GEOLOGICAL, GEOPHYSICAL and DIAMOND DRILLING REPORT on the SNOWFLAKE 'A' GROUP of QUILCHENA RESOURCES LTD.

Aspen Grove Area
Nicola Mining Division, B.C.
92H/15E

Latitude: 49°58'N
Longitude: 120°35'W

For:
Quilchena Resources Ltd.

By:
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Table of Contents

		Page
1.0	INTRODUCTION	1
2.0	LOCATION, ACCESS AND PHYSIOGRAPHY	2
3.0	CLAIMS	3
4.0	HISTORY	4
5.0	SUMMARY OF QUILCHENA RESOURCES LTD. 1991 EXPLORATION PROGRAMME	
	5.1 Data Review	7
	5.2 Grid Preparation	9
	5.3 Geological Mapping	9
	5.4 Induced Polarisation Survey	10
	5.5 Geochemical Rock Sampling	11
	5.6 Diamond Drilling	11
6.0	GEOLOGY	
	6.1 Regional Geological Setting	12
	6.2 Property Geology	13
7.0	SUMMARY DISCUSSION OF RESULTS	19
8.0	CERTIFICATES OF QUALIFICATIONS	24
9.0	REFERENCES	26
10.0	STATEMENT OF COST - SNOWFLAKE 'A' GROUP	27

APPENDIX 1 - Drill Logs
APPENDIX 2 - Certificates of Analysis
APPENDIX 3 - Petrographic Study
APPENDIX 4 - I.P. Equipment Specifications

List of Illustrations

In Text:

Figure 1	Index Map	
Figure 2	Location, Access, Claims, 1991 Grid	1:50,000
Figure 3	Au-Cu Deposits of the Quesnellia Terrane, B.C.	
Figure 5a	Geochemical Rock Sampling, Area A, Au + Cu	1:250
Figure 5b	Geochemical Rock Sampling, Area A, Ag + As	1:250
Figure 6a	Geochemical Rock Sampling, Area B, Au + Cu	1:250
Figure 6b	Geochemical Rock Sampling, Area B, Ag + As	1:250

In Pockets:

Figure 4	Geology & Drill Hole Plan	1:2,500
Figure 7a	Section 213N	1:1,000
Figure 7b	Section 215N	1:1,000
Figure 8a	Profiles of Chargeability & Resistivity (Focus @ 35m depth)	1:2,500
Figure 8b	Profiles of Chargeability & Resistivity (Focus @ 150m depth)	1:2,500
Figure 8c	Profiles of Chargeability & Resistivity (Focus @ 250m depth)	1:2,500

1.0 INTRODUCTION

The Snowflake property is situated 23 kilometres southeast of Merritt in the Aspen Grove area of the Nicola Mining Division, south-central B.C.

The property is underlain by Nicola Group andesitic volcanic rocks which have been intruded and propylitically altered by alkaline intrusions ranging in composition from gabbro to syenite. This assemblage is typical of the Nicola-Quesnel belt which extends from south of Princeton north to the Stikine, and is host to numerous major gold-copper porphyry deposits. The Similkameen and Afton mines are 50 kilometres south and 90 kilometres north of Aspen Grove.

Exploration of the Aspen Grove area dates back to the turn of the century, and there was intense activity here during the porphyry copper exploration boom of the 1960's and 1970's.

The Snowflake, Pot and Tule claims forming the 18-claim property were acquired by Laramide Resources Ltd. in 1983. In 1985, ownership of the eight Snowflake claims and the Tule 10 claim was transferred to Quilchena Resources Ltd. Laramide retained ownership of the nine Pot claims. Laramide/Quilchena were initially interested in fracture controlled gold-copper mineralisation in the north-central part of the property. This target was explored by Laramide in 1983, and, under option, by Lornex Mining Corporation in 1986, and by Gerle Gold Company Ltd. in 1987-88.

The western part of the claim group contains copper-gold mineralisation in poorly exposed propylitically altered andesitic volcanic rocks of the Nicola Group along the west flank of a diorite-monzonite intrusive complex. In the past, these showings, known as the Blue Jay copper showings, were the object of exploration by several companies, especially during the 1964-1979 period.

In early 1991, Quilchena reappraised the available property data, with particular reference to the Blue Jay mineralised zones, where widely spaced trenches and shallow percussion drill holes had revealed copper mineralisation over an area approximately 1,400 metres by 1,000 metres.

Quilchena concluded that previous work had not adequately tested the Blue Jay area for the presence of a gold-copper porphyry deposit. Percussion drill holes had been too shallow to test the depth potential of the mineralised zones; no systematic sampling had been undertaken to determine the gold content/potential; and nothing was known of the heavily overburden-covered area immediately west of the Blue Jay mineralised zones.

During the period August 8 to September 25, 1991, Quilchena carried out exploration of this area of interest. The programme consisted of grid preparation, geological mapping, an induced polarisation survey, and diamond drilling. This report summarises the results of that work.

2.0 LOCATION, ACCESS AND PHYSIOGRAPHY

The Snowflake property is situated 23 kilometres southeast of Merritt, and 58 kilometres north of Princeton in the Nicola Mining Division, B.C. The centre of the property is at 49°58'N, 120°35'W, and the NTS reference is 92H/15E (Figure 1).

The claims are skirted to the west by the Merritt-Princeton Highway (5A) and to the south by the new Okanagan Connector (Figure 2).

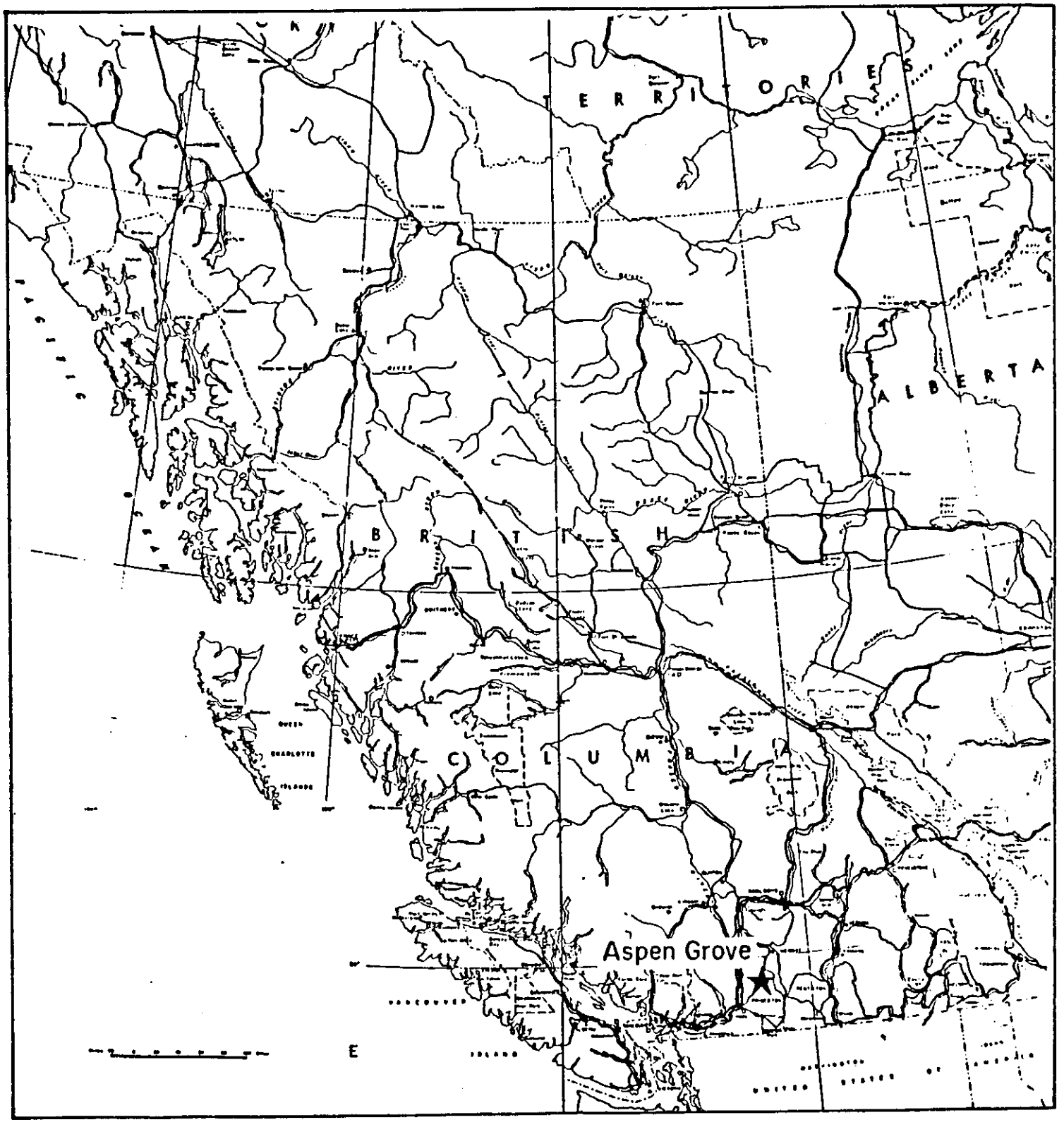


Fig. 1
QUILCHENA RESOURCES LTD.
SNOWFLAKE PROPERTY

INDEX MAP.

There is excellent access to and across the property by a network of ranch roads. Entrance from Highway 5A to the areas of current interest is by the Douglas Lake Cattle Company gate, about 25 kilometres by road from Merritt, or by the fence gate one kilometre farther south. The Douglas Lake gate is locked; permission to enter and a key must be obtained from the company.

The property covers an area of gently rolling open range land with scattered clusters of pine, fir, and aspen. Quilchena Creek occupies the major north trending valley on the eastern side of the property, and is the expression of a major north-south fault.

Maximum relief on the property is about 300 metres, between elevations 900 m. along Quilchena Creek and 1,200 m. at the ridge tops west of Tule Lake.

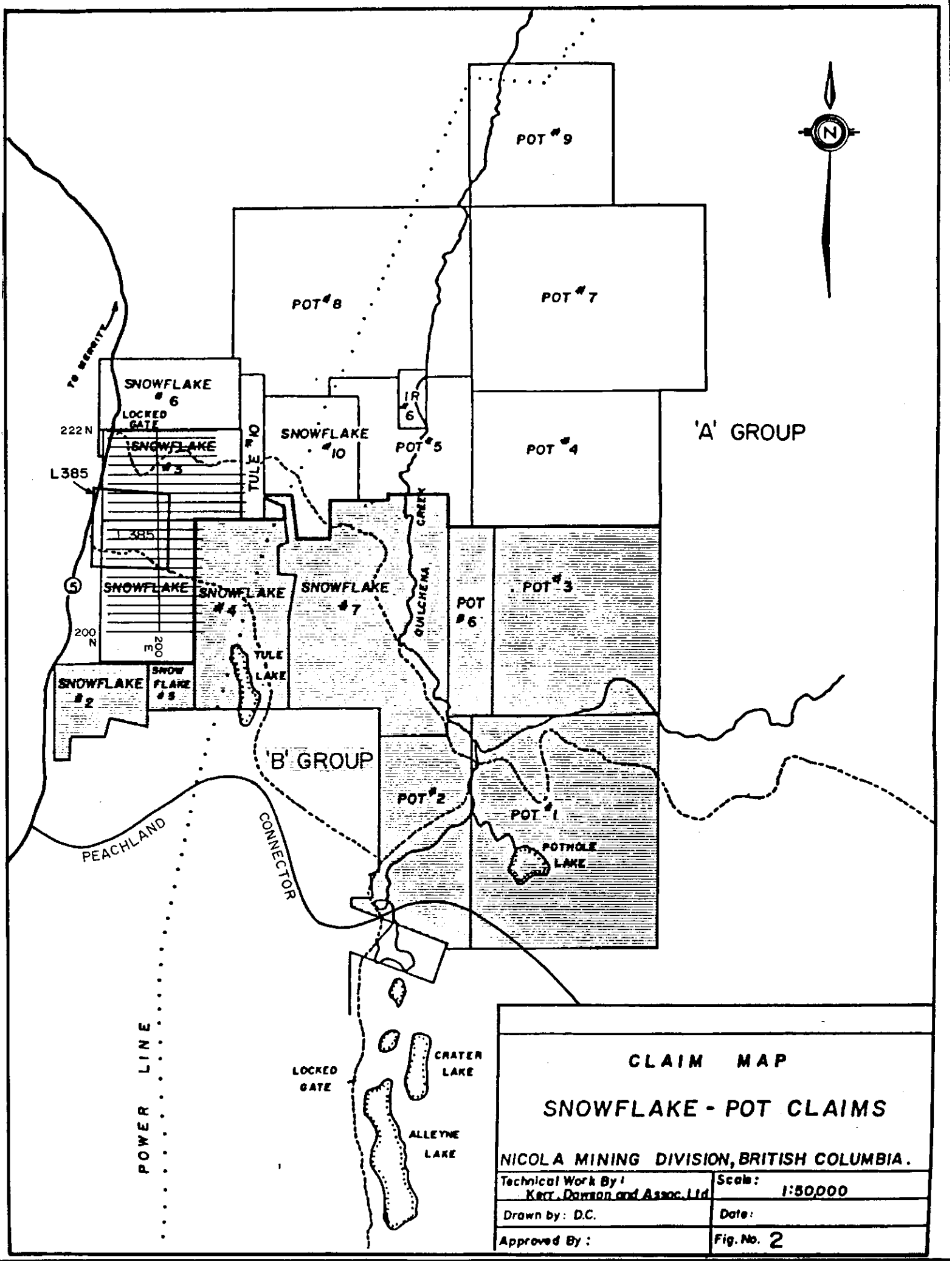
A just adequate supply of water for the 1991 drilling programme was obtained from Tinmilsh Creek which drains the beaver dammed swampy pond just east of the Merritt-Princeton Highway. Quilchena Creek and Tule Lake are the other main water sources on the property.

Bedrock exposure is abundant along ridge tops, becomes less common along thinly mantled valley slopes, and is non-existent in the heavily burdened Quilchena Valley.

3.0 CLAIMS

The exploration programme was conducted over the western part of the Snowflake 'A' Group, which forms the northern half of the Snowflake property (Figure 2).

The Snowflake A Group consists of ten claims containing a total of 98 units.



CLAIM MAP

SNOWFLAKE - POT CLAIMS

NICOLA MINING DIVISION, BRITISH COLUMBIA.

Technical Work By: Kerr, Dawson and Assoc. Ltd	Scale: 1:50,000
Drawn by: D.C.	Date:
Approved By:	Fig. No. 2

Claim Name	No. of Units	Record No.	Recording Date
Snowflake	6	8	May 13, 1975
Snowflake 3	6	167	August 20, 1976
Snowflake 6	6	321	September 16, 1977
Snowflake 10	6	514	October 25, 1978
Tule 10	4	322	September 16, 1977
Pot 4	12	1537	August 3, 1984
Pot 5	9	1300	October 20, 1984
Pot 7	20	1519	July 19, 1984
Pot 8	20	1520	July 19, 1984
Pot 9	9	1521	July 19, 1984
	98		

The Snowflake, Snowflake 3, 6 and 10, and the Tule 10 claims (28 units) are owned by Quilchena Resources Ltd. The Pot 4, 5 and 7-9 claims (70 units) are held by Laramide Resources Ltd.

In addition to the mineral claims, Quilchena holds an option on the base metal rights attached to Lot 385, which is owned by Douglas Lake Cattle Company Ltd. Lot 385 partially overlays the Snowflake and Snowflake 3 claims (see claim map, Figure 2).

4.0 HISTORY

The Snowflake property lies within what was the most active part of the old Aspen Grove copper camp. Mineral exploration in the property area dates back to the turn of the century. Early Minister of Mines reports refer to several copper occurrences in the 9 kilometre x 3 kilometre area between Tule and Kentucky lakes. A number of old adits and shafts were completed on some of these zones, and at least two (Copper Star, Big Sioux) produced small tonnages.

More detailed accounts of work in the area date from 1958, when assessment work files were started by the government. The most intensive period of exploration occurred during the 60's and 70's, when attention was focused on the search for porphyry copper deposits.

The following is a summary of the most pertinent data culled from the B.C. government Minfile, annual reports, and available assessment reports.

1958	Granby Mines	•Magnetometer survey (AR 250).
	Harry Nesbitt	• Staked 'Blue Jay' claims (western portion of present Snowflake property).
1959	Noranda Mines	• EM and magnetometer surveys between Courtney Lake and Tule Lake, followed by diamond drilling, trenching, and stripping.
1963	Utica Mines Ltd.	• 50 claims at the junction of Pothole and Quilchena Creeks. • Stripping, trenching, and mapping.
1964	Harry Nesbitt	• Blue Jay 1-4 claims. • Surface stripping and five drill holes encountered sparse copper mineralisation.
1965	?	• CM claims staked (northern part of present Snowflake property).
1966	Vananda Explorations Ltd.	• Acquired CM claims. • Drilled nine percussion holes totalling 620'.
1967	Vananda/Merritt Copper Co.	• Joint Venture - CM claims. • I.P. and magnetometer surveys. • Three diamond drill holes (1,438') and one percussion hole (420') completed in southwest corner of claim #CM1.

DDH #1:

Au (oz)	Ag (oz)	Cu (%)	Width
0.130	1.15	0.70	165' - 175' (10')
0.150	0.48	0.20	210' - 270' (60')
0.115	1.68	0.26	310' - 320' (10')

1968	Ashland Oil	• Optioned Blue Jay Claims. • Magnetometer and Induced Polarisation surveys.
1969	Vananda Explorations	• Topographic survey of CM claims.
1970	Bethlehem Copper	• DUD claims, at south boundary of present Snowflake property. • Percussion drilling, ten holes totalling 2,700'. • Geological mapping.
1971	Rio Tinto	• Acquired Blue Jay claims.
1972	Amax Exploration	• Halo and Broatch claims at southern boundary of present Snowflake property. • Geological mapping; magnetometer survey (28 miles); I.P. survey (6.3 miles); geochemical soil survey (1,099 samples); percussion drilling, 22 holes (6,407').
	Craigmont Mines	• Optioned Blue Jay claims. • Percussion drilling, 19 holes (4,000').
1975	F. Gingell & R.W. Yorke-Hardy	• Staked the Snowflake claims. • Geochemical and VLF-EM survey (1976)
	Harry Nesbitt	• Diamond drilling, two holes (86.4 m) on the Au Pyramid 20-unit claim, near Pothole Lake at the eastern boundary of the present Snowflake property.
1976	E. Bomford & M. Weinstein	• Acquired the Ted and Chief claims (covering area formerly covered by the CM claims).
1977	Gingell & Yorke-Hardy	• Snowflake claims. • Geological mapping.
1978	Cominco Ltd.	• Optioned Snowflake property.
1979	Cominco Ltd.	• Percussion drilling, 14 holes, 121 metres (1978). • Magnetometer, I.P. surveys. • Percussion drilling, 20 holes, 1,643 metres (1979).

1983-1985	Laramide Resources Ltd.	• Optioned the Snowflake claims, prompted by the 1967 report of gold-bearing drill hole intersections by Vananda/Merritt Copper. This target was investigated by I.P. and magnetometer surveys, and by a 12-hole, 996-metre diamond drill programme, which confirmed the presence of fracture controlled gold/copper mineralisation. • In April of 1985, ownership of the eight Snowflake claims and the Tule 10 claim was transferred to Quilchena Resources Ltd. Laramide retained the nine Pot claims.
1986	Lornex Mining Corporation	• Optioned the Snowflake, Snowflake 2-7, 10, and Tule 10 claims. • Extended Laramide's 1985 I.P. survey and drilled six diamond drill holes (578 m). • The option was dropped.
1987	Gerle Gold Ltd.	• Optioned the nine claims which formed the Lornex option. • Drill hole programmes in 1987 (16 holes totalling 1,239 m) and 1988 (three holes totalling 304 m) further tested the vein systems drilled by Laramide and Lornex. • As in the previous programmes, the drilling intersected gold-bearing veins but none of economic size or tenor.

5.0 SUMMARY OF QUILCHENA RESOURCES LTD. 1991 EXPLORATION PROGRAMME

5.1 Data Review

Early in 1991, Quilchena made a re-appraisal of all available data pertaining to the western area of the property, in particular, that part embracing the copper showings formerly referred to as the Blue Jay.

During the 1968-1979 period, this area was worked by Ashland Oil, Craigmont Mines, and Cominco. These companies carried out geophysical (I.P., magnetometer) and percussion drilling programmes; Craigmont drilled one diamond drill hole (see 'History' above).

Most of the drill holes and trenches completed by these companies were situated in the area flanking and immediately west of the diorite-monzonite intrusion.

The drift-covered ground to the west, between Tinmilsh Creek and Highway 5A and including the Douglas Lake Lot 385, had not been adequately explored.

Apart from composite samples taken from some of the Cominco percussion holes, there had been no systematic assaying for gold.

Trench samples had yielded assays ranging from 0.15% to 1.65% copper over sections from two to 30 metres in length.

Because of the depth limitations of percussion drilling, the area had not been tested beyond about 100 metres depth. Of the 20 percussion holes drilled during the 1970's, four, drilled along a roughly north-south section of 3,200 metres length, bottomed in mineralised rock and assayed as follows.

Hole No.	Intersection (feet)	Width (feet)	% Cu
G79-15	30' - 280'	250	0.16
BJP-7	260' - 320'	60	0.26
BJP-1	170' - 250'	80	0.115
G79-16	270' - 300'	30	0.15

Geochemical rock sampling of the 'Blue Jay' area in 1985 and 1991 revealed gold contents ranging from trace to 0.03 opt. The stronger gold/copper mineralisation is broadly coincident with the most intense carbonate alteration so far encountered on the property.

In early August, Quilchena commenced exploration to test for the presence of a copper-gold porphyry deposit in the area of interest described above. The programme consisted of line-cutting, geological mapping, an induced polarization survey and diamond drilling. The work was done during the period August 8 to September 25, 1991.

5.2 Grid Preparation

Grazing cattle and the passage of time had removed all but traces of previous grid lines, and a new 21-kilometre chain and compass, flagged and/or picketed grid was established to provide control for the geological and geophysical surveys. A total of 2.35 kilometres of base line and 19.05 kilometres of cross line was emplaced with stations at 25-metre spacings along lines 100 metres apart (Figures 2, 4). The grid was oriented to coincide as closely as possible with the Cominco 1979 grid.

Lines 200N, 212N, and 213N were surveyed by level instrument and tied to a B.C. government survey station on Highway 5A. The survey stations were later used to establish diamond drill hole collar elevations.

5.3 Geological Mapping

The grid area was mapped at 1:2,500 scale (Figure 4). Control for mapping was provided by the Quilchena grid, by B.C. government air photos of the area, and by government 1:50,000 topographic maps.

The mapping programme was intended to provide a more detailed geological picture, particularly with regard to structure and alteration, and to assist in the selection of drill sites for the drilling programme.

5.4 Induced Polarisation Survey

The I.P. survey was carried out by Delta Geoscience Ltd. of Delta, B.C., using a BRGM IP-2 Time Domain Receiver, and a Huntec 7.5 kva motor generator and transmitter (see Appendix 4 for equipment specifications). The survey data was processed and plotted in the field using a Toshiba 5200 Field Computer and a Fujitsu DL 2600 printer/plotter.

The gradient array method was chosen to confirm the I.P. anomalies previously established by Ashland in 1968, and to test these anomalies at greater depth.

Three grid lines (213N, 215N, and 217N) totalling 4.5 kilometres were surveyed during the period September 7 -10, 1991.

The survey procedure was as follows:

- Two gradient array traverses plus one Schlumberger array traverse were made along the three survey lines. The arrays were set up to bracket the area of interest.
- The current electrode spacings ("AB") varied from 1,800 metres to 1,200 metres for the gradient arrays, with the potential electrode spacing ("MN") fixed at 50 metres.
- For the moving Schlumberger array, the current electrode spacing ("AB") was 250 metres, with the potential electrode spacing ("MN") set at 50 metres.
- Data from these three arrays are presented as depth sections (XZ) (Figures 8a, b, c) focusing at depths of approximately 35 metres, 150 metres, and 250 metres below surface (AB 250 metres, 1,200 metres, and 1,500 metres, respectively).

5.5 Geochemical Rock Sampling

Rock sampling was mainly confined to outcrop areas/mineralised zones not previously sampled by Laramide/Quilchena.

Two 'mini' sample grids were established over the most strongly mineralised/altered zones within the grid area (Areas A and B, Figure 4).

A total of 55 rock samples was taken from the grids and from selected outcrops/showings. All samples were analysed by Acme Analytical Laboratories Ltd. of Vancouver by ICP method for Cu, Ag, As, Sb and Hg, and by AA for gold. Results are shown on Figures 4, 5a, b and 6a, b.

5.6 Diamond Drilling

The three hole 701 metre NQ diamond drill programme was carried out by PW Drilling of Barriere, B.C. over the period September 4 - 24, 1991.

Drill hole 91-1 was a vertical hole, collared on the approximate location of Cominco percussion hole G79-15, which intersected 250' (76 metres) of material assaying 0.16% copper. The Quilchena hole was intended to verify the Cominco intersection and to test the ground below the Cominco hole. Unfortunately, bad ground resulted in the loss of the hole at 111.6 metres (366'), only 26 metres (86') beyond the end of the Cominco hole.

Drill holes 91-2 and 91-3 were angled to the east to test the I.P. chargeability high indicated by the Delta I.P. survey.

Drill core was logged and split and is stored in covered racks at Willow Heights Ranch, in the village of Aspen Grove, about two kilometres south of the property.

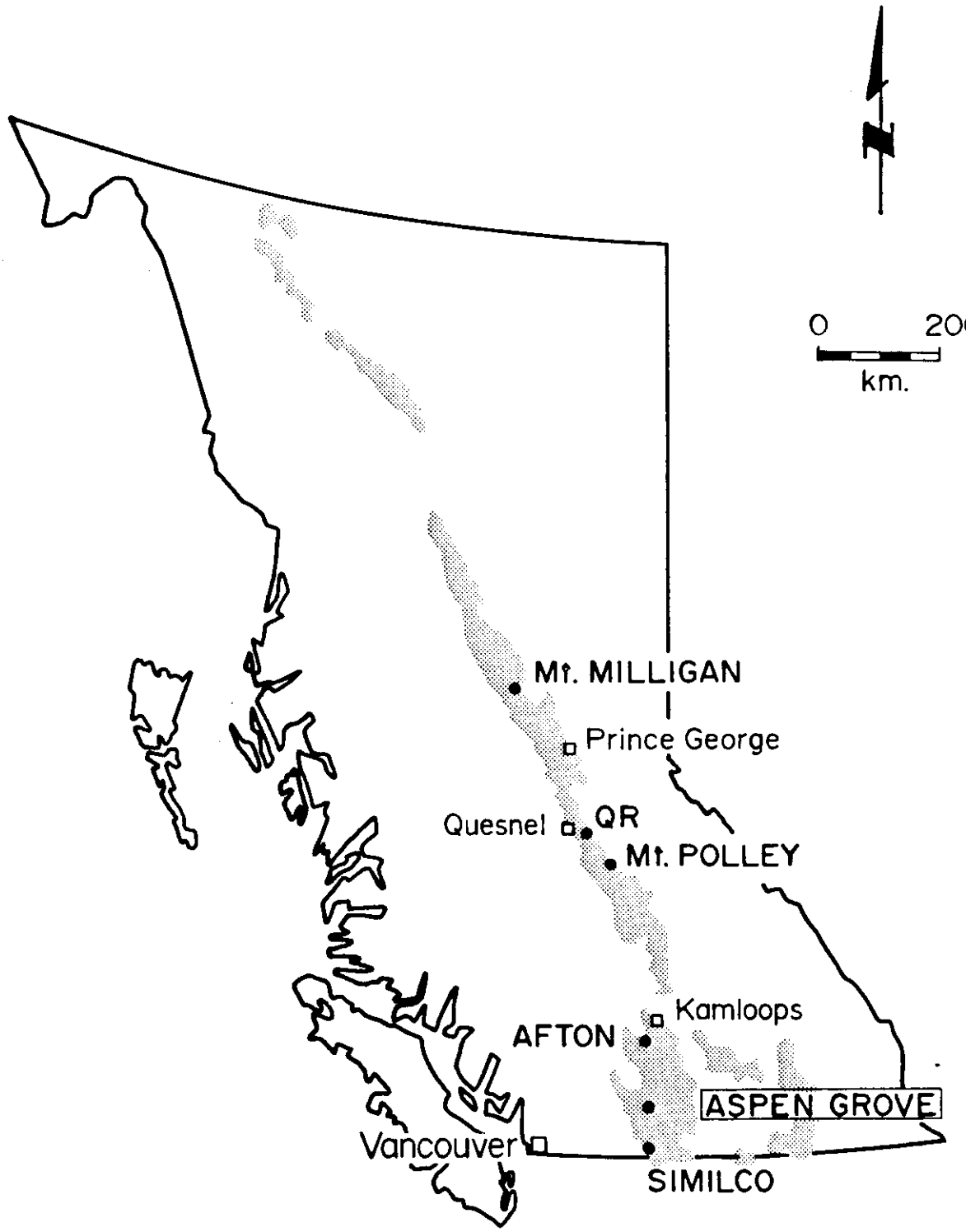
Split core samples were shipped to Acme Analytical Laboratories where they were analysed by the inductively coupled argon plasma (ICP) for 30 elements, and for gold by atomic absorption. Analyses are shown in the drill logs (Appendix 1), on the sections accompanying this report (Figures 7a, b) and in the Certificates of Analysis contained in Appendix 2.

6.0 GEOLOGY

6.1 Regional Geological Setting

The Snowflake property lies within the Nicola Belt, which forms the southern portion of a northwesterly trending 30 to 60-kilometre wide assemblage of Upper Triassic-Lower Jurassic volcanic and sedimentary rocks, extending from Princeton in the south to the Stikine in the north (Figure 3). The Nicola Belt passes north under Tertiary volcanics and sediments to reappear as the Quesnel Belt in the Quesnel-Cariboo area.

The volcanic rocks of the Quesnel and Nicola belts form a mixed alkaline and calc-alkaline sequence of andesites, basalts, and derived volcaniclastic monolithic and polylithic breccias and tuffs, and minor sediments. These have been intruded by comagmatic alkaline plutons, ranging in composition from syenogabbro to alkali syenite. The intrusions appear to be structure related and occur in belts along major lineaments and faults. They vary in size from plugs to small batholiths, and have been emplaced into the volcanic centres which produced the abundance of volcanic material (Barr et al, 1976).



SNOWFLAKE PROPERTY
QUILCHENA RESOURCES LTD.

Au-Cu DEPOSITS
in the
QUESNELLIA TERRANE, B.C.

May 1990

Fig. 3

Recent work by Mortimer (1987) has identified three main types of Nicola mafic flows; the petrography and geochemistry of these types is reported to be consistent with Monger's interpretation (1984) that the Nicola Group rocks were formed at a plate margin above an easterly dipping subduction zone.

Between Princeton and Merritt, Preto has delineated three assemblages - a Western Belt of easterly dipping calc-alkaline flows, pyroclastics, and sediments; a Central Belt of alkaline and calc-alkaline volcanics and intrusions, and minor sediments; and an Eastern Belt of a more sedimentary nature containing westerly dipping volcanic sediments, tuffs and alkaline flows associated with small monzonite porphyry stocks. The belts are separated by major north-striking faults.

