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Joutel Resources Ltd
Mountain Lake Resources Inc.
Summary Report
on the Canagau Property
Ben Nevis, Pontiac Townships
Larder Lake Mining Division
Ontario

NTS: 32D5

W.J. McGuinty
A. D. Hunter
Bradley C. Leonard
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OMIP 90 - 109

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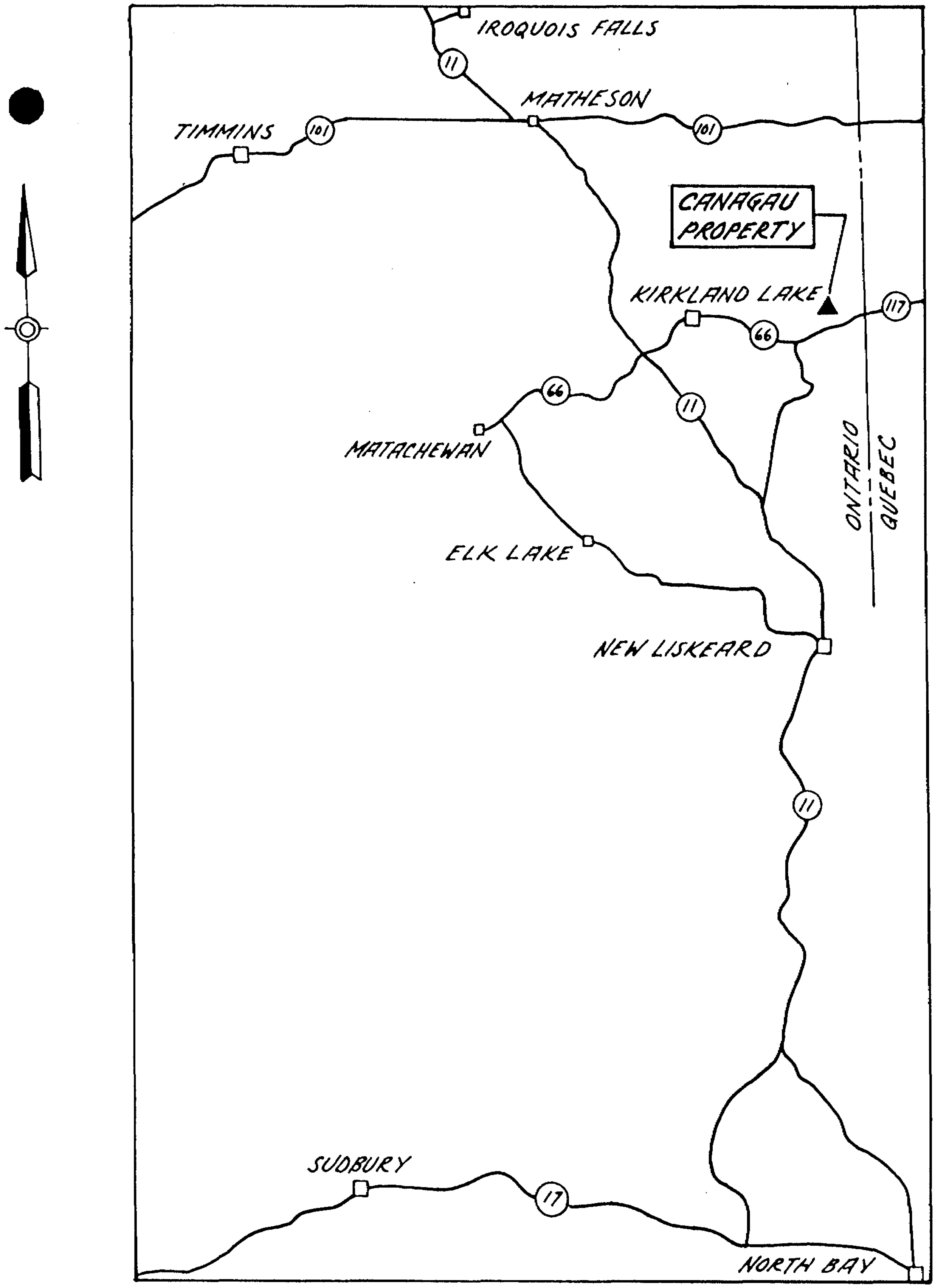
1.0 INTRODUCTION

Exploration for gold and base metals in Ben Nevis township and surrounding areas has been active over a period of 70 years. The main focus of exploration has been the patented 13 claim Canagau Mines Ltd. property, which was first developed in the mid 1920's. Exploration revealed the presence of 3 narrow, east-west trending, south dipping polymetallic veins in shear zones in felsic and dioritic intrusive host rocks.

Joutel Resources Ltd. and Mountain Lake Resources Ltd. have been actively exploring the east-central portion of Ben Nevis township for base metals since mid-1989 when an option/joint venture agreement was entered into. In 1990, power stripping, geological and geophysical surveys, lithogeochemical evaluation and 4,839 feet of diamond drilling were undertaken. The purpose of the program was to re-evaluate known information and provide further information with which to establish a paragenesis for mineralization and alteration in the vicinity of the Canagau patents.

Three authors have contributed to the compilation of this report, excluding geophysical interpretations provided by contractors. A.D. Hunter of Earthhunt Resources Inc. provided a report on the geological setting of Canagau which is incorporated as section 6.0 and figures 5 and 6 of this report. B.C. Leonard undertook a detailed backgrounding of the area covered by the Mountain Lake-Joutel joint venture property and participated in mapping newly stripped areas. B. McGuinty also participated in mapping of stripped areas as well as supervising geophysical surveys and diamond drilling.



PROPERTY LOCATION MAP
CANAGAU PROPERTY
BEN NEVIS - PONTIAC TWPS.
SCALE 1" = 25 Mi. MAY/90

FIGURE 1

2.0 LOCATION & ACCESS

The Canagau property consists of 227 contiguous unpatented and 13 patented claims in Ben Nevis and Pontiac townships, Larder Lake Mining Division, Northeastern, Ontario (see Fig. 1).

The Property is located 40 Km NE of Kirkland Lake and 30 Km N of Larder Lake. A seasonal gravel road heads north from Larder Lake and cuts through Ben Nevis township within 2 Km of the Canagau shaft.

