide @ 50 deg to SCA with ep selvages	2	85303	73.00	74.50	1.50	0.17	2.0		1103	56	147
74.50	76.00	4 chl,hem			- as general description	2	85304	74.50	76.00	1.50	<0.03	0.6		347	34	203





**APPENDIX III**

Petrographic Report



# Vancouver Petrographics Ltd.

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PHONE (604) 888-1323 • FAX (604) 888-3642

Report # 960789 for:

David Cole, Pat McAndless,  
Imperial Metals Corporation,  
420 - 355 Burrard Street,  
Vancouver, B.C., V6C 2G8

November 1996

Samples:      CB-96-1:      44.5 m, 48.9 m  
                    CB-96-4:      4 m, 8.8 m, 72.2 m  
                    CB-96-3:      2.7 m, 42.7 m

## Mineralogical Notes:

The mineral identified as sericite is mainly cryptocrystalline and could be illite. As well, in some samples it has an anomalously low refractive index (R.I.), which suggests that it may be intermediate in composition towards the montmorillonite group (mixed layer clay). However, recent X-ray diffraction and S.E.M. studies of a similar mineral with similar anomalously low R.I. from two other clients yielded indicated that the mineral was sericite.

Carbonates are identified on the basis of R.I. and reactivity with cold dilute HCl. Calcite has a low R.I. and reacts vigorously, dolomite has a moderate R.I. and reacts slowly, and ankerite has a moderately high R.I. and reacts very slowly. In some samples, dusty inclusions, (mainly of hematite and/or leucoxene) can give calcite and apparent higher R.I. than for the same mineral without such inclusions. In samples where more than one carbonate phase is present, distinction is difficult, and estimates of relative carbonate abundances are not precise.

## Summary:

Samples are grouped as follows in terms of original lithology:

### A:    **Porphyritic, Hematitic Basalt/Andesite**

**Sample CB-96-1 44.5 m** is a porphyritic, amygdaloidal, hematitic basalt/andesite containing phenocrysts of plagioclase and minor ones of biotite in a variable groundmass of plagioclase and devitrified volcanic glass containing abundant hematite. Plagioclase phenocrysts are altered completely to sericite and calcite, and biotite phenocrysts are altered completely to muscovite. Abundant amygdules are of calcite, and much fewer ones are of quartz-(calcite) and quartz-sericite. A veinlets of calcite is cut by one of ankerite.

2            In the hand sample of **Sample CB-96-1 48.9 m** a few dark grey fragments up to 2 cm across may be of basalt/andesite as in Sample CB-96-1 44.5 m.

3 **Sample CB-96-3 42.7 m** is a brecciated, porphyritic basalt/andesite somewhat similar to Sample CB-96-1 44.5 m, but lacks calcite-rich amygdules. Phenocrysts of plagioclase and very minor ones of biotite and magnetite are set in a variable, commonly finely patchy groundmass of plagioclase and devitrified volcanic glass, the latter containing abundant dusty hematite. Plagioclase phenocrysts and groundmass are altered completely to sericite and calcite. Biotite phenocrysts are altered completely to muscovite. Magnetite is replaced completely by hematite. The breccia matrix is dominated by extremely fine grained, cherty quartz and less abundant patches of calcite. Discontinuous veinlets are of calcite and of hematite.

4 **Sample CB-96-4 8.8 m** is a porphyritic amygdaloidal basalt/andesite containing phenocrysts of plagioclase and lesser ones of pyroxene/hornblende and patches of sphene(?) in a groundmass dominated by lathy plagioclase with interstitial plagioclase, hematite, and minor chlorite. Plagioclase is altered moderately with sericite and calcite. Pyroxene/hornblende is replaced to either patches of chlorite-calcite-quartz or patches bordered by opaque with cores of quartz and lesser calcite and minor chlorite. Irregular amygdules are dominated by calcite with much less abundant quartz and chlorite. Some have delicate, concentric growth zones from calcite to quartz to chlorite. Others have outer zones of chlorite and inner zones of quartz and calcite.

#### **B: Latite Flow**

5 **Sample CB-96-3 2.7 m** is a latite flow dominated by equant, very fine grained plagioclase and less abundant quartz. Some patches of plagioclase were altered strongly to completely to cryptocrystalline sericite and much less abundant patches of calcite. A fragment 4 mm across is of a very fine grained latite flow/dike. A vein and subparallel veinlet are dominated by chalcopyrite with lesser calcite and much less pyrite and quartz.

6 **Sample CB-96-4 4 m** is a latite flow dominated by interlocking, fine grained plagioclase with minor interstitial quartz. Alteration is moderate to disseminated sericite/montmorillonite and patches of dolomite. Veinlets are of calcite-(quartz).

#### **C: Latite Tuff, moderately to strongly replaced by calcite or calcite-quartz**

7 **Sample CB-96-1 48.9 m** contains fragments of latite tuff(?) up to 8 mm across and a few of latite flow up to 3 mm across in a variable matrix dominated by very fine grained quartz and calcite with minor sericite, sphalerite, and pyrite. Moderately abundant replacement patches are of medium to coarse grained calcite. In the hand sample a few dark grey fragments up to 2 cm across may be of basalt/andesite as in Sample CB-96-1 44.5 m.

8 **Sample CB-96-4 72.2 m** contains relic fragments up to several mm across of extremely fine grained to cryptocrystalline latite tuff(?) dominated by sericite with minor quartz and Ti-oxide. Minor altered phenocrysts of plagioclase and one of hornblende are replaced completely by sericite and quartz-(Ti-oxide), respectively. Early replacement is to patches of very fine to coarse grained calcite containing abundant inclusions of hematite. Later replacement is to patches and veinlets of very fine to fine grained calcite-quartz with moderately abundant patches of chalcopyrite, lesser bornite, and minor tetrahedrite and galena. Boundaries between the two stages of replacement are in part diffuse and difficult to identify.

**Sample CB-96-1 44.5 m      Porphyritic, Amygdaloidal, Hematitic Basalt/Andesite;  
Calcite Veinlet; Late Ankerite Veinlet**

Phenocrysts of plagioclase and minor ones of biotite are set in a variable groundmass of plagioclase and devitrified volcanic glass containing abundant hematite. Plagioclase phenocrysts are altered completely to sericite and calcite, and biotite phenocrysts are altered completely to muscovite. Abundant amygdules are of calcite, and much fewer ones are of quartz-(calcite) and quartz-sericite. A veinlets of calcite is cut by one of ankerite.

<b>phenocrysts</b>		<b>amygdules</b>	
plagioclase	8-10%	calcite	8-10%
biotite	0.5	quartz	1
<b>groundmass</b>		sericite	1
plagioclase	20-25	<b>veinlets</b>	
devitrified glass	45-50	calcite	0.5
hematite	2-3	ankerite	0.5

Plagioclase forms subhedral to euhedral phenocrysts averaging 0.08-0.15 mm in size and a few from 0.3-1.3 mm long. Alteration is variable, mainly to cryptocrystalline sericite and minor to abundant patches of cryptocrystalline to very fine grained calcite.

Biotite(?) forms a few phenocrysts averaging 0.1-0.5 mm in size. It is altered to pseudomorphic muscovite/biotite which is pleochroic from colourless to light brown. The presence of biotite phenocrysts in a rock of this composition is unusual.

Much of the groundmass contains minor disseminated lathy plagioclase grains averaging 0.03-0.07 mm in size in a semi-opaque to opaque matrix of devitrified glass containing very abundant deep red hematite. Other patches in the groundmass are of lathy plagioclase altered to cryptocrystalline sericite with moderately abundant dusty to extremely fine grained hematite.

Hematite also forms disseminated, equant grains averaging 0.07-0.15 mm in size and a few up to 0.25 mm in size. Grains probably are secondary after magnetite.

Calcite forms irregular amygdules averaging 0.2-0.5 mm in size and a few up to a few mm across. A few amygdules from 0.1-0.3 mm in size have a discontinuous outer zone of extremely fine grained quartz and a core of cryptocrystalline sericite. One patch up to 2 mm across contains abundant amygdules up to 0.5 mm across of slightly interlocking, extremely fine grained quartz with minor patches of cryptocrystalline to extremely fine grained calcite.

An early veinlet averaging 0.1-0.2 mm wide is of very fine grained calcite.

A late vein averaging 0.2-0.3 mm wide is of very fine grained ankerite containing moderately abundant dusty inclusions.

**Sample CB-96-1 48.9 m Brecciated, Calcite-Quartz-Sericite Altered Latite (?);  
Patches of Coarse Calcite**

Fragments of latite tuff(?) up to 8 mm across and a few of latite flow up to 3 mm across are set in a variable matrix dominated by very fine grained quartz and calcite with minor sericite, sphalerite, and pyrite. Moderately abundant replacement patches are of medium to coarse grained calcite. In the hand sample a few dark grey fragments up to 2 cm across may be of basalt/andesite as in Sample CB-96-1 44.5 m.