Numerous copper deposits occur throughout the Nicola, ranging from small occurrences to major porphyry copper type deposits (e.g. Afton, Similkameen). A significant concentration of showings occurs in Preto's Central Belt rocks in the Aspen Grove area - the old Aspen Grove Copper Camp. Most of the showings are in propylitically altered, fractured volcanics and sediments adjacent to diorite and monzonite stocks, along the major north-trending fault system. Characteristic mineral assemblages are chalcopyrite, bornite, pyrite, chalcocite, locally with cuprite and/or native copper (Preto, 1979).

6.2 Property Geology (Figure 4)

General

The Snowflake claims lie mainly within Preto's Central Belt, and straddle a major north striking fault zone, the Kentucky-Alleyne fault, which is just east of the 1991 grid area.

The property is underlain by a steeply dipping, northerly striking series of intermediate to basic flows, polylithic breccias, and tuffs. These have been intruded by an irregular north-south elongated syeno-diorite-monzonite-complex characterised by prominent airborne/ground magnetic anomalies. Volcanic rocks marginal to the intrusion have been propylitised (epidote-pyrite-chlorite-carbonate) and host erratically distributed copper-gold-pyrite zones.

Within the area of the 1991 exploration programme, outcrop is abundant on the higher ground in the eastern half and at the south end of the grid. Outcrop is sparse over the western half of the grid - much of which is occupied by swamp or by open rolling grassland.

Lithology

As far as possible, the map units used are those employed by Preto (1979).

The volcanic sequence consists of massive, fairly uniform, green (1a) and red (1c) andesitic flows, and associated green (1b) and red (1d) polylithic agglomerates and tuffs. Colour differences are a function of depositional environment - red indicating subaerial and green subaqueous (Preto, 1979).

The green andesites (1a) outcrop in the north and eastern part of the grid area, where they flank and have been intruded by the 'diorite' (5) intrusion. Contact relationships are not clear in outcrop, due to weathering, intense shearing, alteration, and the overall transitional nature of the contact. The contact is more closely defined in drill holes 91-2 and 91-3 (Figures 7a, b).

The red flow rocks (1c) are confined to the southernmost and southwestern grid area, where they are in contact with the green polylithic agglomerates and tuffs (1b).

The red volcaniclastics (1d) lie within the andesites in the northwestern part of the grid.

The intrusive rocks are fine to coarse grained, coarsening 'inward' from the contacts. Composition ranges from pyroxenite through gabbro to diorite, monzonite (all collectively labelled Unit 5 here), and syenite (6). The dominant rock type within the intrusion is a medium grained equigranular diorite, consisting mainly of plagioclase with pyroxene, and variable amounts of magnetite, but changes occur within very small areas, and thin sections reveal, for example, pyroxenite intruded by younger monzonite (Harris, 1991).

Thin sections from the mineralised contact zone on the west flank of the intrusion between 210N and 212N, confirm the complex nature of the intrusion and the contact relationships - altered flow textured rock, possibly of extrusive origin, is intimately associated with monzonite.

Polished sections reveal traces of native copper in monzonites from the same area, confirming earlier field identifications.

Magnetite occurs as fine to fairly coarse, patchy disseminations which are strongest in the more basic gabbro and pyroxenite phases of the intrusion. Harris notes that the magnetite is possibly Ti-rich; this is of some significance as investigations by Malmqvist (1978) indicate that ilmenite produces a strong I.P. response; this may explain, at least in part, the chargeability highs which develop at the diorite contact (Figures 8a-c).

The intrusive rocks are propylitically altered to varying degrees, most strongly along the western contact zone between 210N and 213N, in areas of intense fracturing and shearing. Carbonate-pyrite alteration is also most intense in this area and affects both the diorites and the andesites.

Minor secondary biotite occurs in monzonites at several localities scattered throughout the intrusion. K-spar alteration has also been observed in outcrop and core but the intensity is weak and the distribution sparse.

A small (100m x 150m) body of coarse diorite breccia (5a), possibly a faulted portion of an intrusive breccia, outcrops at the diorite contact just east of the south end of the base line. The breccia is weakly to moderately propylitised (chlorite-epidote), and there is considerable secondary? K-spar, but no visible sulphides.

Fine grained, fairly fresh diorite outcrops in the grassy meadows in the northwestern grid area, south of the northern access road. The extent of the diorite cannot be determined because of the sparsity of exposure, but the fine grain and lack of any prominent magnetic feature in this area suggests a body of limited dimensions.

A distinctive monzonite/diorite outcrops along a low scarp in the west central grid area. The rock contains up to 10% prominent biotite crystals. The biotite is both interstitial to and intergrown with the plagioclase and K-feldspar crystals. Here again the small exposure and the lack of geophysical expression give little indication of the size of this body, but the supposition is that of a small dyke or sill.

Structure

The dominant trend is just west of north, with high angle westerly dips. Quilchena's 1991 drilling clearly shows the presence of a major strong shear zone along the diorite western contact. Fracture sets and foliations observed in the grid area reflect this trend, but there are equally abundant north-easterly and easterly structures.

North-easterly faults are interpreted in the central eastern part of the grid, where a strong linear depression cuts across the diorite, and in the north and eastern area where the diorite and its coincident airborne magnetic anomaly terminate abruptly. The I.P. response in this area also suggests a structural break.

Mineralisation

Copper mineralisation (chalcopyrite, bornite, chalcocite, and native copper) occurs with pyrite both as fine disseminations and discrete fracture-controlled concentrations in the volcanics in the highly sheared, ill-defined contact zone along the west flank of the diorite intrusion, and in red and green agglomerates west of the diorite.

The strongest mineralisation occurs in two main areas on the western contact of the diorite, both of which have been the object of trenching and percussion drilling in the past. In the smaller, southern area, between lines 202N and 205N, fine grained diorite/gabbro has been exposed by several small, shallow bulldozer cuts and scrapings.

The rocks contain patchily disseminated chalcopyrite and pyrite, with minor malachite and finely disseminated magnetite. Geochemical rock analyses of samples from a small grid over the mineralised zone (Area B, Figure 4) yielded values up to 1.6% copper and 170 ppb gold over two metres (Figure 6a). The host rocks are weakly to moderately propylitised, and secondary biotite was found in the northernmost exposure.

The larger, northerly area, between lines 210N and 213N, has been extensively trenched and scraped by bulldozer. There are at least four old diamond drill hole collars, none of which is recorded in available government or company files, and a small shaft has been sunk on one of the outcrops. This is an area of intense fracturing/shearing, and contains the most intense propylitic and carbonate-pyrite alteration seen on the property. Chalcopyrite, bornite, native copper, pyrite, and malachite occur in zones of fracturing associated with epidote and chlorite. The sulphides are more diffusely disseminated in the rusty weathering carbonate-pyrite zones. Strong carbonate alteration, accompanied by malachite, is also exposed as rubble in the long trench on Tinmilsh Creek, 150 metres to the west. Grab samples from this trench assayed 0.20% copper and 920 ppb gold (Figure 4).

A small area of almost continuous exposure (Area A on Figure 4) was systematically sampled (Figures 6a, b). Copper contents up to 4,387 ppm and gold of 1,670 ppb were obtained.

The 1991 drilling provides a limited but interesting picture of the nature and apparent distribution of copper and gold in the volcanic rocks and diorites. Hole 91-3, drilled to test the I.P. chargeability high, passed from highly altered and sheared andesite into diorite. The passage from andesite to diorite is marked by an abrupt diminution of both gold and copper contents. Within the volcanic rocks in all three holes, copper and gold contents are in almost perfect

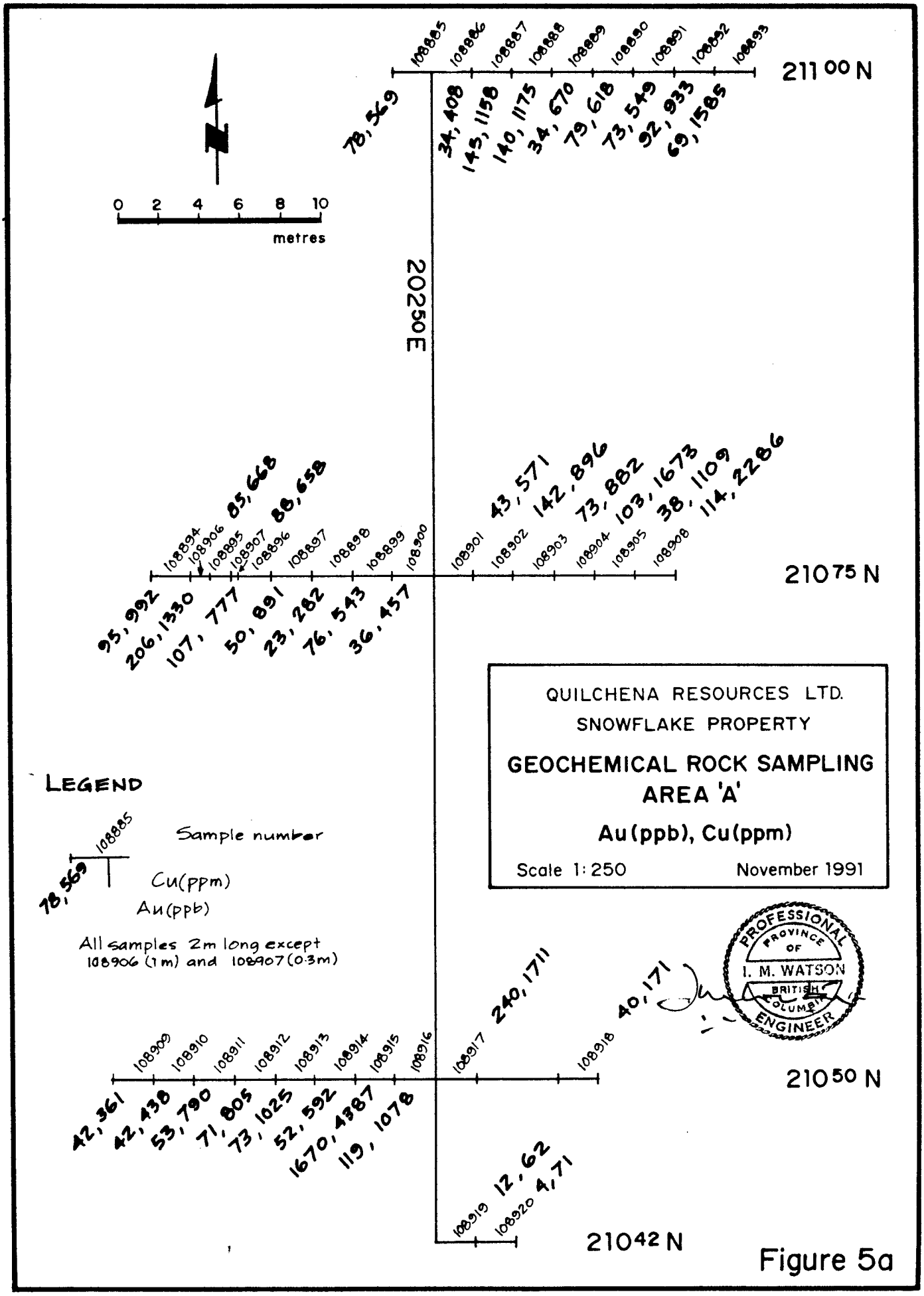
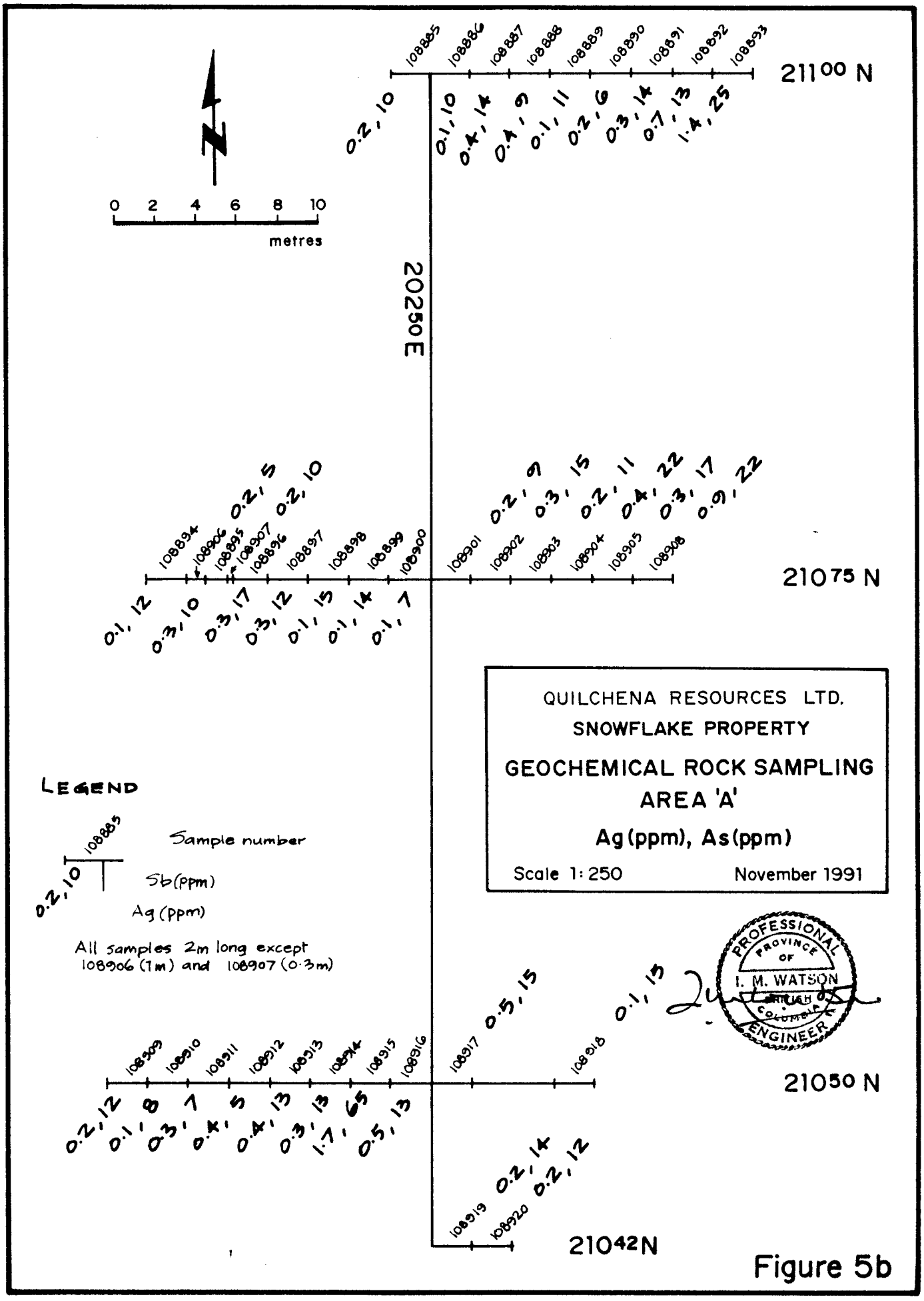

0 2 4 6 8 10
metres
211 00 N
210 75 N
210 50 N
210 42 N
202 50 E
108885 108886 108887 108888 108889 108890 108891 108892 108893
78,569 34,408 145,1158 140,1175 34,670 79,618 73,549 92,933 69,1585
108894 108906 108895 108907 108896 108897 108898 108899 108900
85,668 88,658
95,992 206,1330 107,777 50,891 23,282 76,543 36,457
108901 108902 108903 108904 108905 108908
43,571 142,896 73,882 103,1673 38,1109 114,2286
108909 108910 108911 108912 108913 108914 108915 108916
42,361 42,438 53,790 71,805 73,1025 52,592 1670,4387 119,1078
108917 108918
240,1711 40,171
108919 108920
12,62 4,71
QUILCHENA RESOURCES LTD.
SNOWFLAKE PROPERTY
GEOCHEMICAL ROCK SAMPLING
AREA 'A'
Au(ppb), Cu(ppm)
Scale 1:250 November 1991
LEGEND
108885
Sample number
78,569
Cu(ppm)
Au(ppb)
All samples 2m long except
108906 (1m) and 108907 (0.3m)
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
I. M. WATSON

Figure 5a


0 2 4 6 8 10
metres
21100 N
20250 E
21075 N
21050 N
21042N
LEGEND
Sample number
Sb(ppm)
Ag (ppm)
All samples 2m long except
108906 (1m) and 108907 (0.3m)
QUILCHENA RESOURCES LTD.
SNOWFLAKE PROPERTY
GEOCHEMICAL ROCK SAMPLING
AREA 'A'
Ag(ppm), As(ppm)
Scale 1:250
November 1991
PROFESSIONAL ENGINEER
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I. M. WATSON

Figure 5b

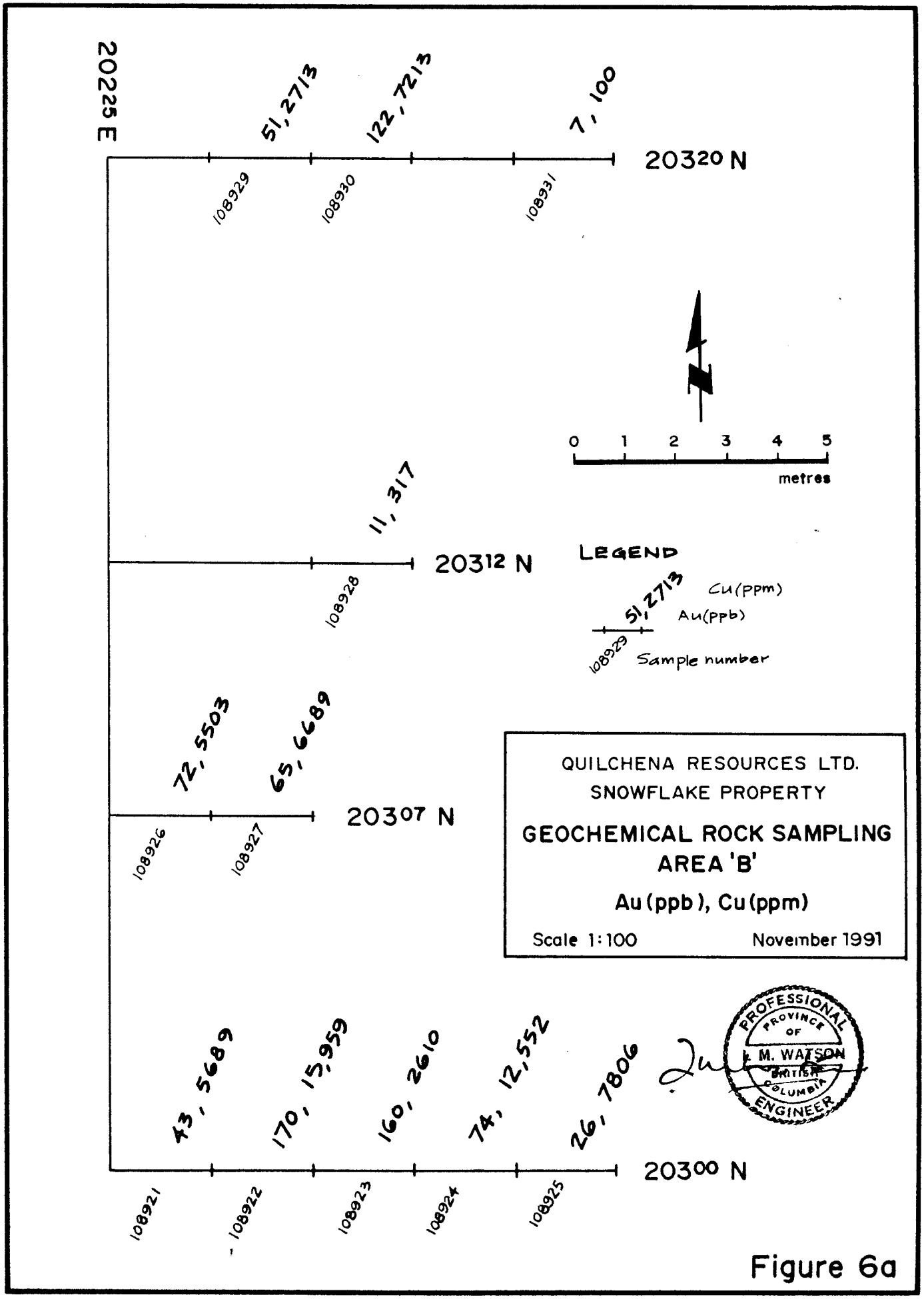
20225 E
51, 2713
122, 7213
7, 100
20320 N
108929
108930
108931
0 1 2 3 4 5
metres
11, 317
20312 N
108928
LEGEND
51, 2713
Cu(ppm)
Au(ppb)
108929
Sample number
72, 5503
65, 6689
20307 N
108926
108927
43, 5689
170, 15,959
160, 2610
74, 12,552
26, 7806
20300 N
108921
108922
108923
108924
108925
QUILCHENA RESOURCES LTD.
SNOWFLAKE PROPERTY
GEOCHEMICAL ROCK SAMPLING
AREA 'B'
Au (ppb), Cu (ppm)
Scale 1:100
November 1991
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. M. WATSON

Figure 6a

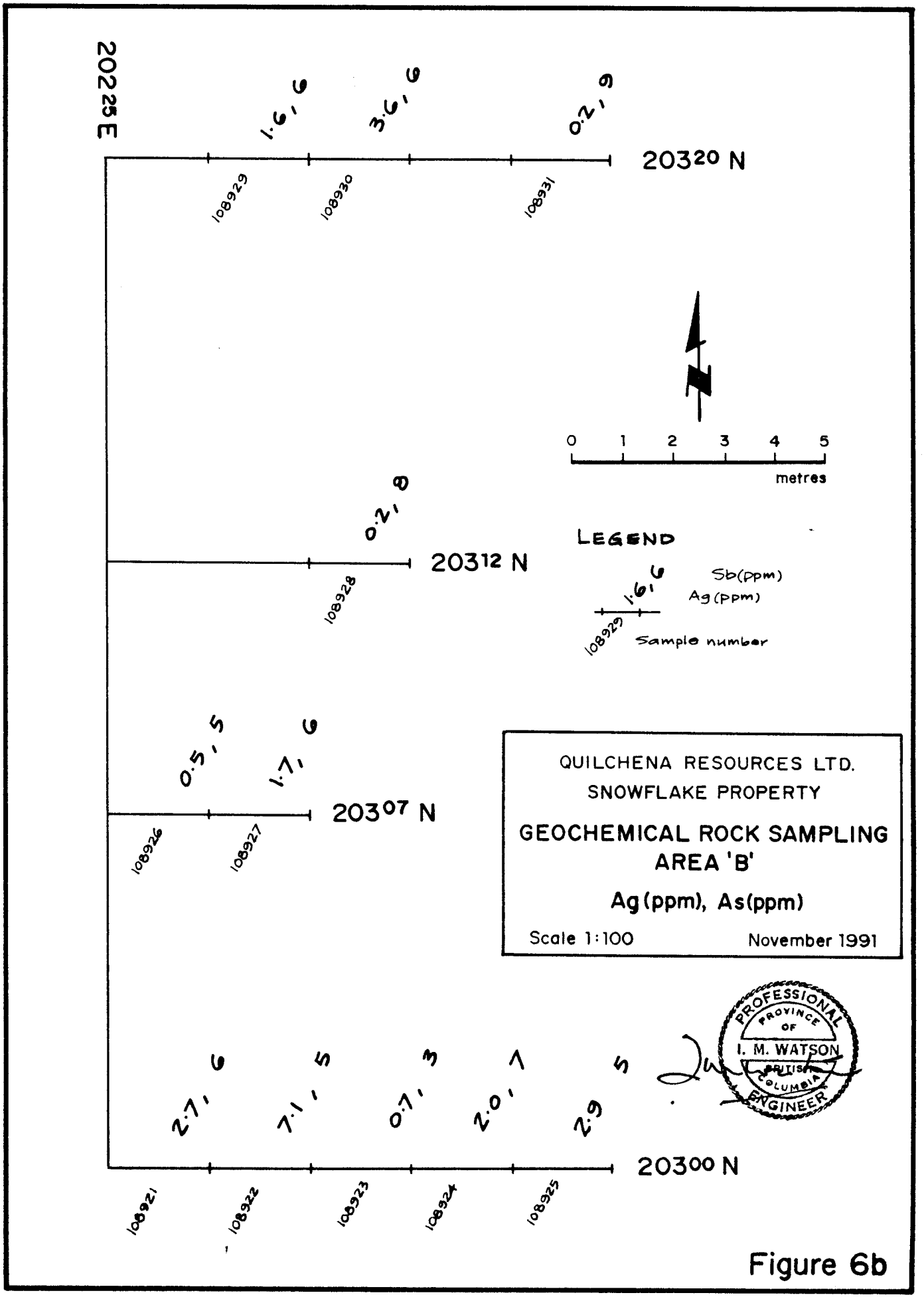
20225 E
1.6, 6
3.6, 6
0.2, 9
20320 N
108929
108930
108931
0 1 2 3 4 5
metres
0.2, 9
20312 N
108928
LEGEND
1.6, 6
Sb(ppm)
Ag(ppm)
108929
Sample number
0.5, 5
1.7, 6
20307 N
108926
108927
QUILCHENA RESOURCES LTD.
SNOWFLAKE PROPERTY
GEOCHEMICAL ROCK SAMPLING
AREA 'B'
Ag(ppm), As(ppm)
Scale 1:100
November 1991
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
I. M. WATSON
2.7, 6
7.1, 5
0.7, 3
2.0, 1
2.9 5
20300 N
108921
108922
108923
108924
108925

Figure 6b

sympathy (Figures 7a, b) and are related to degree of alteration. Mineralisation is strongest in zones of patchy chloritisation and carbonatisation, mainly as very fine, lacy, intergranular disseminations of chalcopyrite, pyrite, and locally, chalcocite.

7.0 SUMMARY DISCUSSION OF RESULTS

7.1 The 1991 exploration programme was designed to test the potential of the Blue Jay showings area in the western part of the Snowflake property. The target sought is a porphyry gold copper deposit.

The components of the programme consisted of geological mapping, an I.P. survey, and diamond drilling.

7.2 The geological mapping phase of the work attempted to determine the distribution and relationships of mineralisation and alteration, as well as structural and lithological controls.

7.2.1 Within the map area, copper mineralisation is mainly restricted to the western contact zone of the complex diorite intrusion. Mineralisation and alteration (chlorite-epidote-carbonate and carbonate-pyrite) are most strongly developed along a 300-metre length of this contact zone, between 210N and 213N, and are related to the dominant north-northwesterly fracture/shear trend.

7.2.2 Differentiation of andesite from diorite intrusion is difficult in the contact zone due to a combination of shearing, alteration, fine grain size, and the irregularity of the contact itself, but the mineralisation is

more strongly developed in the andesitic rocks. (This is better seen in Hole 91-3, where the contact is more easily recognized.)

7.2.3 Rock sampling and percussion drilling (Craigmont/Cominco) show a definite increase of copper content in this northerly contact area. Apart from a few composite samples from Cominco percussion holes, no gold assaying had been done by previous workers; sampling by Laramide (1985) and Quilchena (1991) has returned contents from trace to 1,670 ppb gold.

7.3 The Quilchena I.P. survey had two main purposes:

- to confirm the Ashland 1968 chargeability anomaly along the northwestern contact of the diorite complex
- to test the Ashland anomaly at greater depth

The gradient array method was chosen over the pole-dipole and dipole-dipole methods because it has a greater depth of exploration, is more accurate in locating steeply dipping bodies, and is more sensitive to dip (Ward, 1990).

7.3.1 Although the two surveys employed different I.P. methods/arrays and span a 24-year period of technological development, the chargeability high axes correspond quite closely.

Both surveys show a broad chargeability high in the north (L217N) which narrows markedly to the south, and flanks the western contact of the diorite complex.

7.3.2 The Quilchena survey chargeability depth sections indicate a steeply dipping body/source which strengthens at depth (maximum readings of approximately 12 mv/V).

7.3.3 Quilchena survey resistivity highs correspond with the diorite intrusion, and lie immediately east of the chargeability peaks.

7.3.4 A zone of 'combined' low resistivity and chargeability coincides with the drift covered area west of the intrusion and the chargeability high. The resistivity low widens to the north and overlaps the chargeability high between 215N and 217N.

7.4 The diamond drilling programme had two primary objectives:

- to test for copper-gold mineralised zones below the depth penetrated by Cominco percussion drilling

- to test the Quilchena I.P. survey chargeability high

7.4.1 Hole 91-1 was drilled vertically to test/confirm the best of the intersections obtained by Cominco in Hole 79-15 of the 1979 percussion drilling programme (76 metres assaying 0.16% copper between 9 metres and 85 metres).

The entire length of Hole 91-1 is in intensely sheared propylitically altered andesites cut by narrow diorite 'sheets' (Figure 7a). The shearing and 'dykes' are steeply dipping. The core is mineralised with extremely finely patchily disseminated pyrite, chalcopyrite, minor bornite, and rarer magnetite. The intensity of shearing resulted in poor core recovery

(70%) and the loss of the hole at a depth of 111.6 metres, only 26 metres below the bottom of the Cominco hole.

Between 14 metres and 111.6 metres (97.6 metres), Hole 91-1 assayed 0.19% copper and 204 ppb gold.

The shear zone penetrated by 91-1 lies within the resistivity/chargeability lows described in 3.4 above.

7.4.2 Holes 91-2 and 3 tested the I.P. chargeability high. 91-2 penetrated propylitically altered andesites, and entered diorite at the bottom of the hole. 91-3 intersected a similar sequence of volcanics, but crossed the diorite contact at a hole depth of 175 metres.

The sulphide content of both holes is related to fracture intensity and alteration as in Hole 91-1. However, assays show only very weak copper/gold contents in the andesitic rocks, and negligible values in the diorite. It is suspected that the chargeability anomaly may be due mainly to ilmenite rich magnetite (see Section 6.2, page 15). The drill and I.P. sections indicate that the resistivity highs are related to the diorite complex rocks.

7.5 The 1991 exploration programme conclusions are:

1. Copper-gold mineralised zones and related alteration are developed along a major north trending shear zone flanking the west side of the syeno-diorite complex.

2. This shear zone is characterised by a broad, strong I.P resistivity low.

3. The I.P. chargeability high east of the shear zone has been the target of most of the previous exploration. It is possible that the chargeability anomaly is produced by disseminated magnetite-ilmenite in the diorite and contact zone andesitic rocks.

4. The potential for a porphyry copper gold deposit lies along the resistivity low/shear zone on the west of the diorite complex. This target is virtually unexplored, and is open at depth, along strike, and to the west, covering an area at least 1,500 metres by 600 metres.

5. It is recommended that this target be tested by a 1,500-metre diamond drill programme. First holes should test the section below and west of Hole 91-1 to a depth of at least 200 metres. A fence of easterly inclined holes would provide the most effective coverage. Further drilling along the strike of the shear/resistivity low, to the north and south, would be dependent on the results of this preliminary programme, but should include testing of the northerly merging of the resistivity low and chargeability high.

   At this stage, further I.P. work is not essential, but might prove useful in guiding future drilling if this preliminary drilling programme is successful.

Respectfully submitted,

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
I. M. WATSON

I.M. Watson, P.Eng.

L.A. Westervelt, B.A.Sc.

8.0 CERTIFICATE OF QUALIFICATIONS

I, **Ivor Moir Watson**, of 584 East Braemar Road, North Vancouver, British Columbia, hereby certify that:

1. I am a consulting geologist with offices at 904 - 675 West Hastings Street, Vancouver, B.C.

2. I am a graduate of the University of St. Andrews, Scotland (B.Sc. Geology 1955).

3. I have practised my profession continuously since graduation.

4. I am a member in good standing of the Association of Professional Engineers of B.C.

5. Work on the Snowflake 'A' Group was carried out between August 21 and October 7, 1991 by the following personnel working under my supervision during the periods noted:

L. Westervelt	- Geologist	August 21 to September 10, 1991
I. Saunders	- Prospector	August 21 to September 29, 1991
E. Saunders	- Field Assistant	August 21 to September 8, 1991
R. Saunders	- Field Assistant	September 7 to September 12, 1991

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
I. M. WATSON

January 27, 1992
Vancouver, B.C.