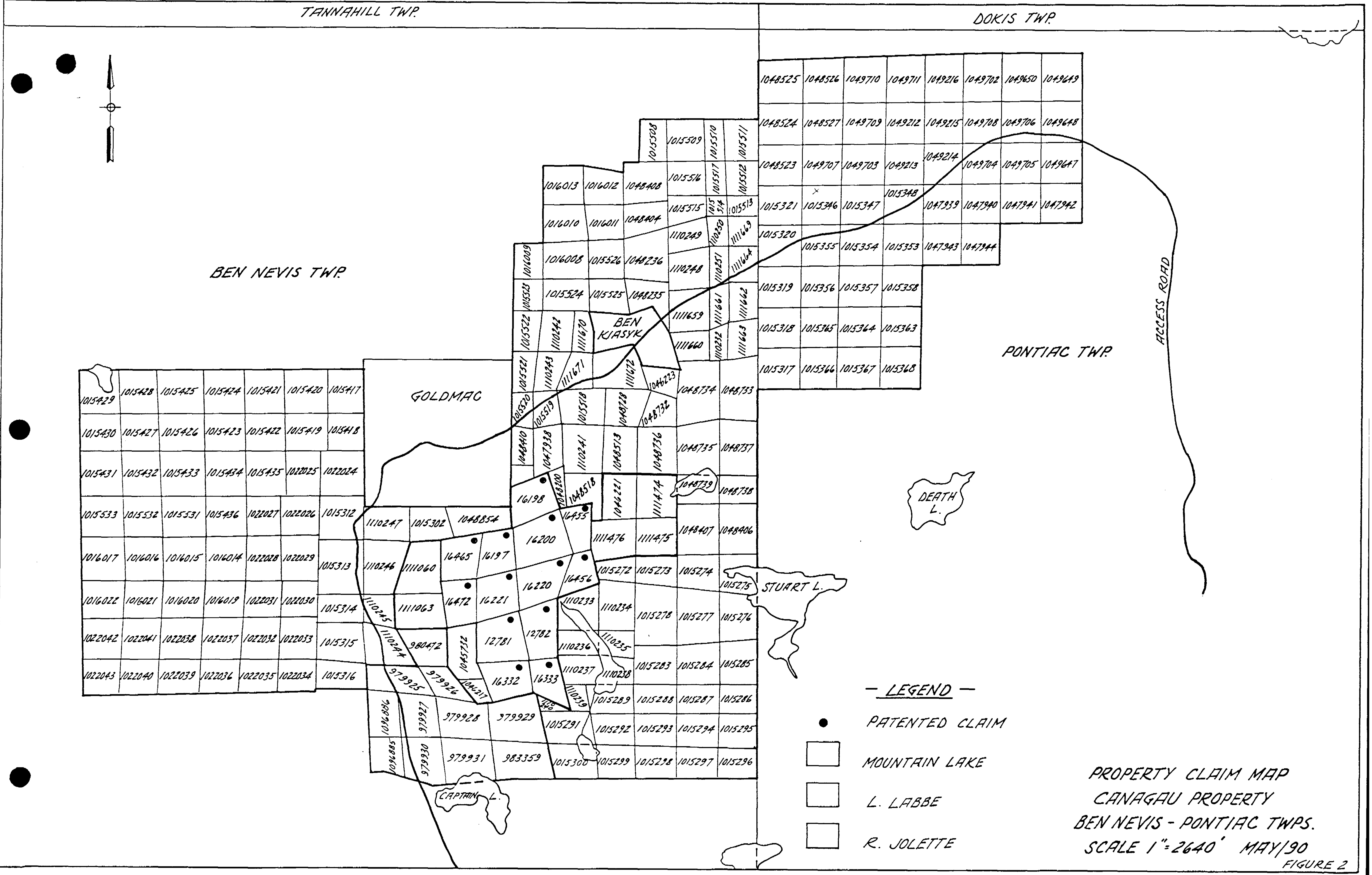
3.0 PROPERTY TENURE

The Canagau property is an amalgamation of 3 claim blocks controlled wholly or in part by Joutel Resources Ltd. and held under joint venture agreement with Mountain Lake Resources Ltd. 13 patent claims fall under this agreement:

Mining Rights only:

L12681
L12782
L16197
L16198
L16200
L16220
L16221
L16332
L16333
L16455
L16456
L16465
L16472

A total of 227 unpatented mining claims were incorporated into the joint venture through 3 separate option agreements. Under these agreements claims may be allowed to lapse as the Joint Venture sees fit. Table 1 lists all claims originally recorded under the joint venture. Figure 2 shows the disposition of these claims.



PROPERTY CLAIM MAP
CANAGAU PROPERTY
BEN NEVIS - PONTIAC TWPS.
SCALE 1" = 2640' MAY/90

FIGURE 2

CLAIM_NO	TOWNSHIP	DATE_RECD	WORK_EXT	SURV_EXT	LAST_UPDTD	DAYS_WORK	MEMO	OPTIONOR
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1015356	Pontiac	12/07/87	02/28/90	12/07/93	12/15/89	0.0	Memo	Jolette
1015357	Pontiac	12/07/87	02/28/90	12/07/93	12/15/89	0.0	Memo	Jolette
1015358	Pontiac	12/07/87	02/28/90	12/07/93	12/15/89	0.0	Memo	Jolette
1015363	Pontiac	12/07/87	02/28/90	12/07/93	12/15/89	0.0	Memo	Jolette
1015364	Pontiac	12/07/87	02/28/90	12/07/93	12/15/89	0.0	Memo	Jolette
1015365	Pontiac	12/07/87	02/28/90	12/07/93	12/15/89	0.0	Memo	Jolette
1015366	Pontiac	12/07/87	02/28/90	12/07/93	12/15/89	0.0	Memo	Jolette
1015367	Pontiac	12/07/87	02/28/90	12/07/93	12/15/89	0.0	Memo	Jolette
1015368	Pontiac	12/07/87	02/28/90	12/07/93	12/15/89	0.0	Memo	Jolette
1047939	Pontiac	01/03/89	/ /	01/03/95	/ /	0.0	Memo	Jolette
1047940	Pontiac	01/03/89	/ /	01/03/95	/ /	0.0	Memo	Jolette
1047941	Pontiac	01/03/89	/ /	01/03/95	/ /	0.0	Memo	Jolette
1047942	Pontiac	01/03/89	/ /	01/03/95	/ /	0.0	Memo	Jolette
1047943	Pontiac	01/03/89	/ /	01/03/95	/ /	0.0	Memo	Jolette
1047944	Pontiac	01/03/89	/ /	01/03/95	/ /	0.0	Memo	Jolette
1048523	Pontiac	01/03/89	/ /	01/02/95	/ /	0.0	Memo	Jolette
1048524	Pontiac	01/03/89	/ /	01/03/95	/ /	0.0	Memo	Jolette
1048525	Pontiac	01/03/89	/ /	01/03/95	/ /	0.0	Memo	Jolette
1048526	Pontiac	01/03/89	/ /	01/03/95	/ /	0.0	Memo	Jolette
1048527	Pontiac	01/03/89	/ /	01/03/95	/ /	0.0	Memo	Jolette
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1049707	Pontiac	01/03/89	/ /	01/03/89	/ /	0.0	Memo	Jolette
1049708	Pontiac	01/03/89	/ /	01/03/95	/ /	0.0	Memo	Jolette

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979926	Ben Nevis	09/18/87	/ /	09/18/93	12/15/89	60.0	Memo	Labbe
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979930	Ben Nevis	09/18/87	/ /	09/18/93	12/18/89	60.0	Memo	Labbe
979931	Ben Nevis	09/18/87	/ /	09/18/93	12/15/89	60.0	Memo	Labbe
980472	Ben Nevis	09/18/87	/ /	09/18/93	12/15/89	60.0	Memo	Labbe
983359	Ben Nevis	09/18/87	/ /	09/18/93	12/15/89	60.0	Memo	Labbe
1096885	Ben Nevis	02/05/90	/ /	/ /	/ /	0.0	Memo	Labbe
1096886	Ben Nevis	02/05/90	/ /	/ /	/ /	0.0	Memo	Labbe
1045732	Ben Nevis	08/16/88	/ /	08/16/94	12/14/89	40.0	Memo	Mountain Lake
1046217	Ben Nevis	08/16/88	/ /	08/16/94	12/14/89	40.0	Memo	Mountain Lake
1046221	Ben Nevis	09/16/88	04/30/	09/06/94	12/14/89	0.0	Memo	Mountain Lake
1111060	Ben Nevis	08/28/89	/ /	08/28/95	12/14/89	0.0	Memo	Mountain Lake
1111063	Ben Nevis	08/28/89	/ /	08/28/95	12/14/89	0.0	Memo	Mountain Lake
1111474	Ben Nevis	07/12/89	/ /	07/12/95	12/14/89	0.0	Memo	Mountain Lake
1111475	Ben Nevis	07/12/89	/ /	07/12/95	12/14/89	0.0	Memo	Mountain Lake
1111476	Ben Nevis	07/12/89	/ /	07/12/95	12/14/89	0.0	Memo	Mountain Lake

4.0 PREVIOUS WORK HISTORY

1926 to present: Canagau Mine Property

The property known as the Interprovincial Mines Limited property was originally staked by P.J. Roche in 1926 on a previously known polymetallic showing (No. 7 on OGS MAP 2283 by L. Jensen). Work done between 1926 and 1936 by Interprovincial Mines Ltd. included extensive surface stripping, trenching a 40 foot deep inclined prospect shaft, and a vertical 346 foot, 3 compartment shaft with 934 feet of underground workings on 3 levels: 34 feet of lateral work on the 125 foot level; 480 feet of lateral work on the 225 foot level and 420 feet of lateral work on the 325 foot level. There is no recorded production, bulk sampling or diamond drilling. In 1936 Canagau Mines Ltd was formed to take over the property from Interprovincial Mines Limited.

In 1946, Canagau Mines Ltd completed geological and geophysical surveys and drilled 8 holes (footage and locations are unknown).

In 1960, ground EM and mag were completed over the property, possibly by Hollinger Mines, who mapped the property at this time.

In 1962, Canagau Mines Ltd. completed further stripping and trenching.