<b>fragments</b>			
latite tuff	30-35%		
latite flow	2- 3		
basalt/andesite(?)		-	(10% coarse fragments in hand sample)
<b>groundmass</b>			
a) quartz	20-25	sphalerite	0.2%
calcite	17-20	opaque	0.1 (pyrite?)
sericite	1- 2	muscovite	minor
b) coarse calcite	17-20		
quartz	0.2		

A few fragments from 2-8 mm long contain minor phenocrysts averaging 0.2-0.3 mm in size of muscovite (after biotite?) in a matrix of cryptocrystalline sericite with disseminated patches of cryptocrystalline hematite and wispy lenses of cryptocrystalline ankerite. The largest fragment contains a few euhedral phenocrysts of hornblende up to 0.5 mm long; alteration of these is to extremely fine grained quartz with dusty hematite concentrated in minor patches and along the margins of the phenocrysts. Several similar smaller sericite-rich fragments are from 0.3-0.6 mm long. Some of the fragments have a moderate foliation.

A few latite flow fragments up to a few mm across are dominated by equant, slightly interlocking plagioclase grains averaging 0.05-0.2 mm in size intergrown with patches of cryptocrystalline sericite with less abundant calcite grains averaging 0.05-0.1 mm in size. Biotite forms minor small phenocrysts averaging 0.15-0.2 mm in size. Hematite is concentrated moderately to strongly in patches up to 0.07 mm across of dusty grains.

One diffuse fragment 0.8 mm in size is of cryptocrystalline to extremely fine grained plagioclase/quartz and cryptocrystalline sericite.

The main groundmass contains moderately abundant disseminated, prismatic quartz grains averaging 0.1-0.2 mm long and anhedral calcite grains averaging 0.05-0.1 mm in size in a matrix of extremely fine grained quartz and calcite, and minor cryptocrystalline sericite. A few prismatic quartz grains are up to 0.9 mm long. Some patches up to a few mm across contain abundant calcite grains averaging 0.1-0.3 mm in size. Muscovite forms scattered flakes from 0.1-0.2 mm in length.

Sphalerite forms disseminated patches averaging 0.03-0.08 mm in size and a few irregular patches up to 0.3 mm long; it is colourless with very high relief.

Opaque (probably pyrite, possibly with some chalcopyrite) forms disseminated grains averaging 0.03-0.01 mm in size.

Later(?) replacement patches up to a few mm across are of medium to coarse grained calcite with minor subhedral to euhedral prismatic grains of quartz averaging 0.1-0.2 mm long.

Sample CB-96-3 2.7 m

**Latite Flow; Sericite-Calcite Alteration  
Chalcopyrite-Calcite-(Quartz-Pyrite) Veinlets**

The sample is dominated by equant, very fine grained plagioclase and less abundant quartz. Some patches of plagioclase were altered strongly to completely to cryptocrystalline sericite and much less abundant patches of calcite. A fragment 4 mm across is of a very fine grained latite flow/dike. A vein and subparallel veinlet are dominated by chalcopyrite with lesser calcite and much less pyrite and quartz.

plagioclase	40-45%
sericite	30-35
quartz	12-15
calcite	5- 7
pyrite	minor
chalcopyrite	trace
Ti-oxide	trace
<b>fragment</b>	
latite flow/dike	2- 3
<b>amygdules/patches</b>	
quartz-calcite	0.2
<b>veins</b>	
chalcopyrite-calcite-pyrite-quartz	2%

Plagioclase forms equant, slightly interlocking grains averaging 0.05-0.08 mm in size. In some patches it is relatively fresh to altered slightly to sericite. Elsewhere, it is replaced completely by cryptocrystalline sericite.

A patch up to 4 mm across is of a latite flow dominated by equant, slightly interlocking grains of plagioclase and much less calcite and quartz averaging 0.07-0.12 mm in size. Plagioclase in this patch is altered slightly to cryptocrystalline sericite.

Quartz forms anhedral grains averaging 0.03-0.07 mm in size and a few up to 0.15 mm across.

Calcite is concentrated in irregular patches averaging 0.1-0.5 mm in size.

Pyrite and chalcopyrite form disseminated grains averaging 0.01-0.03 mm in size and a few up to 0.08 mm across. A few patches up to 0.12 mm in size are of a few pyrite grains with interstitial patches of chalcopyrite

Ti-oxide forms disseminated grains averaging 0.01-0.03 mm in size.

A few patches (possibly amygdules) up to 0.6 mm across are of quartz and calcite grains averaging 0.15-0.3 mm in size.

A vein up to 0.3 mm wide is dominated by very fine to fine grained chalcopyrite and calcite with minor very fine grained pyrite and quartz. A few patches of chalcopyrite are replaced slightly along fractures to hematite. A smaller discontinuous veinlet up to 0.1 mm wide is dominated by chalcopyrite with lesser chalcopyrite and quartz.

**Sample CB-96-3 42.7 m Brecciated, Porphyritic Basalt/Andesite;  
Breccia Matrix of Cherty Quartz-Calcite;  
Veinlets of Calcite, Hematite**

The host rock is somewhat similar to Sample CB-96-1 44.5 m, but lacks the calcite-rich amygdules. Phenocrysts of plagioclase and very minor ones of biotite and magnetite are set in a variable, commonly finely patchy groundmass of plagioclase and devitrified volcanic glass, the latter containing abundant dusty hematite. Plagioclase phenocrysts and groundmass are altered completely to sericite and calcite. Biotite phenocrysts are altered completely to muscovite. Magnetite is replaced completely by hematite. The breccia matrix is dominated by extremely fine grained, cherty quartz and less abundant patches of calcite. Discontinuous veinlets are of calcite and of hematite.

<b>phenocrysts</b>	
plagioclase	7- 8%
biotite	minor
<b>groundmass</b>	
plagioclase	5- 7
devitrified glass	20-25
sericite	15-17
hematite/magnetite	1- 2
leucoxene	0.2
<b>breccia matrix</b>	
quartz	30-35
calcite	7- 8
<b>veinlets</b>	
calcite	2- 3
hematite	0.5

Plagioclase forms subhedral to euhedral phenocrysts averaging 0.1-0.3 mm in size and a few from 0.5-1 mm long. Alteration is complete to cryptocrystalline sericite and minor to abundant patches of cryptocrystalline to very fine grained calcite.

Biotite(?) forms a few phenocrysts averaging 0.1-0.3 mm in size. It is altered to pseudomorphic muscovite/biotite which is pleochroic from colourless to light brown. The presence of biotite phenocrysts in a rock of this composition is unusual.

The groundmass of the host rock contains minor disseminated lathy plagioclase grains averaging 0.03-0.05 mm in size in a semi-opaque to opaque matrix of devitrified glass containing very abundant deep red hematite.

Moderately abundant, irregular patches averaging 0.05-0.2 mm in size are of cryptocrystalline sericite. These grade texturally into several patches in the groundmass up to 2 mm in size, mainly bordering the breccia matrix, which are dominated by cryptocrystalline sericite with 2-5% disseminated hematite ranging from dusty grains to equant grains up to 0.1 mm in size.

Hematite also forms disseminated, equant grains averaging 0.07-0.15 mm in size and a few up to 0.3 mm in size. These grains probably are secondary after magnetite.

Leucoxene (probably after ilmenite) forms a few patches up to 0.1 mm in size of cryptocrystalline grains. Interstitial to some clusters of hematite/magnetite are patches up to 0.3 mm long of cryptocrystalline leucoxene.

(continued)

The matrix of the breccia is dominated by equant, moderately interlocking grains of cherty quartz averaging 0.005-0.01 mm in size, with a few patches up to 1.5 mm across of grains averaging 0.01-0.02 mm in size. Calcite forms disseminated, very fine grained patches averaging 0.1-0.3 mm in size, and a few irregular ones up to 2 mm across; some of the calcite patches grade into the calcite veinlets, and the two may be of the same age. A few patches contain abundant poikilitic calcite grains up to 1 mm in size intergrown with abundant cherty quartz averaging 0.01-0.02 mm in grain size. The largest of these, a lens up to 1.5 mm wide also contains 2-5% disseminated patches averaging 0.03-0.05 mm in size of cryptocrystalline sericite. Hematite forms disseminated, subhedral grains averaging 0.05-0.08 mm in size. Disseminated hematite-rich patches averaging 0.05-0.1 mm in size probably are relics of the host rock.