I.M. Watson, B.Sc., P.Eng.

CERTIFICATE OF QUALIFICATIONS

I, **Leslie Alexander Westervelt**, of 226 - 6015 Tisdall Street, Vancouver, British Columbia, hereby certify that:

1. I am a geological engineer.

2. I am a graduate of the University of British Columbia (B.A.Sc., 1985).

3. I have practised my profession continuously since graduation.

4. I worked as a geologist on the Snowflake 'A' Group during the period of August 21 to September 12, 1991.

January 27, 1992
Vancouver, B.C.

Leslie Westervelt, B.A.Sc.

9.0 REFERENCES

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10.0 STATEMENT OF COSTS - SNOWFLAKE 'A' GROUP

1. Line Cutting
(August 21-25; September 2-5, 1991)

Salaries:

E. Saunders, Field Assistant 9 days @ $130.00/day	$ 1,170.00	
I. Saunders, Prospector 9 days @ $200.00/day	1,800.00	$ 2,970.00
Accommodation and Board*		443.70
Telephone, Freight, etc.*		86.49
Equipment Purchase		196.83
Vehicle Rental (Toyota L/C 4x4): 9 days @ $55.00/day		495.00
Fuel*		33.12
Total Line Cutting		$ 4,225.14

* Pro rated costs

2. Geological Mapping/Geochemical Rock Sampling
(August 21-27; September 4, 7, 8, 1991)

Salaries:

L. Westervelt, Geologist 10 days @ $185.00/day	$ 1,850.00	
E. Saunders, Field Assistant (August 26, 27) 2 days @ $130.00/day	260.00	
I. Saunders, Prospector (August 26, 27) 2 days @ $200.00/day	400.00	$ 2,510.00
Accommodation and Board*		246.50
Telephone, Freight, etc.*		90.61
Vehicle Rental (Toyota L/C 4x4): 6 days @ $55.00/day		330.00
Fuel*		22.08
Petrographic Analyses: Harris Exploration Services (4 thin sections, 4 polished sections)		683.73
Computer Plotter Rental: 4 hrs. @ $40.00/hr.		160.00
Reproductions, Maps		655.69
Drafting: D.L. Phillips Draughting Services - 33.5 hrs. @ $25.00/hr.		837.50
Geochemical Analyses and Shipping: Acme Analytical Labs - 55 rock samples (5 element ICP + AA) @ $9.09/sample		499.90
Total Geological Mapping/Geochemical Rock Sampling		**$ 6,036.01**

* Pro rated costs

3. Induced Polarization Survey
(September 7-10, 1991)

Salaries:

L. Westervelt, Geologist September 9, 10 2 days @ $185.00/day	$ 370.00	
E. Saunders, Field Assistant September 7, 8 2 days @ $130.00/day	260.00	
I. Saunders, Prospector 4 days @ $200.00/day	800.00	
R. Saunders, Field Assistant 4 days @ $115.00/day	460.00	$ 1,890.00
Accommodation and Board*		295.80
Vehicle Rental (Toyota L/C 4x4): 4 days @ $55.00/day		220.00
Fuel*		14.72
Geophysical Contractor: Delta Geoscience		5,628.15
Total Induced Polarization Survey		**$ 8,048.67**

* Pro rated costs

4. Diamond Drilling
(September 4-25, 1991)

Salaries/Fees:

L. Westervelt, Geologist September 5, 6 2 days @ $185.00/day	$ 370.00	
I. Saunders, Prospector/Foreman September 10-29 20 days @ $200.00/day	4,000.00	
R. Saunders, Field Assistant September 11, 12 2 days @ $115.00/day	230.00	
I. Watson, Consulting Geologist September 12-19, 23, 24 10 days @ $425.00/day	4,250.00	$ 8,850.00
Accommodation and Board*		838.10
Telephone, Freight, etc.*		317.25
Vehicle Rental (Toyota L/C 4x4): 22 days @ $55.00/day		1,210.00
Fuel*		80.96
Assaying and Shipping: Acme Analytical Labs - 281 split samples (30 element ICP + Au/AA) @ $14.60/ea		4,102.75
Computer/Plotter Rental: 2.5 hrs. @ $40.00/hr.		100.00
Diamond Drilling: P.W. Diamond Drilling - 710.2 m NQ core		46,246.86
Total Diamond Drilling		**$ 61,745.92**

* Pro rated costs

SUMMARY OF COSTS

1.	Line Cutting	$ 4,225.14
2.	Geological Mapping/Geochemical Sampling	6,036.01
3.	Induced Polarization Survey	8,048.67
4.	Diamond Drilling	61,745.92
	TOTAL	**$ 80,055.74**

Respectfully submitted,

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
I. M. WATSON

I.M. Watson, P.Eng.

L.A. Westervelt, B.A.Sc.

APPENDIX 1

DRILL LOGS

I. M. WATSON & ASSOCIATES LTD.

DIAMOND DRILL LOG

PROPERTY: SNOWFLAKE
HOLE No.: SF91-1
Collar Eastings: 20175.00
Collar Northings: 21308.00
Collar Elevation: 1030.00
Grid: SNOW91
CASING PULLED

Collar Inclination: -90.00
Grid Bearing: 0.00
Final Depth: 111.56 metres
NQ
ABANDONED @ 111.56-RODS JAMMED

Logged by: IS/LAW
Date: 4.9.91
Down-hole Survey: Transit
PW DIAMOND DRILLING
CORE LOSS 32.6%

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	ASSAYS FROM	TO	WIDTH	Cu ppm	Ag ppm	Au ppb
0	11.28	CASING							
11.28	39.32	ANDESITE Porphyritic flow breccia medium to dark grn. med. gr. andesite w/10-30% irreg. mafics to 5mm (augite?); mod. to strongly chloritized throughout; f.f. fractures w/carb. (+/- qtz.), chl-ep filling; up to 2% total sulphide as finely dissem. + local aggregates mag, py, cp, cc, bn, + native Cu; occas. brxx. frag. to 3cm. 11.28 - 14.10 - ground rubble; mixed chloritic andesite and qtz-carb. frags; only 0.35m recovered (89% loss) N.V.S. 14.10 - 14.94 - mod. fract. andes.; <1% finely dissem. py, cp, cc; ff. w/carb (+/- qtz.) chl-ep @ 30-65 deg./CA; 2cm qtz str w/chl-ep @ 50 deg./CA. 14.94 - 18.44 - FAULT ZONE - as before but mod. to extr. fractured + broken w/local clay gouge + carbonate alt'n; only 2.0m recovered (43% loss); tr. f.gr. py. 18.44 - 31.09 - mod. fractured drk. grn. andes.; occas. frag. to 3cm; 2-5% carb.- ep-chl-strs. to 5mm @ 40-65 deg./CA; <1% finely dissem. py, cp, cc, native Cu; 98% core recovery. 31.09 - 35.38 - FRACTURE ZONE - mod. extr. fractured + broken core, 88% core recovery; 5% carb. strs. to 1cm; carb. + loc. chl-ep strs. @ 20-50 deg./CA; tr. clay gouge; tr. f.gr. sulph; loc. pinkish tinge (K-spar?); incr. carb. alt'n. + loss of mag. to base. 35.38 - 39.32 - FAULT ZONE - mod. to extr,. broken, locally ground, f.-med.gr. andesite; tr. gouge but most prob. lost; only 3.64m recovered (57% loss); mod. clay alt'n.; local. sl. limonite assoc. w/carb. strs. to 3cm; 5-10% tot. carbonate as rusty strs. @ 40-80 deg./CA; also fine carb. stkwrk @ 0.8m of sctn; * 35.38 - 37.13 - carb. alt'd. w/strs., tr. v.f.sulp. (cp?) * 37.13 - 39.32 - ground core; tr. gouge.	108501 108502 108503 108504 108505 108506 108507 108508 108509 108510 108511 108512	14.00 16.00 18.00 20.00 22.00 24.00 26.00 28.00 30.00 32.00 34.00 36.00	16.00 18.00 20.00 22.00 24.00 26.00 28.00 30.00 32.00 34.00 36.00 38.00	2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00	1473 1431 1969 1375 500 2530 2393 3029 4584 4014 1170 6629	0.7 0.7 0.5 0.6 0.5 0.8 0.7 0.8 1.6 0.9 0.4 1.0	82 62 284 263 33 367 220 346 504 472 60 651

I. M. WATSON & ASSOCIATES LTD.

DIAMOND DRILL LOG

PROPERTY: SNOWFLAKE
HOLE No.: SF91-1

FROM	TO	LITHOLOGICAL DESCRIPTION
39.32	74.00	DIORITE Fine-med. gr. green-grey w/local pinkish K-spar; massive; occas. xenolith to 1cm; local f.gr. dissem. sulph. 39.32 - 43.76 - FAULT ZONE ((cont.) - as above; mod.-extr. broken ground; few carb. strs; 43.76 - 47.86 - FRACTURE ZONE - med.-drk. grn. locally pinkish f.-med. gr. diorite; locally ground core; 2.95m rec. (28% loss); 1 2cm carb. str. @ 15 deg./CA, <1% v.f.gr. dissem. sulph. 47.86 - 50.75 - FRACTURE/ALT'N ZONE - bleached pale grn./beige f.gr. diorite, mod. fractured + locally ground core; 5% irreg. carbonate brxx filling; most strs. + one narrow gouge-filled shear @ 40 deg./CA; tr. f.gr. sulphide; 2.2m core recovered (24% loss). 50.75 - 52.40 - FAULT ZONE - coarsely brecciated pale grn./beige carb. alt'd. diorite; frags. held together w/fine gouge; sl. limonite; ground core @ middle of sctn (cave?); 1.11m recovered (33% loss); 2-5% carbonate frags.; tr. f.gr. sulphide. 52.40 - 58.18 - FRACTURE ZONE - med.-drk. grn. med.gr. diorite; locally pinkish frags.; extr. fractured + ground; tr. gouge; tr. f.gr. sulph.; only 1.85m recovered (70% core loss). 58.18 - 59.28 - FAULT BRXX ZONE - coarsely brecciated med.-drk. grn. + locally pale grn. to beige carb. alt'd. diorite; diorite + fractured carbonate cemented w/carbonate + fine clay; sl. limonite; 2cm fract. carb. str. @ 40 deg./CA; 20% carbonate; N.V.S.; sl. limonite. 59.28 - 60.35 - FRACTURE ZONE? - drk. grn. med.gr. diorite; extr. broken + ground; N.V.S.; only 0.5% recovered (47% loss). 60.35 - 64.60 - FRACTURE/FAULT ZONE - med.-extr. fractured + locally ground med.gr. diorite, locally mod. carb. alt'd.; tr. gouge; tr.f.gr. sulphide few fine carb. strs. @ 40 deg./CA; 2.6m recovered (39% loss). 64.60 - 67.47 - FRACTURE ZONE(?) - lost core from 64.92-66.45; med. grn. chloritic ground rubble from remainder of section; only 0.43m recovered (85% loss).

	ASSAYS					
SAMPLE No.	FROM	TO	WIDTH	Cu ppm	Ag ppm	Au ppb
108513	38.00	42.00	4.00	2996	1.0	89
108514	42.00	44.00	2.00	1131	0.5	336
108515	44.00	46.00	2.00	313	0.2	12
108516	46.00	48.00	2.00	217	0.1	2
108517	48.00	50.00	2.00	145	0.1	17
108518	50.00	52.00	2.00	1198	0.3	74
108519	52.00	54.00	2.00	1342	0.4	651
108520	54.00	56.00	2.00	2997	0.3	241
108521	56.00	58.00	2.00	3637	0.6	441
108522	58.00	60.00	2.00	584	0.1	6
108523	60.00	62.00	2.00	1764	0.4	210
108524	62.00	64.00	2.00	484	0.2	20
108525	64.00	66.00	2.00	1646	0.5	305
108526	66.00	68.00	2.00	1132	0.4	241
108527	68.00	70.00	2.00	1138	0.4	241
108528	70.00	72.00	2.00	1647	0.6	220
108529	72.00	74.00	2.00	2006	1.0	294

I. M. WATSON & ASSOCIATES LTD.

DIAMOND DRILL LOG

PROPERTY: SNOWFLAKE
HOLE No.: SF91-1

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	ASSAYS WIDTH	Cu ppm	Ag ppm	Au ppb
		67.47 - 71.93 - FRACTURE ZONE - med.-drk. grn. + locally sl. bleached, mod. to extr. fractured + broken diorite, tr. gouge; few carb. strs. @ 25 deg./CA; loc. sl. pinkish alt'n.; tr.f.gr. sulphides; only 3.51m rec. (21% loss).							
		71.93 - 72.85 - FAULT ZONE - extr. friable green/grey gouge + chloritic diorite frags.; 0.19m recovered (79% loss).							
		72.85 - 74.00 - FRACTURE ZONE - drk. grn. chloritic diorite; mod.-extr. fractured + broken; locally ground 5% carb. strs. @ 30 deg./CA; local mod. carb. alt'n.; 2.85m recovered (32% loss); tr.f.gr. sulphides.							
74.00	94.44	Porphyritic ANDESITE	108530	74.00	76.00	2.00	382	0.2	3
		Drk. grn., locally brecciated w/10-20% mafic + felsic phenos to 3mm; mod.-strongly chloritized.	108531	76.00	78.00	2.00	78	0.1	2
		74.00 - 77.07 - FRACTURE ZONE - continuation of same zone.	108532	78.00	80.00	2.00	1020	0.3	28
		77.07 - 79.25 - FAULT BRXX ZONE - pale grn./grey to beige coarsely brecciated + int. clay alt'd. andesite; cemented w/carbonate + gouge; mod. -extr. fract.; sl. pinkish; few carb. strs. @ 40 deg./CA; 1.74m recovered (20% loss); few dior. frags.	108533	80.00	82.00	2.00	1980	0.4	231
			108534	82.00	84.00	2.00	1993	0.1	210
			108535	84.00	86.00	2.00	3108	0.6	305
			108536	86.00	88.00	2.00	2247	0.4	263
			108537	88.00	90.00	2.00	2241	0.5	150
			108538	90.00	92.00	2.00	1519	0.5	57
			108539	92.00	94.00	2.00	5494	0.5	170
		79.25 - 80.64 - DIORITE - med. grn.-drk.red-pink med.gr. diorite; approx. 1% finely dissem. sulphide; str. mag.; mod. broken.							
		80.64 - 94.44 - FAULT/BRXX ZONE - med. pale grn.; purple + pink; fine-med. gr. andesite; med.-extr. fractured + broken locally ground; frequent carb.-cemented brxx sctns.; pink alt'd. diorite frags. contain tr. f.gr. sulphides.							
		80.64 - 83.67 - 33% loss; carb. strs. @ 50 deg. /CA; patchy K-spar in diorite frags.							
		83.67 - 87.17 - 63% loss; ground core;							
		87.17 - 89.77 - fract. carb. strs. in brxx @ 40 deg./CA; 18% loss; 10% gouge; patchy K-spar.							
		89.97 - 94.44 - fine + coarsely brecciated w/carb. frags.; ground core w/tr. gouge @ middle of sctn; patchy K-spar frags., fracts. + shearing @ 40 deg./CA; 50% loss; <1% f.gr. sulphide (cp?)							

I. M. WATSON & ASSOCIATES LTD.

DIAMOND DRILL LOG

PROPERTY: SNOWFLAKE
HOLE No.: SF91-1

FROM	TO	LITHOLOGICAL DESCRIPTION
94.44	97.08	DIORITE F.-med.gr. grey, green + locally pinkish. 94.44 - 97.08 - Green-sl. pink uniform diorite sl. clay alt'd.; tr. frags., py; 2% five carb. strs. @ approx. 40 deg./CA; 9% loss.
97.08	110.03	ANDESITE porphyry Drk. grn., locally brecciated, 40% subhedral felsic phenos. to 2mm. 97.08 - 99.72 - FAULT ZONE - med.-extr. fract., broken ground dark grn. andesite; few carb,. strs.; local. mod. clay alt'n; tr. gouge; 34% loss. 99.72 - 101.09 - FAULT BRXX ZONE - med.-drk. grn./gry chlorite, fine-coarsely brecciated andesite; 5% fractured carb. strs. + frags. to 1cm.; entirely recemented w/carbonate, clay, sl. fract. core; tr.f.gr. sulph.; 2% loss. 101.09 - 102.00 - CARBONATE STR. ZONE - 50% white to beige carbonate as strs. 2mm to 3cm; locally fract. + broken; strs. @ 40 deg./CA; tr.f.gr. sulph; gouge @ base; 12% loss. 102.00 - 102.73 - FAULT ZONE - 80% green/grey gouge w/chl. andesite frags.; ground core; 66% loss. 102.73 - 110.03 - drk. grn., chloritic porph. andesite; 2% fine carb. strs. to 2mm @ 35-40 deg./CA; loc. mod. fract. + broken; N.V.S.; limonite/carbonate alt'n/str. zone @ 20-40 deg./CA @ 105.50 for 0.5m. 105.50 - 110.03 - ALT'N ZONE - mod.-strongly limonitic, carb. alt'd. andesite; 5-10% irreg. carb. strs. + brxx zones to 2cm; major strs. @ 20 deg./CA; minor @ 40-80 deg./CA; 2% loss.
110.03	111.00	DIORITE As before; sl. pinkish w/ secondary biotite; sheared contacts; 5% loss; f.gr. py., (cp?)
111.00	111.56	Porphyritic ANDESITE Drk. grn. f.gr. andesite w/10-20 % subhedral mafics + felsics phenos. to 3mm; 5% fine carb. strs. @ 0-60 deg./CA; faulted upper contact; 2% loss.

SAMPLE No.	FROM	TO	WIDTH	Cu ppm	Ag ppm	Au ppb
			ASSAYS			
108540	94.00	96.00	2.00	2231	0.3	160
108541	96.00	98.00	2.00	3639	1.4	530
108542	98.00	100.00	2.00	2919	1.1	280
108543	100.00	102.00	2.00	2591	1.4	240
108544	102.00	104.00	2.00	1260	0.5	150
108545	104.00	106.00	2.00	228	0.3	30
108546	106.00	108.00	2.00	720	0.4	44
108547	108.00	110.00	2.00	889	0.4	14
108548	110.00	111.56	1.56	1227	0.5	300

I. M. WATSON & ASSOCIATES LTD.

DIAMOND DRILL LOG

PROPERTY: SNOWFLAKE
HOLE No.: SF91-1

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	ASSAYS WIDTH	Cu ppm	Ag ppm	Au ppb
		111.56 - EOH Rods jammed; rods cut by blasting; core barrel lost in hole; Hole abandoned. Casing pulled. Core loss 32.6%.							

Assay Summary	Cu	Ag	Au
14.0 - 111.56	1926		204
97.56m	(0.19% Cu)		
Upper Zone			
24.0 - 42.0	3371		310
18.0m	(0.34% Cu)		
Lower Zone			
84.0 - 102.0	2889		239
18.0m	(0.29% Cu)		

I. M. WATSON & ASSOCIATES LTD.

DIAMOND DRILL LOG

PROPERTY: SNOWFLAKE
HOLE No.: SF91-2
Collar Eastings: 20225.70
Collar Northings: 21500.00
Collar Elevation: 1015.00
Grid: SNOW91
DRILLED BY PW DRILLING

Collar Inclination: -60.00
Grid Bearing: 90.00
Final Depth: 299.01 metres
NQ
STARTED 11-9-91; COMPLETED 20-9-91

Logged by: IMW
Date: 17.9.91
Down-hole Survey:
CASING PULLED

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	ASSAYS FROM	TO	WIDTH	Cu ppm	Ag ppm	Au ppb
0	32.16	CASING							
32.16	53.3	ANDESITE Grey green mottled pea green and dark f.gr. fairly even texture, abund. fels. xtals, partially sericitised. Wkly. magnetic. Alteration: Chlorite - Local dark spotting (after pyrox.) Epidote - Irreg. patches and tension fract. linings. Carbonate - Wk., pervasive, sl. bleaching where stronger. Fractures: Moderate, variable dominant set @ 45-50 deg./CA. carb. healed, usually <1mm occ. to 1cm, e.g. 22.8 (40 deg./CA); 39.0 (50 deg./CA). 33.0 - 33.3 - Irreg. <1cm clay (gouge) seam @ 90 deg./CA, above shatter/bx zone. 34.3 - 34.5 - 2-3cm gouge/gravel @ 80 deg./CA. 37.5 - 37.75 - Shear - carb. (white/purple) - epidote healed, tight @ 30 deg./CA, 1cm selvedge zone of patchily dissem. bronze coloured py. Mineralisation: V. finely + wkly. dissem. sulphides, locally in small segs. along and within epidote healed fracts. (as above, (37.5-37.75) also 44.2) Magnetite - Bluey grey, v.f. in small <0.5cm patches.	108549	32.16	34.00	1.84	47	0.1	4
			108550	34.00	36.00	2.00	88	0.1	7
			101401	36.00	38.00	2.00	60	0.3	51
			101402	38.00	40.00	2.00	79	0.2	16
			101403	40.00	42.00	2.00	77	0.2	22
			101404	42.00	44.00	2.00	113	0.1	11
			101405	44.00	46.00	2.00	494	0.5	21
			101406	46.00	48.00	2.00	281	0.1	9
			101407	48.00	50.00	2.00	99	0.1	8
			101408	50.00	52.00	2.00	334	0.3	17
53.3	68.5	ANDESITE (sim. to above, but more highly propylitised + fractured) Green-grey to buff-lighter coloured in zones of more pervasive carbonatitisation, and intense fracturing. Alteration: Carbonate - Variable, mod. to strong to 59.8, in zones of buff-grey mottling. Chlorite - Weak to mod.	101409	52.00	54.00	2.00	206	0.1	21
			101410	54.00	56.00	2.00	291	0.2	17
			101411	56.00	58.00	2.00	448	0.3	14
			101412	58.00	60.00	2.00	47	0.1	5
			101413	60.00	62.00	2.00	518	0.1	13
			101414	62.00	64.00	2.00	189	0.3	11
			101415	64.00	66.00	2.00	132	0.1	7
			101416	66.00	68.00	2.00	93	0.1	12

I. M. WATSON & ASSOCIATES LTD.

DIAMOND DRILL LOG

PROPERTY: SNOWFLAKE
HOLE No.: SF91-2

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	ASSAYS FROM	TO	WIDTH	Cu ppm	Ag ppm	Au ppb
		Epidote - Locally @ 64.0 - 64.5 with small 2mm dark chloritic patches, and as fract. linings.							
		Fractures: Moderately locally strongly fractured, usually calcite lined. 54.9 - 55.16 - Calcite-ser. lined shear @ 25 deg./CA. 55.16 - 56.6 - Broken. 56.6 - 58.9 - Finely fract., dom. @ 35-45deg./CA, also cross fracturing @ 90 deg. to 35/45 deg./CA set. 58.9 - 59.8 - Calcite lined @ 25 deg./CA, and cross set @ 65 deg./CA. Slips @ 45 deg./CA. 62.8 - 63.25 - Shattered fract. zone @ 40 & 50 deg./CA. 64.0 - 64.5 - Ep lined fracts. @ 40 deg./CA. 65.67 - 65.75 - Gouge filled shear. Fracts. @ 50, 35 & 75 deg./CA. 68.1 - 68.2 - Tight shear, chl./calcite lined @ 50 deg./CA.							
		Mineralisation: Patchily v. finely & sparsely dissem. py; minor local magnetite. 54.9 - 55.16 - Sparse v.f. py, minor magnetite adj. to shear. Sulphides diminishing down hole. 68.1 - 68.2 - Minor v.f. py along fract. planes.							
68.5	74.7	ALTERATION/FRACTURE ZONE Dom. pale grey-buff, f.gr., intensely fract./shattered, pervasively carbonatitised/sericitised. Most fracts. are fine, irreg., calcite lined. Stronger fracts. @ 45 deg./CA. Strongest shears: e.g. 68.9 - 69.7 and 72.5 - 73.0 sub parallel to CA. Pyrite sparsely and finely dissem. throughout (<0.5%), more heavily dissem. along carb. lined fracts.	101417 101418 104419	68.00 70.00 72.00	70.00 72.00 74.00	2.00 2.00 2.00	136 89 203	0.1 0.1 0.1	21 11 13
74.7	76.3	SHEAR/BX. ZONE Altered andesite as above but intensely sheared, clay altered - orig. texture almost obliterated. Rock appears to have been bxt'd + shattered, then sheared. Clay gouge slips @ 30 deg./CA. No vis. sulphides.	101420	74.00	76.00	2.00	579	0.4	16
76.3	87.7	ANDESITE Dk. grey green, med.gr., fairly uniform texture; f. mass. Alteration:	101421 101422 104423 101424	76.00 78.00 80.00 82.00	78.00 80.00 82.00 84.00	2.00 2.00 2.00 2.00	249 855 523 252	0.1 0.2 0.1 0.1	7 34 22 7

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	ASSAYS WIDTH	Cu ppm	Ag ppm	Au ppb
		Chlorite - Scattered spots throughout. Carbonate - Strong adj. to shear zone above and @ 86.35 to 86.56 - accompanied by slight bleaching. Fractures: Strongest in upper 3m of section. 86.3 - 86.4 - Calcite healed shear @ 50 deg./CA. Mineralisation: Sulphides irreg. dissem., mostly strongly in upper 3m of fract., alt. andesite. Consists of irreg. v. small blebs and patches py, and ccp (latter @ 80.3 - 80.5). 76.3 - 79.3 - Approx. 1% sulphides.	101425	84.00	86.00	2.00	267	0.1	7
87.7	91.1	ANDESITE Grey green, med.gr. Alteration: Heavily speckled with irreg. small patches epidote, locally coalescing, assoct'd with less abund. dark green chlorite. Fractures: Wkly. fract. - Tight sharp calcite lined fracts. 45-60 deg./CA. Mineralisation: Magnetite as scattered small irreg. patches (<0.5cm) poss. with v.f. sulphides. Sulphides - ext. f., as above, sparsely dissem. throughout - too fine to identify except rare patches py along vnlts./fracts. - poss. 1%?	101426	86.00	88.00	2.00	402	0.1	14
			101427	88.00	90.00	2.00	274	0.1	12
91.1	93.7	ANDESITE Grey buff, f.gr., mod.-strongly fract. Alteration: Carbonate - Weak - mod. throughout. Epidote - Erratically dissem., weak. Chlorite - 92.5 - 93.2 - zone of coarser chloritic andesite. Fractures: Irreg., var., no obv. dom. trend, calcite healed up to 0.5cm 45 deg./CA, 70-80 deg./CA - steeper fracts. offset/cut flatter.	101428	90.00	92.00	2.00	396	0.2	11

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	ASSAYS WIDTH	Cu ppm	Ag ppm	Au ppb
		Mineralisation: Sulphides are ext. fine, sparsely dissem., locally in small segs. along and occasionally within carb./ep vnlts. 92.4 - 93.7 - Blue grey irreg. blotches (up to 0.5cm) of ext. f. magnetite, poss. incl. v.f. sulphides.							
93.7	124.52	ANDESITE Dom. dark grey green, med. gr. uniform, f. mass. Alteration: Chlorite - Mod. speckled throughout. Epidote - Patchy fine disseminations, notably 98 - 100.5. Carbonate - Scattered bleached buff zones @ 107.4 - 108.0; 112.8 - 113.13; 115.4 - 116.0; and 118.1 - 118.3. Fractures: Wk. - mod., most prom. set @ low angles to CA e.g. @ 97.1 - 97.4; 98.6 - 99.0; 99.3 - 99.6; and 100.0 - 100.4. 107.4 - 108.0 - 20 deg/CA. 117.0 - 117.4 - Carb. healed fracts. @ 45 and 80 deg./CA. Mineralisation: Ext. fine irreg. dissem. sulphides throughout, locally conc. along fracts., also assoct'd with patchy magnetite in zones of chl/ep alteration. Prob. py but ccp recognised @ 98.9 - 101.5; and 108.0 - 109.7 (2%). 112.75 - 113.13 - Bronze metallic and ccp patchily dissem. 117.0 - 117.4 - Small patches fine sulphides.	101429	92.00	94.00	2.00	252	0.1	6
			101430	94.00	96.00	2.00	178	0.1	8
			101431	96.00	98.00	2.00	123	0.1	10
			101432	98.00	100.00	2.00	141	0.1	12
			101433	100.00	102.00	2.00	155	0.1	12
			101434	102.00	104.00	2.00	77	0.1	11
			101435	104.00	106.00	2.00	55	0.1	6
			101436	106.00	108.00	2.00	201	0.1	13
			101437	108.00	110.00	2.00	830	0.3	8
			101438	110.00	112.00	2.00	284	0.1	10
			101439	112.00	114.00	2.00	147	0.1	4
			101440	114.00	116.00	2.00	91	0.4	20
			101441	116.00	118.00	2.00	133	0.4	8
			101442	118.00	120.00	2.00	186	0.5	14
			101443	120.00	122.00	2.00	426	0.7	9
			101444	122.00	124.00	2.00	143	0.3	16
124.52	129.9	ANDESITE Grey buff, mottled, f.gr.massive. Less chloritic than previous sctn. Mottled appearance due to variable chlorite/carb. content. Alteration: Chlorite, carbonate content variable; less than prev. interval. Fractures: Weakly fractured @ 70 - 80 deg./CA dom. Mineralisation:	101445	124.00	126.00	2.00	152	0.3	8
			101446	126.00	128.00	2.00	323	0.3	12

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	ASSAYS WIDTH	Cu ppm	Ag ppm	Au ppb
		Sparsely mineralised. 126.3 - 127.0 - Wk. patchy magnetite and minor bornite/pyrrhotite? 128.0 - 128.3 - Zone of tight fract./shattering - ccp blebs with epidote in calcite vein, and dissem. bronze metallic - bornite?/pyrrhotite - flakes weakly magnetic.							
129.9	133.65	ALTERATION/FRACTURE/FAULT ZONE Pale buff-grey, mottled, paler along and adj. to fract./shear zones. Alteration: Strongly carbonatitised. Fractures: Highly fract. and sheared. Finer fracts., @ 60-70 deg./CA. Stronger fracts. and shears @ 15 - 20 deg./CA. 130.9 - 131.0 - Slip/1.5cm carb. vn. 132.1 - 133.1 - Broken. 133.1 - 133.2 - Gouge, clay-carb. @ 65 deg./CA. Mineralisation: Sulphides disseminated throughout, strongest in upper 1.5m and lowest 0.5m, corresponding with intense tight fracturing and strongest carb. alt. local conc. up to 2-3% sulph., - prob. ccp, bornite? and poss. py.	101447 101448	128.00 130.00	130.00 132.00	2.00 2.00	724 1464	0.7 0.9	27 48
133.65	145.3	ANDESITE Grey green, locally darkly spotted (chl.), f. - med. gr. massive. Coarser sections are feldsparphyrric. Alteration/Fractures: Carbonate - Bleaching surrounding calcite healed fracts. @ 138.9 - 139.2 (50 deg./CA). Chlorite - Mod., as above and with carb. in shears @ 143.0 - 143.2 (80 deg./CA) and 146.0 - 146.2 (45 deg./CA) 136.97 - 1cm gouge @ 80 deg./CA. Epidote - Sparse. Mineralisation: Sulphides mod. dissem.	101449 101450 101451 101452 101453 101454	132.00 134.00 136.00 138.00 140.00 142.00	134.00 136.00 138.00 140.00 142.00 144.00	2.00 2.00 2.00 2.00 2.00 2.00	1628 425 276 248 134 145	0.9 0.7 0.3 0.8 0.1 0.3	92 17 9 19 4 4