In 1970 - 1974 Amax Exploration Inc. acquired an option on the claims as part of a regional exploration program. Work conducted by Amax included airborne and ground geophysics, mapping, geochemistry (Cu Zn Ag) and diamond drilling (7 holes totalling 3965 feet on the Canagau claims).

The property remained dormant until 1988 when Westbank Resources Ltd. acquired the ground, and conducted ground geophysics (mag, VLF-EM, selected IP), geological mapping, geochemical soil sampling and large scale mechanical stripping.

In 1989, Mountain Lake Resources Ltd. acquired the property following the withdrawl of Westbank Resources, and entered into a joint venture agreement with Joutel Resources Ltd. Work completed in 1989 included additional geological mapping, litho-geochemical sampling, and 621.1 metres of drilling in 2 holes.

1948: Preston East Dome Mines Ltd. conducted geological and geophysical (magnetics) surveys on a 21 claim block in the central part of Ben Nevis township tied on to the west boundary of the Canagau property (No. 10 on OGS map 2283 by L. Jensen). Three holes were drilled totalling 1017 feet testing weak magnetic anomalies on strike with the east-west trending shear zones at the Canagau Mine.

1952 to present: Roche Prospect (No. 1 on OGS map 2283 by L. Jensen)

Originally part of the Interprovincial Mines property in the late 1920's, this showing had no reported work until 1952, when Sakinaw Lake Copper & Iron Mining Ltd. conducted geological mapping and trenching in the area. In 1964 Dome Exploration Ltd. and Frobex Ltd. joint ventured the property and conducted geological and geophysical surveys plus 1971 feet of diamond drilling in 6 holes with limited success.

This showing has been controlled 100% by Goldmac Exploration Ltd. since the early 1980's. This company has conducted geological and geophysical (mag. VLF-EM) surveys, plus 1269 feet of diamond drilling in 5 holes.

1964 to present: Duvan Copper Company (No. 8 on OGS map 2283 by L. Jensen) controlled 18 claims in the central part of Ben Nevis township in the area of the Ehrhart shaft. Reported work consists of Magnetic and EM surveys, with no encouraging results.

In 1989 Mr. P. Labbe acquired 11 claims covering part of the original Duvan copper property and contracted line cutting and geophysical (mag and VLF-EM) surveys. Later in 1989, Joutel Resources Ltd. entered into an agreement with Mr. Labbe to acquire the property.

1964 to present: Beaudry Prospect (No. 5 on OGS map 2283 by L.

Jensen) Raymond Beaudry conducted extensive stripping and trenching in an area north east of the Canagau property close the Ben Nevis - Pontiac township boundary. There was also at least 4146 feet of diamond drilling in 10 holes in this area, adjacent to the north-east corner of the Canagau property. Drilling reported minor Cu, Zn, Ag, Au mineralization in dacitic volcanic rocks.

In 1988, McAdam Resources conducted geological and geophysical (mag, VLF-Em and selected IP) surveys over the area followed by 3 diamond drill holes (?). No records of the diamond drilling are present in the assessment files. This showing is controlled 100% by Mr. Ben Kiasyk, who has drilled a minimum of 233 feet in 2 holes.

1970-1974: Amax Exploration Inc. conducted a regional exploration program over central and east Ben Nevis township and west Pontiac township. Work performed consisted of airborne and ground geophysical (mag, IP) surveys, geological mapping, geochemical sampling (in the Canagau Mine area) plus at least 6504 feet of drilling in 15 holes. Targets were mostly I P conductors and, in the case of the Canagau Mine, geochemical anomalies.

1971: Cominco Ltd. conducted a 9 mile airborne EM survey over an 18 claim block in central Ben Nevis township called the Captain property with no encouraging results.

1975: L. Jensen mapped Clifford, Ben Nevis, Pontiac and Ossian townships at a scale of 1" = 1/4 mile and published 2 reports:
GR 132. Geology of Clifford and Ben Nevis townships;
GR 125. Geology of Pontiac and Ossian townships.

1977: Conwest Explorations Ltd. conducted geological mapping and geophysical surveys (mag, IP) over and area east of Death Lake in west central Pontiac township on property previously controlled by Amax. 679 feet of diamond drilling in 5 holes was also completed with no encouraging results.

1977: W. Wolfe made a metallogenic study of Ben Nevis township and published Ontario Geological Survey Study 19, Geochemical exploration of Early Precambrian Volcanogenic Sulphide Mineralization in Ben Nevis township.

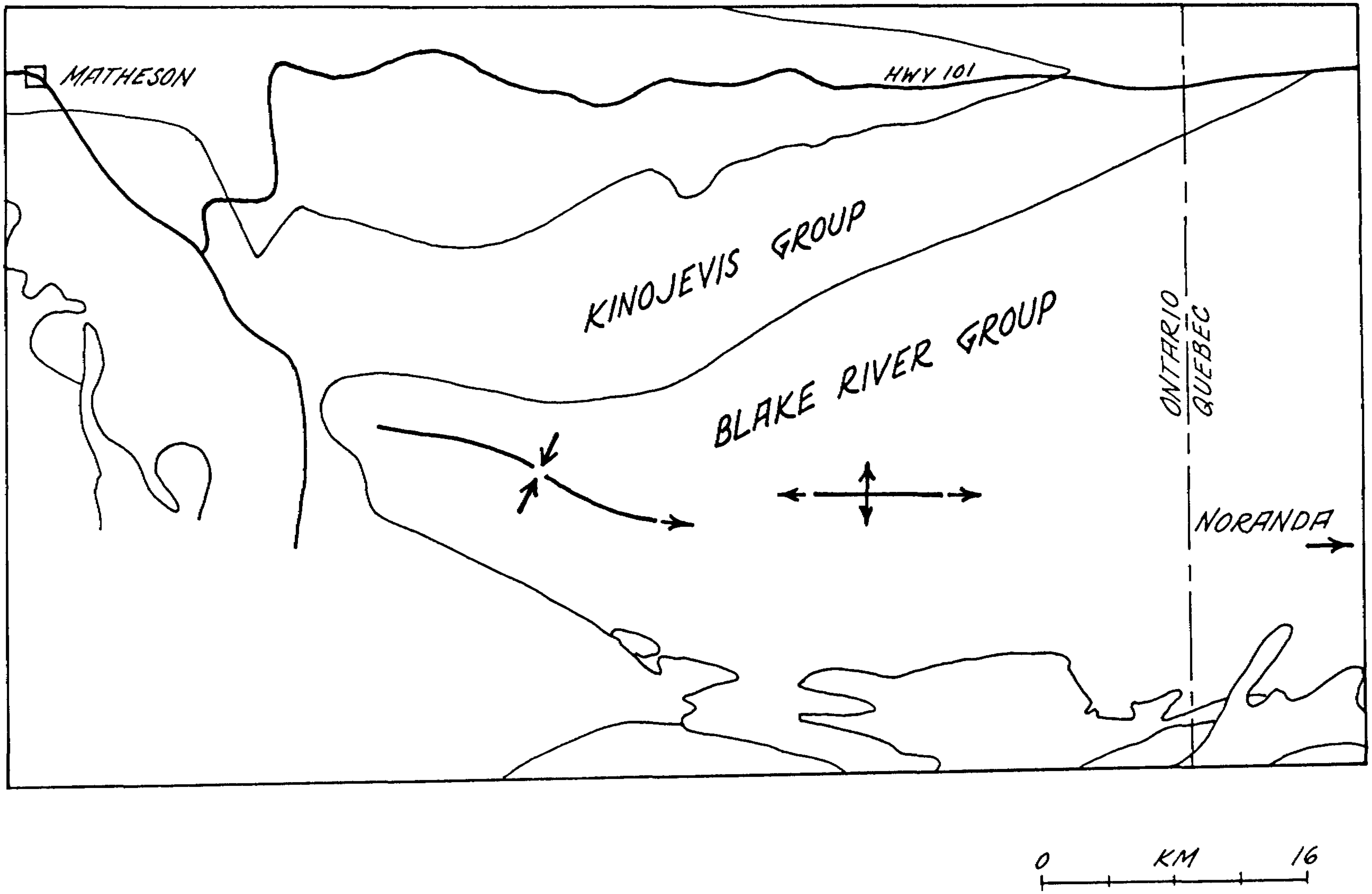
1985: L. Jensen and F. Langford published a paper entitled : Ontario Geological Survey MP 123, Geology and Petrogenesis of the Archean Abitibi Belt in the Kirkland Lake Area, Ontario

1986: E. Grunsky studied alteration of the rocks Clifford and Ben Nevis townships and published a chapter in Ontario Geological Survey MP 129, Volcanology and Mineral Deposits, Chapter 8: Recognition of Alteration in Volcanic rocks using Statistical Analysis of Lithogeochemical data.