Discontinuous veinlets averaging 0.05-0.15 mm wide of very fine grained calcite cut both breccia matrix and fragments. One vein up to 0.3 mm wide is of fine grained calcite. A few discontinuous veinlets up to 0.2 mm wide of cryptocrystalline hematite cut the breccia matrix.



Sample CB-96-4 4 m

**Latite Flow: Sericite-Dolomite Alteration;  
Veinlets of Calcite-(Quartz)**

The rock is dominated by interlocking, fine grained plagioclase with minor interstitial quartz. Alteration is moderate to disseminated sericite and patches of dolomite. Veinlets are of calcite-(quartz).

plagioclase	78-80%
sericite	12-15
quartz	3- 4
dolomite	2- 3
Ti-oxide	minor
<b>veinlets</b>	
calcite-quartz	1

Plagioclase forms anhedral, interlocking, untwinned grains averaging 0.1-0.3 mm in size. Alteration is slight to moderate to cryptocrystalline sericite, whose refractive index (R.I.) is moderately lower than that of quartz.

Quartz forms single grains and clusters of a few grains averaging 0.1-0.25 mm in size and a few up to 0.4 mm across interstitial to plagioclase.

Dolomite forms disseminated, irregular to skeletal patches grains averaging 0.1-0.3 mm in size, and is concentrated in a few irregular patches up to 1 mm across.

Ti-oxide/leucoxene forms disseminated patches averaging 0.02-0.05 mm in size of cryptocrystalline grains

A discontinuous veinlet 0.2-0.3 mm wide is of very fine grained calcite. A few veinlets from 0.03-0.1 mm wide are of very fine grained calcite and lesser quartz.

**Sample CB-96-4 8.8 m      Porphyritic Amygdaloidal Basalt/Andesite;  
 Plagioclase, Pyroxene/Hornblende Phenocrysts; Ilmenite(?) Patches  
 Chlorite-Quartz-Calcite-Sericite Alteration; Chlorite-Quartz-Calcite Amygdules**

Phenocrysts of plagioclase and lesser ones of pyroxene/hornblende and patches of sphene(?) are set in a groundmass dominated by lathy plagioclase with interstitial plagioclase, hematite, and minor chlorite. Plagioclase is altered moderately with sericite and calcite. Pyroxene/hornblende is replaced by either patches of chlorite-calcite-quartz or patches bordered by opaque with cores of quartz and lesser calcite and minor chlorite. Irregular amygdules are dominated by calcite with much less abundant quartz and chlorite. Some have delicate, concentric growth zones from calcite to quartz to chlorite. Others have outer zones of chlorite and inner zones of quartz and calcite.

<b>phenocrysts</b>		<b>groundmass</b>	
plagioclase	30-35%	plagioclase	40-45
pyroxene/hornblende	7- 8	hematite	4- 5
ilmenite	2- 3	chlorite	2- 3
apatite	trace	apatite	0.2
<b>amygdules</b>			
calcite	5- 7		
quartz	0.5		
chlorite	0.3		

Plagioclase forms euhedral to subhedral, prismatic phenocrysts averaging 0.5-2 mm in size and a few up to 4 mm long. Alteration is moderate to strong to cryptocrystalline sericite and patches of extremely fine grained calcite and extremely fine grained chlorite. A few grains contain a rounded inclusion averaging 0.03-0.05 mm in size of cryptocrystalline chlorite.

Pyroxene/hornblende forms subhedral to euhedral, prismatic grains averaging 0.7-1 mm long and 0.2-0.4 mm across. In many patches, alteration consists of rims and ribs of opaque and interstitial patches of cryptocrystalline to extremely fine grained, moderately interlocking quartz and others of cryptocrystalline calcite in widely varying proportions. Some also contain minor chlorite. In less abundant phenocrysts, alteration is complete to very fine grained intergrowths of two or more of calcite, chlorite, and quartz. Possibly one of these types is after pyroxene and the other is after hornblende, or they may represent two types of alteration of a single mafic phase.

Hematite/leucoxene forms patches averaging 0.2-0.5 mm in size of cryptocrystalline grains. A few patches have a rim of hematite and a core dominated by cryptocrystalline leucoxene intergrown with cryptocrystalline sericite. These patches probably are secondary after ilmenite.

Apatite forms a few subhedral prismatic grains up to 0.6 mm long.

In the groundmass, plagioclase forms lathy grains averaging 0.05-0.1 mm long. Interstitial to these is cryptocrystalline plagioclase with moderately abundant disseminated hematite and minor chlorite. Plagioclase is altered slightly to moderately to cryptocrystalline sericite. Apatite forms equant, subhedral to euhedral grains averaging 0.05 mm across, and a few up to 0.2 mm across.

(continued)

Amygdules averaging 0.5-1.5 mm in size and a few up to a few mm long are dominated by cryptocrystalline to extremely fine grained calcite. Along borders of some are patches of very fine grained quartz. Chlorite occurs in some as irregular patches up to 0.5 mm in size.

Some amygdules contain hemispheric to spherical aggregates up to 0.3 mm across of calcite with lesser chlorite and quartz. A few amygdules up to 2 mm across contain abundant, delicate, concentric intergrowths zoned from calcite on the outside to quartz in an intermediate zone and chlorite in the core.

Two spheroidal to ellipsoidal amygdules 1.1-1.7 mm across have an outer zone of opaque to deep red hematite, in part with spheroidal patches growing inwards, to an intermediate zone of very fine grained calcite and chlorite, with an inner zone of cryptocrystalline ankerite/dolomite.

A few amygdules up to 1.5 mm across are zoned from rim to core as follows: chlorite, quartz, calcite, quartz.

**Sample CB-96-4 72.2 m      Strongly Altered Latite Tuff(?);  
 Early Calcite-(Hematite) Replacement;  
 Later Calcite-Quartz-Chalcopyrite-Bornite Replacement**

Relic fragments up to several mm across are of extremely fine grained to cryptocrystalline latite tuff(?) dominated by sericite with minor quartz and Ti-oxide. Minor altered phenocrysts of plagioclase and one of hornblende are replaced completely by sericite and quartz-(Ti-oxide), respectively. Early replacement is to patches of very fine to coarse grained calcite containing abundant inclusions of hematite. Later replacement is to patches and veinlets of very fine to fine grained calcite-quartz with moderately abundant patches of chalcopyrite, lesser bornite, and minor tetrahedrite and galena. Boundaries between the two stages of replacement are in part diffuse and difficult to identify.

<b>host rock</b>	
sericite	10-12
quartz	2- 3
Ti-oxide	0.2
chalcopyrite	minor
<b>early replacement</b>	
calcite	30-35
hematite	1
chlorite	minor
Ti-oxide	trace
<b>later replacement</b>	
calcite	30-35
quartz	8-10
chalcopyrite	5- 7
bornite	0.5
tetrahedrite	0.1
galena	minor
apatite	trace

The host rock forms fragments up to several mm across. A few fragments contain subhedral patches from 0.5-0.9 mm in size of cryptocrystalline sericite, probably after plagioclase phenocrysts. One patch 0.4 mm long is of very fine grained quartz and minor Ti-oxide; it may be secondary after a hornblende phenocryst. The groundmass is dominated by cryptocrystalline sericite, with minor to moderately abundant cryptocrystalline to extremely fine grained quartz and/or calcite, and moderately abundant disseminated hematite/Ti-oxide. A few patches up to 0.2 mm across are of Ti-oxide with moderately abundant ribs of hematite, probably after ilmenite. Some fragments contain discontinuous veinlets up to 0.1 mm in size of extremely fine to very fine grained quartz.

Early calcite-rich replacement occurs in patches up to several mm across of very fine grained to coarse aggregates. In some patches, hematite forms abundant dusty to extremely fine grained inclusions with a deep red internal reflection. Elsewhere hematite forms minor to moderately abundant dusty grains, which are partly why the calcite grains have an apparent moderate relief. One irregular patch 0.2 mm across is of cryptocrystalline, medium green chlorite with minor disseminated Ti-oxide, and a few wispy seams are of similar chlorite.

(continued)

Later replacement patches are of calcite and much less abundant quartz and sulfides. This calcite has low relief and is free of dusty hematite inclusions. In several places it appears to replaced the earlier phase of calcite, and locally it forms veinlets cutting coarse grained, early calcite. In some patches, it is difficult to distinguish the two stages of calcite because "borders" between them are diffuse. Along one border of the largest sulfide patch, calcite forms a comb-textured aggregate up to 0.1 mm wide in which grains are oriented perpendicular to the border of the sulfide patch. In the core of one large patch of medium to coarse grained early-formed calcite is a zone a few mm wide of fine to medium grained later-formed calcite containing a core a few mm long and up to 1 mm wide of fine grained quartz and one patch of chalcopyrite up to 0.4 mm across.