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	ASSAYS WIDTH	Cu ppm	Ag ppm	Au ppb
		133.65 - 136.0 - Patchy f. ccp, bornite?, py - assoc.t'd with f. tight fracturing. 136.0 - 141.5 - More sparsely dissem., strongest in chloritic patches. Magnetite becoming prevalent in patchy v.f. disseminations.							
145.3	177.0	ANDESITE Green grey, locally buff, f.gr. variably mottled. Alteration: Chlorite - Mod. - strong, seen as dark mottling @ 148.13 - 150.72 (strong); 152.4 - 154.33; 156.06 - 156.36; 157.89 - 158.17. Carbonate - Moderate, assoct'd with fracturing @ 148.44 - 148.89; 149.2 - 149.81; 157.03 - 157.58. Epidote - 154.08 - 154.23 (incl. py streaks); 155.17 - 155.27 (streaks + dissem. py); 156.67 - 177.0 incl. stronger zone 167.34 - 170.38. Fractures: Usually two sets, both @ 45 deg./CA, carb. and ep healed, fine. 149.14 - 149.35 - Tight chloritic shear/bx zone @ 45 deg./CA 152.4 - 152.83 - Broken - chl. lined slips parallel to CA. 158.50 - Carb./chl. gouge @ 45 deg./CA. 159.71 - Chl./gouge filled fract. @ 60 deg./CA. 163.37 - 163.9 - Shatter zone - fracts. @ 55 deg. and 30 deg./CA 168.25 - 168.55 - Chl./ep lined slips @ 65 deg./CA. Mineralisation: 145.3 - 146.3 - Mod. dissem. ccp/bor. + py. 146.3 - 146.9 - Wkly. dissem. ccp/bor. + py. 146.9 - 153.6 - Mod. lacy dissem. bor./ccp? (poss. K-spar @ 149.87 - 150.02). 153.6 - 154.11 - Wkly. dissem. py. 154.23 - 155.45 - Mod. dissem. py. 155.45 - 155.6 - Mod. dissem. bor.? 155.6 - 156.06 - Mod. dissem. py. 156.06 - 156.21 - Mod. dissem. ccp. 156.48 - 163.86 - Mod. dissem. bor? with py and mag. with minor epidote @ 161.24 - 163.86. 163.86 - 163.98 - Mod. - strong bor.? 163.98 - 167.64 - Wk. - mod. patchy mag. + py, diminishing to	101455	144.00	146.00	2.00	281	0.4	4
			101456	146.00	148.00	2.00	241	0.7	8
			101457	148.00	150.00	2.00	365	0.5	24
			101458	150.00	152.00	2.00	305	0.4	11
			101459	152.00	154.00	2.00	231	0.5	14
			101460	154.00	156.00	2.00	337	0.6	370
			101461	156.00	158.00	2.00	526	0.7	97
			101462	158.00	160.00	2.00	398	0.6	40
			101463	160.00	162.00	2.00	364	0.6	24
			101464	162.00	164.00	2.00	616	0.7	18
			101465	164.00	166.00	2.00	799	0.8	28
			101466	166.00	168.00	2.00	173	0.6	9
			101467	168.00	170.00	2.00	48	0.3	6
			101468	170.00	172.00	2.00	83	0.3	16
			101469	172.00	174.00	2.00	240	0.3	33
			101470	174.00	176.00	2.00	86	0.3	14

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	ASSAYS WIDTH	Cu ppm	Ag ppm	Au ppb
		wkly. dissem. to end of sctn.							
177.0	180.44	ANDESITE Grey med.gr., porphyritic, nr. mass. Alteration: Chlorite - weak, patchy, local spotty concentrations. Epidote - minor. Fractures: Weakly, finely fract., irreg. carb./chl. healed 45 deg./CA. 180.0 - Chloritic shear 70 deg./CA. Mineralisation: Patchy v. finely dissem. mag. 180.0 - 3cm band nr. mass. ccp.	101471	176.00	178.00	2.00	188	0.3	22
			101472	178.00	180.00	2.00	338	0.4	8
180.44	183.82	AND. DYKE? (HW contact @ 45 deg./CA) Green grey, v.f.gr., mass., sparsely feldsparphyrric. Irreg. elong. small amygdules. Fractures: Finely + wkly. fract. @ 30 and 60 deg./CA.	101473	180.00	182.00	2.00	535	0.5	17
183.82	195.41	ANDESITE (as 177.0 - 180.44) Alteration: Chlorite - Patchy wk., locally strong @ 190.96 - 191.02, becoming pervasive 192.63 to end of sctn. Epidote - Weak patchy, local stronger conc. @ 184.1 - 184.22; 184.5 - 184.65; 190.96 - 191.26 (related to fracts.). Fractures: Wk. incr. to mod. 45 deg., 70 deg. and sub parallel to CA. 188.15 - Calcite healed 30 deg./CA; 191.05 - 191.2 - Carb./ep healed @ 50 deg./CA; 192.79 - 193.24 and 194.46 - 195.07 - Broken. 195.99 - 196.29 - Qtz/carb. healed fract. zone @ 40 deg./CA.	101474	182.00	184.00	2.00	203	0.6	9
			101475	184.00	186.00	2.00	147	0.7	5
			101476	186.00	188.00	2.00	93	0.2	17
			101477	188.00	190.00	2.00	91	0.3	4
			101478	190.00	192.00	2.00	70	0.2	1
			101479	192.00	194.00	2.00	448	0.1	19

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	ASSAYS WIDTH	Cu ppm	Ag ppm	Au ppb
		Mineralisation: 191.11 - 193.85 - V. minor v.f. py. 193.85 - 195.41 - Minor pyrrh. along f. carb. lined fracts.							
195.41	196.66	ALTERATION ZONE Andesite, strongly altered adj. to fault zone below. Buff-grey, carb.- ser. alt. Mod.- strongly fract. - qtz/calcite vns. in fracts. @ 40 deg./CA. Minor pyrrh.? along fract. planes.	101480	194.00	196.00	2.00	73	0.1	5
196.66	198.73	FAULT ZONE Highly sheared. 196.66 - 197.21 - Shear. 197.82 - 198.73 - Qtz. carb. bx. zone.	101481	196.00	198.00	2.00	60	0.1	9
198.73	210.00	ALTERATION ZONE Flanking fault zone - andesite, bleached, mottled. Alt. diminishing downhole. Abund. qtz. carb. fracts. var. orientations. 203.3 - 203.91 - Broken. 205.44 - 205.74 - Shear @ 45 deg./CA. 208.33 - 208.67 - Shear/bx zone - fracts. @ 45 deg./CA. 209.09 - 209.85 - Broken.	101482	198.00	200.00	2.00	16	0.1	8
			101483	200.00	202.00	2.00	27	0.1	21
			101484	202.00	204.00	2.00	237	0.1	22
			101485	204.00	206.00	2.00	226	0.1	16
			101486	206.00	208.00	2.00	924	0.4	35
			101487	208.00	210.00	2.00	138	0.2	9
		Mineralisation: 205.59 - Wkly. pyritic shear. 206.9 - 210.31 - Wk. py?, f. dissem. along fracts.							
210.0	213.5	DIORITE? Pale green grey, finely porphyritic (feldspar + dk. ferromags), trachytic texture. Lower contact sharp chilled @ 5 deg./CA. Fractures: 211.38 - Shatter bx., clay chl. gouge. 211.99 - 212.6 - Shatter bx., clay chl. gouge. Mineralisation: 212.75 - 213.51 - Sparsely dissem. py? - cpy along contact.	101488	210.00	212.00	2.00	649	0.2	21
213.5	224.18	ANDESITE	101489	212.00	214.00	2.00	563	0.1	29

I. M. WATSON & ASSOCIATES LTD.

DIAMOND DRILL LOG

PROPERTY: SNOWFLAKE
HOLE No.: SF91-2

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	ASSAYS WIDTH	Cu ppm	Ag ppm	Au ppb
		Sim. to 183.82 - 195.41 above. Section includes pale green f.gr. dykes @ 214.88 - 215.19 and 216.87 - 217.63.	101490	214.00	216.00	2.00	240	0.1	6
			101491	216.00	218.00	2.00	159	0.2	17
			101492	218.00	220.00	2.00	344	0.2	6
		Alteration:	101493	220.00	222.00	2.00	387	0.2	17
		Chlorite, var., spotty.	101494	222.00	224.00	2.00	258	0.2	13
		Fractures:							
		216.96 - 217.23 - Qtz. carb. lined @ 60 deg./CA.							
224.18	225.06	FAULT							
		Carbonatitised fract. zone - Intense fract. @ 70 deg./CA.							
225.06	230.03	ANDESITE	101495	224.00	226.00	2.00	256	0.2	14
		Grey, f.-med. gr.	101496	226.00	228.00	2.00	219	0.2	13
			101497	228.00	230.00	2.00	324	0.1	21
		Alteration:							
		Chlorite - Wk.- mod.							
		Epidote - Minor, local.							
		Fractures:							
		223.9 - 224.3 - Carb./hem. fract. zone @ 70 deg./CA.							
230.03	230.43	ALTERATION/FRACT. ZONE							
		Carb.-ser. alt.							
		Fract. dom. @ 40 deg./CA.							
230.43	235.92	ANDESITE	101498	230.00	232.00	2.00	581	0.1	93
		Grey, mottled buff (carbonatitisation), minor chl/ep alt.	101499	232.00	234.00	2.00	252	0.2	18
		Alteration:							
		Carbonate - Mod.							
		Chlorite/Epidote - Minor.							
		Fractures:							
		Mod. fract., dom. trends 20 deg., 45 deg., & 70 deg./CA.							
		232.84 - 233.17 - carb. healed shatter zone.							
		Mineralisation:							
		Tr. py, cpy?							

I. M. WATSON & ASSOCIATES LTD.

DIAMOND DRILL LOG

PROPERTY: SNOWFLAKE
HOLE No.: SF91-2

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	ASSAYS WIDTH	Cu ppm	Ag ppm	Au ppb
235.92	241.19	ANDESITE Dark grey green. Alteration: Chlorite - Finely spotted throughout. Epidote - Scattered irregular blotches. Fractures: Wkly. fract., mainly 75 deg. & 45 deg./CA, carb. healed. Broken core - 238.96 - 239.27; 240.12 - 240.24; 240.49 - 241.25. Mineralisation: Minor sulphide (py?), as small irreg. patches.	101500	234.00	236.00	2.00	190	0.2	20
			101501	236.00	238.00	2.00	316	0.2	32
			101502	238.00	240.00	2.00	311	0.1	30
241.19	264.07	ANDESITE Dom. grey f.gr. mass. Alteration: Chlorite - Wkly. chloritised. Epidote - Local patches/zones @ 244.3 - 245.06; 246.43 - 246.52; 252.37 - 252.68 (strong pervasive); 257.56 - 257.86. Fractures: Wkly. fract., intense from 263. Mineralisation: 242.16 - 242.62 - Sparse pyrrh.? + v. minor cpy; 257.13 - 264.08 - Cpy along slip planes parallel to CA.	101503	240.00	242.00	2.00	391	0.1	55
			101504	242.00	244.00	2.00	591	0.3	64
			101505	244.00	246.00	2.00	175	0.1	24
			101506	246.00	248.00	2.00	459	0.2	3
			101507	248.00	250.00	2.00	264	0.1	43
			101508	250.00	252.00	2.00	474	0.1	14
			101509	252.00	254.00	2.00	87	0.1	2
			101510	254.00	256.00	2.00	370	0.3	2
			101511	256.00	258.00	2.00	341	0.3	29
			101512	258.00	260.00	2.00	304	0.3	27
			101513	260.00	262.00	2.00	104	0.1	2
			101514	262.00	264.00	2.00	390	0.2	28
264.07	272.6	FAULT ZONE Buff sericitised, carbonatitised/silicified shear/fract. zone, - strongest alt. and shearing @ 266.09 - 270.05. Fractures: Fracturing dom. @ 70 deg./CA, and @ 20-30 deg./CA. Mineralisation: Minor sparsely dissem. sulph. (py?).	101515	264.00	266.00	2.00	288	0.1	220
			101516	266.00	268.00	2.00	179	0.1	2
			101517	268.00	270.00	2.00	483	0.3	3
			101518	270.00	272.00	2.00	616	0.1	4
272.6	285.9	ANDESITE	101519	272.00	274.00	2.00	812	0.1	18

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	ASSAYS FROM	TO	WIDTH	Cu ppm	Ag ppm	Au ppb
		Grey, f.gr., sim. to 241.19 - 264.08.	101520	274.00	276.00	2.00	302	0.1	1
			101521	276.00	278.00	2.00	347	0.1	7
		Alteration:	101522	278.00	280.00	2.00	428	0.1	25
		Weak chl., minor carb. assoct'd. with fracts.	101523	280.00	282.00	2.00	372	0.1	5
		284.2 - 284.7 - Carb.-hem. zone.	101524	282.00	284.00	2.00	1060	0.2	36
		Fractures:							
		Wkly. fract. strongest @ 277.7 - 280. Broken @ 280.7 - 281.9.							
		Mineralisation:							
		V. sparsely dissem. py? throughout.							
		273.1 - Bor. ccp in f. fracts.							
285.9	290.47	ANDESITE	101525	284.00	286.00	2.00	3463	1.0	131
		As above, but mod.- strongly carbonatitised & fract.	101526	286.00	288.00	2.00	4627	0.8	341
			101527	288.00	290.00	2.00	1268	0.4	57
		Alteration:							
		Strong carb. zones @ 284.4 - 284.7; 285.9 - 287.98;							
		and 290.47 - 290.78.							
		290.2 - 290.5 - Hem.-chl. zone.							
		Fractures:							
		285.9 - 286.2 - Shatter/fract. zone.							
		286.9 - 287.4 - Carbonatitised fract. zone.							
		Mineralisation:							
		Erratically dissem. py + local cpy, fract./slip controlled.							
290.47	299.01	ANDESITE (Diorite?)	101528	290.00	292.00	2.00	1623	0.2	26
		Grey green, med. gr., nr. mass.	101529	292.00	294.00	2.00	888	0.4	21
			101530	294.00	296.00	2.00	256	0.1	4
		Fractures:	101531	296.00	298.00	2.00	542	0.1	25
		Wk. to mod. fract. dom. @ 45 & 65 deg./CA, & 20 deg./CA.	101532	298.00	299.00	1.00	862	0.2	63
		Mineralisation:							
		Patchy, weakly dissem. sulph. (py).							
		299.01 - E.O.H.							
		Casing pulled.							

I. M. WATSON & ASSOCIATES LTD.

DIAMOND DRILL LOG

PROPERTY: SNOWFLAKE
HOLE No.: SF91-3
Collar Eastings: 20246.00
Collar Northings: 21302.00
Collar Elevation: 1041.00
Grid: SNOW91
CASING PULLED

Collar Inclination: -50.00
Grid Bearing: 90.00
Final Depth: 299.62 metres
NQ
CORE RACKED @ WILLOW HEIGHTS RANCH, ASPEN GROVE

Logged by: IMW
Date: 26-9-91
Down-hole Survey: acid
DRILLED BY PW DRILLING

FROM	TO	LITHOLOGICAL DESCRIPTION
0	7.32	OVERBURDEN
7.32	58.52	ANDESITE Grey green feldsparphyrric; feldspars pale green, sericitised. Mod - strongly altered; patchily dissem. v.f.gr. mag (strongly magnetic); buff brown in areas of stronger carb. alt'n., mod. fractured. Alteration: Epidote - Strong, pervasive. Chlorite - Moderate, as blebs and fracture linings. Carbonate - Weak, patchy. Fractures: 8.08 - 8.38 - Tight gouge lined slip @ 20 deg./CA. 8.84 - 8.99 - Broken, ep + chl. lined slips 70-80 deg./CA + 15-20 deg./CA. 11.37 - 11.46 - Broken, gouge lined slip @ 55 deg./CA. 11.58 - 2cm gouge lined slip 60 deg./CA. 16.46 - 16.76 - Broken, chloritic slips @ 35 deg. to parallel to CA. 17.83 - 17.98 - Gouge, hem. chl., vuggy carb. 80 deg./CA. 17.98 - 18.90 - Broken in part. 19.51 - 19.81 - Fract. carb. zone; fracts dom. @ 75 deg./CA. 19.96 - 21.64 - Mainly broken incl. 20.42 - 20.57 fault gouge. 24.69 - 25.60 - Shatter zone - tight carb. healed; 2cm gouge @ HW @ 85 deg./CA. 26.24 - Chl. lined slip @ 85 deg./CA. 32.06 - 32.31 - Carb. lined shear + ep @ 30 deg./CA. 33.04 - 33.13 - Carb. hl'd. fract. zone @ 70 deg./CA. 35.54 - 2cm gouge/bx. @ 85 deg./CA. 45.17 - 45.32 - Gouge/carb. vn. zone @ 60 deg./CA. 53.95 - 56.39 - F. intensive fract., fracts irreg. dom. 70-80 deg. and 15-20 deg./CA. Mineralisation: Sparsely-mod. dissem. ext.f. mag. 12.80, 13.23, 13.26, 13.50, 13.66 - Small patches lacy disseminated ccp.

SAMPLE No.	FROM	TO	WIDTH	ASSAYS Cu ppm	Ag ppm	Au ppb
101533	7.32	8.00	0.68	254	0.2	21
101534	8.00	10.00	2.00	212	0.1	7
101535	10.00	12.00	2.00	429	0.1	6
101536	12.00	14.00	2.00	1437	0.2	3
101537	14.00	16.00	2.00	156	0.1	3
101538	16.00	18.00	2.00	678	0.2	5
101539	18.00	20.00	2.00	248	0.1	1
101540	20.00	22.00	2.00	584	0.1	45
101541	22.00	24.00	2.00	563	0.2	9
101542	24.00	26.00	2.00	440	0.2	2
101543	26.00	28.00	2.00	496	0.1	15
101544	28.00	30.00	2.00	469	0.1	10
101545	30.00	32.00	2.00	144	0.1	3
101546	32.00	34.00	2.00	348	0.2	3
101547	34.00	36.00	2.00	385	0.2	6
101548	36.00	38.00	2.00	134	0.2	1
101549	38.00	40.00	2.00	194	0.1	1
101550	40.00	42.00	2.00	573	0.2	6
101551	42.00	44.00	2.00	899	0.2	18
101552	44.00	46.00	2.00	594	0.2	2
101553	46.00	48.00	2.00	629	0.3	5
101554	48.00	50.00	2.00	364	0.1	6
101555	50.00	52.00	2.00	378	0.2	3
101556	52.00	54.00	2.00	428	0.2	3
101557	54.00	56.00	2.00	390	0.2	1
101558	56.00	58.00	2.00	202	0.2	3

I. M. WATSON & ASSOCIATES LTD.

DIAMOND DRILL LOG

PROPERTY: SNOWFLAKE
HOLE No.: SF91-3

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	ASSAYS WIDTH	Cu ppm	Ag ppm	Au ppb
		24.08 - Deep red hem. flecks. 55.32 - Deep red hem. flecks on slip plane.							
58.52	63.03	ANDESITE Grey to pale grey green, increasingly green from 61.9m to lower contact with incr. chl. ep, carb. Some red brown, maroon f. mottling from hem. in fracts./slips. F.-med.gr. but texture largely obscured by alt.; Mod-strongly fractured. Alteration: Carbonate - Pervasive mod., - incr. to strong over lower 1m. Chlorite - Wk.- mod. also incr. to mod over lower 1m. Epidote - Wk. - strengthening over lower 1m. Sericite - Strong over lower 1m. Hematite - Bright red brown flecks - increasing down hole along fracts./slips. Fractures: 58.52 - 59.44 - Numerous breaks 60.05 - 61.87 - Incl. finely broken gougey zone @ 60.66 - 60.96. Fracts. quite irreg. dom. @ 25-30 deg./CA & 65-75 deg./CA. 62.73 - 63.03 - Intensely sheared @ 25 deg./CA. Mineralisation: N.V.S.	101559 101560	58.00 60.00	60.00 62.00	2.00 2.00	321 317	0.3 0.1	5 2
63.03	67.45	ALTERATION/SHEAR ZONE Dom. pale green, mottled grey, purple tuff?, locally brown (siderite?). Texture chaotic. Intensly sheared. Alteration: Clay, carbonate, heavy ser., chl., minor ep. Fractures: Shearing intense 63.03 - 63.70 @ 40 deg./CA. 66.51 - 66.66 @ 60 deg./CA. Mineralisation: Small irreg. shard steely metallic @ 66.75.	101561 101562	62.00 64.00	64.00 66.00	2.00 2.00	732 14	0.3 0.1	2 3

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	ASSAYS FROM	TO	WIDTH	Cu ppm	Ag ppm	Au ppb
67.45	77.02	ANDESITE (sim. to 58.52 - 63.03 above) Dk. grey, greener where ep pervasive or as irreg. patches, locally darkly spotted (chl.), brown mottling strong locally in zones of fract./intense carb. Alteration: Carbonate - Pervasive wk.-mod., locally intense @ 70.56 - 70.96 and 73.234 - 73.61. Chlorite - Wk. - spotty @ 71.93 - 72.24, heavier @ 75.7 - 76.2. Epidote - Wk. - mod. patchy @ 67.45 - 67.67; 71.93 - 72.69. Fractures: Mod. fract. throughout, but broken 74.07 - end of sctn. Fracts. mainly tight carb. hl'd., dom. @ 45 deg./CA, minor 85-90 deg./CA and 25 deg./CA. 74.37 - 74.98 - Gouge (in broken core). 75.68 - 76.20 - Gouge. Mineralisation: N.V.S.	101563	66.00	68.00	2.00	128	0.1	2
			101564	68.00	70.00	2.00	190	0.1	3
			101565	70.00	72.00	2.00	67	0.1	8
			101566	72.00	74.00	2.00	96	0.2	29
			101567	74.00	76.00	2.00	143	0.1	5
77.02	83.58	FAULT/SHEAR ZONE(S) Dom. pale creamy grey, highly carbonatitised, clay gouge/bx. Andesite? - shattered + fragmented between shears @ 80.68 - 81.26; 81.53 - 82.05. 82.05 - 82.91 - Broken core. Shear folt'n @ upper contact @ 5 deg./CA; 70 deg. & 25 deg./CA @ 82.91 - 83.21. Minor qtz. in fract. e.g. 80.01. Minute dk. metallics? in fract. andesite @ 83.39 - 83.82.	101568	76.00	78.00	2.00	190	0.1	24
			101569	78.00	80.00	2.00	332	0.3	43
			101570	80.00	82.00	2.00	469	0.4	6
83.58	94.37	ANDESITE Green-grey, f.gr.; f. massive texture obscured. Alteration: Chlorite - weak. Carb/ep. - irreg., patchy. Fractures: Mod. - closely fract. - usually tight carb. healed, some	101571	82.00	84.00	2.00	124	0.1	14
			101572	84.00	86.00	2.00	85	0.1	23
			101573	86.00	88.00	2.00	104	0.3	1
			101574	88.00	90.00	2.00	87	0.1	2
			101575	90.00	92.00	2.00	107	0.3	3
			101576	92.00	94.00	2.00	116	0.2	9

I. M. WATSON & ASSOCIATES LTD.

DIAMOND DRILL LOG

PROPERTY: SNOWFLAKE
HOLE No.: SF91-3

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	ASSAYS WIDTH	Cu ppm	Ag ppm	Au ppb
		irreg. 45-70 deg./CA. 83.97 - 84.43 - Chl. gouge/broken frags./shear - HW contact 80 deg./CA. 85.04 - 85.80; 89.00 - 89.31; 93.73 - 94.37 - Broken core.							
94.37	99.09	ANDESITE As above but highly fract./shattered, dk. maroon (hem?) streaking, fracts./bx. qtz. healed. Alteration: Carbonate - Wk.- mod. pervasive. Qtz. carb. healed fracts. Fractures: 94.37 - 94.58* - Shatter bx qtz.-carb.- py (3-5% py in nr. mass. fract. fillings) 94.40 - Chl. lined slip @ 80 deg./CA. 95.40 - 96.01; 96.32 - 96.62; 96.93 - 98.15; 98.45 - 99.09 Broken core. 96.9 - 2cm vn. @ 60 deg./CA. Mineralisation: Py as above* + wk. dissem. along fracts./vnlts. @ 94.64, 94.85, 95.13, 95.19, 95.25, 96.83.	101577 101578	94.00 96.00	96.00 98.00	2.00 2.00	246 111	0.2 0.2	3 68
99.09	106.59	ANDESITE Grey green, med.gr. 99.97 - 104.85 - Alt. bx. zone, mottled brown buff; Irreg. brown weath. rounded frags? some with well developed dk. "reaction rims" (1-2mm) - (resemble miniature pillows); Within alt. zone texture obscured. Less altered andesite is med - coarsely crystalline; contains equigranular "crowded" feldspars. Fractures: Irreg. fract. pattern; numerous f. carb. hl'd. fracts dom. 60 deg./CA; core mod. broken throughout. Mineralisation: Irreg. and finely, sparsely dissem. dk. metallic - prob. mag; Rare v.f. erratic, sparse, dissem. py? (sl. bronze) mainly as dustings or small lenses along chl. slips and fracts	101579 101580 101581 101582	98.00 100.00 102.00 104.00	100.00 102.00 104.00 106.00	2.00 2.00 2.00 2.00	132 339 363 245	0.1 0.1 0.2 0.1	12 2 20 13

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	ASSAYS WIDTH	Cu ppm	Ag ppm	Au ppb
		e.g. 100.68, 100.80, 101.16, 105.89, 106.01, 106.16, 106.59.							
106.59	110.19	ANDESITE (similar to 83.58 - 94.37 above.) Grey to grey-green to buff, pale creamy grey in zones of carb. alt.; F.gr., texture obscure in alt. zones. Alteration: Carbonate - Weak to moderate. - 107.90 - 109.73 - Strong carb. Fractures: Wkly.- mod. fract. 60-70 deg./CA and 20-30 deg./CA; 106.98 - 107.29 - slips parallel to CA; 107.69 - 107.81 - Gouge (chl.) lined slip @ 40 deg./CA. Mineralisation: V. minor f. sulph., prob. py, mainly as fract slip linings; e.g. 106.92 - 107.59.	101583 101584	106.00 108.00	108.00 110.00	2.00 2.00	171 172	0.1 0.1	7 19
110.19	125.27	ANDESITE? Fairly uniform buff-grey-green, wkly. mottled, green, buff and grey.; mottling incr. with intensity of alt. from 118.87->. F.gr., nr. mass. Alteration: Epidote - Mainly wk. to mod., most prom. 115.52 - 120.09 - as irreg. or patchily dissem., and as fract linings. Carbonate - Variable, pervasive wk. to locally mod./strong in zones of stronger fracturing.; e.g. 118.87 - 119.33. Chlorite - Wk., small concentrations @ 119.48 - 120.09. Fractures: Mod. fract. throughout dom. trend 45 deg., 70 deg. and 15-20 deg. (latter strongest structs.). 112.90 - 113.05 - Gougey (chl.) fracts @ 60-70 deg./CA. 113.23 - 113.54 - Slip @ 5 deg./CA. 115.37 - 115.67 - @ 5 deg./CA. 117.96 - 118.35 - Broken, slips @ 5-10 deg./CA 118.57 - 119.42 - Shear zone coincident with carb. zone. Mineralisation:	101585 101586 101587 101588 101589 101590 101591	110.00 112.00 114.00 116.00 118.00 120.00 122.00	112.00 114.00 116.00 118.00 120.00 122.00 124.00	2.00 2.00 2.00 2.00 2.00 2.00 2.00	170 168 126 111 95 176 152	0.1 0.1 0.1 0.1 0.1 0.1 0.2	12 4 2 4 1 1 3

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	ASSAYS WIDTH	Cu ppm	Ag ppm	Au ppb
		V. sparse v.f. dissem. mag. 110.64 - Minor v.f. py on slip plane.							
125.27	128.02	ANDESITE Sim. to above, but mod. alt. throughout, pale grey mottled buff. Alteration: Epidote - Patchy, mod. Carbonate - Patchy, weak. Fractures: Randomly oriented, calcite healed @ 20, 44 and 70 deg./CA. Mineralisation: N.V.S.	101592 101593	124.00 126.00	126.00 128.00	2.00 2.00	251 123	0.1 0.1	9 6
128.02	145.69	ANDESITE (similar to 110.19 - 125.27 above). Grey brown, mottled wkly. pale buff + green depending on degree of carb./ep (chl.) alt.; gen. f.- med. gr. Alteration: Carbonate - Generally wk.- mod., locally intense @ 135.48 - 138.07 (transitional zone). Chlorite - Weak. Epidote - Minor. Fractures: Mod.-strongly finely fract., 40% of section broken. 133.50 - 133.62 - Gouge/broken. 135.48 - 138.07 - Intense fract. shearing - irreg. shattering 70 deg. and 20 deg./CA. Mineralisation: Rare, v. sparse, v.f. metallics (magnetite?). 144.78 - 1cm patch v.f. dissem. py.	101594 101595 101596 101597 101598 101599 101600 101601	128.00 130.00 132.00 134.00 136.00 138.00 140.00 142.00	130.00 132.00 134.00 136.00 138.00 140.00 142.00 144.00	2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00	299 169 251 322 101 150 143 269	0.1 0.1 0.1 0.1 0.1 0.2 0.1 0.1	8 5 2 18 1 3 7 9
149.66	155.27	ALTERATION/FRACTURE ZONE Dom. buff. Strongly shattered, sheared. F.W. contact sharp along slip @ 45 deg./CA.	101602 101603 101604 101605	144.00 146.00 148.00 150.00	146.00 148.00 150.00 152.00	2.00 2.00 2.00 2.00	549 112 415 350	0.3 0.1 0.5 0.2	1 19 99 25

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	ASSAYS WIDTH	Cu ppm	Ag ppm	Au ppb
			101606	152.00	154.00	2.00	324	0.4	29
		Alteration: K-spar? - Wk. to mod., pale pinkish brown. Carbonate - Wk. Epidote/chlorite - Minor. Fractures: Shattering/fract. strong to intense to 154.84. Rock darkens and is more finely shattered 154.84 - 160.63. Mineralisation: 153.77 - 155.27 - F. abund. py. Minor ccp as fract. fillings in sil./carb. alt. zone.							
155.27	160.63	ALTERATION /FRACTURE ZONE As above, but pervasive silicification. Fracturing less intense; Mineralisation: 156.06 - 157.89 - Ccp + py. Ccp dominant but diminishing down hole; occurs mainly as fine dustings along chloritic slip planes 70-80 deg./CA. 157.89 - 160.32 - Py as above, but decreasing down hole.	101607 101608 101609	154.00 156.00 158.00	156.00 158.00 160.00	2.00 2.00 2.00	1602 951 233	1.2 0.4 0.1	4 6 24
160.63	164.29	CRYSTAL TUFF? / AND. PORPHYRY? Grey becoming grey green f.gr. containing small angular pink phenocrysts or clasts? Alteration: Mod. silicified; - minor chl. along fracts. Mineralisation: Wk. py as sparsely dissem. minute xtals along fract. planes.	101610 101611	160.00 162.00	162.00 164.00	2.00 2.00	125 185	0.1 0.3	10 9
164.29	168.65	FAULT/ALTERATION ZONE Dom. pale creamy grey f.gr. (andesitic tuff?), silicified, wkly. carbonatitised; intensely shattered bx'd. Qtz. carb. healed. Fractures: Strong, curving but dom. @ 10-20 deg./CA. Mineralisation:	101612 101613	164.00 166.00	166.00 168.00	2.00 2.00	1046 1687	0.7 0.9	16 5