1986: LAC Minerals conducted 2 ground magnetic surveys in Ben Nevis township, one in the south central part of the township while the other was east central, adjacent to the Beaudry Prospect. There were no encouraging results.

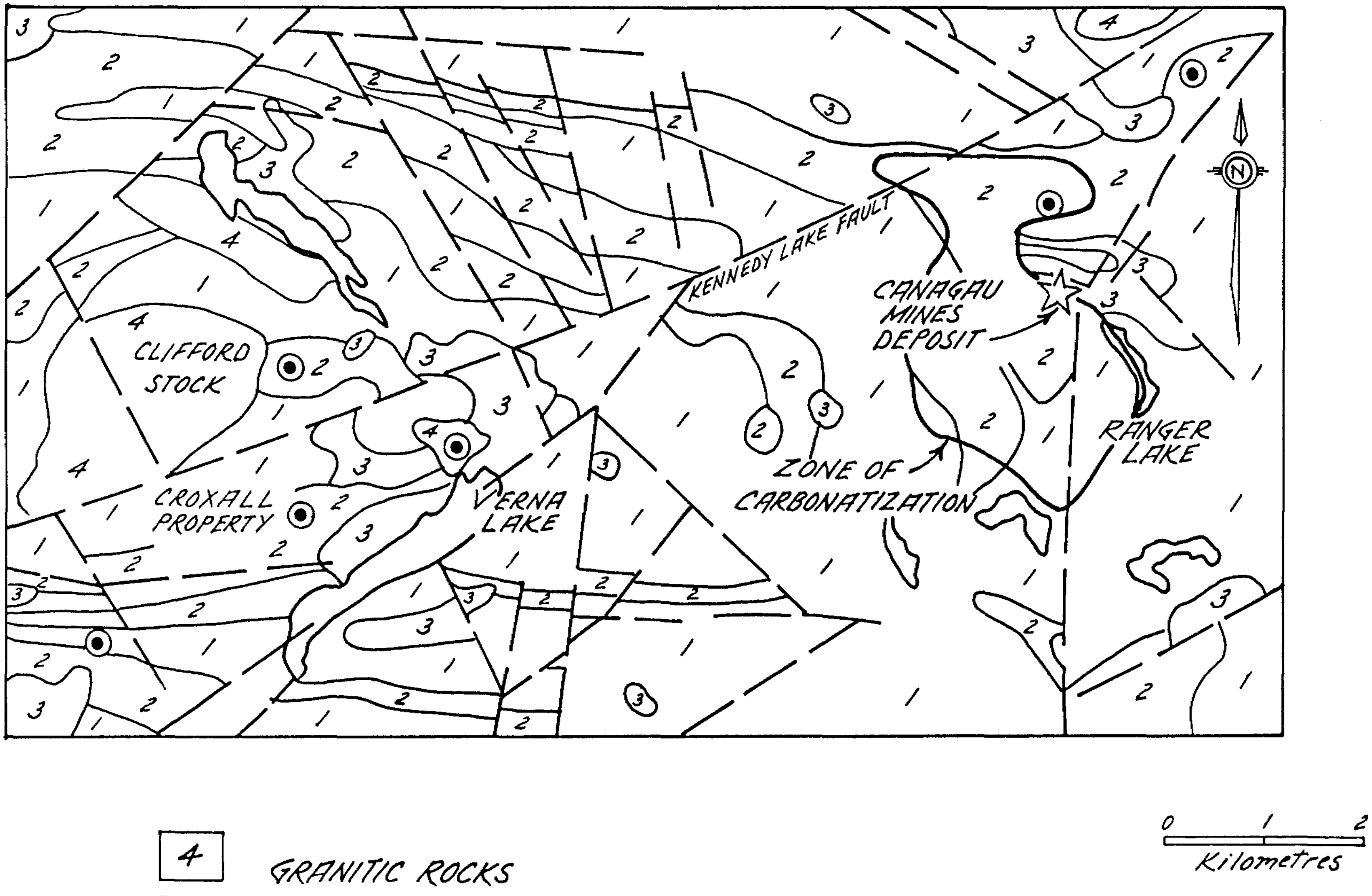
1988: Carl Forbes conducted a magnetic survey on 8 claims tied into the northeast and west of the Canagau patents, and subsequently optioned the ground to Mountain Lake Resources. It is now part of the Mountain Lake-Joutel joint venture.

1989 The bulk of Joutel Resources Ltd. Canagau property was staked by Mr. R. Jolette and Mr. R. Belanger who performed 2.3 km of IP and 1429 feet of diamond drilling in 2 holes along the east boundary of the Canagau claims. Late in 1989, the 200 plus claim block was optioned by Joutel Resources Ltd.



REGIONAL GEOLOGY

FIGURE 3



- 4 GRANITIC ROCKS
- 3 MAFIC & INTERMEDIATE INTRUSIVE ROCKS
- 1 MAFIC & INTERMEDIATE VOLCANIC ROCKS
- 2 FELSIC VOLCANIC ROCKS
- ⦿ MINERAL OCCURRENCE
- — — FAULT

GEOLOGY OF THE
BEN NEVIS AREA
(AFTER GRUNSKY, 1986)

FIGURE 4

5.0 REGIONAL AND PROPERTY GEOLOGY

Clifford, Ben Nevis and Pontiac townships are underlain by archean mafic to felsic metavolcanic and intrusive rocks of the Blake River Formation which also host the Noranda area massive sulphide deposits 30 miles to the east (figure 3). Later stage intrusive bodies and sills of mafic, intermediate and granitic composition cut the layered volcanic sequences, and are compositionally similar to the host volcanics.

Low grade regional metamorphism under zeolite facies has affected all rock types of the area. Albite-epidote hornfels metamorphism affects host rocks in the vicinity of all granitic intrusives.

Structurally, the area is located in the centre of a synclinorium that opens to the east. In central Ben Nevis township, an east-west trending anticline occurs flanked by complimentary synclines. A north-south trending anticline has been interpreted by Jensen (1975) to be present in the eastern portion of Ben Nevis township, through the patented Canagau Mine property. The overall pattern of folding is concentric about the Clifford stock located 10 km to the west of the Canagau patents.

A number of radial and short northwest and northeast striking faults occur about the Clifford stock extending throughout the area, with a prominent northeast fault cutting all stratigraphy known as the Murdock Creek - Kennedy Lake fault.

On a property scale, the patented Canagau Mine claims are underlain by a trianglular shaped calc-alkaline intermediate to felsic package of rocks surrounded by andesitic volcanics also of calc-alkaline affinity. This triangular wedge is part of the lower Felsic Volcanic unit, described by Jensen (1975) and is regionally influenced by the north-south trending anticline from emplacement of a granitic stock to the north (Figure 4). Jensen (1975) has subdivided the felsic volcanic rocks into an upper and lower felsic unit based on relative stratigraphic positioning with respect to the Clifford stock and on pillow top determinations in the intervening pillowed andesites.

The intermediate rocks are largely grey to light grey-green dacitic flows, pillowed flows and minor pyroclastics. They are generally east-west to northwest-northeast trending, steeply dipping south to southwest, very hard and weather a light grey.

The felsic volcanic rocks on the Canagau property area are predominantly pyroclastic, composed of coarse fragmental, flow rubble, tuff breccia and ash tuff. These rocks are commonly light coloured, have a whitish weathering surface and in some places can be porphyritic.

The surrounding andesitic rocks are dark grey to green-grey aphanitic flows, pillowed flows and flow top breccias. They are quite often amygdaloidal, with amygdules less than 5mm in size and up to 60% in abundance. These rocks are well preserved allowing for pillow top determinations. Pillow tops seem to be towards the south and south-west on the property. In addition massive, nondescript east-west trending mafic tuff units interfingered with the intermediate to felsic volcanics in the shaft area. These units have been previously mapped by Jensen and others (Westbank) as gabbroic intrusives.