Quartz commonly forms subhedral to euhedral prismatic grains averaging 0.1-0.5 mm long and up to 0.1 mm across disseminated in interstitial calcite grains. A few prismatic grains are from 0.5-0.7 mm long. A few patches up to 3 mm long contain moderately abundant prismatic quartz grains averaging 0.1-0.2 mm long in a matrix of extremely fine grained, equant quartz grains with minor calcite and chalcopyrite.

Sulfides form irregular patches averaging 0.05-0.5 mm in size and a few about 1 mm across and one patch 7 mm across. Most smaller patches and a few large ones are of chalcopyrite with only minor other sulfides, mainly bornite, and most are intergrown with very fine grained quartz. The largest patch and a few smaller ones nearby and one patch at the other end of the section are of chalcopyrite with moderately abundant zones up to 0.9 mm across mainly along their margins dominated by bornite with less abundant tetrahedrite and galena. A few delicate intergrowths along the margin are of bornite rimmed by tetrahedrite. In the largest patch, galena forms several inclusions up to 0.1 mm in size away from the margin. Sulfides commonly are intergrown with very fine to fine grained quartz.

Apatite forms a few anhedral grains up to 0.03 mm in size in one patch of quartz.



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**APPENDIX IV**

Rock Sample Descriptions

Chico Basin Project

Sample:	Date:	Location:	Lithology:	Remarks / Alteration / Structure:	Mineralization:	Analysis:
WR96-1		Grab	Andesite / basalt	pervasive carb alt <sup>n</sup> , minor hematite	tr py + specular hematite	
WR96-2		Grab	Andesite Tuff	faint yellow-orange Fe-carb altered and silicas + Ca-carb altered	tr blebs specular hematite	
WR96-3		Grab	Andesite Tuff	strong carb alt <sup>n</sup> , narrow barren carb stockwork veins	tr specular hematite possibly after pyrite	
WR96-4		Grab	Andesite	strong pervasive hem and lesser silica alteration	tr specular hematite	
WR96-5		FLOAT	Qtz-carb Vein	Float trail, follow up to top of ridge but can't find in place	Massive tetrahedrite, lesser bornite, mal stain	
WR96-6		Grab	Rhyolite Dyke	Flow banded dyke up to 10-m wide with carb alteration	trace specular hematite	
WR96-7		Grab	"	as above	as above	
WR96-8		Grab	"	"	"	
WR96-9		Grab	Mafic Dyke	10-20 cm wide carb vein	"	
WR96-10		Grab	Qtz Zone	Patchy quartz flooding over 1m wide zone on andesite	Trace cpy + py	
WR96-11		Grab	Andesite	Yellow-brown Fe-carb altered massive tuff	tr-1% specular hematite or tetrahedrite, very fine grained	
WR96-12		FLOAT	Quartz Vein	Vuggy qtz vein, can't find in place, old trenches on float	up to 10% cpy and 20% tetrahedrite mal + quartz ss stains + fine crystal masses	
WR96-13		Grab	Rhyolite ?	White felsic unit with faint pink tinge = potassic alt <sup>n</sup> ??	Tr-2% fine dissm py cubes	
WR96-14		Grab	Rhyolite / Qtz Vein?	Rusty area with sugary qtz, can't get good orientation, more altered looking than felsic unit	minor traces of pyrite	
WR96-15		Chip 20cm	Barite Vein	Barite vein in felsic dyke with limonite + Fe-carb stain	no visible sulphides	

CHACO BEAR PROJECT

Sample:	Date:	Location:	Lithology:	Remarks / Alteration / Structure:	Mineralization:	Analysis:
WR96-16		CHIP 40cm	Shear Zone	Andesite shear zone with a 5cm wide specular hematite vein	specular hematite	
WR96-17		Grab	Silicified Andesite?	Pale greenish-white siliceous unit	2-5% fine dissm py	
WR96-18		Grab	Quartz Vein?	Siliceous quartz flooding or "vein-like" quartz	coarse py cubes, 5mm <sup>2</sup>	
WR96-19		Grab	Andesite	Qtz, chlorite, hematite, epidote	tr dissm py	
WR96-20		CHIP 1.2m	Shear Zone	Shear zone with multiple specular hematite veins	specular hematite veins up to 15cm wide	
WR96-21		Grab	Andesite/Dacite	Siliceous gossan - silicified andesite or dacite	tr - 2% dissm py	
WR96-22		Grab	Andesite	Epidote altered, on fractures	minor trace py up to 3-4%	
WR96-23		FLOAT ??	Ferricrete ?	Agglomerate that is intensely weathered to limonite + manganese	2-10% fine dissm py and some coarser cubes	
WR96-24		Grab	Ferricrete	Intensely weathered rock, mostly pure limonite + manganese	- more visible	
WR96-25		Chip 30cm	Vein (Qtz)	Vein that is quartz with minor hematite, cpy + mel	65-75% specular hematite in 30cm wide vein	
WR96-26		Grab	Andesite Tuff	Greenish-gray sericite and silica altered tuff + porphyry	3-6% fine dissem. py	
WR96-27		Grab	Andesite Tuff	as above, rusty fracture	5-7% fine dissm py	
WR96-28		Grab	Andesite Tuff	minor clasts of flow banded rhyolite or rhyolite dyke	- tr dissm py	
WR96-29		Chip 50cm	Quartz Vein	- mostly quartz vein, quite vuggy with good open space growth	20% specular hematite	
WR96-30		Grab	Quartz Vein	Vuggy vein ~ 1m wide but difficult to sample (on cliff)	10-15% specular hematite and up to 5% cpy	



Chaco Bear Project

Sample:	Date:	Location:	Lithology:	Remarks / Alteration / Structure:	Mineralization:	Analysis:
RR96-1		Grab	Calcite Vein	5-10cm wide on limonite stained zone 2-4m x 12m, disappears in till	bornite, cpy, mal	
RR96-2		Grab	Calcite Vein	as above, (12m South of RR96-1)	fresher sample, bornite more obvious	
RR96-3		Grab	Quartz Vein	Shear Zone with 1-5cm wide qtz vein	bornite, cpy	
RR96-4		Grab	Calcite Vein	Carb veinlets over 30cm x 5m	2% cpy, mal	
RR96-5		Grab	Carbonate Zone	Calcareous zone in gully, sampled at top of ridge	limonite, hematite, no sulphides	
RR96-6		Grab	Carbonate Vein	Sample from 3-5cm wide vein in a swarm of 7 narrow veins	1-2% bornite, mal stain	
RR96-7		Grab	Carbonate Veins	Area of 3-30cm wide x 4m long carb. vein swarm can only access one vein due to terrain	1-10% chalc, 10-30% specular hematite, mal. stain	
RR96-8		Grab	Qtz-Carb Vein	Small vein 3-5cm wide x 50cm, at base of cliff, moderate talus train leading up to cliff with better cpy in talus than in sample	1-5% cpy	
RR96-9		Grab	Carb-Qtz veins 15m uphill from RR96-8	2 qtz-carb veins merging + diverging over zone 10-80cm wide over length of 25 metres. Can only access portion of vein	20% cpy, difficult access so don't know if sulphides are consistent throughout vein	
RR96-10		Grab	Qtz-Carb Veins 7m lower than RR96-8	1-3cm wide veinlets in swarm up to 50cm wide	10% cpy, malachite and limonite stain	
RR96-11		Grab	Qtz-Carb Vein	3-6cm wide vein over 5m length	up to 20% cpy, hematite, malachite + azurite stain	
RR96-12		Grab	Andesite (Wallrock for RR96-13)	Andesite with limonite + malachite staining over 3-4m width	less than 1% cpy, limonite + malachite stain	
RR96-13		Grab	Quartz Vein	50cm wide, length unknown	described as 30-60% cpy but must be stained py as Cu values not high enough	