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	ASSAYS WIDTH	Cu ppm	Ag ppm	Au ppb
		Sulphides assoc. with chlorite - mainly ccp and minor bornite. Py along later fracts. and in qtz. vns. Best min. 165.51 - 166.57.							
168.65	170.08	TUFF? / (SHEAR ZONE) Grey green, becoming maroon, ext. contorted f. bedding/folt'n. from 45 deg./CA (dom.) to parallel to /CA. Irreg. qtz. carb. blebs/patches. Mineralisation: Rare isolated v. small py/ccp? clusters.	101614	168.00	170.00	2.00	278	0.3	10
170.08	175.56	FAULT/ALTERATION ZONE Sim. to 164.29 - 168.65 above. Upper contact @ 45 deg./CA; becomes incr. chloritic to lr. contact; fracts./shears @ 5-10 deg./CA; fracts @ 70-80 deg./CA. Mineralisation: V. sparse sulphides - isolated small blebs.	101615	170.00	172.00	2.00	85	0.3	1
			101616	172.00	174.00	2.00	29	0.1	1
175.56	250.55	DIORITE (Upper contact transitional with fault zone); intermingling of tuff/andesite. Grey green - apple green in zones of intense ep alt.; med.gr. equigran., massive. Fels., green pyrox; abundant mag. 234.7 - 250.55 - coarser gabbroic phases. Alteration: Epidote zones: 180.81 - 181.05; 182.97 - 183.03; 185.93 - 186.54; 187.70 - 187.91; 188.24 - 188.31; 191.11 - 191.26; 193.55 - 193.85; 196.29 - 196.47; 203.00 - 203.09; 204.52 - 204.64; 207.26 - 207.57; 213.12 - 213.30; 214.58 - 214.88; 217.02 - 224.33 - 15-20% ep patches zones incl. 223.60 - 224.53 - 100% ep.; 233.48 - 233.78; 234.09 - 234.39. Kspar: 210.83 - 211.23 - pink K spar blebs. Fractures: 215.49 - 216.10 - Fract. zone; fracts. parallel/CA and	101617	174.00	176.00	2.00	48	0.2	4
			101618	176.00	178.00	2.00	318	0.3	6
			101619	178.00	180.00	2.00	141	0.1	1
			101620	214.00	216.00	2.00	42	0.2	8
			101621	218.00	220.00	2.00	39	0.1	1
			101622	232.00	234.00	2.00	42	0.5	1
			101623	234.00	236.00	2.00	12	0.2	4
			101624	236.00	238.00	2.00	8	0.3	3
			101625	244.00	246.00	2.00	20	0.3	2
			101626	246.00	248.00	2.00	14	0.3	1
			101627	248.00	250.00	2.00	16	0.2	1

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	ASSAYS WIDTH	Cu ppm	Ag ppm	Au ppb
		45 deg./CA; 231.95 - 232.56 - 15 deg./CA (contains qtz. vn. bx. @ 232.04 - 232.17. 236.22 - 239.57 - Fracts./minor quartz veins. 243.84 - 249.94 - Fract. zone containing patchy strong ep alteration. Fracts. dom. @ 10-15 deg./CA.							
250.55	252.07	SHEAR/ALTERATION ZONE Strong ep-carb-chl. 251.16 - 251.31 - Main shear zone @ 15 deg./CA.	101628	250.00	252.00	2.00	18	0.3	1
252.07	288.83	PYROXENITE Dk. olive green, crse. gr., rough texture, mass. Some dark, finer gr. phases, apparently transitional with coarser material. Strongly disseminated magnetite throughout. 263.60 - 264.11 - Strong hem. lined slip @ 15 deg./CA. 264.11 - 267.61 - Numerous carb. healed (tight) tension fracts. dom. @ 45-50 deg./CA. 269.11 - 270.66 - Strong slips/fracts. @ 10 deg./CA. 287.06 - 287.43 - Fracture/fault zone/contact? Irreg. intense fracturing, purple amythestine qtz. blebs and stringers accomp. by dissem. glomero-porphyritic pyrite (5%). 280.93 - 291.39 - F.gr. mass. pale green grey dykes. 288.83 - 289.57 - F.gr. mass. pale green grey dykes. Upper contact @ 65 deg./CA. Lower contact @ 50 deg./CA. 292.00 - 294.25 - F.gr. mass. pale green grey dykes.	101629	286.00	288.00	2.00	18	0.3	1
		299.62 - EOH							

APPENDIX 2

CERTIFICATES OF ANALYSIS

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

I.M. Watson & Assoc. Ltd. PROJECT SNOWFLAKE FILE # 91-3892 Page 1
904 - 675 W. Hastings St., Vancouver BC V6B 1N2 Attn: I.M.WATSON

SAMPLE#	Cu ppm	Ag ppm	As ppm	Sb ppm	Hg ppm	Au* ppb	SAMPLE lb
D 108885	569	.2	10	2	1	78	10
D 108886	408	.1	10	2	1	34	14
D 108887	1158	.4	14	2	1	145	8
D 108888	1175	.4	9	2	1	140	12
D 108889	670	.1	11	2	1	34	10
D 108890	618	.2	6	2	1	79	15
D 108891	549	.3	14	2	1	73	9
D 108892	933	.7	13	2	1	92	10
D 108893	1585	1.4	25	2	1	69	8
D 108894	992	.1	12	2	1	95	10
D 108895	1330	.3	10	2	1	206	14
D 108896	777	.3	17	2	1	107	10
D 108897	891	.3	12	2	1	50	8
D 108898	282	.1	15	2	1	23	12
D 108899	543	.1	14	2	1	76	16
D 108900	457	.1	7	2	1	36	13
D 108901	571	.2	9	2	1	43	13
D 108902	896	.3	15	2	1	142	15
D 108903	882	.2	11	2	1	73	13
D 108904	1673	.4	22	2	1	103	12
D 108905	1109	.3	17	2	1	38	15
D 108906	668	.2	5	2	1	85	6
D 108907	658	.2	10	2	1	88	4
RE D 108903	873	.2	11	2	1	72	-
D 108908	2286	.9	22	2	1	114	12
D 108909	361	.2	12	2	1	42	10
D 108910	438	.1	8	2	1	42	14
D 108911	790	.3	7	2	1	53	12
D 108912	805	.4	5	2	2	71	15
D 108913	1025	.4	13	2	1	73	11
D 108914	592	.3	13	2	1	52	11
D 108915	4387	1.7	65	2	1	1670	17
D 108916	1078	.5	13	2	1	119	10
D 108917	1711	.5	15	2	1	240	12
D 108918	171	.1	15	2	1	40	8
D 108919	62	.2	14	2	1	12	12
D 108920	71	.2	12	2	1	4	8
STANDARD C/AU-R	56	6.9	40	16	2	465	-

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE. Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: AUG 27 1991 DATE REPORT MAILED: Aug 31/91

SIGNED BY. . . . . D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

SAMPLE#	Cu ppm	Ag ppm	As ppm	Sb ppm	Hg ppm	Au* ppb	SAMPLE lb
D 108921	5689	2.7	6	2	1	43	10
D 108922	15959	7.1	5	2	1	170	11
D 108923	2610	.7	3	2	1	160	11
D 108924	12552	2.0	7	2	1	74	12
D 108925	7806	2.9	5	2	1	26	12
D 108926	5503	.5	5	2	1	72	13
D 108927	6689	1.7	6	2	1	65	14
D 108928	317	.2	8	2	1	11	14
D 108929	2713	1.6	6	2	1	51	10
RE D 108927	6779	1.7	6	2	1	51	-
D 108930	7213	3.6	6	2	1	122	10
D 108931	100	.2	9	2	1	7	14
STANDARD C/AU-R	58	6.9	38	14	3	460	-

Samples beginning 'RE' are duplicate samples.

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

I.M. Watson & Assoc. Ltd. PROJECT SNOWFLAKE FILE # 91-4223

904 - 675 W. Hastings St., Vancouver BC V6B 1N2

SAMPLE#	Cu ppm	Ag ppm	As ppm	Sb ppm	Hg ppm	Au* ppb
E 12541	34	.1	15	2	1	4
E 12542	187	.1	4	2	1	13
E 12543	537	.1	12	2	1	55
E 12544	224	.3	10	2	1	3
E 12545	150	.2	8	2	1	2
E 12546	211	.3	7	2	1	5
RE E 12546	218	.4	8	2	1	4
E 12547	71	.2	10	2	1	2
E 12548	1445	.1	7	2	1	16
STANDARD C/AU-R	56	7.4	40	16	1	460

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM. ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE. Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: SEP 9 1991 **DATE REPORT MAILED:** Sept 12/91

SIGNED BY.....D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

ACME ANALYTICAL LABORATORIES LTD. [illegible] E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-8 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

I.M. Watson & Assoc. Ltd. PROJECT SNOWFLAKE File # 91-4367 Page 1

904 - 675 W. Hastings St., Vancouver BC V6B 1N2

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
D 108501	1	1473	10	81	.7	4	18	856	6.02	2	5	ND	1	133	.2	2	9	126	3.63	.148	6	7	1.47	108	.23	8	1.97	.04	.07	1	82
D 108502	1	1431	3	66	.7	5	15	844	5.03	12	5	ND	1	130	.3	11	8	108	6.25	.138	6	4	.80	515	.10	8	1.46	.03	.11	1	62
D 108503	2	1969	3	68	.5	16	20	1061	5.59	22	5	ND	1	168	.2	2	10	145	5.52	.113	6	33	1.34	98	.19	7	1.45	.04	.08	1	284
D 108504	1	1375	2	64	.6	19	20	977	5.94	4	5	ND	1	175	.2	2	9	169	4.44	.127	6	44	1.42	31	.23	10	1.72	.04	.08	1	263
D 108505	1	500	5	69	.5	11	18	808	5.08	4	5	ND	1	170	.2	2	3	152	3.58	.139	6	29	1.47	35	.20	11	1.75	.04	.05	1	33
D 108506	1	2530	3	71	.8	13	21	881	6.09	3	5	ND	1	146	.2	2	13	171	3.79	.142	6	24	1.49	34	.24	7	1.70	.05	.06	1	367
D 108507	1	2393	2	64	.7	10	20	1003	6.27	2	5	ND	1	160	.2	2	13	173	5.27	.157	6	16	1.22	81	.20	6	1.54	.05	.06	1	220
D 108508	1	3029	4	76	.8	5	21	827	6.56	2	5	ND	1	143	.2	2	12	168	3.05	.158	6	8	1.53	76	.23	8	1.88	.06	.07	1	346
D 108509	1	4584	5	71	1.6	10	20	850	5.96	3	5	ND	1	129	.2	2	19	161	3.91	.137	5	19	1.43	148	.24	8	1.71	.06	.07	1	504
D 108510	2	4014	3	69	.9	8	19	950	5.80	6	5	ND	1	147	.2	2	18	148	4.24	.137	6	16	1.35	70	.21	6	1.59	.06	.08	1	472
D 108511	1	1170	2	104	.4	49	30	1303	6.36	11	5	ND	1	147	.2	3	4	126	6.63	.115	5	105	3.47	27	.09	8	2.77	.04	.04	1	60
D 108512	2	6629	5	104	1.0	14	19	1226	5.21	80	5	5	1	91	.8	14	23	81	9.30	.139	6	35	1.80	128	.01	8	.92	.03	.15	2	651
D 108513	1	2996	4	83	1.0	11	18	1039	4.13	7	5	ND	1	126	.3	2	13	73	6.38	.133	6	15	1.20	41	.03	9	1.47	.04	.22	1	89
D 108514	1	1131	4	110	.5	14	23	1017	5.12	3	5	ND	1	106	.2	3	5	104	5.48	.149	7	12	1.72	404	.02	9	1.75	.04	.20	1	336
D 108515	1	313	3	65	.2	10	19	989	4.66	3	5	ND	1	115	.2	2	2	117	4.91	.131	6	15	1.43	320	.06	12	1.31	.04	.17	1	12
D 108516	1	217	5	51	.1	9	15	677	3.65	5	5	ND	1	85	.2	2	2	89	4.22	.141	6	18	.85	47	.03	14	1.02	.04	.24	1	2
D 108517	1	145	6	67	.1	7	16	1095	3.88	2	5	ND	1	106	.2	2	2	71	6.34	.131	5	14	1.27	39	.01	12	.78	.04	.26	1	17
D 108518	1	1198	6	70	.3	7	13	957	3.46	5	5	ND	1	91	.4	2	6	46	5.43	.131	5	10	.98	46	.01	12	.57	.04	.28	1	74
D 108519	1	1342	13	72	.4	10	19	933	5.13	2	5	ND	1	92	.2	2	7	118	3.85	.131	6	18	1.42	49	.04	9	1.36	.04	.21	1	651
D 108520	1	2997	4	126	.3	9	25	739	6.16	2	5	ND	1	84	.2	2	13	102	3.60	.132	6	16	1.59	28	.02	8	1.90	.04	.22	1	241
D 108521	1	3637	2	85	.6	7	18	1027	4.51	2	5	ND	1	96	.3	2	14	68	5.30	.131	5	12	1.34	31	.01	11	1.31	.03	.29	1	441
D 108522	1	584	2	66	.1	8	14	1028	3.58	2	5	ND	1	110	.2	2	3	60	6.75	.130	6	12	.95	36	.01	12	1.40	.04	.26	1	6
D 108523	1	1764	4	95	.4	10	20	1167	5.95	7	5	ND	1	160	.2	2	11	164	4.09	.123	6	21	1.71	46	.19	10	1.86	.08	.05	1	210
D 108524	1	484	3	143	.2	13	23	1086	6.67	8	5	ND	1	147	.2	2	2	172	2.92	.158	5	18	2.38	44	.22	11	2.49	.07	.05	1	20
D 108525	1	1646	2	80	.5	13	18	1133	5.36	4	5	ND	1	111	.2	2	9	156	4.86	.132	6	26	1.71	30	.17	6	1.72	.06	.09	1	305
D 108526	1	1132	2	65	.4	4	16	798	5.30	4	5	ND	1	141	.2	2	7	134	3.78	.141	7	8	1.25	47	.12	9	1.54	.08	.07	1	241
D 108527	1	1138	2	74	.4	4	18	714	5.90	4	5	ND	1	152	.2	2	5	143	2.64	.158	7	7	1.57	93	.25	12	1.85	.08	.06	1	241
D 108528	1	1647	2	85	.6	7	20	940	5.78	8	5	ND	1	141	.2	2	9	164	3.42	.155	7	8	1.58	42	.22	9	1.63	.06	.06	1	220
D 108529	1	1927	3	74	1.0	5	16	925	5.08	4	5	ND	1	132	.2	2	11	132	3.97	.134	7	9	1.36	44	.19	9	1.50	.06	.09	1	294
D 108530	1	382	2	146	.2	19	24	1136	5.88	6	5	ND	1	142	.2	2	2	135	4.46	.168	8	25	2.25	39	.12	7	2.04	.05	.16	1	3
D 108531	1	78	2	111	.1	16	21	1158	4.60	2	5	ND	1	102	.2	2	2	84	5.21	.175	8	18	1.80	17	.01	12	1.38	.04	.31	1	2
D 108532	1	1020	6	115	.3	12	21	1177	4.82	6	5	ND	1	113	.2	2	5	102	4.84	.162	8	14	1.78	35	.04	9	1.57	.05	.27	1	28
RE D 108529	1	2006	2	78	.9	5	17	954	5.19	6	5	ND	1	135	.2	2	11	134	4.10	.140	7	8	1.41	46	.18	8	1.55	.06	.10	1	294
D 108533	3	1980	2	91	.4	15	18	1092	4.86	8	5	ND	1	83	.2	4	11	145	4.23	.140	7	26	1.32	40	.02	9	1.21	.05	.17	1	231
D 108534	5	1993	3	80	.1	9	19	1235	4.68	7	5	ND	1	97	.2	6	11	85	5.38	.116	6	10	1.22	33	.01	12	.97	.04	.26	1	210
D 108535	4	3108	7	71	.6	5	17	1285	4.46	5	5	ND	1	89	.3	2	13	53	4.94	.134	6	8	1.53	31	.01	12	.66	.04	.36	2	305
D 108536	4	2247	8	73	.4	8	19	1263	4.27	6	5	ND	1	110	.3	2	10	54	5.23	.121	5	10	1.31	28	.01	14	.95	.04	.30	1	263
STANDARD C/AU-R	18	59	38	132	7.0	69	32	1038	3.95	42	18	7	38	52	18.7	16	19	57	.48	.089	39	58	.88	176	.09	32	1.88	.07	.15	11	462

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE. Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: SEP 11 1991 **DATE REPORT MAILED:** Sept 16/91. **SIGNED BY** ..... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
D 108537	4	2241	5	67	.5	9	15	906	3.85	4	5	ND	1	102	.4	2	9	96	4.94	.119	7	12	.96	50	.01	8	1.12	.04	.18	1	150
D 108538	1	1519	3	60	.5	5	14	1007	4.00	5	5	ND	1	87	.3	2	9	101	4.53	.095	6	10	1.10	53	.06	7	1.24	.04	.15	1	57
D 108539	3	5494	7	84	.5	9	20	1122	6.58	63	5	ND	1	124	.5	7	20	170	4.59	.096	66	14	1.47	48	.04	6	1.57	.06	.07	2	170
D 108540	1	2231	3	75	.3	9	19	1260	5.23	9	5	ND	1	94	.3	2	12	159	3.96	.104	14	18	1.51	30	.10	5	1.36	.05	.06	1	160
RE D 108544	2	1260	5	126	.6	31	24	1275	5.34	7	5	ND	1	112	.6	4	6	110	6.94	.108	6	44	2.35	29	.05	7	1.46	.04	.18	2	150
D 108541	3	3639	4	68	1.4	11	15	991	4.33	6	5	ND	1	93	.5	2	17	168	4.09	.099	7	21	1.28	36	.19	5	1.19	.05	.08	1	530
D 108542	1	2919	8	72	1.1	6	16	833	4.28	9	5	ND	1	84	.5	2	14	113	4.16	.103	8	8	1.61	43	.03	6	1.67	.04	.17	2	280
D 108543	8	2591	5	81	1.4	12	16	941	3.95	27	5	ND	1	115	1.3	60	12	69	5.91	.109	6	15	1.53	24	.01	12	1.49	.05	.27	1	240
D 108544	2	1245	4	129	.5	30	24	1285	5.46	6	5	ND	1	113	.6	2	7	111	7.00	.109	6	45	2.40	30	.05	6	1.50	.04	.18	1	109
D 108545	1	228	3	111	.3	27	21	1165	5.55	7	5	ND	1	105	.2	2	2	115	6.82	.131	6	53	1.62	42	.07	10	1.62	.05	.21	1	30
D 108546	2	720	3	110	.4	25	19	851	4.55	19	5	ND	1	102	.6	16	3	81	6.51	.138	6	40	1.17	172	.02	12	1.35	.04	.27	1	44
D 108547	1	889	7	87	.4	15	12	814	3.19	13	5	ND	1	115	.7	5	6	57	8.21	.125	5	10	.44	1300	.01	16	.87	.05	.27	1	14
D 108548	2	1227	7	103	.5	17	22	1004	5.29	5	5	ND	1	87	.4	2	8	113	5.50	.123	8	27	1.56	81	.06	10	1.57	.04	.20	1	300
STANDARD C/AU-R	18	55	39	133	7.0	71	34	1046	3.98	41	17	6	36	53	18.6	16	20	55	.48	.091	38	59	.88	179	.09	34	1.89	.06	.15	11	450

Samples beginning 'RE' are duplicate samples.

ME YTI LAI TOR LTD & 3.] ING . V)UVE .C. A 1] IE(6 253- B 604 -17

GEOCHEMICAL ANALYSIS CERTIFICATE

I.M. Watson & Assoc. Ltd. PROJECT SNOWFLAKE File # 91-4607 Page 1

904 - 675 W. Hastings St., Vancouver BC V6B 1N2

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
A 101401	4	60	24	68	.3	8	17	1000	4.60	11	5	ND	2	129	.2	2	2	98	4.37	.120	7	10	1.60	89	.09	13	2.33	.07	.13	1	51
A 101402	4	79	8	51	.2	8	20	1018	4.69	14	5	ND	1	121	.4	2	2	95	3.85	.117	5	11	1.66	109	.13	11	2.56	.11	.09	1	16
A 101403	3	77	7	54	.2	10	17	872	5.06	7	5	ND	1	133	.5	2	2	114	3.01	.119	4	14	1.83	40	.17	10	2.84	.13	.05	1	22
A 101404	4	113	2	59	.1	10	17	825	5.00	5	5	ND	1	140	.2	2	2	123	2.62	.131	4	10	1.93	33	.14	12	2.80	.11	.05	1	11
A 101405	7	494	3	64	.5	6	29	790	4.67	3	5	ND	1	115	.4	2	2	140	3.62	.139	7	6	1.56	132	.14	7	2.10	.09	.11	1	21
RE A 101409	6	209	6	43	.1	8	25	713	4.79	6	5	ND	1	100	.4	2	2	104	3.52	.127	8	14	1.80	57	.06	6	2.14	.08	.14	1	21
A 101406	3	281	5	61	.1	11	20	927	4.84	2	5	ND	1	96	.4	2	2	100	4.89	.121	8	12	1.88	45	.05	8	2.33	.05	.17	1	9
A 101407	2	99	5	64	.1	9	13	956	4.36	6	5	ND	1	90	.2	2	2	117	3.16	.138	9	9	2.08	41	.07	4	2.40	.08	.09	1	8
A 101408	4	334	3	45	.3	7	22	819	4.98	3	5	ND	1	111	.2	2	2	113	2.93	.128	9	7	1.65	53	.05	5	2.06	.09	.10	1	17
A 101409-	6	206	2	44	.1	8	25	713	4.77	4	5	ND	1	98	.2	2	2	101	3.51	.125	8	14	1.79	56	.06	6	2.10	.08	.14	1	18
A 101410	5	291	3	36	.2	7	19	774	3.82	2	5	ND	2	116	.2	2	2	67	6.91	.102	10	6	1.27	57	.01	8	1.67	.05	.19	1	17
A 101411	3	448	3	51	.3	6	19	761	4.62	7	5	ND	1	92	.3	2	2	79	4.55	.139	7	8	1.42	61	.01	8	1.83	.07	.22	1	14
A 101412	1	47	5	38	.1	6	13	858	4.33	37	5	ND	1	92	.2	2	2	74	4.61	.141	7	6	1.54	51	.01	9	1.30	.06	.21	1	5
A 101413	3	518	2	39	.1	8	21	746	4.09	19	5	ND	1	98	.2	2	2	92	4.05	.132	9	9	1.56	105	.02	7	1.85	.07	.18	1	13
A 101414	1	189	3	48	.3	7	17	951	5.09	159	5	ND	2	83	.4	2	2	110	4.13	.134	8	10	1.78	69	.03	7	1.98	.08	.13	1	11
A 101415	1	132	4	41	.1	7	14	924	3.97	48	5	ND	2	123	.3	2	2	98	4.27	.135	8	8	1.58	86	.03	7	1.61	.07	.18	1	7
A 101416	1	93	2	45	.1	7	12	982	4.35	22	5	ND	1	121	.2	2	2	92	3.96	.137	7	8	1.69	83	.03	8	1.84	.07	.14	1	12
A 101417	1	136	4	43	.1	5	12	895	4.19	44	5	ND	1	83	.2	2	2	59	4.97	.132	4	5	1.49	48	.01	11	.88	.05	.27	1	21
A 101418	2	89	4	45	.1	7	14	953	3.94	153	5	ND	1	71	.4	2	2	66	4.12	.136	6	9	1.53	50	.01	8	1.02	.06	.23	1	11
A 101419	2	203	6	82	.1	7	13	1009	3.92	151	5	ND	2	97	.2	2	2	47	6.00	.137	6	6	1.25	45	.01	12	1.26	.05	.32	1	13
A 101420	1	579	2	48	.4	4	18	943	3.91	108	5	ND	2	92	.3	2	2	40	4.96	.137	3	4	1.36	90	.01	12	.71	.05	.26	1	16
A 101421	2	249	2	38	.1	6	28	793	5.68	246	5	ND	1	66	.3	2	2	120	3.52	.129	7	5	1.74	90	.02	7	1.58	.06	.21	1	7
A 101422	4	855	2	34	.2	5	19	639	5.38	187	5	ND	1	89	.2	2	2	136	3.30	.124	8	5	1.55	74	.07	7	1.79	.07	.10	1	34
A 101423	1	523	5	37	.1	5	16	625	5.52	10	5	ND	1	113	.3	2	2	156	3.08	.129	6	7	1.64	129	.13	9	2.16	.09	.08	1	22
A 101424	1	252	4	37	.1	4	23	555	4.87	4	5	ND	1	141	.3	2	2	177	3.16	.136	4	3	1.49	115	.17	6	2.46	.12	.08	1	7
A 101425	2	267	2	39	.1	5	23	528	5.43	4	5	ND	1	145	.2	2	2	175	3.12	.132	4	6	1.51	222	.21	8	2.64	.16	.12	1	7
A 101426	2	402	3	43	.1	5	17	592	5.28	4	5	ND	1	131	.2	2	2	164	3.18	.129	6	4	1.44	85	.17	10	2.12	.11	.09	1	14
A 101427	4	274	6	47	.1	4	26	602	4.93	5	5	ND	1	221	.4	2	2	127	2.82	.134	5	4	1.53	72	.13	7	2.24	.10	.04	1	12
A 101428	6	396	4	50	.2	4	26	716	4.61	13	5	ND	1	164	.2	2	2	132	3.51	.138	8	4	1.59	89	.11	5	2.12	.08	.08	1	11
A 101429	4	252	4	47	.1	4	18	742	4.71	8	5	ND	1	102	.2	2	2	142	3.69	.130	6	4	1.78	118	.13	5	2.09	.08	.10	1	6
A 101430	4	178	2	50	.1	4	18	675	5.15	43	5	ND	1	160	.4	2	2	157	2.30	.139	5	3	1.86	38	.13	6	2.26	.08	.04	1	8
A 101431	5	123	5	47	.1	4	15	702	5.25	35	5	ND	1	167	.5	2	2	165	2.98	.135	5	3	1.64	41	.16	7	2.27	.10	.06	1	10
A 101432	4	141	3	47	.1	5	14	743	4.99	169	5	ND	2	196	.2	2	2	143	4.01	.127	7	3	1.67	98	.12	7	2.34	.09	.04	1	12
A 101433	5	155	2	54	.1	5	18	694	4.88	27	5	ND	1	201	.3	2	2	139	3.12	.127	5	4	1.73	127	.14	6	2.58	.09	.06	1	12
A 101434	3	77	6	44	.1	4	16	647	5.58	24	5	ND	1	150	.4	2	2	169	2.94	.130	5	3	1.59	42	.17	7	2.51	.10	.05	1	11
A 101435	1	55	2	36	.1	4	17	593	5.18	15	5	ND	1	137	.2	2	2	162	2.90	.133	6	3	1.47	59	.18	10	2.21	.10	.08	1	6
A 101436	2	201	5	35	.1	5	27	568	5.77	24	5	ND	1	163	.2	2	2	167	2.96	.134	7	5	1.47	60	.15	8	2.45	.12	.09	1	13
STANDARD C/AU-R	19	60	38	132	7.2	75	34	1027	3.91	43	20	7	39	53	18.5	16	18	59	.48	.093	39	59	.89	175	.08	34	1.91	.06	.13	11	460

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE. Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: SEP 19 1991 **DATE REPORT MAILED:** Sept 23/91. **SIGNED BY** .....D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
A 101437	3	830	2	30	.3	5	30	559	5.09	8	5	ND	2	101	1.5	2	2	129	2.53	.108	7	3	1.53	59	.17	7	2.06	.06	.10	1	8
A 101438	2	284	2	33	.1	2	12	570	4.53	6	5	ND	1	116	1.3	2	2	135	2.52	.104	4	1	1.61	66	.17	6	1.97	.06	.06	1	10
A 101439	7	147	2	31	.1	7	12	587	3.92	8	5	ND	1	146	1.1	2	2	124	3.17	.104	4	14	1.66	106	.18	6	2.13	.07	.09	1	4
D 108549	5	47	4	46	.1	8	13	924	3.84	29	5	ND	1	177	.4	2	2	75	4.08	.107	7	10	1.72	23	.09	7	1.89	.06	.03	1	4
D 108550	3	88	2	60	.1	11	15	985	4.59	17	5	ND	1	140	.4	2	2	101	3.17	.119	7	16	2.24	28	.13	7	2.18	.05	.04	1	7
RE A 101437	3	805	2	31	.2	5	34	614	5.52	6	5	ND	1	102	.7	2	2	137	2.91	.121	7	2	1.68	58	.18	7	2.07	.06	.10	1	12
STANDARD C/AU-R	19	60	40	132	7.5	70	34	1050	3.94	40	21	6	40	52	18.7	14	18	56	.47	.091	39	58	.88	177	.09	32	1.91	.06	.15	12	490

Samples beginning 'RE' are duplicate samples.