Communication with government geologists and interpretation from Hunter (1989) indicate Jensen's view of the geology of the Canagau Mine is misleading. Many of the mafic volcanic rocks have been masked and misidentified as felsic rhyolitic or rhyodacitic rocks in the field because of the pervasive carbonate alteration and local silicification.

6.0 GEOLOGIC SETTING OF THE CANAGAU PROPERTY

(Contributed by A.D. Hunter)

I) Introduction

II) General Geology

III) Lithologic Descriptions
  a) Mafic volcanic rocks
  b) Dacite
  c) Canagau Rhyolite

IV) Structure

V) Alteration
  a) Characteristic minerals
  b) Whole rock geochemistry

VI) The Character and Place of Mineralization

VII) Summary

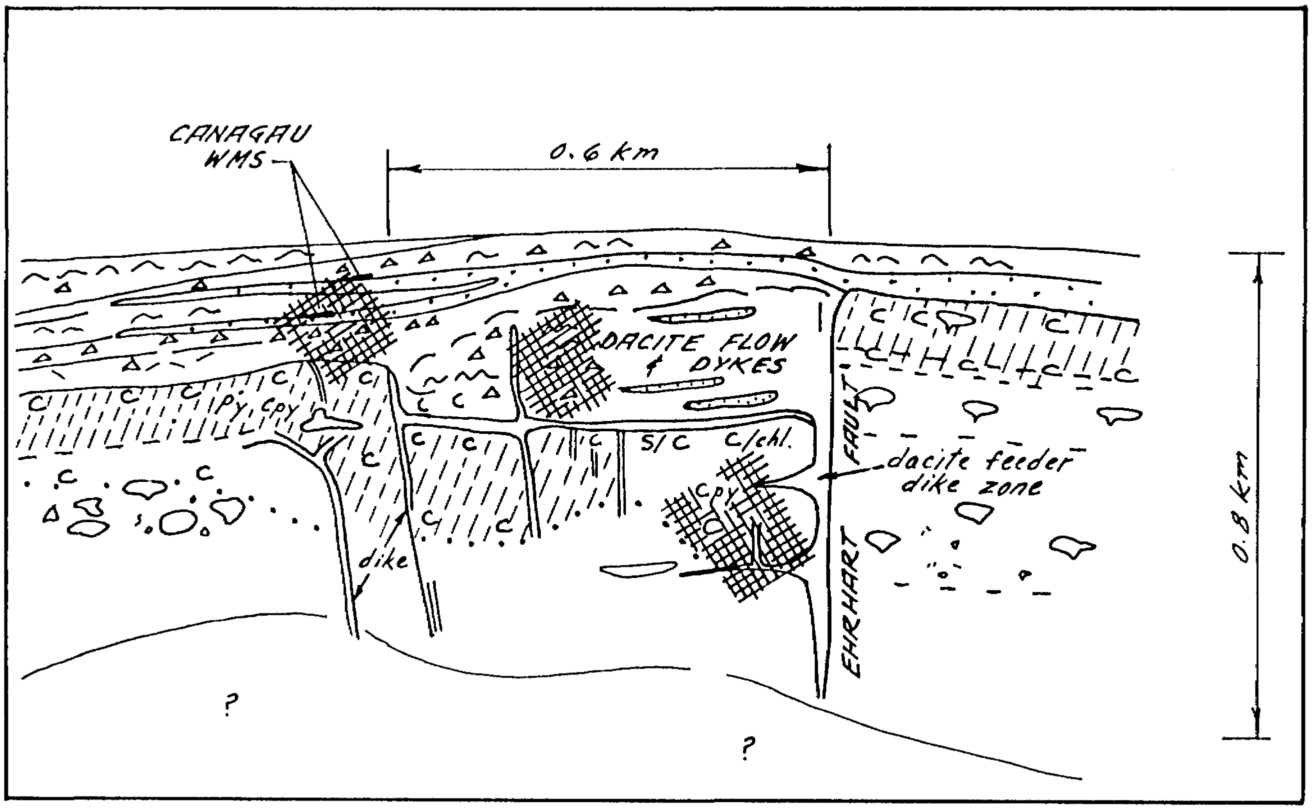
I) Introduction

Between late July and November, 1990 a programme of geological mapping was completed mainly on the core patented claims of the Ben Nevis property. In addition, some mapping was done i) along the secondary access road which traverses the adjoining Goldmac property and ii) on the optioned Labbe claims immediately north of Captain Lake and east of the main access road. A 4.5 sq. km area was examined in the 1990 field season and results of this work are plotted at scales of 1:2500 and 1:5000. In addition, detailed mapping (1:250) was done in selected bulldozer stripped and washed areas.

The latest field work, the results of which are documented in this report, was deliberately carried out in an area containing many known sulphide occurrences. Work has also resulted in the rediscovery of old base metal prospects which were last worked in the sixties. The main purpose of the field work was to establish a geologic framework within which the place of base and precious metal mineralization can be established. To this end a simplified volcanic stratigraphy has been determined along with structural controls on mineral occurrences. Whole rock analytical work in conjunction with observed alteration assemblages in the rocks (e.g. chlorite, sericite, carbonate) has served to focus the geological target area.

Drill cores from the fall/winter (89/90) exploration programme were also re-examined and further samples taken primarily for whole rock geochemistry.

Prior to commencement of diamond drilling in October, electromagnetic surveys were performed. The drilling programme was suspended while additional surveying was completed in the corridor between the area of the Canagau mine and the Ehrhart zone.



— LEGEND —

▦ Chlorite - sericite with stringer Sulphides (py, sp, gn, cpy)

▨ Pervasive Fe - carbonate alteration with disseminated sulphides

▭ Basalt flow/tuff horizon

∧ △ Flow banded brecciated lava

△ Coarse rhyolite volcaniclastics

○ Mafic flows Flow breccias

⋯ Limit of broadly conformable mineralization

CANAGAU - EHRHART
SCHEMATIC SECTION

Geologic relations, lithologies, structure, mineralization in the Canagau - Ehrhart area.

FIG. 6

II) General Geology

The Canagau property is underlain by a mixed assemblage of mafic to felsic volcanic rocks. The felsic rocks, ranging in composition from dacite to rhyolite are best exposed near the Canagau shaft. Here, flow banded, brecciated and spherulitic lava is interbedded with coarse debris deposits, lapilli-tuff and thin bedded to finely laminated ash tuff. Another distinct felsic unit is dacitic in composition and forms a flow-dike complex extending south from the shaft area on the patented claims to the Ehrhart showing area. This unit is massive to weakly vesicular and is generally nondescript except locally where it displays a coarse spherulitic texture. This dacite unit appears to be a fault bounded facies equivalent to the rhyolite which hosts the Canagau sulphide occurrences. Detailed mapping completed this past season allows the interpretation that the dacite is fault bounded against mafic flow units. Thus the geologic setting of the area between the Canagau mine and the Ehrhart showing can be described as a fault block or caldera. The Ehrhart fault defines the south boundary of this feature (see Fig. 5 and Fig. 6).

Below the Canagau Rhyolite and its facies equivalent 'dacite unit' there is a thick section (1.5 km) of mafic flows which extends west of the main access road. Pillow structures are commonly well developed along with pillow breccia and hyaloclastite in both outcrop and drill core. Massive flows and hyalotuff are also interbedded with rhyolite. These mafic rocks commonly form thin flow units with very fine chlorite filled vesicles which have been described as massive grey tuffs in our drill core logs. There are however, good examples of basaltic tuff at the Canagau prospect shaft and on the road into the property.

III Lithologic Descriptions

a) Mafic Volcanic Rocks

The mafic volcanic rocks are generally very fine grained, aphyric, pale grey-green to dun brown weathering. The field evidence for pyroclastic rocks in this group is scant whereas flow structures such as pillows/pillow breccia and hyaloclastite are ubiquitous. The flows are commonly amygdaloidal and large stripped exposures such as those at the Ehrhart occurrence exhibit egg size vesicles partially filled with druse quartz. A distinctive feature is a highly vesiculated to scoriaceous pillowed section of the stratigraphy (separate unit?) about 200 metres thick lying immediately below the Canagau Rhyolite. Highly vesicular basalt flows (see analysis WR-90-2 (242-252´)) characterized by a grey-green colour and tiny chlorite & quartz filled anygdules are interbedded with the Canagau Rhyolite about 150 metres northwest of the old mine (see Fig. 5). Some thin vesicular flow units are indistinguishable from massive basalt tuff.