Chaco Bear Project

Sample:	Date:	Location:	Lithology:	Remarks / Alteration / Structure:	Mineralization:	Analysis:
RR96-14		Grab	Qtz-Carb Vein	5-6m wide zone of narrow stockwork veins (1-10mm wide). Local intense stockwork over 30cm with brecciated wallrock fragments (andesite tuff)	Spotty cpy + malachite. Locally cpy up to 10%	
RR96-15		CHIP 1.0 metres	Qtz-Carb Vein Possible Barite	Qtz-carb stockwork veins up to 1m wide, individual veins to 10cm	5-10% cpy	
RR96-16		Grab	Qtz-Carb Vein (100m along strike from RR96-15)	* Hi grade grab from same vein as RR96-15. Pinches + swells from 0.5 - 1.0 m wide	5-10% chalcocite, 3% cpy	
RR96-17		Grab	Qtz-Carb Vein	3-20 cm wide x 25m long then fill covered	10% chalcocite, mal stain, minor barite + specular hematite	
RR96-18		Grab 10m upslope from RR96-17	Qtz-Carb Vein	Vein, width + length unknown (not mentioned, probably narrow)	5% chalcocite, minor mal + specular hematite (some specular must be galena + sphalerite)	
RR96-19		CHIP 1.0 metres	Qtz-Carb Vein	Brecciated with coarse vugs infilled with qtz crystals. Vein visible over 50m length	Has up to 10cm x 3cm cpy masses intergrown with the qtz crystals. Locally up to 10% cpy and 15-30% specular hematite	
RR96-20		CHIP 30cm	Calcite Vein	Vuggy vein 30cm x 50m long	1-3% tetrahedrite?	
RR96-21		Grab	Calcite Vein	Calcite vein swarm with 3-20cm wide veinlets over 2-3 metres, zone bounded by snow	3-5% tetrahedrite, malachite stain	
RR96-22		Grab	Qtz-Carb Vein	Small vein swarm exposed on rubble with 4cm wide pure cpy vein	Chalcocite, malachite	
RR96-23		Grab	Shear Zone	Brecciated shear zone up to 5m wide	malachite stain, trace cpy	
RR96-24		Grab	Quartz Vein	Vein in gossan zone, siliceous	40% specular hematite, 10% pyrite and minor magnetite	
RR96-25		Grab	Vein	Narrow (< 5cm) vein	specular hematite	
RR96-26		Grab	Vein	3cm vein in 3m wide siliceous dyke	Specular hematite	

Choco Bear Project

Sample:	Date:	Location:	Lithology:	Remarks / Alteration / Structure:	Mineralization:	Analysis:
RR96-27		Grab	Andesite Dyke	Cossan zone 2 m wide on either side of epidote enriched andesite dyke	5-10% pyrite trace - 1% chalcopyrite	
RR96-28		Grab	Andesite	2-10 cm wide band of magnetite at contact between pyrite and non-pyrite bearing andesite	magnetite	
RR96-29		Grab	Andesite / Vein	1-4 cm wide quartz-calcite vein in epidote altered andesite	5% cpy 10% specular hematite	
RR96-30		Grab	Andesite	Qtz-epidote blow out on andesite	minor trace of cpy	
RR96-31		FLOAT	Rhyolite?	Qtz rich unit	5-10% cpy, malachite stain	
RR96-32		Grab	Qtz Vein	1-5cm wide vein, 1m wide limonite stain	5-10% pyrite	
RR96-33		Grab	Qtz Vein	1-3cm wide vein on andesite	specular hematite	
RR96-34		Grab	Qtz Vein	10cm wide x 75m long	10-15% pyrite, 25% specular hematite	
RR96-35		Grab	Qtz Vein	10cm wide x 8 m long	10% pyrite, 25% specular hematite	
RR96-36		Grab	Qtz Vein	10cm x 15m	50% specular hematite	
RR96-37		Grab	Qtz Vein	Qtz and calcite vein, 5cm wide	20% specular hematite, 1-5% cpy	
RR96-38		CHIP 80cm	Qtz-Calcite Vein	30-80cm wide vein, visible for x 70 metres	variable specular hematite, cpy, 3-10% malachite stain	
RR96-39		Grab	Andesite/Ferricrete	Agglomerate unit, highly weathered, random chips over 25m length	2-5% fine dissm py	
RR96-40		Grab	Andesite/Ferricrete	siliceous limonite cemented	5% fine dissm py	
RR96-41		Grab	Vein	5cm wide vein	specular hematite	
RR96-42		Grab	Vein / Mudston	3-10% cm wide vein (qtz) in mudstone	1-5% cpy, specular hematite	
RR96-43		Grab	Qtz Vein	4-20cm wide vein in andesite	30% specular hematite, 1-5% cpy	
RR96-44		Grab	Qtz Vein	10cm wide vein, one of several veins over 8 m zone	1-5% cpy	
RR96-45		Grab	Qtz-Carb Vein	4-10cm wide x 60m long vein	5% cpy, spotty specular hematite and malachite stain	
RR96-46		Grab	Qtz-Carb Vein	narrow vein in andesite	5-10% py; 5% specular hematite	

Chaco Bear Project

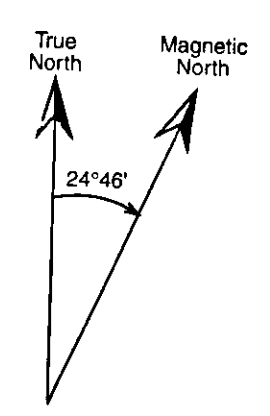
Sample:	Date:	Location:	Lithology:	Remarks / Alteration / Structure:	Mineralization:	Analysis:
BD96-1		FLOAT	Qtz-Carb Vein	Qtz-carb vein float, narrow 1/4" gtz stringers in nearby andesite feldspar porphyry	Small blebs of possible specular hematite or chalcocite	
BD96-2		GRAB	Qtz Vein	Vein up to 10cm wide, brecciated	rusty pockets of cpy with mal staining on fractures	
BD96-3		GRAB	Qtz Vein	as above, 7m north of BD96-2	as above with bornite	
BD96-4		FLOAT	Feldspar Porphyry	Carb altered in float from below outcrop with ankerite, epidote and chlorite, minor gtz breccia	minor cpy + mal	
BD96-5		GRAB	Qtz-Carb Vein	-no width given	dark sulphide blebs = tetrahedrite? some mal stain	
BD96-6		Grab	Qtz-Carb Vein	5m uphill from BD96-5	malachite, cpy + possible galena	
BD96-7		FLOAT	Qtz-Carb Vein	Old pit? Carb + chlorite altered angular float	py, cpy, mal stain	
BD96-8		FLOAT	Qtz-Carb Vein	as above but no pit	as above	
BD96-9		FLOAT	Qtz-Carb Vein	Brecciated, and carb altered	cpy, malachite	
		(20m from BD96-8)				
BD96-10		GRAB	Qtz Vein / Shear	2m wide gtz breccia filled shear zone, sample is hi-grade grab from core of zone	py, cpy and malachite and azurite stain	
BD96-11		Grab	Qtz-Carb Vein	6-10 cm wide siliceous vein	malachite + azurite stain	
BD96-12		FLOAT	Qtz-Carb Vein	-float from old pit	pyrite, sphalerite + specular hematite	
BD96-13		Grab	Shear Vein	Qtz-carb shear vein	cpy + malachite	
BD96-14		Grab	Qtz Stockwork	Red jasper + hematite staining in narrow gtz stockwork vein	no visible sulphides	
BD96-15		Grab	Qtz Vein	10 cm wide vein, nearby float has hematite, epidote + gtz-carb crystals	no visible sulphides	
BD96-16		FLOAT	Intrusive	Grey jasper brecciated by red jasper and white silica in a slightly porphyritic intrusive	no visible sulphides	

CHACO BEAR PROJECT

Sample:	Date:	Location:	Lithology:	Remarks / Alteration / Structure:	Mineralization:	Analysis:
BD96-17		FLOAT	Intrusive	bleached and brecciated intrusive	minor malachite or seladinite	
BD96-18		Grab	Qtz-Carb Vein	8-10 cm wide vein in fine grained chloritic andesite	no visible sulphides	
BD96-19		FLOAT	Andesite	fine grained maroon-pinkish silicified	calcite, hematite, malachite or seladinite	
BD96-20		FLOAT	Andesite	angular float, fine grained dark andesite	malachite, magnetite	
BD96-21		FLOAT	QUARTZ	Carb altered, rosey amythyst and calcite	no sulphides	
BD96-22		CHIP 1.0 metres	Andesite	andesite in creek drain	malachite staining	
BD96-23		GRAB	Feldspar Porphyry	Carb and epidote altered reddish feldspar porphyry from grid anomaly @ L5N; 3+50E	fine grained disseminated unknown sulphide	
BD96-24		FLOAT	Vein	chlorite and carb altered float vein 10cm wide, milky calcite crystals, minor manganese	minor cpy + galena	
BD96-25		Grab / Chip 30 cm	Calcite Vein	up to 30cm wide	minor cpy	
BD96-26		Chip 80 cm	Carbonate Vein	Weathered out carbonate / andesite vein	minor malachite	
BD96-27		Grab	Carbonate Vein	thin 3cm wide carb vein in medium-coarse grained andesite	minor pyrrhotite, hematite and possible chalcocite	
BD96-28		Grab	Quartz Breccia	Quartz filled breccia zone	pyrite + minor cpy	
BD96-29		FLOAT	Quartz Breccia	as above, remains of weathered out zone	pyrite + minor cpy	
BD96-30		CHIP 1.0 metres	Andesite	Pyritic altered zone in 3-4m wide gossan chlorite + epidote	dissm py throughout with minor cpy + possible galena	
BD96-31		Grab	Qtz-Carb Vein	5cm wide	tetraedrite + malachite stain	
BD96-32		Grab	Conglomerate / Agglomerate	Rusty outcrop	trace py	
BD96-33		Grab	Qtz-Carb Vein	10 cm wide	up to 15% py	