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

I.M. Watson & Assoc. Ltd. PROJECT SNOWFLAKE File # 91-4635 Page 1

904 - 675 W. Hastings St., Vancouver BC V6B 1N2

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
A 101440	2	91	2	38	.4	3	17	630	5.14	4	5	ND	1	104	.2	2	2	145	3.11	.128	4	7	1.66	47	.15	7	2.35	.07	.09	1	20
A 101441	1	133	2	36	.4	3	16	656	5.20	4	5	ND	1	108	.2	2	2	162	3.50	.128	4	4	1.53	58	.20	7	2.25	.08	.08	1	8
A 101442	1	186	2	39	.5	4	22	650	5.19	2	5	ND	1	130	.4	2	2	142	3.26	.124	4	6	1.47	55	.16	6	2.14	.10	.05	1	14
A 101443	1	426	2	37	.7	3	28	566	5.42	3	5	ND	1	131	.7	2	2	160	2.78	.128	5	4	1.52	86	.22	8	2.44	.10	.08	1	9
A 101444	1	143	4	36	.3	3	16	450	5.28	2	5	ND	1	90	.3	2	2	161	2.24	.127	3	3	1.54	72	.20	7	2.37	.10	.07	1	16
A 101445	1	152	4	36	.3	4	15	461	5.04	2	5	ND	1	92	.6	2	2	177	2.45	.131	2	7	2.02	173	.26	7	2.54	.11	.06	1	8
A 101446	1	323	2	33	.3	3	17	507	4.87	2	5	ND	1	87	.2	2	2	153	3.09	.125	4	2	1.73	65	.22	4	2.15	.08	.08	1	12
A 101447	1	724	5	33	.7	4	14	523	5.13	10	5	ND	1	81	.5	2	2	154	3.33	.130	4	7	1.73	89	.20	6	2.04	.08	.17	1	27
A 101448	1	1464	3	71	.9	3	20	641	4.18	13	5	ND	1	99	.2	2	2	61	5.45	.117	6	3	1.43	49	.01	8	1.17	.04	.20	1	48
A 101449	19	1628	6	53	.9	4	21	518	3.77	55	5	ND	1	75	.4	2	4	80	4.30	.110	7	4	1.59	43	.02	5	1.50	.04	.17	1	92
A 101450	4	425	3	47	.7	3	15	498	5.16	11	5	ND	1	98	.8	2	2	153	2.90	.125	5	5	1.76	84	.19	8	2.30	.09	.08	1	17
A 101451	1	276	4	43	.3	3	14	627	4.94	9	6	ND	1	85	.6	2	2	149	3.08	.131	6	3	1.79	64	.19	5	2.02	.07	.08	1	9
A 101452	4	248	2	81	.8	4	15	735	5.01	13	5	ND	1	124	1.1	2	2	149	3.12	.130	8	3	1.61	41	.16	8	2.03	.09	.05	1	19
A 101453	2	134	2	79	.1	7	17	780	5.06	9	5	ND	1	141	.4	2	2	144	2.56	.141	4	9	1.72	51	.17	11	2.43	.09	.05	1	4
A 101454	1	145	2	86	.3	15	21	817	4.90	5	5	ND	1	126	.2	2	2	143	3.04	.145	3	16	1.85	23	.17	9	2.44	.09	.02	1	4
A 101455	2	281	3	82	.4	11	21	825	4.75	14	5	ND	1	162	.7	2	2	134	2.95	.143	4	12	2.07	37	.18	22	2.57	.09	.02	1	4
A 101456	6	241	13	83	.7	5	20	493	5.22	9	5	ND	1	139	1.4	2	2	132	2.43	.140	6	8	1.51	78	.15	9	2.72	.13	.05	1	8
A 101457	5	365	25	134	.5	4	22	666	5.25	10	5	ND	1	196	1.7	2	2	128	4.83	.126	7	3	1.14	65	.08	8	2.22	.13	.03	1	24
A 101458	4	305	10	66	.4	4	27	440	5.62	15	5	ND	1	130	.7	2	2	135	3.07	.124	4	4	1.21	68	.14	9	2.54	.12	.05	1	11
A 101459	4	231	5	35	.5	4	22	537	5.02	8	5	ND	1	163	.5	2	2	148	4.26	.118	6	6	1.17	55	.11	9	2.35	.13	.05	1	14
A 101460	4	337	7	63	.6	4	22	746	5.09	8	5	ND	1	139	.9	2	2	132	4.46	.117	5	3	1.71	120	.14	6	2.40	.09	.02	1	370
A 101461	7	526	12	49	.7	4	22	651	4.69	15	5	ND	2	160	1.1	2	2	128	4.33	.127	8	3	1.33	56	.08	9	2.16	.10	.05	1	97
A 101462	14	398	3	46	.6	5	30	588	5.38	19	5	ND	1	152	1.3	2	2	139	3.45	.131	4	7	1.67	90	.13	9	2.62	.10	.06	1	40
A 101463	46	364	10	53	.6	4	31	480	4.79	9	5	ND	1	150	.7	2	2	139	2.71	.128	3	5	1.57	119	.16	9	2.67	.13	.05	1	24
A 101464	46	616	10	110	.7	4	32	578	4.94	10	5	ND	1	165	1.2	2	2	136	2.91	.128	5	4	1.95	194	.16	7	2.49	.12	.04	1	18
A 101465	47	799	13	92	.8	5	25	558	4.95	5	5	ND	1	165	1.2	2	2	147	2.85	.128	5	7	1.83	62	.19	9	2.42	.13	.07	1	28
A 101466	6	173	10	51	.6	4	18	500	4.97	8	9	ND	1	142	.8	2	2	164	2.92	.137	5	2	1.62	96	.18	8	2.32	.13	.08	1	9
A 101467	2	48	2	34	.3	5	10	589	4.70	6	5	ND	1	198	.3	2	2	140	3.59	.124	5	5	1.69	57	.16	8	2.19	.14	.06	1	6
RE A 101464	48	614	9	102	.8	4	31	569	4.85	9	5	ND	1	162	1.2	2	2	138	2.89	.128	5	4	1.94	188	.17	8	2.38	.12	.05	1	20
A 101468	1	83	3	36	.3	4	9	780	4.64	6	5	ND	1	178	.6	2	2	150	5.47	.120	7	5	1.56	78	.15	8	2.00	.12	.08	1	16
A 101469	1	240	2	35	.3	4	16	670	4.90	6	5	ND	1	178	.4	2	2	146	3.61	.127	6	2	1.67	162	.14	7	2.12	.11	.07	1	33
A 101470	1	86	2	55	.3	4	15	841	4.45	9	5	ND	1	94	.2	2	2	124	5.84	.124	6	3	1.49	42	.08	6	1.72	.05	.16	1	14
A 101471	1	188	5	44	.3	5	16	721	5.71	7	7	ND	1	134	.5	2	2	178	3.37	.131	5	4	1.85	37	.20	7	2.21	.11	.08	1	22
A 101472	1	338	6	48	.4	6	29	665	5.46	6	5	ND	1	130	.5	2	2	199	3.13	.134	3	10	1.89	66	.24	11	2.49	.11	.07	1	8
A 101473	1	535	10	130	.5	32	26	1047	5.56	4	5	ND	1	114	.5	2	2	169	2.74	.133	5	52	2.45	20	.22	12	2.71	.09	.03	1	17
A 101474	1	203	4	133	.6	36	28	1245	6.14	6	5	ND	1	132	.5	2	2	172	3.48	.136	6	69	2.69	22	.19	11	2.78	.08	.02	1	9
A 101475	1	147	5	44	.7	5	17	804	5.49	5	5	ND	2	152	.7	2	3	188	4.05	.131	6	3	1.84	202	.23	9	2.34	.10	.07	1	5
STANDARD C/AU-R	21	62	44	134	7.5	73	32	1065	4.05	42	23	8	40	51	18.8	18	21	60	.47	.100	40	59	.92	182	.09	32	1.91	.07	.16	12	470

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE. Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: SEP 23 1991 **DATE REPORT MAILED:** Sept 25/91 **SIGNED BY.** D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
A 101476	1	93	4	20	.2	4	14	671	5.10	6	5	ND	1	171	.2	2	2	175	5.31	.141	6	10	1.59	94	.29	12	2.42	.19	.12	1	17
A 101477	1	91	6	22	.3	4	13	625	6.30	9	5	ND	1	129	.2	2	2	194	4.10	.150	6	10	1.91	80	.34	9	2.40	.18	.14	1	4
A 101478	1	70	2	37	.2	5	14	753	6.03	115	5	ND	1	201	.2	2	2	162	4.39	.143	6	8	1.94	38	.16	8	2.30	.14	.09	1	1
A 101479	1	448	4	21	.1	5	31	524	5.18	310	5	ND	1	138	.2	2	2	152	2.40	.161	7	8	1.90	51	.06	5	1.97	.14	.09	1	19
A 101480	1	73	3	31	.1	4	19	666	4.92	215	5	ND	1	107	.2	2	2	96	5.56	.147	5	8	1.94	72	.03	11	1.71	.06	.32	1	5
A 101481	5	60	2	63	.1	7	21	992	4.66	111	5	ND	1	115	.2	2	2	70	7.50	.111	2	9	1.88	251	.01	19	.88	.04	.47	1	9
RE A 101486	5	924	2	34	.3	5	16	815	4.60	106	5	ND	1	93	.2	2	3	87	5.79	.149	7	11	1.40	68	.02	13	1.26	.13	.31	1	35
A 101482	1	16	2	53	.1	5	14	978	4.34	49	5	ND	1	101	.2	2	2	66	7.26	.085	2	13	1.98	86	.02	19	.76	.03	.62	1	8
A 101483	1	27	2	64	.1	3	19	941	5.00	29	5	ND	1	99	.2	2	2	65	6.28	.134	4	12	1.80	42	.02	22	1.08	.05	.65	1	21
A 101484	1	237	2	39	.1	3	11	867	4.08	23	5	ND	1	92	.2	2	2	74	5.50	.130	5	10	1.68	71	.03	14	1.10	.06	.52	1	22
A 101485	6	226	2	42	.1	4	15	858	4.43	216	5	ND	1	111	.2	2	2	76	5.74	.136	6	10	1.66	119	.02	17	.95	.10	.41	1	16
A 101486	4	901	4	32	.4	5	16	781	4.41	107	5	ND	1	91	.2	2	2	85	5.50	.144	6	11	1.35	65	.02	13	1.26	.14	.31	1	33
A 101487	1	138	2	45	.2	5	14	872	5.17	347	5	ND	1	114	.2	3	2	120	4.74	.143	8	8	1.77	59	.05	10	1.66	.10	.19	1	9
A 101488	3	649	4	57	.2	4	22	848	4.40	428	5	ND	1	108	.2	5	2	80	5.82	.138	8	10	1.61	58	.02	11	1.41	.06	.35	1	21
A 101489	16	563	3	63	.1	23	19	888	5.29	1280	5	ND	1	116	.2	7	2	75	5.79	.153	11	27	1.85	81	.03	9	1.61	.07	.31	1	29
A 101490	3	240	3	59	.1	8	13	849	6.16	204	5	ND	1	165	.2	2	2	159	4.68	.146	7	13	1.73	50	.13	8	2.10	.12	.14	1	6
A 101491	3	159	8	50	.2	18	13	932	5.43	164	5	ND	1	143	.2	2	2	123	7.14	.145	9	25	1.60	87	.09	10	1.78	.09	.23	1	17
A 101492	1	344	2	34	.2	5	10	565	5.65	11	5	ND	1	159	.2	2	2	172	3.22	.139	6	8	1.37	218	.24	10	1.90	.17	.12	1	6
A 101493	1	387	2	38	.2	4	9	715	5.72	9	5	ND	1	160	.2	2	2	167	3.91	.144	6	5	1.43	301	.24	10	1.94	.15	.13	1	17
A 101494	1	258	5	69	.2	6	14	924	5.67	11	5	ND	1	216	.2	3	2	160	4.15	.131	7	10	1.73	172	.24	12	2.08	.15	.12	1	13
A 101495	1	256	6	48	.2	5	16	996	5.34	38	5	ND	1	200	.2	2	2	134	5.87	.123	8	6	1.68	362	.07	6	1.54	.11	.13	1	14
A 101496	1	219	2	31	.2	6	14	665	5.90	14	5	ND	1	237	.2	2	3	181	4.23	.134	9	7	1.68	442	.14	7	1.98	.12	.09	1	13
A 101497	1	324	2	31	.1	4	15	754	4.91	41	5	ND	1	137	.2	2	2	123	6.22	.124	8	6	1.60	160	.04	7	1.30	.07	.22	1	21
A 101498	1	581	2	37	.1	4	18	813	4.90	11	5	ND	1	128	.2	2	4	131	5.23	.137	8	5	1.71	162	.04	10	1.52	.07	.22	1	93
A 101499	1	252	2	40	.2	5	20	865	5.29	8	5	ND	1	123	.2	2	2	146	5.80	.143	9	1	2.01	718	.05	8	1.94	.09	.19	1	18
A 101500	1	190	3	40	.2	5	18	735	5.25	13	5	ND	1	129	.2	2	2	139	5.32	.137	9	7	1.76	161	.09	8	1.83	.08	.20	1	20
STANDARD C/AU-R	18	64	42	134	7.4	71	33	1047	4.00	42	16	7	40	54	19.0	16	19	60	.48	.091	40	59	.88	179	.09	37	1.90	.07	.15	13	450

Samples beginning 'RE' are duplicate samples.

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253 3158 (604) 3-1

GEOCHEMICAL ANALYSIS CERTIFICATE

I.M. Watson & Assoc. Ltd. PROJECT SNOWFLAKE File # 91-4809 Page 1

904 - 675 W. Hastings St., Vancouver BC V6B 1N2

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
A 101501	1	316	5	59	.2	4	16	721	5.85	7	5	ND	1	164	.2	2	3	161	3.36	.135	6	4	2.21	153	.34	9	2.18	.10	.08	1	32
A 101502	1	311	3	63	.1	4	16	665	5.79	8	5	ND	1	210	.2	2	4	152	2.94	.141	5	6	2.32	108	.31	11	2.41	.11	.06	1	30
A 101503	1	391	3	51	.1	4	16	658	5.95	6	5	ND	1	149	.2	2	4	164	2.98	.137	5	5	2.02	224	.34	9	2.14	.11	.08	1	55
A 101504	1	591	5	39	.3	5	15	646	5.83	8	5	ND	1	124	.2	2	5	170	3.37	.140	7	6	1.61	196	.29	10	1.90	.09	.12	1	64
A 101505	1	175	2	33	.1	4	15	649	5.41	7	5	ND	1	123	.2	2	2	163	3.40	.136	6	7	1.38	163	.28	7	1.80	.09	.09	1	24
A 101506	1	459	4	38	.2	4	16	622	5.33	5	5	ND	1	120	.2	2	6	172	2.84	.138	6	6	1.40	152	.34	10	1.86	.10	.11	1	3
A 101507	1	264	2	39	.1	4	16	576	5.33	5	5	ND	1	108	.2	2	2	173	2.42	.131	6	6	1.23	190	.31	10	1.79	.10	.11	1	43
A 101508	1	474	5	46	.1	5	19	657	5.26	7	5	ND	1	124	.2	2	5	170	2.67	.133	6	9	1.48	129	.34	12	1.87	.10	.10	1	14
A 101509	1	87	2	87	.1	12	21	1023	4.60	5	5	ND	1	143	.3	2	2	117	4.47	.116	6	9	1.82	257	.19	6	1.82	.05	.15	1	2
A 101510	1	370	2	43	.3	5	18	727	5.26	11	5	ND	1	117	.2	2	4	168	3.13	.140	6	9	1.52	134	.34	14	2.05	.10	.11	1	2
A 101511	1	341	4	36	.3	4	18	652	5.20	10	5	ND	1	118	.2	2	4	162	3.01	.137	5	7	1.48	126	.28	12	1.82	.08	.09	1	29
A 101512	1	304	2	30	.3	5	16	616	5.22	11	8	ND	1	115	.2	4	4	174	2.92	.141	6	8	1.41	71	.29	16	1.91	.10	.11	1	27
A 101513	1	104	3	35	.1	5	14	798	5.71	9	5	ND	1	101	.2	2	5	173	3.07	.135	5	8	1.63	108	.34	5	1.82	.09	.10	1	2
A 101514	1	390	2	54	.2	4	18	1013	5.47	10	7	ND	1	90	.2	2	4	150	4.00	.137	7	5	1.87	139	.21	12	1.81	.07	.12	1	28
A 101515	1	288	3	39	.1	3	14	1045	4.69	11	5	ND	1	87	.2	2	2	105	4.64	.131	8	2	1.33	234	.02	9	.87	.05	.19	1	220
A 101516	1	179	5	37	.1	4	12	1004	3.83	21	5	ND	1	121	.2	2	2	58	6.36	.109	5	5	1.50	180	.01	8	.48	.04	.27	1	2
A 101517	1	483	10	93	.3	4	19	804	4.26	31	8	ND	1	105	.5	5	2	58	4.85	.130	5	2	1.48	254	.01	15	.44	.03	.25	1	3
A 101518	1	616	3	48	.1	5	22	943	4.74	17	5	ND	1	147	.2	2	5	120	4.95	.131	8	5	1.63	205	.04	10	1.32	.06	.14	1	4
A 101519	2	812	5	41	.1	4	18	850	5.29	21	5	ND	1	179	.2	2	4	121	4.68	.126	8	4	1.60	240	.12	13	1.39	.08	.13	1	18
A 101520	1	302	3	37	.1	3	13	823	3.73	7	5	ND	1	115	.2	2	3	75	5.50	.138	8	1	1.24	335	.04	11	1.40	.04	.28	1	1
A 101521	1	347	3	41	.1	5	21	766	5.52	15	5	ND	1	161	.2	3	4	164	4.44	.126	7	6	1.60	107	.27	9	1.87	.08	.14	1	7
A 101522	2	428	2	50	.1	4	20	829	5.22	15	5	ND	1	194	.2	2	4	141	3.96	.145	6	6	1.89	144	.25	9	2.04	.09	.07	1	25
A 101523	1	372	2	45	.1	4	16	854	5.47	10	5	ND	1	144	.2	2	2	132	3.82	.133	8	7	1.57	72	.17	6	1.70	.08	.09	1	5
A 101524	1	1060	4	35	.2	3	13	771	5.22	8	6	ND	1	155	.3	2	9	139	4.49	.136	8	5	1.04	94	.09	12	1.31	.08	.11	1	36
A 101525	2	3463	4	41	1.0	5	22	669	5.66	8	11	ND	2	171	.3	2	19	144	3.81	.181	8	6	1.22	208	.12	19	1.48	.08	.10	1	131
RE A 101521	1	368	4	42	.1	4	22	779	5.54	15	5	ND	1	158	.2	2	5	167	4.67	.134	6	7	1.68	107	.27	3	1.93	.08	.15	1	4
A 101526	1	4627	2	33	.8	4	19	899	4.49	16	5	ND	1	146	.5	2	22	109	5.73	.128	8	5	1.07	113	.01	5	.58	.06	.10	1	341
A 101527	1	1268	3	59	.4	5	21	729	6.45	11	5	ND	1	174	.3	2	9	155	4.03	.141	7	6	1.44	116	.15	11	1.56	.07	.10	1	57
A 101528	1	1623	2	40	.2	4	16	634	4.80	10	5	ND	1	195	.3	2	9	125	3.82	.138	9	6	1.23	155	.16	7	1.38	.09	.09	1	26
A 101529	1	888	4	42	.4	4	14	571	4.59	8	6	ND	1	191	.3	2	4	130	3.80	.144	9	6	1.30	120	.23	13	1.51	.10	.08	1	21
A 101530	1	256	4	32	.1	3	14	605	5.18	8	5	ND	1	187	.2	2	4	142	3.97	.163	9	5	1.36	176	.22	7	1.52	.09	.09	1	4
A 101531	2	542	2	30	.1	5	13	581	4.88	11	5	ND	1	209	.2	2	5	137	4.13	.149	8	7	1.25	134	.23	6	1.44	.09	.09	1	28
A 101532	4	862	4	40	.2	4	14	790	4.88	11	5	ND	1	198	.2	2	7	136	4.99	.136	7	5	1.42	150	.23	13	1.59	.09	.08	1	63
A 101533	1	254	2	53	.2	2	20	833	5.50	19	5	ND	1	127	.2	2	2	123	2.86	.175	8	5	1.57	146	.21	14	1.84	.05	.07	1	21
A 101534	1	212	5	55	.1	3	17	977	4.49	31	5	ND	1	131	.3	2	3	99	3.24	.170	8	8	1.45	40	.12	9	1.76	.04	.11	1	7
A 101535	1	429	4	57	.1	3	21	670	4.35	58	5	ND	1	167	.2	2	3	87	2.31	.173	8	8	1.34	46	.12	8	1.85	.04	.10	1	6
A 101536	9	1437	2	56	.2	3	32	855	5.92	24	5	ND	1	146	.2	2	9	115	2.69	.170	9	8	1.43	87	.17	9	1.78	.04	.07	1	3
STANDARD C/AU-R	19	57	43	131	7.3	68	32	1039	4.00	41	17	7	39	54	18.9	15	18	61	.49	.088	40	56	.88	182	.09	35	1.86	.07	.15	12	473

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE. Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: SEP 30 1991 **DATE REPORT MAILED:** Oct 3/91 **SIGNED BY** .....D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
A 101537	1	156	2	60	.1	4	20	831	5.92	15	5	ND	1	168	.2	2	2	97	2.67	.118	7	2	1.47	82	.17	3	1.94	.07	.06	1	3
A 101538	12	678	5	66	.2	4	27	879	5.47	18	5	ND	1	160	.2	2	2	82	2.95	.126	7	3	1.73	51	.16	3	2.17	.05	.04	1	5
A 101539	1	248	4	56	.1	11	17	1084	5.81	13	5	ND	1	92	.4	2	2	125	3.93	.115	7	8	1.75	57	.12	3	2.19	.05	.12	1	1
A 101540	1	584	5	67	.1	6	19	867	5.24	39	5	ND	1	88	.3	2	2	109	2.11	.126	7	6	2.11	79	.09	2	2.37	.06	.10	1	45
A 101541	1	563	3	52	.2	4	19	765	6.01	21	5	ND	1	125	.3	2	2	103	2.32	.138	8	2	1.52	75	.15	3	2.09	.07	.08	2	9
A 101542	1	440	4	50	.2	2	17	855	4.52	37	5	ND	1	81	.4	2	2	65	3.87	.133	8	1	1.31	85	.06	2	1.65	.03	.16	1	2
A 101543	1	496	2	53	.1	2	17	835	6.04	15	5	ND	1	154	.4	2	2	92	2.94	.138	7	2	1.53	51	.14	3	2.06	.08	.11	1	15
A 101544	1	469	4	55	.1	3	17	872	5.81	6	5	ND	1	147	.2	2	2	95	2.70	.132	7	2	1.65	40	.13	2	1.98	.06	.07	1	10
A 101545	1	144	2	57	.1	3	16	928	5.02	14	5	ND	1	182	.2	2	2	91	3.21	.128	6	1	1.65	48	.15	3	2.01	.08	.08	1	3
A 101546	1	348	3	55	.2	4	14	869	4.75	9	5	ND	1	105	.2	2	2	83	3.50	.125	7	1	1.43	43	.08	4	1.91	.06	.16	1	3
A 101547	1	385	2	55	.2	5	15	848	4.94	17	5	ND	1	135	.2	2	2	94	3.14	.126	7	2	1.47	41	.10	3	1.89	.07	.09	1	6
A 101548	1	134	4	61	.2	7	18	876	5.31	18	5	ND	1	163	.6	2	2	102	3.33	.134	7	3	1.71	45	.12	4	2.05	.08	.09	1	1
A 101549	1	194	2	61	.1	5	19	973	5.19	10	5	ND	1	170	.6	2	2	94	4.41	.133	8	2	1.69	67	.11	2	2.03	.06	.09	1	1
A 101550	1	573	3	57	.2	6	21	873	5.12	19	5	ND	1	227	.2	2	2	92	4.45	.137	7	2	1.67	65	.11	3	2.21	.06	.06	1	6
A 101551	2	899	5	55	.2	4	30	780	4.95	14	5	ND	1	255	.2	2	2	92	3.52	.131	6	2	1.63	165	.13	4	2.25	.05	.04	1	18
A 101552	1	594	7	58	.2	3	26	880	4.48	16	5	ND	1	249	.2	2	2	94	3.64	.145	8	1	1.79	73	.12	6	2.38	.05	.04	1	2
A 101553	1	629	5	54	.3	2	28	866	4.32	9	5	ND	1	222	.2	2	2	81	3.95	.126	6	1	1.67	111	.12	5	2.16	.06	.07	1	5
A 101554	1	364	3	61	.1	3	20	997	4.63	8	5	ND	1	148	.5	2	2	73	5.61	.126	8	2	1.32	66	.05	5	1.91	.05	.15	1	6
A 101555	1	378	4	49	.2	4	17	844	3.97	10	5	ND	1	172	.2	2	2	92	3.79	.128	7	1	1.37	43	.14	4	1.77	.06	.05	1	3
A 101556	1	428	4	50	.2	3	15	909	4.92	12	5	ND	1	196	.2	2	2	101	4.06	.123	8	2	1.44	68	.12	3	1.90	.05	.06	1	3
A 101557	1	390	4	46	.2	3	13	1035	4.04	30	5	ND	1	188	.5	2	2	64	6.33	.129	9	1	1.16	144	.07	6	1.85	.06	.12	2	1
A 101558	2	202	4	53	.2	4	12	969	4.19	11	5	ND	1	170	.3	2	2	103	4.62	.130	8	1	1.25	84	.09	7	1.81	.05	.11	1	3
A 101559	6	321	2	45	.3	2	13	861	4.18	39	5	ND	1	91	.2	2	2	71	4.46	.133	8	1	.79	102	.04	4	1.18	.06	.19	1	5
RE A 101556	1	414	2	48	.2	4	15	892	4.82	13	5	ND	1	186	.2	2	2	96	4.03	.124	7	1	1.42	64	.10	4	1.83	.04	.06	1	4
A 101560	2	317	3	37	.1	4	13	761	4.01	42	5	ND	1	98	.2	2	2	60	4.69	.151	8	2	.51	61	.01	4	1.02	.05	.23	1	2
A 101561	1	732	3	36	.3	3	14	994	3.77	23	5	ND	1	86	.2	2	2	30	5.78	.132	3	1	.29	110	.01	9	.67	.02	.27	1	2
A 101562	1	14	2	36	.1	3	15	640	3.25	25	5	ND	1	78	.2	2	2	41	6.52	.136	2	1	.23	73	.01	9	.79	.01	.34	1	3
A 101563	1	128	2	57	.1	3	16	627	4.36	15	5	ND	1	80	.3	2	2	61	5.18	.139	5	2	.71	109	.04	7	1.03	.03	.25	1	2
A 101564	1	190	2	73	.1	4	13	921	4.46	6	5	ND	1	109	.2	2	2	71	3.64	.129	8	1	1.48	115	.06	3	1.67	.05	.14	1	3
A 101565	1	67	5	145	.1	4	12	1031	4.39	10	5	ND	1	123	.5	2	2	75	4.48	.132	8	2	1.31	152	.08	5	1.60	.05	.13	1	8
A 101566	1	96	6	602	.2	4	13	869	4.91	9	5	ND	1	125	2.6	2	2	74	4.25	.140	8	3	1.39	175	.06	4	1.71	.04	.13	1	29
A 101567	1	143	4	96	.1	4	14	654	5.22	57	5	ND	1	85	.2	2	2	64	4.00	.143	8	1	1.13	187	.02	4	1.46	.04	.17	1	5
A 101568	1	190	4	51	.1	1	9	750	4.29	24	5	ND	1	108	.2	2	2	33	5.58	.123	3	1	.48	109	.01	9	.60	.01	.34	1	24
A 101569	1	332	4	48	.3	2	10	911	3.66	67	5	ND	1	125	.7	2	2	30	6.30	.115	2	1	1.40	103	.01	7	.52	.01	.27	1	43
A 101570	19	469	3	54	.4	12	17	984	5.04	36	5	ND	1	123	.2	2	2	74	7.67	.087	2	24	2.37	189	.01	4	.49	.02	.22	1	6
A 101571	1	124	3	66	.1	8	14	984	4.17	95	5	ND	1	109	.3	2	2	58	7.25	.110	4	12	1.83	86	.01	6	.67	.02	.22	1	14
A 101572	1	85	2	82	.1	4	17	924	4.15	27	5	ND	1	128	.2	2	2	95	3.93	.136	8	1	1.70	87	.06	3	2.04	.04	.13	1	23
STANDARD C/AU-R	18	58	38	130	6.7	70	31	1024	3.86	40	16	7	36	51	18.5	15	19	56	.48	.087	37	57	.85	179	.09	34	1.87	.06	.14	11	450

Samples beginning 'RE' are duplicate samples.

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
A 101573	1	104	3	81	.3	3	16	907	4.53	12	5	ND	1	206	.2	2	2	114	3.21	.164	7	7	1.80	45	.21	6	2.05	.05	.06	1	1
A 101574	1	87	3	73	.1	2	16	836	4.24	61	5	ND	1	233	.2	2	2	102	3.53	.163	6	4	1.67	217	.15	7	1.99	.04	.05	1	2
A 101575	1	107	4	87	.3	5	14	876	5.14	8	5	ND	1	210	.2	2	2	121	3.20	.166	6	10	1.83	49	.22	12	2.17	.05	.06	1	3
A 101576	1	116	4	87	.2	4	13	871	5.39	66	5	ND	1	143	.2	2	2	118	3.71	.163	6	6	1.73	67	.15	11	2.05	.04	.10	1	9
A 101577	1	246	3	102	.2	3	15	1020	4.96	409	5	ND	1	113	.2	7	2	71	5.69	.155	7	5	1.46	132	.03	7	1.80	.02	.21	1	3
A 101578	1	111	3	84	.2	2	10	989	3.07	61	5	ND	1	93	.2	2	2	49	5.18	.161	9	6	1.16	57	.01	6	1.45	.04	.22	1	68
A 101579	1	132	3	61	.1	3	8	645	2.46	46	5	ND	1	65	.2	2	2	52	3.48	.190	10	6	.49	42	.01	7	1.02	.05	.25	1	12
A 101580	1	339	7	45	.1	1	8	342	1.96	33	5	ND	1	68	.4	2	2	31	3.67	.182	9	2	.18	56	.01	6	.59	.03	.28	1	2
A 101581	1	363	10	42	.2	2	8	467	1.95	77	5	ND	1	63	.6	2	2	35	3.53	.172	7	1	.22	176	.01	8	.69	.03	.31	1	20
A 101582	1	245	2	30	.1	2	6	472	2.16	115	5	ND	1	53	.2	2	2	65	2.85	.190	9	2	.31	84	.01	4	.70	.05	.27	1	13
A 101583	1	171	2	41	.1	2	9	748	2.71	82	5	ND	1	73	.2	2	2	98	4.22	.215	9	5	.98	39	.01	8	1.25	.04	.22	1	7
RE A 101580	1	349	9	45	.1	1	8	351	2.00	33	5	ND	1	70	.4	2	2	32	3.72	.199	8	2	.19	58	.01	6	.58	.02	.29	1	4
A 101584	2	172	2	1	.1	1	1	370	.41	113	5	ND	1	55	.2	2	2	5	4.06	.216	7	1	.04	186	.01	9	.39	.04	.28	1	19
A 101612	68	1046	2	30	.7	3	12	758	4.02	11	5	ND	1	118	.3	2	3	34	6.66	.140	3	6	1.44	69	.01	9	.82	.04	.21	1	16
A 101613	17	1687	2	34	.9	2	14	858	4.49	9	5	ND	1	121	.2	2	8	37	7.65	.123	2	5	1.73	61	.01	9	.91	.03	.17	1	5
STANDARD C/AU-R	18	59	37	132	6.7	70	32	1031	3.94	39	18	7	37	52	17.5	15	18	56	.48	.089	36	57	.86	177	.09	34	1.86	.06	.15	13	480

Samples beginning 'RE' are duplicate samples.