Another distinctive feature of the mafic flows is well developed concentric cooling cracks filled with quartz. This is evident especially in drill core (DDH CNG-90-2).

b) Dacite

The type area for dacite is the Ehrhart occurrence where this rock is intrusive into mafic flows and itself hosts polymetallic sulphide mineralization as described by Hak (1989).

Dacite forms dikes and sills with a complex geometry evident at the Ehrhart where extensive stripping (250m x 75m) was done in 1988. Many small dikes have been mapped and are interpreted to have fed a ´ponded´ flow that has been mapped between the Canagau shaft and the Ehrhart zone.

Unaltered dacite is pale green and glassy on fresh surfaces and buff coloured to pale yellow on weathered surfaces. Although it has a massive aspect it is distinct in the field due to well developed jointing and its fine vesicular nature. Some flow banded spherulitic dikes closely resemble some layers observed interbedded with fine ash-tuff and coarse rhyolite volcaniclastics.

Where hydrothermal alteration and local deformation have destroyed primary features the dacite may contain waxy sericite and iron-rich carbonate in fractures and along cleavage planes (e.g. planes specimen from DDH CNG-90-1 at 173′).

The type dacite dike at the Ehrhart showing occurs in a fault zone and repeated fracturing is evident due to local tectonic brecciation of altered mineralized dacite. Local sericite schist is developed along with box-work quartz-sulphides (primarily pyrite) and Au-Ag mineralization.

c) CANAGAU RHYOLITE

For convenience the informal unit Canagau Rhyolite refers to the prominent felsic outcrop area forming the hill at the former Canagau mine.

This felsic unit comprises flows, associated coarse debris, pyroclastic and local thinly laminated ash-tuff. These rocks are pale yellow weathering to off-white or bone coloured when silicified. They are weakly feldspar phyric to aphyric, no quartz phenocrysts have been noted in felsic volcanics with the exception of one mappable dacite sill (800m southwest of the Canagau shaft).

Structurally, the rhyolite forms massive, well jointed and flow banded/brecciated spherulitic lava. The recent stripping now provides excellent exposures of pyroclastics, including laminated ash-tuff, lapilli-tuff and coarse debris interbedded with thin flow layers (150m northwest of the Canagau mine).

Where altered near the former Canagau mine, the rhyolite is chloritized and sericitized and may contain patchy, disseminated carbonate. This is especially evident in drill cores from the upper part of DDH CNG-90-2.

IV Structure

The volcanics strike east to southeast and observed dips are steep to the south and southwest where observed. A well developed sub-vertical foliation parallels stratigraphy in a gross sense. Shearing is only locally developed usually in sericite-carbonate rich zones.

Although a broad flexure or fold in the volcanics is evident from the 1:5000 scale map, tight folds can only be demonstrated at outcrop scale (see Fig. 8a). Here the structure is complex and probably in part reflects early non-penetrative deformation (e.g. slumping).

Jensen's interpretation (OGS Map 2283) places the Canagau mine in a crossfold or a structural dome position. Although there is a thick section of rhyolite here it is not as thick as was previously believed. This is due to widespread hydrothermal alteration which has masked pale, bleached mafic volcanics previously mapped as rhyolite (see alteration section below). Current understanding of the structure is poor due to a lack of tops determinations. Pillow lavas north of Captain Lake in newly stripped outcrops on the Labbe option suggest tops southwest. However, there is compelling evidence for stratigraphy facing toward the northeast in the Canagau-Ehrhart section where most of the detailed work has been done (see Fig. 6, schematic section). Here numerous dacite dikes cut the mafic volcanics at a high angle and appear to feed flow(s) higher up. At the Ehrhart zone the mineralized dacite dikes can be traced northeastward into a thick stratiform unit of rock which is now considered to be a flow/dike complex. Detailed mapping also shows that the Ehrhart structure fault bounds this dacite which is interpreted to be "ponded" against mafic flow rocks. Another dacite dike which is sub-parallel to the Ehrhart structure occurs near a cabin about 600 metres to the northwest. The gross geologic setting appears to be that of a caldera. The floor of this structure corresponds to a mafic-felsic contact that lies immediately north of the large stripped area about the Ehrhart shaft. Diamond drill holes CNG-

90-3 and CNG-90-6 cast doubt on such a simple interpretation. The possibility that stratigraphic relations are complicated due to folding must be considered. In time section drilling will provide the answer.

V) Alteration

a) Characteristic Minerals

Hydrothermal alteration is widespread on the Canagau property. An extensive iron carbonate (ankerite-ferrodolomite (siderite?)) sericite alteration event is best recorded in the mafic volcanic rocks. This is particularly evident in the vesicular flow/flow breccias that occur southwest and in contact with the Canagau Rhyolite. These mafic rocks are interpreted to form the stratigraphic footwall to the felsic rocks, and to occupy the floor of an recently interpreted caldera underlying the area between the Canagau mine and the Ehrhart zone. The mafic-felsic contact does not appear on Jensen's Map 2283 (Jensen 1975).

Chlorite and sericite are also widespread in occurrence but best developed in the area of the Canagau mine. This is evident from an examination of rocks on the mine dump (Hunter, 1989). In drill hole CNG-90-2, put down under the shaft of the old mine, there is an impressive 100m core length of chloritic and sericitic alteration with attendant stringer sulphides (see "mineralization" section below). Whole rock geochemical sampling here resulted in analyses which show strong soda depletion typical of proximal volcanogenic massive sulphide (VMS) host rocks.

Chlorite and sericite alteration is a salient feature of the geology between the Canagau Mine and the Ehrhart Fault, a distance along strike of about 0.6km. The alteration occurs across a stratigraphic thickness of about 0.5km. The extensive stripping done in 1988 at the Ehrhart occurrence coupled with core from drill hole CNG-90-1 shows intense development of all alteration types, Fe-carbonate, sericite and chlorite. At the Ehrhart, alteration extends across about 250 metres of stratigraphy and in the gross sense this alteration is fault bounded. Southeast of the Ehrhart Fault the juxtaposed mafic volcanics are essentially unaltered and carbonatized rocks that are equivalent to those forming the caldera floor are offset at least 200 metres to the northeast.

b) Whole Rock Geochemistry

Whole rock chemical analyses of a suite of volcanic rocks was presented in a previous report (Hunter, 1989). This past field season, concomitant whole rock sampling and detailed mapping were performed. Whole rock analytical data form an appendix to this report. (Appendix I).

The data indicate that these are mafic volcanics ranging in composition form basalt to andesite (note SiO_2 vs TiO_2). There is a group of samples with between 65-73% SiO_2 which corresponds to the dacite unit. Rhyolite flows and fragmental rocks contain between 73-82% SiO_2 based on all analyses performed to date.

Hydrothermal alteration has clearly resulted in the formation of carbonate throughout a thick section of the stratigraphy. Sericite commonly occurs in carbonate altered zones. Chemically this is indicated by 2 - 4 times the normal content of K_2O in the altered basaltic rocks.

Alteration attendant to proximal VMS deposits, such as those in the Blake River Group volcanics at Noranda, is of the feldspar destructive type. This is reflected in marked sodium (Na_2O) and usually calcium (CaO) depletion in the area of known deposits to levels typically less than 1% Na_2O. On the Canagau property, the Blake River volcanic rocks show extreme soda depletion and many exhibit concomitant calcium depletion (e.g. analyses WR-90-8, WR-90-9). However the Canagau rocks have been carbonatized unlike the well studied rocks in the central Noranda mining camp. The fact that multiple overlapping alteration events have occurred makes the rock geochemistry more difficult to assess. The fact that strong sodium and calcium depletion exists in conjunction with sericitized and chloritized zones where there is also strong base metal enrichment is significant. The environment at Canagau appears to have been ideal for the formation of massive polymetallic sulphides.