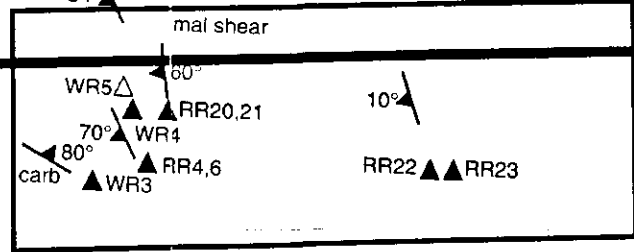
(M)

BD22 ▲ BD21  
BD20 ▲ BD19  
BD18 ▲ BD16,17  
BD15 ▲

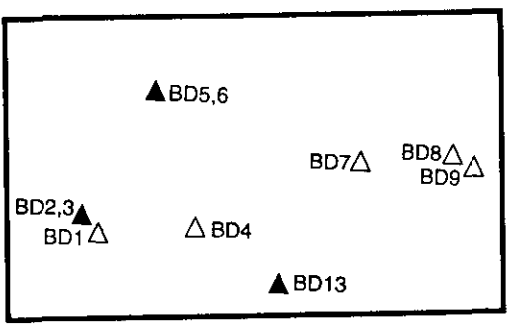
▲ RR5

▲ BD14

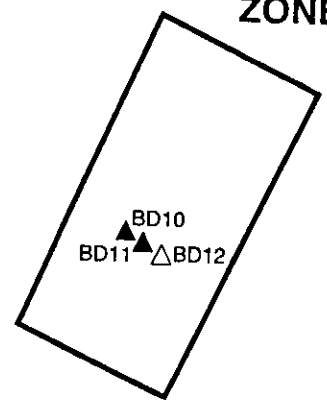
**HIGRADE ZONE**



**AREA A**

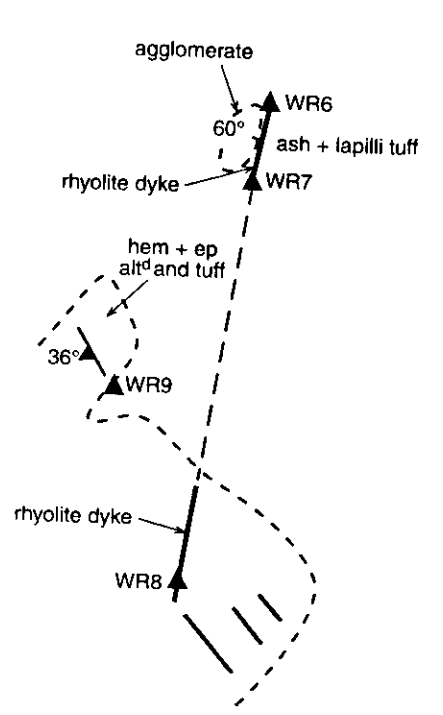


**COCCOLA ZONE**

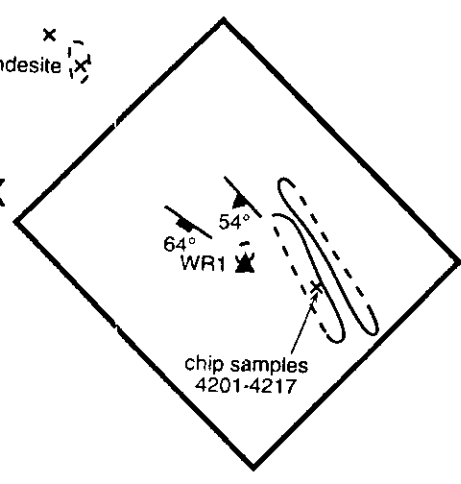


**ABBREVIATIONS**

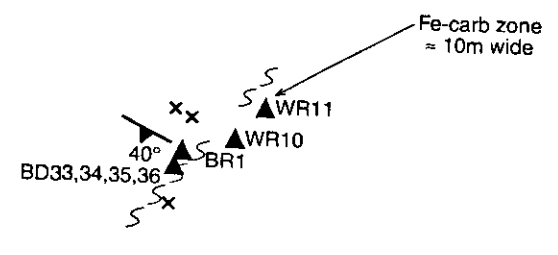
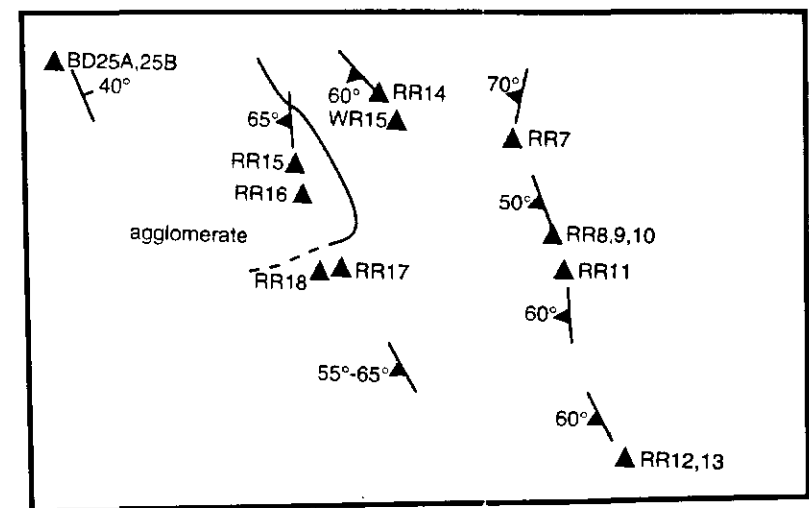
- agglom Agglomerate
- alt<sup>d</sup> Altered
- and Andesite
- Carb Carbonate
- ep Epidote
- Fe Iron
- hem Hematite
- mal Malachite
- porph Porphyry
- py Pyrite
- tr Trace