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

I.M. Watson & Assoc. Ltd. PROJECT SNOWFLAKE File # 91-4848 Page 1

904 - 675 W. Hastings St., Vancouver BC V6B 1N2

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
A 101585	1	170	2	36	.1	3	5	615	2.37	50	5	ND	1	57	.3	2	2	117	2.01	.167	12	3	.65	48	.04	6	1.05	.06	.18	1	12
A 101586	1	168	6	40	.1	4	7	618	3.30	2	8	ND	1	81	.4	2	2	140	2.33	.170	11	2	.65	141	.05	7	1.12	.06	.14	1	4
A 101587	1	126	5	40	.1	4	7	606	2.98	3	5	ND	1	98	.3	2	2	197	2.39	.170	9	2	.68	103	.07	5	1.14	.06	.15	1	2
A 101588	1	111	2	36	.1	5	7	511	3.14	7	6	ND	1	148	.2	2	2	230	1.83	.167	8	2	.70	54	.09	5	1.28	.07	.10	1	4
A 101589	1	95	5	48	.1	3	9	740	4.85	12	6	ND	1	157	.6	2	2	151	3.06	.142	9	2	1.33	268	.05	6	1.67	.06	.07	1	1
A 101590	1	176	6	43	.1	4	13	524	5.59	4	5	ND	1	118	.4	2	2	138	2.89	.147	7	3	1.43	125	.14	5	1.68	.07	.11	1	1
A 101591	1	152	2	26	.2	3	9	430	4.72	25	5	ND	1	149	.5	2	2	127	2.31	.155	8	2	1.02	167	.08	3	1.41	.07	.07	1	3
A 101592	1	251	3	26	.1	2	9	468	3.63	10	7	ND	1	85	.2	2	2	120	2.48	.163	11	2	.70	85	.03	5	1.00	.05	.11	1	9
A 101593	1	123	4	10	.1	2	3	343	1.22	3	7	ND	1	85	.2	2	2	36	2.74	.141	6	3	.15	308	.07	11	.82	.07	.27	1	6
A 101594	1	299	5	39	.1	3	12	629	4.59	35	5	ND	1	80	.4	2	2	106	3.13	.145	6	3	1.09	81	.05	7	1.32	.06	.16	1	8
A 101595	1	169	4	44	.1	3	10	714	4.97	7	5	ND	1	76	.4	2	2	117	3.53	.144	8	2	1.40	80	.05	4	1.45	.06	.12	1	5
A 101596	1	251	3	36	.1	3	7	631	3.03	25	5	ND	1	72	.4	2	2	69	4.44	.134	9	4	.81	69	.01	7	1.25	.06	.27	1	2
A 101597	3	322	3	41	.1	3	12	694	3.77	11	5	ND	1	83	.2	2	2	72	4.21	.127	4	2	.85	286	.01	8	1.35	.04	.21	1	18
A 101598	6	101	2	31	.1	4	9	721	4.05	4	5	ND	1	83	.8	2	2	70	4.40	.133	6	3	.94	102	.01	8	1.00	.04	.20	1	1
A 101599	3	150	3	33	.2	3	10	643	4.32	3	5	ND	1	78	.3	2	2	100	3.99	.140	9	1	1.44	85	.02	3	1.33	.04	.11	1	3
A 101600	2	143	2	33	.1	3	11	589	4.70	7	5	ND	1	80	.5	2	2	111	3.68	.140	8	2	1.64	93	.03	5	1.62	.06	.17	1	7
A 101601	14	269	5	31	.1	3	13	579	4.73	6	5	ND	1	95	.2	2	2	113	3.54	.144	9	1	1.70	105	.03	6	1.63	.06	.17	1	9
RE A 101606	7	324	5	38	.1	3	17	679	4.73	4	5	ND	1	52	.2	2	2	89	3.30	.139	5	2	1.72	60	.02	7	1.18	.06	.14	1	29
A 101602	28	549	3	36	.3	3	12	631	4.98	2	5	ND	2	98	.4	2	2	102	4.76	.133	9	2	1.58	63	.02	4	1.77	.05	.15	1	1
A 101603	8	112	3	58	.1	4	13	632	3.94	4	5	ND	1	85	.6	2	2	51	4.15	.135	2	2	1.35	51	.01	10	1.14	.02	.27	1	19
A 101604	3	415	3	63	.5	5	15	633	4.22	6	5	ND	1	78	.2	2	2	57	3.65	.139	2	3	1.24	206	.01	11	1.27	.03	.29	1	99
A 101605	8	350	2	39	.2	3	15	747	4.95	4	5	ND	1	51	.2	3	2	87	3.31	.133	5	3	1.62	111	.01	7	1.07	.06	.13	1	25
A 101606	7	324	2	38	.4	3	17	681	4.69	5	8	ND	1	50	.2	2	2	86	3.28	.137	6	2	1.71	58	.01	7	1.14	.05	.12	1	29
A 101607	95	1602	2	34	1.2	3	12	668	3.61	10	5	ND	1	101	.5	3	2	54	5.74	.137	4	2	1.38	43	.01	8	1.12	.04	.23	1	4
A 101608	63	951	2	33	.4	3	14	713	4.15	6	5	ND	1	89	.7	2	4	51	5.19	.129	2	2	1.49	76	.01	9	1.08	.06	.19	1	6
A 101609	14	233	4	33	.1	4	15	677	3.95	21	5	ND	1	81	.3	2	2	58	4.67	.138	3	4	1.43	57	.01	9	1.15	.06	.19	1	24
A 101610	14	125	2	33	.1	14	16	780	4.00	17	5	ND	2	105	.3	2	2	64	6.07	.133	3	10	1.84	30	.01	7	.80	.05	.16	1	10
A 101611	2	185	3	38	.3	16	16	969	4.38	140	5	ND	3	110	.5	3	2	69	6.10	.135	6	15	2.20	86	.01	10	1.24	.05	.15	1	9
A 101614	7	278	2	40	.3	7	16	922	4.25	13	5	ND	2	119	.2	2	2	50	6.28	.126	3	6	1.59	187	.01	13	1.05	.04	.24	1	10
A 101615	7	85	2	78	.3	3	14	1369	3.78	9	5	ND	2	114	.5	2	2	32	5.23	.144	3	3	.88	87	.01	12	1.10	.05	.26	1	1
A 101616	1	29	2	85	.1	3	13	1962	3.90	4	5	ND	1	102	.6	2	2	37	6.05	.132	3	2	1.38	241	.01	10	.74	.04	.25	1	1
A 101617	3	48	3	132	.2	8	18	2185	4.49	6	5	ND	2	108	.4	3	2	59	7.53	.128	8	9	1.55	336	.01	9	1.49	.04	.23	1	4
A 101618	1	318	7	76	.3	30	26	1095	6.33	15	5	ND	1	147	.8	2	2	223	4.61	.153	7	40	2.94	331	.29	11	2.56	.06	.02	1	6
A 101619	1	141	2	72	.1	28	26	889	5.94	27	5	ND	1	235	.9	2	2	223	3.14	.167	4	38	2.31	631	.30	20	2.92	.07	.02	1	1
A 101620	1	42	2	60	.2	36	30	597	7.02	17	5	ND	1	299	.5	2	2	125	3.03	.032	2	43	1.85	205	.20	24	2.74	.04	.05	1	8
A 101621	1	39	4	70	.1	34	35	623	7.34	23	5	ND	1	340	.7	2	2	120	2.88	.009	2	40	2.15	107	.24	26	3.00	.03	.02	1	1
A 101622	1	42	3	65	.5	47	36	579	9.09	20	5	ND	1	386	1.1	3	2	183	3.09	.011	2	47	1.95	180	.24	31	2.92	.04	.09	1	1
STANDARD C/AU-R	19	60	41	129	6.8	74	33	1031	3.91	43	17	7	37	52	17.4	15	20	56	.47	.089	37	56	.87	175	.09	33	1.91	.06	.15	11	460

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE. Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: OCT 2 1991 **DATE REPORT MAILED:** Oct 4,91 **SIGNED BY.** .....D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
A 101623	1	12	2	81	.2	35	31	722	7.73	26	5	ND	1	160	.2	2	2	48	2.27	.027	2	53	2.08	68	.15	25	2.40	.05	.08	1	4
RE A 101625	1	17	2	84	.3	46	35	688	9.05	9	5	ND	1	356	.2	2	2	158	3.10	.009	2	64	2.09	47	.30	24	2.54	.03	.01	1	1
A 101624	1	8	2	79	.3	39	31	693	7.13	7	5	ND	1	329	.2	2	2	59	2.80	.022	2	77	2.25	75	.23	22	2.14	.04	.04	1	3
A 101625	1	20	2	78	.3	48	35	686	9.16	8	5	ND	1	377	.2	2	2	160	3.18	.008	2	65	2.08	47	.31	23	2.58	.03	.02	1	2
A 101626	1	14	3	77	.3	42	36	791	10.07	7	5	ND	1	193	.2	3	2	183	2.43	.007	2	59	2.10	48	.24	28	2.47	.03	.07	1	1
A 101627	1	16	2	89	.2	52	41	849	11.45	8	5	ND	1	193	.3	2	2	183	2.41	.008	2	73	2.13	38	.24	27	2.51	.03	.07	1	1
A 101628	1	18	2	72	.3	76	37	831	11.07	7	5	ND	1	194	.4	2	2	186	3.89	.010	2	137	1.92	102	.27	20	1.72	.05	.06	1	1
A 101629	1	18	2	76	.3	67	29	1565	6.93	8	5	ND	1	99	.2	2	2	153	4.19	.141	6	79	3.04	44	.26	19	2.33	.05	.13	1	1
A 101630	1	313	10	115	.7	12	19	1178	4.27	13	5	ND	1	110	1.4	11	2	16	5.00	.078	2	7	2.23	61	.01	5	.35	.02	.17	2	600
A 101631	1	93	17	97	.5	12	10	756	3.36	5	5	ND	1	88	1.4	3	2	8	4.54	.065	2	10	1.14	20	.01	8	.33	.01	.18	1	410
STANDARD C/AU-R	18	58	39	128	6.9	68	32	1054	3.92	38	21	7	37	51	18.4	16	19	56	.47	.088	38	57	.86	172	.09	36	1.83	.06	.14	13	460

Samples beginning 'RE' are duplicate samples.

APPENDIX 3

PETROGRAPHIC STUDY

Harris
EXPLORATION
SERVICES

MINERALOGY AND GEOCHEMISTRY

534 ELLIS STREET, NORTH VANCOUVER, B.C., CANADA V7H 2G6 TELEPHONE (604) 929-5867

Report for: Ivor Watson and Associates Ltd.,
904 - 675 West Hastings St.,
Vancouver, B.C.
V6B 1N2

Report 91-59

September 24th, 1991

PETROGRAPHIC STUDY OF ROCKS FROM THE ASPEN GROVE AREA, B.C.

INTRODUCTION:

8 rock samples, from various parts of the property, were submitted for sectioning and examination.

The samples are identified as follows:

Sample	Coordinates		Slide No.	Type
A	201 N	20425 E	91-222	Thin section
B	20150 N	20375 E	91-223	Polished thin section
C	202 N	205 E	91-224	Polished thin section
D	21250 N	20240 E	91-225	Polished thin section
E	203 N	20225 E	91-226	Polished thin section
F	206 N	→ W	91-227	Thin section
G	20620 N	17575 E	91-228	Thin section
H	211 N	20250 E	91-229	Thin section

SUMMARY:

The rocks of this suite are all quartz-free, intermediate - mafic igneous rocks of minor intrusive aspect (except Sample F). They can be sub-divided into four groups, as follows:

a) Monzonites: Samples C, D, G and H

These are medium-grained, non-porphyritic rocks consisting predominantly of mixtures of plagioclase and K-feldspar. The usual mafic accessory is clinopyroxene (augite), but Sample G also contains substantial biotite. Opaques in all cases are magnetite, mildly hematized and possibly of Ti-rich composition. Rutile forms oriented intergrowths and peripheral segregations in the magnetite.

No sulfides were seen, but traces of native Cu are present in Samples D and H. In the latter case the Cu is closely associated with carbonate veining. In Sample D it is associated with the primary Fe-Ti oxides.

The feldspars in these rocks are generally fresh, but the mafics are more or less altered (to epidote, carbonate, chlorite, etc.). It is notable that the two in which native Cu was seen show the strongest pervasive epidotization. Sample D also shows local zeolitization.

b) Microgabbro/Microdiorite: Samples A and E

These rocks consist essentially of mosaic aggregates of plagioclase with accessory pyroxene and opaque oxides. Sample A is strikingly fresh and rich in pyroxene, whilst Sample E shows even, mild sericitization of the plagioclase, and is rather leucocratic. It also includes minor accessory biotite. This sample (E) contains rare traces of an unidentified reflective phase (native metal or sulfide).

c) Pyroxenite: Sample B

This rock is an aggregate of fresh clinopyroxene and opaque oxides, with minor interstitial feldspar (totally sericitized) and serpentine (after olivine?). Its origin (ultramafic intrusive?) is indeterminate without reference to field relationships. The sectioned portion shows the pyroxenite in contact with a monzonitic phase (probably a minor, veniform injection) .

d) Volcaniclastic: Sample F

This rock is a clastic-textured aggregate of feldspar and fresh pyroxene grains. It shows an incipient foliation and is interpreted as a trachyandesite (latite) tuff.

Individual petrographic descriptions are attached.

J.F. Harris Ph.D.

SAMPLE A (Slide 91-222) MICROGABBRO

Estimated mode

Plagioclase	55
Augite	30
Serpentine(?)	5
Apatite	trace
Opaques	10

This is a homogenous rock of simple composition, consisting essentially of plagioclase and augite - both strikingly fresh.

The plagioclase (composition labradorite from twinning extinction angles) forms an equigranular aggregate of grain size 0.2 - 1.0mm (with rare, coarser grains to 2.0mm). The constituent grains, though sharply twinned, are totally anhedral and form an interlocking/sub-polygonal mosaic. This has almost a granoblastic (granulitic) appearance and is a rather unusual textural mode for what is obviously a diabase or microgabbro. The freshness and sharply defined outlines of the grains, and the lack of distinctive metamorphic minerals, do not support the probability of major recrystallization, and the texture is presumably of primary magmatic origin.

The pyroxene forms stumpy, equant/sub-rounded to sub-prismatic individuals, 0.1 - 1.0mm in size, sometimes aggregating as small clumps and distributed evenly and abundantly throughout the plagioclase matrix. It is strikingly fresh.

Ophitic textures are absent, but the larger pyroxene grains are often poikilitic, containing small, rounded inclusions of plagioclase and opaques.

An accessory mafic, as small, equant granules 0.1 - 0.3mm in size, is totally altered to olive-green felted secondary material (serpentine?), sometimes with fine-grained, dusty and cellular/ network inclusions of opaques. This may represent original olivine.

Opaques (mainly magnetite and Fe-Ti oxides) are abundant. They form equant granules and irregular clumps, 0.05 - 0.3mm in size, evenly disseminated through the silicate matrix, intergranular to the plagioclase and commonly in moulded-on or cementing relationship to the pyroxenes and altered olivine.

SAMPLE B (Slide 91-223) PYROXENITE AND MONZONITE

Estimated mode

Clinopyroxene	78
K-feldspar	4
Plagioclase	5
Sericite	3
Carbonate	trace
Serpentine	2
Biotite	trace
Hornblende	trace
Magnetite	6
Hematite	1
Rutile	1

This sample consists predominantly of a dark, granular rock of ultramafic aspect. The sectioned portion shows this material in sharp contact with monzonitic material - probably a small pegmatitic injection.

The ultramafic assemblage consists essentially of an aggregate of coarse-grained, fresh clinopyroxene, as anhedral grains 1 - 5mm in size.

Minor accessories consist of sporadic, small, interstitial pockets of felted sericite (probably representing original plagioclase); scattered grains, 1 - 2mm in size, of a mafic component (olivine?) now pseudomorphed by olive-green serpentine; rare pockets of carbonate; sparse, small flakes of red-brown biotite, included within pyroxene; and rather abundant, equant/subhedral grains of magnetite, 0.05 - 1.0mm in size, partially flecked with hematite and incorporating a hexagonal pattern of intergrown lamellae of rutile.

Serpentinic material also occurs throughout the pyroxene aggregate as cleavage and grain boundary-controlled threads.

The monzonitic phase consists of a meshwork intergrowth of subhedral, prismatic plagioclase and K-feldspar, of grain size 1 - 3mm. The feldspars are sometimes mildly dusted with sericite and cut by a few threads of carbonate. Rare pockets and hairline veinlets of chlorite are the only accessory.

SAMPLE C (Slide 91-224) MONZONITE

Estimated mode

K-feldspar	50
Plagioclase	20
Augite	6
Altered biotite	1
Chlorite	3
Carbonate	8
Epidote	5
Prehnite	1
Quartz	4
Magnetite	2
Hematite	trace
Rutile	trace

Examination of the stained off-cut indicates that this sample is of monzonitic composition, consisting predominantly of K-feldspar (yellow) with accessory plagioclase (white etched) as sub-parallel, lath-like individuals. The other main accessory is augite (dark).

The rock is cut by a prominent zone of anastomosing veinlets of intergrown quartz, carbonate and epidote.

The rock matrix is of grain size 0.2 - 2.0mm, and consists of anhedral K-feldspar and intergrown subhedral plagioclase. The K-spar shows mild pervasive turbidity, and the plagioclase is fresh to mildly sericitized and epidotized.

The accessory augite, as scattered subhedral-euhedral individuals of similar grain size to the plagioclase, shows varying degrees and styles of alteration. It ranges from essentially fresh, through partially altered to various proportions of chlorite, carbonate and epidote. Occasionally it is completely altered to fibrous/radiate prehnite.

Carbonate, chlorite and minor epidote also occur pervasively, as small, irregular flecks and threads, intergranular to the feldspathic aggregate.

No sulfides were seen. The opaques consist of individual, small, equant grains of magnetite, 0.02 - 0.4mm in size. These show mild alteration to hematite, and have intergrown laths of rutile - a distinctive association which appears to be characteristic of the majority of the rocks of the suite.

Rutile and/or sphene also occur independently, as diffuse clumps and wisps.

SAMPLE D (Slide 91-225) MONZONITE/LATITE

Estimated mode

Plagioclase	50
K-feldspar	30
Altered pyroxene	6
Epidote	8
Carbonate	1
Prehnite	trace
Zeolite(?)	3
Apatite	trace
Magnetite	1
Hematite	trace
Rutile	1
Native Cu	trace

Macroscopic examination of the stained off-cut indicates that this is another rock of monzonitic composition. In this case the relative abundance of plagioclase is higher than in Sample C, and the plagioclase laths show a strong, preferred orientation, clearly related to flow. This may be indicative of extrusive origin, or possibly reflects differential flow in the contact zone of a minor intrusive.

The plagioclase is of sharply defined, elongate, prismatic form, as crystals 0.5 - 3.0mm in length, in more or less close, sub-parallel to locally sheaf-like packing. K-spar forms a microgranular interstitial phase.

The feldspars are generally fresh, but locally show mild to moderate pervasive epidotization (as dispersed granules) and replacement by prehnite.

Another secondary product (colourless, fibrous/radiate, low birefringence) forms sporadic pockets - sometimes apparently replacing feldspar, and sometimes as veniform alteration zones with associated epidote. This has the appearance of a zeolite.

Accessory mafics mostly show similar elongate prismatic form to the plagioclase, plus occasional coarser, blocky grains. They are generally strongly to completely altered, but enough remnants survive to indicate that they were mainly clinopyroxene. They are now altered to various combinations of olive-green secondary material, epidote and carbonate.

Apatite is a notable trace accessory, as relatively abundant, stumpy euhedra, to 0.5mm in size.

Opaques consist of magnetite or Fe/Ti oxides, as sparsely disseminated, equant individuals, 0.05 - 0.5mm in size. The magnetite shows diffuse hematization, and has intergrown laminae of rutile. Rutile and/or sphene are also sometimes developed (as a breakdown product?) in peripheral mode to the Fe oxides.

Sample D cont.

Rare traces of native Cu were seen, as irregular/hackly flecks, 10 - 100 microns in size, intergrown with, or on the margins of, a few of the oxide grains. This association suggests a late-magmatic, primary (rather than supergene) origin.

SAMPLE E (Slide 91-226) MICRODIORITE/MICROGABBRO

Estimated mode

Plagioclase	70
Sericite	4
Pyroxene	7
Altered Biotite	4
Chlorite	2
Carbonate	5
Magnetite	8
Hematite	trace
Rutile	trace
Native Cu(?)	trace

This rock differs from the previous two samples in lacking K-feldspar (see stained off-cut).

It consists essentially of a fine, equigranular aggregate of plagioclase which is of totally anhedral form. Grain size of the resultant, mosaic-like aggregate is in the range 0.2 - 1.0mm.

Unlike Sample 1 (which it resembles texturally) the plagioclase seldom shows twinning, and is evenly dusted by mild sericitization. Carbonate also occurs as a sporadic, pervasive alteration of the plagioclase, especially in the vicinity of clumps of mafics.

The commonest accessory mafic is clinopyroxene, as tiny, stumpy, prismatic grains, 0.05 - 0.2mm in size (sometimes clumped), evenly disseminated through the plagioclase matrix. The pyroxene is mostly fresh, but sometimes shows partial (peripheral) alteration to carbonate and/or chlorite.

Minor biotite is also present, as scattered, irregular grains, sometimes associated with the pyroxene. It is almost always totally altered to interlaminated chlorite and rutile.

Accessory oxides are rather abundant. They are of similar type to those described in previous samples, consisting of individual subhedra and irregular clumps, 0.05 - 0.3mm in size, of magnetite. This shows partial alteration to flecks of hematite, and has minor intergrown lamellae of rutile.

This is an intermediate igneous rock of minor intrusive aspect. It is uncertain whether it is best classified as a microdiorite or a microgabbro.

The slide includes very rare traces of a pinkish-cream, highly reflective phase. This has somewhat the colour of pyrrhotite, but appears isotropic. It has the habit of a native metal, as irregular, contorted threads, generally associated with oxides and/or altered pyroxene. It may be native Cu, but is aanomalously pale in colour and free of the tarnish characteristic of that mineral

SAMPLE F (Slide 91-227) LATITE CRYSTAL TUFF

Estimated mode

Plagioclase	40
K-feldspar	16
Saussurite	10
Pyroxene	25
Chlorite	1
Epidote	2
Carbonate	2
Prehnite	trace
Rutile)	
Sphene)	2
Leucoxene)	
Opaques	2

This is an evenly fine-grained rock of feldspathic composition. The stained off-cut exhibits an incipient foliation, defined by the elongation of strings of mafics and by banded variations in grain size and K-spar/plagioclase ratio, suggesting that it could be of volcaniclastic character.

This impression is confirmed in thin section, where the rock is found to consist of a close-packed aggregate of subhedral grains of feldspars and pyroxene, 0.1 - 0.4mm in size, with a minor matrix/ interstitial phase of smaller (10 - 50 micron) grains of the same minerals.

The major component plagioclase shows weak to moderate pervasive saussuritization, in the form of tiny flecks and granules of epidote, sericite and carbonate. The pyroxene is mainly fresh but for rimming and cleavage impregnation by sub-opaque material (leucoxene?) and occasional partial replacement by epidote.

Disseminated opaques (oxides) range from 10 - 150 microns in size, and are often rimmed by diffuse leucoxene.

The rock is cut by a thin (2mm) braided veinlet of carbonate with strings of fine-grained epidote. A few hairline offshoots extend into the rock normal to the main veinlet.

This sample appears to be a crystal tuff of trachyandesitic (latitic) composition.

SAMPLE G (Slide 91-228) BIOTITE MONZONITE

Estimated mode

K-feldspar	35
Plagioclase	42
Sericite	2
Biotite	10
Pyroxene	5
Altered mafics	4
Prehnite	trace
Opaques	2

This is another rock of monzonitic composition and hypabyssal intrusive textural aspect. It is distinctive for the blocky form of the plagioclase and the presence of prominent, randomly oriented, slender flakes of biotite (see off-cut).

Thin section examination shows that the rock consists predominantly of a blocky, angular intergrowth of subhedral-euhedral plagioclase and K-feldspar, of grain size 0.5 - 2.0mm. The feldspars are typically fresh, but for mild dustings of sericite. However, they commonly show poikilitic texture, being sieved with small granules of pyroxene and altered mafics.

The principal mafic is red-brown biotite, typically fresh but for minor development of interlaminated rutile. The biotite flakes are of comparable grain size to the feldspar, and occur partly interstitial to, and partly incorporated within, the feldspar crystals.

Pyroxene is an accessory mafic, typically occurring as partially coalescent clusters of tiny euhedra, 50 - 150 microns in size. These are sometimes associated with biotite, and sometimes dispersed throughout the coarse feldspar matrix.

A minor component of altered mafic material, now consisting of olive-green serpentine and/or secondary amphibole, chlorite and epidote (in various proportions) occurs as sporadic, felted pockets, often peripheral to the pyroxene clusters.

Opaques (Fe oxides) form disseminated euhedral individuals, 20 - 200 microns in size.

SAMPLE H (Slide 91-229) EPIDOTIZED MONZONITE

Estimated mode

K-feldspar	48
Plagioclase	17
Pyroxene	10
Epidote	17
Sericite	1
Carbonate	5
Sphene) Rutile)	1
Opaques	1
Native Cu	trace

This rock is of similar macroscopic appearance to Sample C (compare stained off-cuts).

Locally sub-oriented, elongate/prismatic subhedra of mildly sericitized plagioclase, 0.3 - 1.5mm in size, occur scattered through a microgranular matrix (grain size 10 - 300 microns) of K-feldspar.

Epidote is notably abundant, in the form of irregular pockets and diffuse clumps of small granules and prismatic crystals. In some cases these clearly represent the alteration of original pyroxene (remnants of which are relatively common), but they also appear to be partly a pervasive alteration - particularly in the vicinity of the system of sub-parallel hairline veinlets of carbonate which transect the slide.

Opaques (Fe oxides) are relatively sparse and fine-grained, consisting of granules 10 - 100 microns in size, often clumped, and commonly mantled by sub-opaque material (rutile/leucoxene). In one case the opaques are intergrown with well-crystallized sphene.

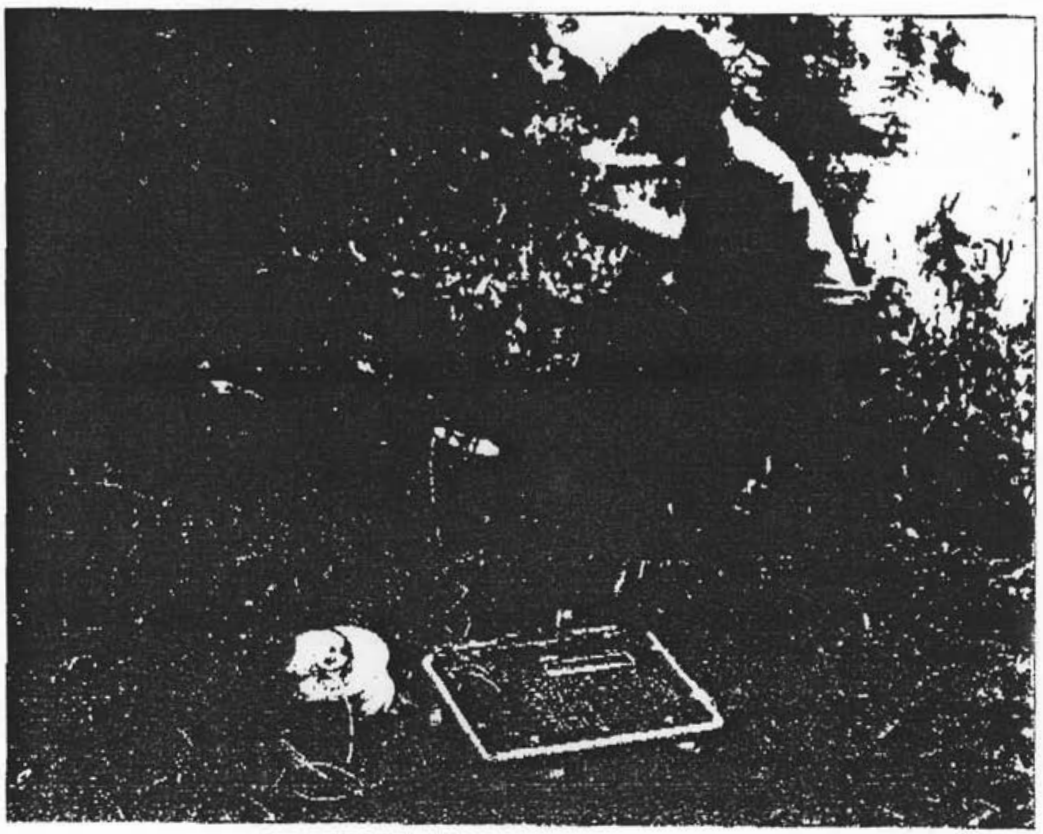
This sample contains relatively abundant, macroscopically recognizable native Cu, but, for some reason, was prepared as a conventional (rather than polished) thin section. As far as can be seen from transmitted light observations, the native Cu occurs mainly within the carbonate veinlets, as shard-like films, wires and hackly specks. By comparison with other occurrences in the suite, it is probably also associated with the disseminated opaque oxides.

APPENDIX 4

I.P. EQUIPMENT SPECIFICATIONS

IP-2
Two Dipole
Time Domain IP Receiver

EDA



Major Benefits

- Two Dipoles Simultaneously Measured
- Solid State Memory
- Automatic Primary Voltage Ranging
- Automatically Calculates Apparent Resistivity
- Computer Compatible
- Software Packages Available

Other Benefits

- **Compatible With Most Time Domain Transmitters**

The IP-2 may be used with any time domain waveform transmitter with a pulse duration of one or two seconds and a crystal timing stability of 100 ppm.

The microprocessor-controlled synchronization process of the receiver with the transmitter is performed through the measured signal itself. This allows for resistivity and time domain IP measurements without any link with the transmitter. Such synchronization also permits more rugged handling of the instrument as well as increased reliability over more elaborate crystal oscillator based systems. This IP-2 ability to synchronize with an external transmitter at a primary voltage level as low as 40 microvolts can satisfy survey requirements in extremely low resistivity ground.

- **Improved Correction For Self Potential**

Self potential (SP) is the naturally occurring DC voltage difference present in the ground. The IP-2 uses both zero and first order correction techniques to automatically compensate for steady voltage and linear drift, often encountered in more complex SP responses as well as in low frequency telluric noise conditions. This allows for more accurate chargeability measurements under many varied operating conditions.

- **Signal Averaging**

The IP-2 automatically averages voltages and chargeabilities up to a maximum of 99 cycles. The signal stacking and averaging improves data quality, especially in low resistivity environments and in low signal-to-noise conditions.

- **Multi-Window IP Chargeability Measurements**

Three or four individual chargeability windows are measured depending on pulse duration. For a one second pulse, three fixed individual chargeability windows are measured, displayed and stored while, for a two second pulse, four chargeability windows are measured, displayed and stored. A delay time of 160 milliseconds is followed by window widths of 120, 220, 420 and 820 milliseconds. These chargeability windows are semi-logarithmically spaced to achieve better resolution of the shape of the decay curve. All chargeability window measurements are normalized by the width of the window.

The information obtained from the total and individual chargeabilities is useful for recognizing electromagnetic coupling which can generate responses often obscuring anomalies of interest.

The analysis of these three or four individual chargeability windows can be equated to a first order spectral analysis.

- **Compact and Lightweight**

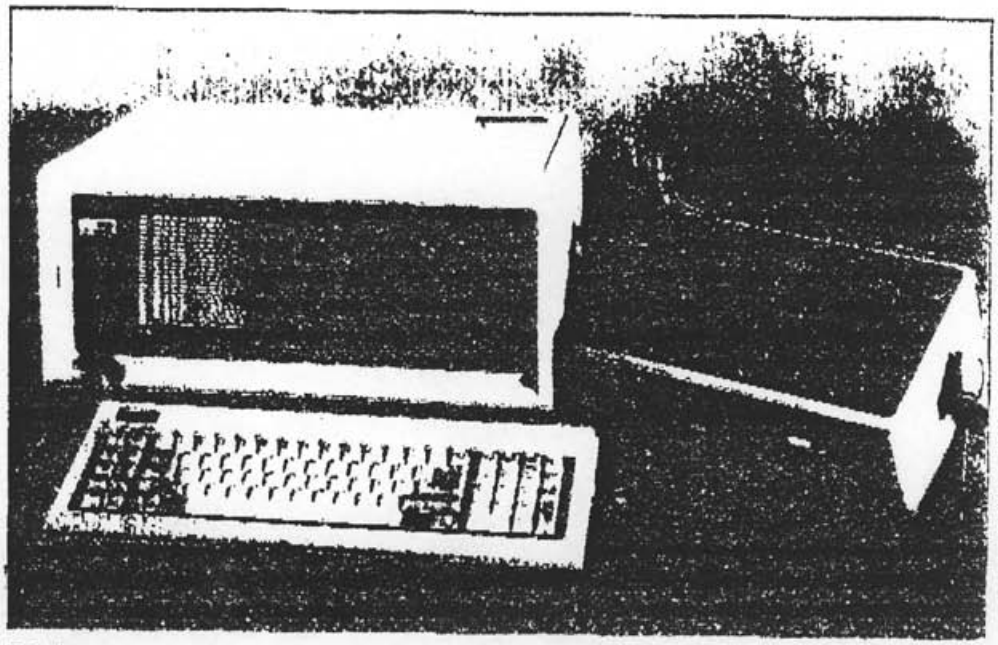
The IP-2 is housed in a lightweight, impact resistant case weighing only 5.5 kg. The system portability simplifies survey logistics, reduces manpower and improves productivity.