VI) The Character and Place of Mineralization

Polymetallic sulphide showings are widespread which may reflect either a primary stratigraphic "stacking" of sulphidic zones or repetition of mineralization by folding. Both these observations may apply and only a resolution of the structure will provide the answer. The scale of salient alteration with associated base metal, silver and gold enrichment in the volcanics is impressive and defines an area about 1 km by 0.6 km.

Field work and observations from examination of drill core reveal several different modes of mineralization, namely;

i) Sulphide mineralization comprised of pyrite, arsenopyrite, galena, sphalerite and minor chalcopyrite form semi-massive and massive conformable veins and stringer type mineralization in the Canagau shaft area. Some of the massive pyrite-sphalerite mineralization is banded and resembles typical volcanogenic massive sulphide. An example of this occurs 60 metres northeast of the Canagau mine in an altered basalt outcrop. Detailed mapping (1:250) northwest of the mine, in an area recently stripped and washed, has revealed what appears to be strata-related sulphide mineralization. This occurs as disseminated sulphides at basalt-rhyolite contacts in a structurally complex outcrop.

ii) Diamond drill cores reveal that important concentrations of base metal sulphides, gold and silver are associated with small deformed quartz carbonate veins. Where sulphides and quartz-carbonate occurs together, the former, particularly pyrite is often seen to be comminuted or pulled apart and in-filled by the gangue minerals which display a honeycomb or cellular texture. Fine grained massive pyrite bands appear to predate other sulphides. Honey sphalerite is typical of these small veins which range in size from 0.1 to

0.5 feet. The largest vein recognized to date occurs in core from DDH CNG-90-6 (438-433′). This is associated with a dacite dike at or near a basalt/rhyolite contact. Intense alteration is manifested by massive chlorite and sericite bands within the mineralized section. The dacite dike is also locally strongly chloritized and contains conspicuous chalcopyrite. Shearing and the presence of a brecciated quartz-carbonate vein emphasize the structural control of the mineralization.

iii) Conformable mineralization is characterized by disseminations of sulphide occurring as amygdule fillings along with quartz and carbonate. Although the mineral pyrite is most abundant, sphalerite and chalcopyrite are also common. This style of mineralization occurs in both carbonate-sericite altered and chloritized mafic volcanic rocks. A very extensive zone of copper enrichment in cores from DDH CNG-90-1 is associated with chloritized basalt. A similar zone of mineralization occurs in DDH CNG-90-6 (448-515′). These are excellent examples of the grossly stratiform mineralization that is known to be associated with massive sulphide deposits in Noranda, such as the Corbet orebody.

iv) Very fine grained disseminated pyrite and associated sphalerite and galena occurs in strongly chloritized zones in felsic volcanic rocks. A good example of this type of mineralization occurs in DDH CNG-90-2 drilled below the Canagau Mine workings. This is analogous to stringer sulphide mineralization that has been well described for many Abitibi Belt base metal deposits. A notable exception is the relatively low copper content of the altered section in this particular hole. However, strong copper enrichment occurs with chlorite in drill holes CNG-90-3 and CNG-90-6 only 250 metres away to the southeast.

v) Mineralized dacite dikes are sericitized and commonly contain disseminated fine grained cubic pyrite with or without arsenopyrite. Many dikes also contain finely disseminated and blebby chalcopyrite. Pale honey coloured sphalerite forms stringers and veins, commonly with galena, which together postdate the iron and arsenic rich sulphides. At the Ehrhart occurrence electrum and tetrahedrite have also been recognized (Hak, 1989). These minerals account for some erratic high grade gold and silver values in the altered quartz-rich sections of the dacite.

For simplicity the various forms of mineralization and attendant alteration can be visualized by reference to Fig. 6 a schematic section. This must be viewed more as a cartoon until the structure is resolved.

VII) Summary

The area of the Canagau Mine in east central Ben Nevis township can be described as a focal point or centre of both volcanic and hydrothermal activity. Field relations record rapid alteration of mafic and felsic volcanic rocks, specifically thin well vesiculated basaltic flows interlayered with flow banded spherulitic rhyolite and related volcaniclastic and laminated ash-tuff units. These volcanic rocks form a steeply dipping assemblage which is locally highly folded. The structure is largely unresolved in the absence of marker horizons. However, gross geologic relations support the existence of a volcano-tectonic structure which links mineralization between the Canagau mine and the polymetallic Ehrhart structure.

Hydrothermal alteration is widespread and marked by a broadly conformable Fe-carbonate/sericite zone and more localized chloritized and silicified sections. Sulphide mineralization is ubiquitous and well developed especially with chlorite, as i; chalcopyrite-pyrite-sphalerite-quartz vesicle fillings, quartz-carbonate- sulphide veins and as stringers and pods of pyrite with chalcopyrite (DDH CNG-90-3 (26-48')) and ii; as very fine grained disseminations and films of sphalerite and galena in chlorite and sericite altered zones.

Geochemical data combined with geologic relations indicate a complex multi-stage event of mineralization. Diamond drilling has intersected a strongly altered, Pb-Zn enriched zone, resembling a stringer sulphide zone, near the Canagau Mine. However, only 3400m to the southeast zones of Cu-Zn-Ag enriched chloritized volcanics appear to lie at about the same stratigraphic position. Evidence to date shows that Au-Ag mineralization is concentrated in relatively late quartz-sulphide veins. A good example of this occurs on the Ehrhart structure which was discovered by prospecting methods. Further progress on the Canagau property will depend on deep geophysical surveying and diamond drilling.

7.0 ADDITIONAL DETAILED MAPPING

1:250 scale mapping was carried out in two areas of the Canagau property during September and October 1990 as a follow up to mechanical and hydraulic stripping. An area of the Labbé option claims with a known sulphide-chert showing was selected (Figs 7a,b). The second area of stripping is located west to north of the Canagau shaft on a series of low knolls where large areas could be effectively cleared (Figs 8a,b,c).

Stripped areas in the Labbé claims expose a sequence of basalt flows, pillowed flows, vent breccias and coarse flow breccias which are cut by dacitic dykes and one andesitic dyke. In the northern most stripped area (Fig. 7b) a pillowed basalt unit trends roughly 100 degrees and tops are determined to be north. This is one of the few areas where such orientations could be determined. This orientation contrasts sharply with vent breccia contacts seen to the south (Fig. 7a) which strike north easterly and appear to top to the west by inference from the location of silica dumping.

The known showings on the Labbé claims (Fig. 7a) are both found to be basalt vent breccia pipes whose cores have been silicified. Coarse basalt fragments have been strongly bleached in the pipe while fine basalt material common to the groundmass outside the pipe have been washed away and replaced with chert and pyrite. Outside the core of the pipe and "downslope" to the northeast a frothy, scoriaceous flow breccia can be observed. A whole rock sample taken from the unmineralized host basalt, No.8514, shows a marked silica depletion indicating a very strong hydrothermal system at work. At least three flow breccias are found in the vicinity of the chert pipe, indicating a plurality of such vents nearby or multistage extrusion of flow material from this vent. One flow breccia contains angular fragments of dacite.

The andesite dyke was also lithogeochemically sampled confirming its composition (sample 8515). This dyke has a strong core but its contacts are diffuse, injecting andesitic material into the interstices of the pillowed sequence it intrudes. The term "tuff dyke" was used by one visitor to the site.

Base metal mineralization is associated to the two mapped vent pipes and to the dacite dykes seen on Fig. 7b. Pyrite with minor amounts of sphalerite and chalcopyrite are seen in both areas. Sulphides, mainly pyrite, are also noted in the strongly carbonate altered basalts at the north end of the Labbé stripping. Disseminated and amygdule fill sulphide are both seen.

Stripping to the west and north of the Canagau shaft targeted several rediscovered mineral showings an areas of projected extent of the Canagau Rhyolite. The intention was to improve structural understanding of the area. Geology of the areas stripped is presented on figures 8 a,b, and c.

Far from simplifying the geological setting, stripping added still more complexity. Figure 8a demonstrates that both sharp paleorelief and folding contribute to a complex pattern of interbanding of rhyolitic and basaltic flows and tuffs. On the main outcrop south of the road in figure 8a a unit of rhyolite is found to be pinched into the core of a synformal fold. Away from the fold nose a sequence of cherty bands of rhyolite strike roughly 100 degrees. This original bedding is crosscut and completely replaced by an axial planar foliation towards the fold nose, whose axis trends roughly 050 degrees. A narrow band of basalt tuff forms the next unit in the fold sequence. This tuff grades locally to a felsic ash on the southern limb while the northern limb appears to attenuate.