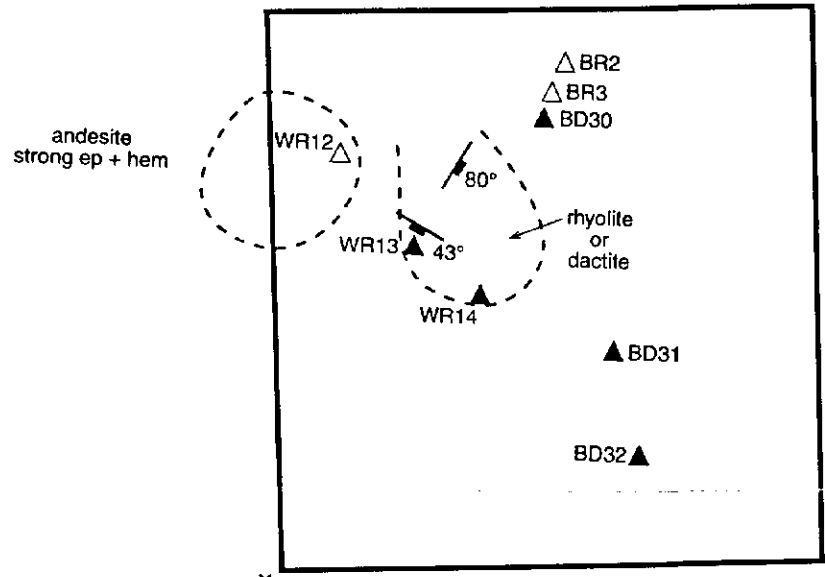
**BEARNX ZONE**



**AREA B**

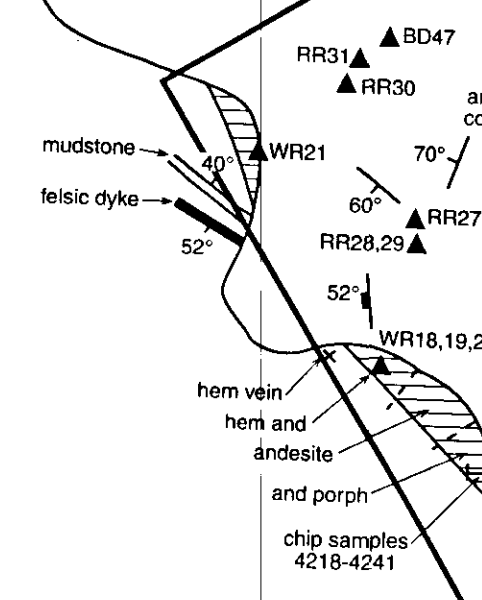
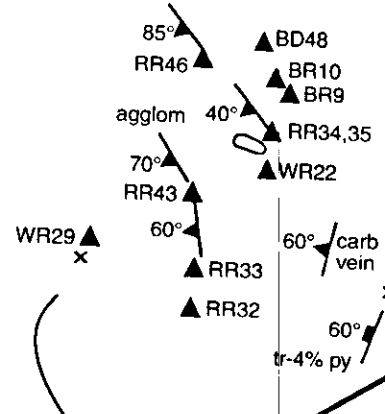
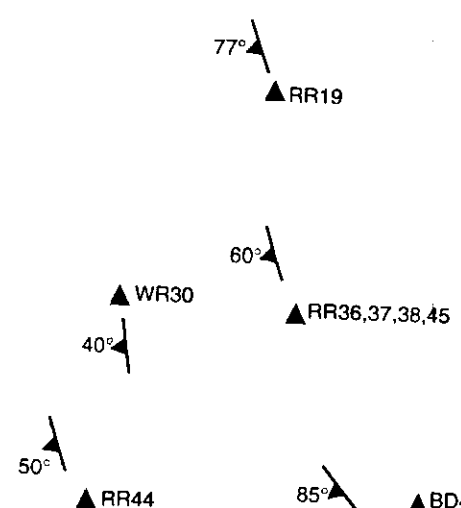


**SADDLE ZONE**



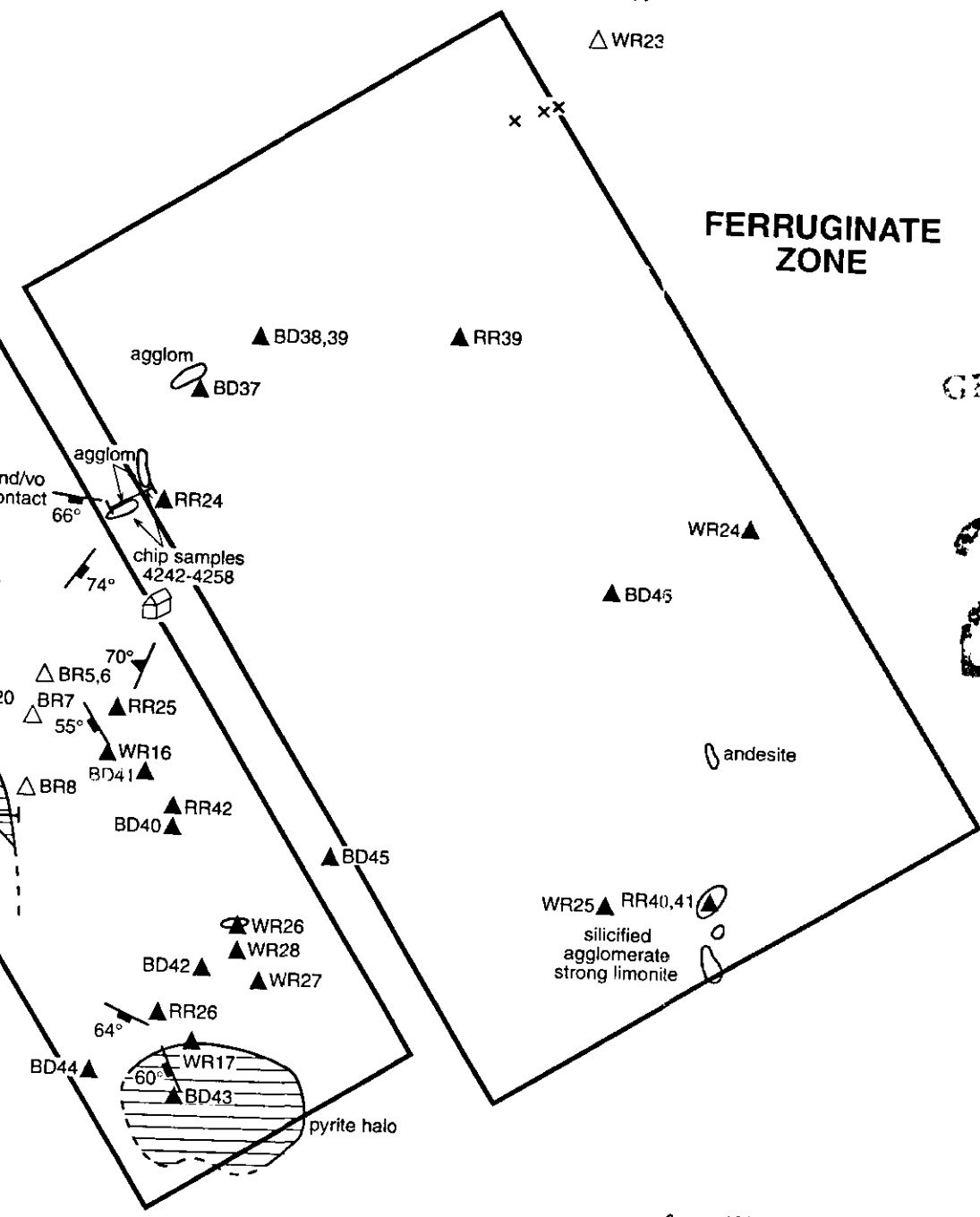
**LEGEND**

- ▲ BD23 Rock Sample Location and Number
- △ WR12 Float Sample Location and Number
- Area of Outcrop
- Inferred Outcrop
- x Small Outcrop
- 70° Bedding-Inclined
- 55° Joint/Fracture-Inclined
- 60° Vein-Inclined
- LCP Legal Corner Post
- Gossan Zone
- Camp Location
- ~ Fault/Shear Zone
- Felsic Dyke



**GOSSAN ZONE**

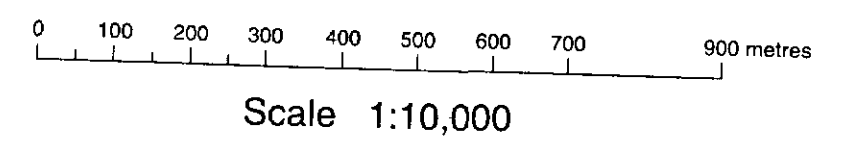
**FERRUGINATE ZONE**



some felsic float but mostly andesite with tr-1% py + s float

GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT

24,882



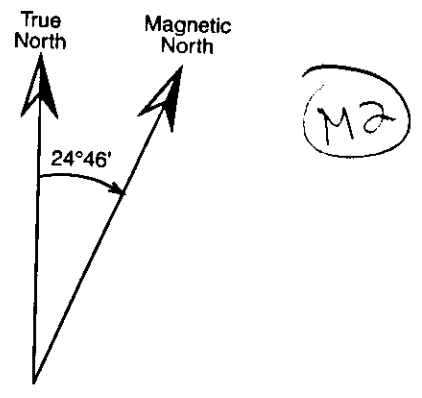
**ORIEQUEST**  
IMPERIAL METALS CORP.