- **Grounding Resistance Check**

The IP-2 monitors the resistance of each of the electrodes by using a separate grounding plug which allows the operator to quickly identify any poorly grounded receiving electrode or broken wire.

- **Self Test Software**

The operating software of the IP-2 includes a set of messages to immediately warn the operator of any procedural errors.



IP-2 data results displayed on IBM PC compatible computer.

IP-2
Two Dipole
Time Domain IP Receiver

Description

The IP-2 is a time domain induced polarization receiver that simultaneously measures two dipoles and as a result significantly increases survey production.

The induced polarization (IP) technique is commonly used in precious and base metal exploration, especially for those occurrences described as disseminated sulphides, such as porphyry copper and carbonate-hosted deposits. More recently, IP is increasingly used in a variety of exploration applications including massive sulphide, groundwater, geothermal and structural studies

The IP-2 system was designed and is manufactured under a license from BRGM Instruments of Orléans, France.

Features

The IP-2 Time Domain Receiver, packaged in an impact-resistant and weather-proof case, features:

- A two-line, 32-character alpha-numeric liquid crystal display and a 28-key keyboard to enable operator interaction with the system
- A standard heater to enable the operator to use the liquid crystal display at temperatures as low as −25°C
- Input protection against transient overvoltages and surges
- A running average of the voltage and chargeability status
- Grounding resistance measurements
- Automatic compensation of self potential, telluric drift and electrode polarization
- Automatic battery check

Major Benefits

• Two Dipoles Simultaneously Measured

The IP-2 measures two dipoles simultaneously. For each dipole, the IP-2 measures and calculates:

- self potential, in mV
- apparent resistivity, in ohm-m
- primary voltage (Vp), in mV
- standard deviation of Vp (E), in %
- total apparent chargeability (M), in mV/V
- individual chargeability windows beneath the decay curve, in mV/V

These provide important time-saving survey features, that significantly increase daily survey production.

• Solid State Memory

The IP-2 uses solid state memory instead of conventional cassette recorders avoiding their inherent electrical and mechanical reliability problems.

The IP-2 can record up to 600 sets of readings. Each set of readings includes:

- individual chargeability windows
- primary voltage (Vp) and its standard deviation
- current intensity
- self potential
- time parameter
- station number
- array parameter

• Automatic Primary Voltage Ranging

Faster and more reliable readings are achieved by the IP-2's automatic primary voltage (Vp) ranging. This capability saves a step in operational procedures since the operator no longer needs to manually adjust Vp ranges.

• Automatically Calculates Apparent Resistivity

The IP-2 automatically calculates and displays the apparent resistivity for one of the following sounding and/or profiling electrode arrays:

- Schlumberger
- Wenner
- Gradient
- Dipole-dipole
- Pole-dipole
- IP-buried electrode

The selection of arrays offered allows the operator survey versatility depending on the type and depth of the target. The IP-2 automatically calculates the apparent resistivity by using the geometry of that chosen array, its electrode separation, the amount of current transmitted and the amount of voltage measured.

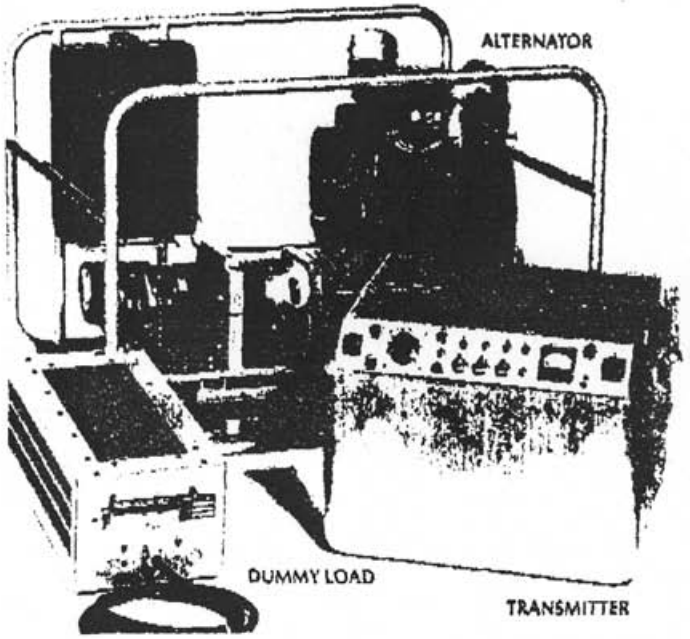
• Computer Compatible

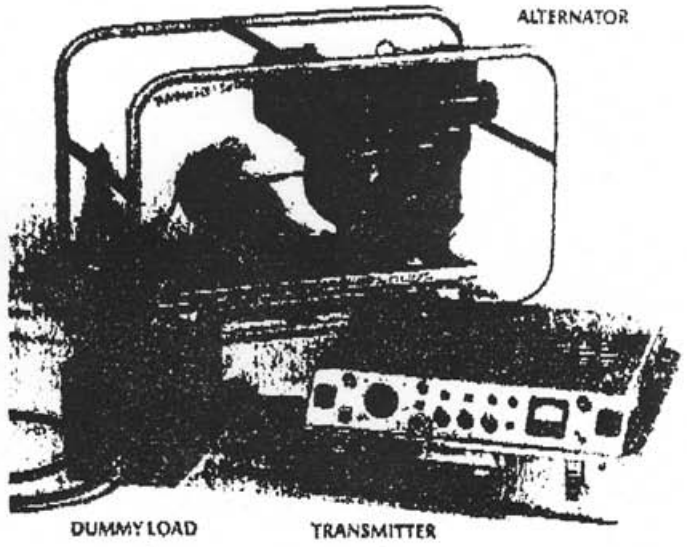
Data can be transferred directly into most computers or recorders through the RS-232C Serial I/O interface. Data can also be transmitted directly into a compatible printer. This capability facilitates quick field evaluation of the results obtained.

• Software Programs Available

For easier IP data interpretation, EDA offers easy-to-use software programs to enable the operator to process, plot and contour IP field data collected by the IP-2 into pseudo-section format. These programs can interface with IBM PC and compatible computers.

Transmitters





SPECIFICATIONS

Power input:	96 — 144 V line to neutral 3 phase 400 Hz (from Huntec generator set	96 — 144 V line to line 3 phase 400 Hz (from Huntec generator set)
Output:	Voltage: 100 — 3200 V dc in 10 steps Current: 0.4 — 16 A regulated**	Voltage: 150 — 2200 V dc in 8 steps Current: 0.2 — 7 A regulated**
Current regulation:	Less than ±0.1% change for ±10% load change	Less than ±0.1% change for ±10% load change
Output frequency:	0.0625 Hz to 1 Hz (time domain, complex resistivity) 0.0625 Hz to 4 Hz (frequency domain) selectable on front panel	0.0625 Hz to 1 Hz (time domain, complex resistivity) 0.0625 Hz to 4 Hz (frequency domain) selectable from front panel An additional range of frequencies between 0.78 and 5.0 Hz is available and can be selected by an internal switch.
Frequency accuracy:	±30 ppm −30°C to +60°C	±50 ppm −30°C to +60°C
Output duty cycle: $T_{on}/(T_{on} + T_{off})$	0.5 to 0.9375 in increments of 0.0625 (time domain) 0.9375 (complex resistivity) 0.75 (frequency domain)	0.5 to 0.9375 in increments of 0.0625 (time domain, 0.9375 (complex resistivity) 0.75 (frequency domain)
Output current meter:	Two ranges: 0-10 A and 0-20 A	Two ranges: 0-5 A and 0-10 A
Ground resistance meter:	Two ranges: 0-10 kΩ, 0-100 kΩ	Two ranges: 0-10 kΩ, 0-100 kΩ
Input voltage meter:	0-150 V	0-150 V
Dummy load:	Two levels: 2 kW and 6 kW	Two levels: 500 kW and 1.75 kW
Temperature range:	−34°C to +50°C	−34°C to +30°C
Size:	53 cm x 43 cm x 43 cm	53 cm x 43 cm x 29 cm
Weight:	50 kg	26 kg

***Smaller currents are obtainable, but outside the current regulation range the transmitter voltage is regulated, not the current.*

SPECIFICATIONS

Output:	120 V ac 400 Hz 3 phase 18 kVA Maximum
Engine:	18.6 kW air cooled twin cylinder four cycle piston engine with electric start
Fuel:	Regular grade gasoline, tank capacity 14 L to give 2 h duration
Alternator:	Star connected aircraft type, belt driven, forced air cooled
Construction:	Tubular protective carrying frame with resiliently mounted engine and alternator
Size:	79 cm x 79 x 102 cm
Weight:	205 kg

Output:	120 V ac 400 Hz 3.5 kVA maximum
Engine:	Briggs & Stratton 6 kW air cooled, single cylinder four cycle piston engine with manual start
Fuel:	Regular grade gasoline, tank capacity 3.8 L to give 4 h duration
Alternator:	Delta connected heavy duty automobile type, belt driven, air cooled
Construction:	Tubular protective carrying frame with resiliently mounted engine and alternator
Size:	51 cm x 48 x 76 cm
Weight, dry:	61 kg

Specifications subject to change without notice.

EDA

Specifications

Dipoles	Two simultaneous input dipoles.
Input Voltage (Vp) Range	40 microvolts to 4 volts, with automatic ranging and overvoltage protection.
Vp Resolution	10 microvolts.
Vp Accuracy	0.3% typical; maximum 1% over temperature range.
Chargeability Resolution	1 %.
Chargeability Accuracy	0.3% typical; maximum 1% over temperature range for Vp > 10 mV.
Automatic SP Compensation	± 1 V with linear drift correction up to 1 mV/s.
Input Impedance	1 Megohm.
Sample Rate	10 milliseconds.
Automatic Stacking	3 to 99 cycles.
Synchronization	Minimum primary voltage level of 40 microvolts.
Rejection Filters	50 and 60 Hz power line rejection greater than 100 dB.
Grounding Resistance Check	100 ohm to 128 kilo-ohm.
Compatible Transmitters	Any time domain waveform transmitter with a pulse duration of 1 or 2 seconds and a crystal timing stability of 100 ppm.
Programmable Parameters	Geometric parameters, time parameter, intensity of current, type of array and station number.
Display	Two line, 32-character alphanumeric liquid crystal display protected by an internal heater for low temperature conditions.
Memory Capacity	600 sets of readings.
RS-232C Serial I/O Interface	1200 baud, 8 data bits, 1 stop bit, no parity.
Console Power Supply	Six- 1.5V "D" cell disposable batteries with a maximum supply current of 70 mA and auto power save.
Operating Environmental Range	−25°C to +55°C; 0–100% relative humidity; weatherproof.
Storage Temperature Range	−40°C to +60°C.
Weight and Dimensions	5.5 kg, 310x230x210 mm.
Standard System Complement	Instrument console with carrying strap, batteries and operations manual.
Avaliable Options	Stainless steel transmitting electrodes, copper sulphate receiving electrodes, alligator clips, bridge leads, wire spools, interface cables, rechargeable batteries, charger and software programs.

E D A Instruments Inc.
4 Thorncliffe Park Drive,
Toronto, Ontario
Canada M4H 1H1
Telex. 06 23222 EDA TOR
Cable: Instruments Toronto
(416) 425 7800

In U.S.A.
E D A Instruments Inc
5151 Ward Road,
Wheat Ridge, Colorado
U.S.A. 80033
(303) 422 9112

SNOWFLAKE 6

SNOWFLAKE 3

SNOWFLAKE 4

SNOWFLAKE

TULE 10

TULE LAKE

LOGANS CREEK

KINMILSH CREEK

GATE

Claim boundary

Old road

200 E

1980E

1980E

1980E

2080E

2080E

2080E

217 N

214 N

210 E

210 N

206 N

202 N

200 N

206 E

201 E

200 E

194 E

L 385

BJP-19

E12544 224, 5

5bx

E12547 71, 2

E12545 150, 2

E12546 211, 5

SF 91-2 -60°

SF 91-1 -90°

SF 91-3 -50°

G79-15

FP BLUEJAY 5,6

FP BLUEJAY 7,8

FP ACME COPPER 6

E12548 1445, 16

E12542 187, 13

E12543 537, 55

2060ppm Cu, 920 ppb Au

E12541 34, 4

SNOWFLAKE CP 3N 2E

AREA A

Area of extensive trenching

AREA B

FP B73440

BJP 5 or G79-14 -90°

Survey monument

soil pit

pyroxenite

mal qtz-carb-ep

LEGEND

1a	Massive, uniform, green and maroon andesitic flows
1b	Autobrecciated green and maroon andesitic flows
1c	Maroon monolithic and polylithic andesitic breccia, tuffs and lahar deposits. Mostly massive.
1d	Green monolithic and polylithic andesitic breccia, tuffs and lahar deposits. Mostly massive.
5	Fine- to coarse-grained diorite. Includes gabbro, monzonite and locally, pyroxenite.
5a	Intrusive? Brecciated equivalent of unit 5. Contains volcanic fragments along faulted contacts.
6	Fine- to coarse-grained pink syenite, monzonite

bn	bornite	hem	haematite
carb	carbonate	mag	magnetite
cp	chalcopyrite	mal	malachite
ep	epidote	py	pyrite
Cu	native copper		
bi	biotite		
chl	chlorite		

217 N
215 N I.P. survey lines
213 N

E 12543 537, 55 — Geochemical rock sample Cu(ppm), Au(ppb)

Shaft
Geological contact — observed / inferred
Fault
Jointing: inclined, vertical
Trenches
Road
Claim post
Thin-section sample site
Glacial striations
Shaft
1991 Diamond drill hole
Diamond drill hole } (by others)
Percussion drill hole }

Scale 0 50 100 150 200 metres

GEOLOGICAL BRANCH
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22,148

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA I. M. WATSON

Quilchena Resources Ltd.

Snowflake Property

GEOLOGY and DRILL HOLE PLAN

I.M.WATSON & ASSOCIATES LTD.

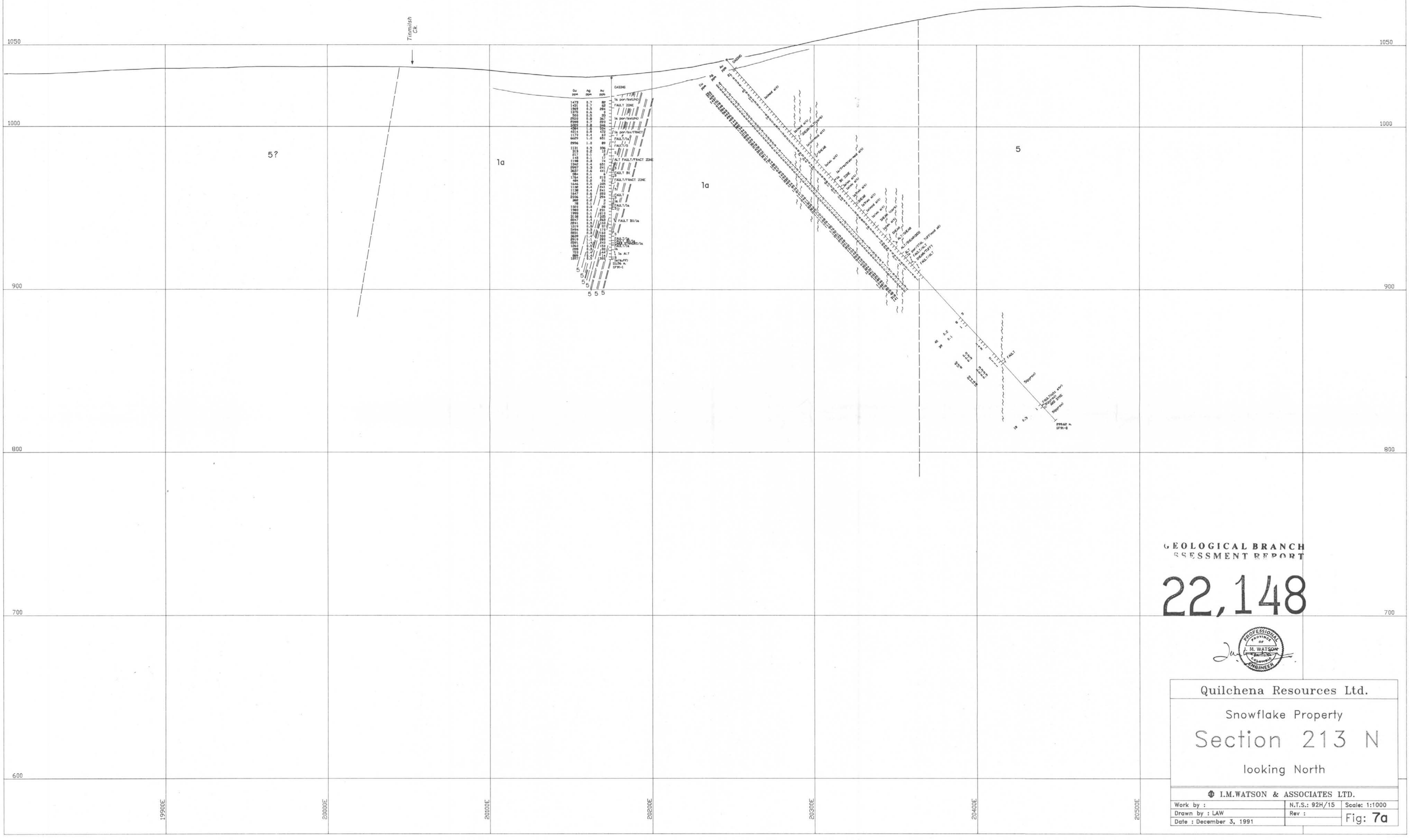
Work by :	N.T.S.: 92H/15	Scale: 1:2500
Drawn by : LAW	Rev :	Fig: 4
Date : September 30, 1991		

19900E 20000E 20100E 20200E 20300E 20400E 20500E 20600E

21300N

SF91-1

SF91-3



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Snowflake Property

Section 213 N

looking North

I.M.WATSON & ASSOCIATES LTD.

Work by :	N.T.S.: 92H/15	Scale: 1:1000
Drawn by : LAW	Rev :	Fig: 7a
Date : December 3, 1991		

19900E 20000E 20100E 20200E 20300E 20400E 20500E 20600E

21500N SF91-2 21500N

1050 1000 900 800 700 600

Tinmilish Ck

Tinmilish Ck

Tinmilish Ck

5?

1a

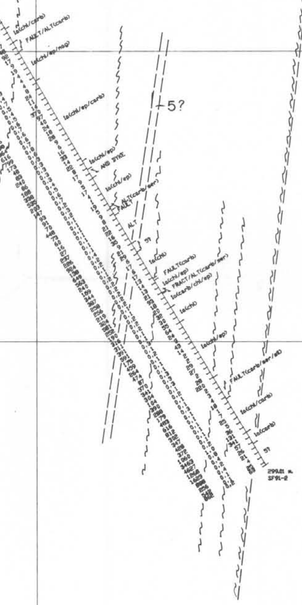
1a

5?

1a

5?

5



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22,148

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I. M. WATSON

Quilchena Resources Ltd.

Snowflake Property

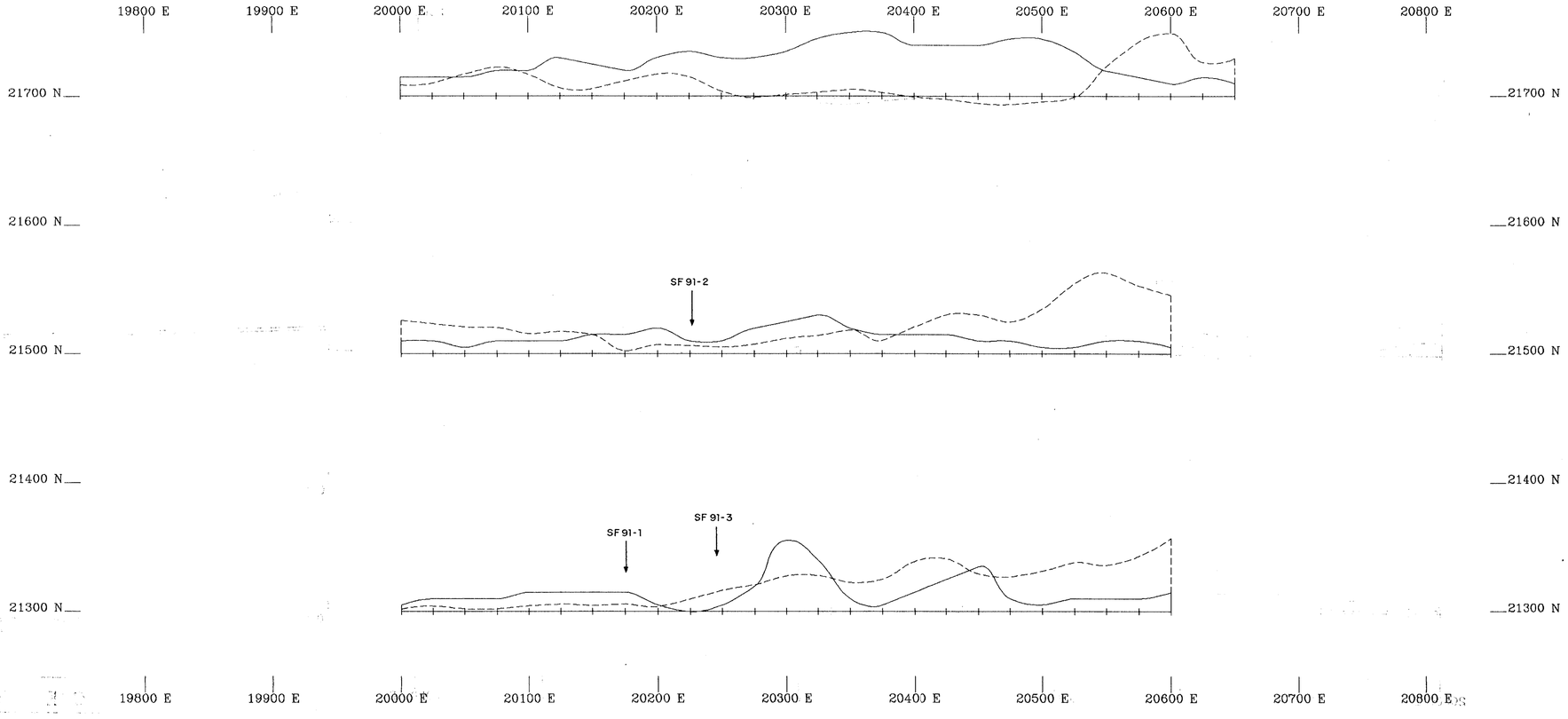
Section 215 N.

looking North

I.M.WATSON & ASSOCIATES LTD.

Work by :	N.T.S.: 92H/15	Scale: 1:1000
Drawn by : LAW	Rev :	Fig: 7b
Date : December 3, 1991		

19900E 20000E 20100E 20200E 20300E 20400E 20500E



Focus at 35m depth

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22,148

Scale 1:2500

50 0 50 100 150
(metres)

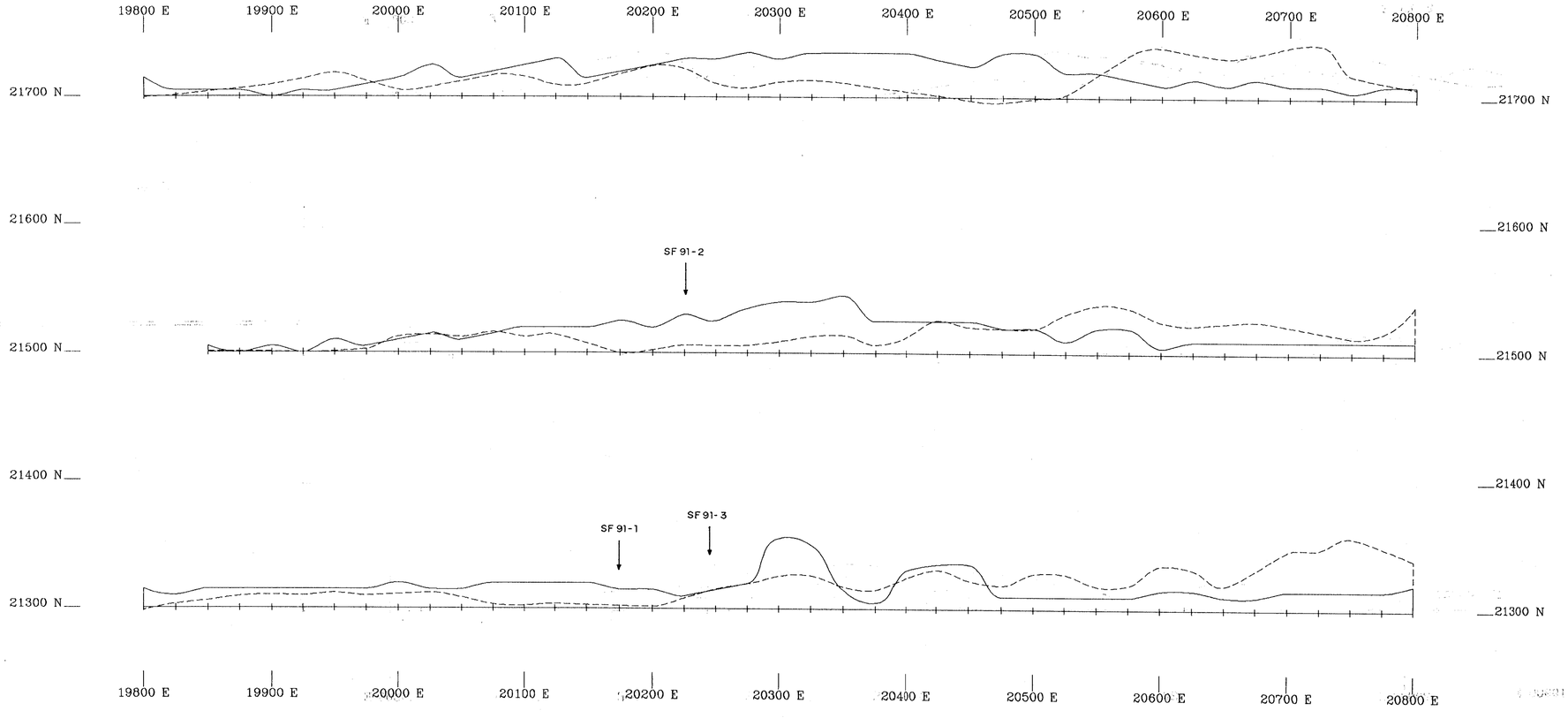
Fig. 8a

QUILCHENA RESOURCES LTD

INDUCED POLARIZATION / RESISTIVITY SURVEY SNOWFLAKE GRID
I. M. WATSON & ASSOCIATES

PROFILES OF CHARGEABILITY & RESISTIVITY,
solid Ch. @ 1cm=5mV/V, base 4, Res. @ 1cm=250 ohm-m, base 200
Schlumberger array, AB = 250m, MN = 50m

DELTA GEOSCIENCE LTD



Focus at 250m depth

Scale 1:2500

50 0 50 100 150
(metres)

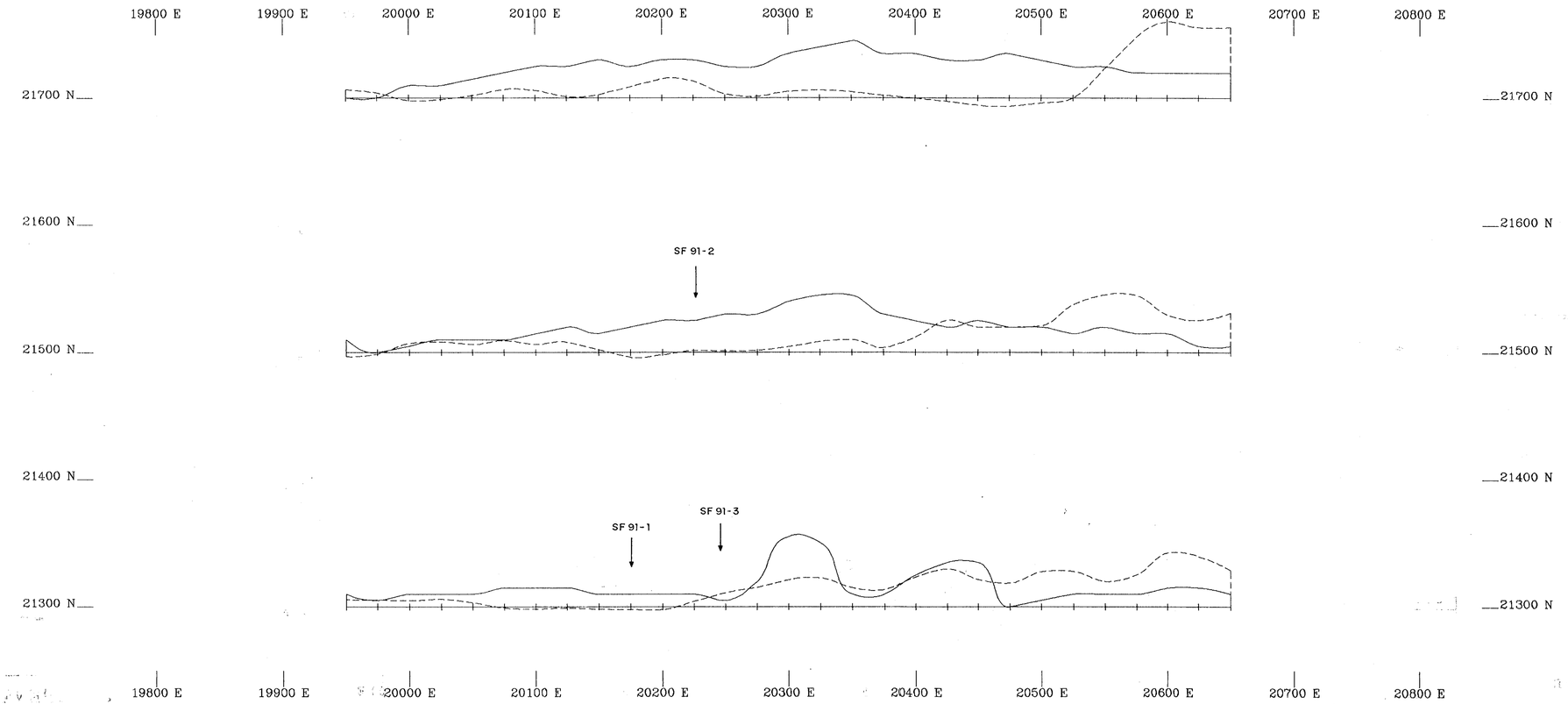
Fig. 8c

QUILCHENA RESOURCES LTD

INDUCED POLARIZATION / RESISTIVITY SURVEY SNOWFLAKE GRID
I. M. WATSON & ASSOCIATES

PROFILES OF CHARGEABILITY & RESISTIVITY,
solid Ch. @ 1cm=5mV/V, base 4, Res. @ 1cm=250 ohm-m, base 200
Gradient array, AB = 1800m, MN = 50m

DELTA GEOSCIENCE LTD



Focus at 150m depth

GEOLOGICAL BRANCH
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22,148

Scale 1:2500

50 0 50 100 150
(metres)

Fig. 8b

QUILCHENA RESOURCES LTD

INDUCED POLARIZATION / RESISTIVITY SURVEY SNOWFLAKE GRID
I. M. WATSON & ASSOCIATES

PROFILES OF CHARGEABILITY & RESISTIVITY,
solid Ch. @ 1cm=5mV/V, base 4, Res. @ 1cm=250 ohm-m, base 200
Gradient array, AB = 1200m, MN = 50m

DELTA GEOSCIENCE LTD