Figure 5a  
**CHACO BEAR PROJECT  
ROCK SAMPLE LOCATION  
AND NUMBER**

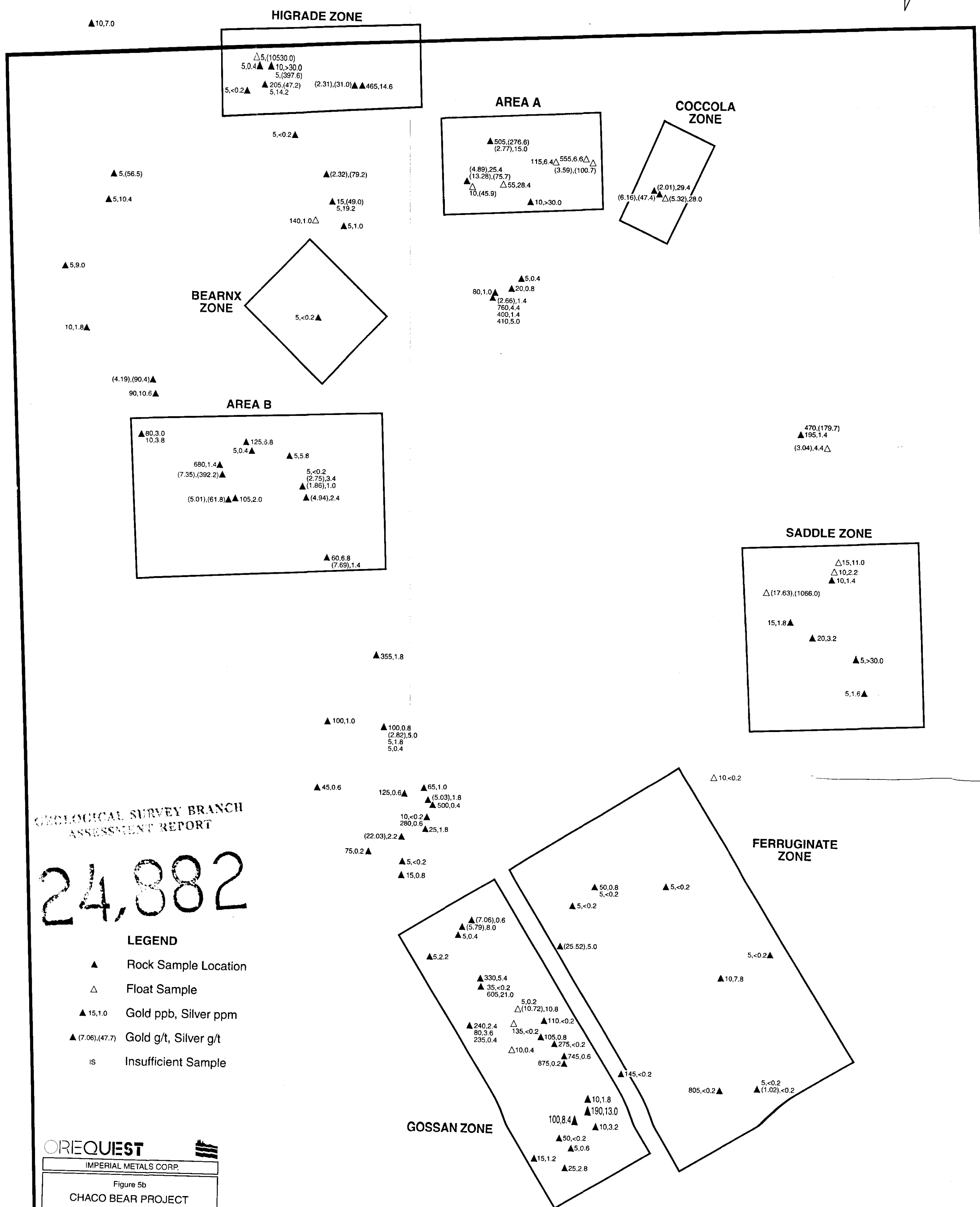
Omineca Mining Division  
British Columbia  
NTS 94 D/2W

NOVEMBER 1996 XY3





5,(198.0)▲  
 5,(67.7)▲  
 5.0.8  
 5.3.2▲  
 5.16.6  
 5.1.2



GEOLOGICAL SURVEY BRANCH  
 ASSESSMENT REPORT

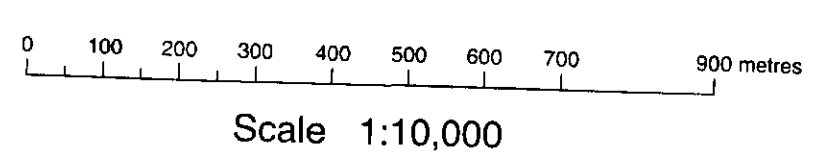
24,882

- LEGEND**
- ▲ Rock Sample Location
  - △ Float Sample
  - ▲ 15,1.0 Gold ppb, Silver ppm
  - ▲ (7.06),(47.7) Gold g/t, Silver g/t
  - is Insufficient Sample

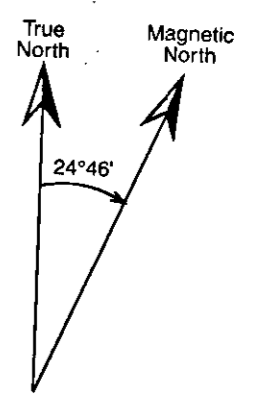
**OREQUEST**  
 IMPERIAL METALS CORP.

Figure 5b  
**CHACO BEAR PROJECT**  
**ROCK SAMPLE**  
**GEOCHEMISTRY Au, Ag**  
 Omineca Mining Division  
 British Columbia  
 NTS 94 D/2W

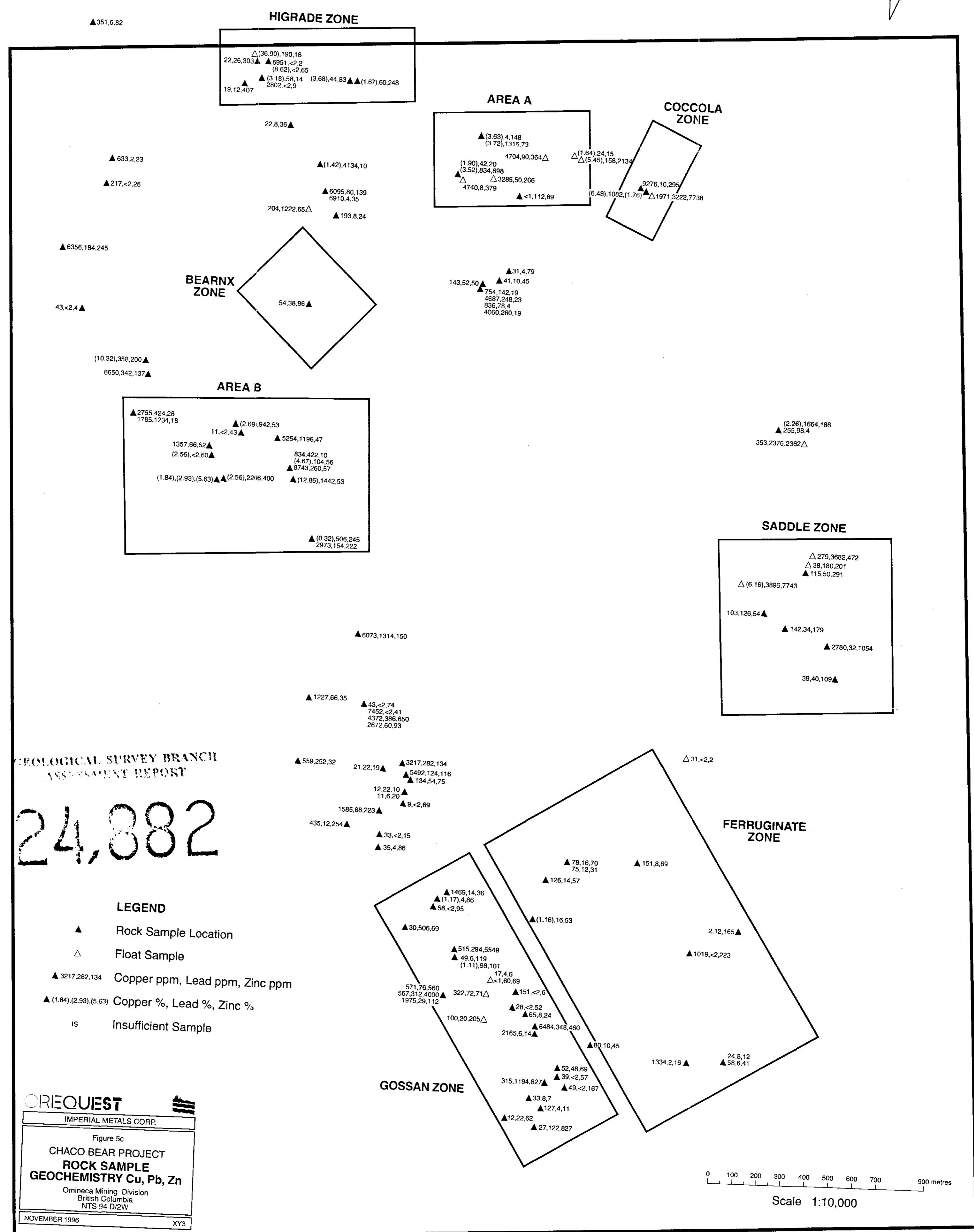
NOVEMBER 1996 XY3



M3



(5.23), 52,592 ▲  
7949,34,443 ▲  
23,4,330  
1478,2,55  
29,-2,46 ▲  
287,24,42  
19,12,407



GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT

24,882

- LEGEND**
- ▲ Rock Sample Location
  - △ Float Sample
  - ▲ 3217,282,134 Copper ppm, Lead ppm, Zinc ppm
  - ▲ (1.84),(2.93),(5.63) Copper %, Lead %, Zinc %
  - is Insufficient Sample

**OREQUEST**  
IMPERIAL METALS CORP.

Figure 5c  
**CHACO BEAR PROJECT**  
**ROCK SAMPLE**  
**GEOCHEMISTRY Cu, Pb, Zn**

Omineca Mining Division  
British Columbia  
NTS 94 D/2W

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