Further southwesterly on the main outcrop, irregular contacts between massive basalts and massive rhyolites suggest paleorelief contacts as basalt filled in swales and crevasses between viscous rhyolite flow ridges.

Folding and penetrative foliation related to folding are visible in all new exposures and involve thin to thick interbedded packages of basalt and rhyolite with minor occurrences of intermediate ash. One dacite dyke is seen to intrude along a fold limb.

Mineralization and alteration are a consistent with those forms described by A.D. Hunter (this report). Sulphide mineralization can be seen in narrow bands along contacts between rhyolites, ashes and basalts as well as within chloritized rhyolites (L150E 125N) and basalts (L1W 0N). It is unclear whether mineralization seen in this stripping is structurally controlled but is not believed to be so.

Whole rock samples (#8503 to 8513 incl.) taken from the new Canagau area stripping shows variable alteration levels throughout the area in both basalts and rhyolites. As with mineralization, alteration such as soda depletion is not believed to be structurally controlled.

8.0 GEOPHYSICAL SURVEYS

Three geophysical surveys were undertaken during the fall and winter of 1990-1991. All three were electromagnetic in nature and were intended to identify potential base metal conductive zones in the Canagau sequence.

8.1 Horizontal Loop E.M. Survey (Fig 9)

Approximately 28 Km of 444 Khz horizontal loop Max-Min 2+ survey was conducted over the Canagau grid. Readings were taken at 25 metre stations on lines 50 metres apart. Transmitter-receiver separation was 150 metres.

Only one in-phase E. M. anomaly was detected during the survey, centred at L1+50E 1+50S. This anomaly has no corresponding quadrature response. The anomaly was drill tested by hole CNG-90-3 with no success. It is believed this anomaly may be due to mass effect caused by topographic relief.

8.2 Maxi-Probe Survey

Four 1600 metre long grid lines were traversed by Geoprobe Limited using a Maxi-Probe deep E.M. System. A discussion of the survey parameters and results by Geoprobe Limited is found in Appendix II.

In summary four zones of anomalous, low apparent resistivity were defined by the survey. Three of these anomalies correspond to altered zones at what are believed to be major lithological contacts. The fourth is quite deep seated and unexplained in overburden. Anomaly C was drill tested by hole CNG-90-6. The proposed anomaly was found to coincide with a thick sequence of well altered and mineralized basalts and rhyolites with amygdules and fracture filling pyrite and sphalerite mineralization.

8.3 Pulse - E.M. Survey

Holes CNG-90-2 and CNG-90-6 were both tested by a Crone Pulse E.M. downhole geophysical system in order to test the envelope of rock surrounding these holes. The pulse system can sense to a radius of 75 metres using surface ground loop transmissions with a down hole sensor. Profiles for the two surveys are presented in Appendix III.

Both down hole surveys failed to define a conductor of any significance either transecting the hole (an 'in-hole' anomaly) or in adjacent rocks (an 'off-hole' anomaly).

9.0 DIAMOND DRILLING PROGRAMS

Two phases of diamond drilling were undertaken during 1990. A total of 4839 feet of BQ drilling was completed during January and February (2005) and during October and November (2834). Three holes were completed in the vicinity of each of the major showings, the Canagau and the Ehrhart.

Hole CNG-90-2 (Fig. 10) sectioned the volcanic sequence under the Canagau shaft for 1008 feet. The hole intersected a sequence of interbedded, altered amygdaloidal basalts, massive fine grained basalt tuff, basalt flow breccias and rhyolite flows. Beyond 779 feet in hole 2 relatively unaltered rhyolite flow with thin to thick interbeds of unaltered basalt tuff predominate. General alteration consists of strong carbonate, chlorite +/- sericite with minor pyrite. In basaltic rocks, amygdules, often mineralized with pyrite +/- sphalerite +/- galena or chalcopyrite, are preferentially chlorite altered followed by flow breccia groundmass, selvages and finally more massive basalt. Rhyolite exhibits chloritization preferentially along sericitic bands which represent rotation of flow banding.

Both rock types have stringers and veins of disjointed "pull-apart" pyrite infilled with quartz carbonate gangue, sphalerite and galena. The amount of base metal mineralization associated with these stringer veins appears proportional to the volume of gangue.

Holes CNG-90-3 (Fig. 11) and CNG-90-6 (Fig.12) were collared on a parallel section roughly 200 metres east of hole CNG-90-2. These holes were intended to evaluate the rock package equivalent to the Canagau shaft area in this vicinity and to test a horizontal loop E.M. conductor and a two Maxi Probe E.M. anomalies.

Hole CNG-90-3 drilled from south to north, collared in extremely well chloritized and sericitized rhyolites and basalts.

Stringer veins and sulphide filled amygdules are common in this sequence. Below 454 feet in hole CNG-90-3 almost 95% of the core recovered is fresh weakly altered basalt.

Hole CNG-90-6 was collared north of hole CNG-90-3 and drilled north to south to section the entire altered zone in which hole CNG-90-3 was collared. CNG-90-6 also drill tested a deep seated Maxi-Probe anomaly (anomaly C) further to the south. This hole intersected 1480 feet of predominantly well altered chloritized basalt and rhyolite. Less rhyolite was encountered than expected in hole CNG-90-6 indicating that the thick unit mapped at surface may be the result of fold repetition. Sulphide stringer veins and sulphide amygdule fillings are pervasive in basalts encountered in this hole. Rhyolites are well chloritized and sericitized but sulphide mineralization is restricted to veins and fractures. One dacite dyke is found in hole CNG-90-6 at 443.2 feet in a basalt. A five foot zone of basalt on the upper contact of this dyke is strongly altered to chlorite-sericite as well as tectonically brecciated. Mineralization consists of quartz-dolomite-pyrite-arsenopyrite-sphalerite-galena-chalcopyrite, similar to the polymetallic assemblage found at the Canagau prospect shaft.

Hole CNG-90-6 was stopped at 1480 feet after transecting the proposed Maxi Probe conductor. No obvious change in the alteration or mineral concentration was noted at the predicted location of anomaly C (Appendix II).

TABLE 2

Summary of Diamond Drilling
Canagau Project 1990

Hole	Location	Az/Incl.		Depth
CNG-90-1	56m Az157 from 2+50E 8+31S	337/-45	997 ft	Ehrhart fault and IP anomalies
CNG-90-2	1+00W 0+54S	053/-5	1008 ft	Canagau shaft section
CNG-90-3	1+00E 2+15S	045/-45	754 ft	E.M. anomaly, Canagau Rhyolite
CNG-90-4	2+04E 6+60S	130/-45	250 ft	Ehrhart fault
CNG-90-5	2+04E 6+60S	130/-60	350 ft	Ehrhart fault
CNG-90-6	25m grid east 1+50E 1+35S	225/-60	1480 ft	Canagau Rhyolite Maxi-Probe Anomaly C
			2839 ft	

In the Ehrhart area, 3 holes tested local geology. Hole CNG-90-1 sectioned strata through the dacite dyke swarm at the base of the "ponded" sequence described by Hunter (this report). Holes CNG-90-4 and CNG-90-5 were drilled to evaluate the Ehrhart fault and its relationship to the polymetallic mineralization found in dacite and basalt rocks in the vicinity.

Hole CNG-90-1 (Fig. 13) was drilled north westerly across the projected trend of the Ehrhart fault. A possible cross fault lies between the drill hole trace and the last exposure of the Ehrhart fault. No significant shear was seen in core although the cross fault was identified at 209.5 feet. Hole CNG-90-1 intersected eight dacitic dykes. Several of these are strongly silicified and mineralized with iron carbonate. These altered dacites are also sulphide mineralized having fracture controlled pyrite, podiform and breccia fill aggregates with pyrite, galena, quartz carbonate and sphalerite. These dykes inject a sequence of frothy, amygdaloidal basalts which have undergone chlorite-sericite alteration of variable intensity throughout the section. This alteration is not related to the dykes and is present well beyond the limit of their intrusion.

Northwest of the dacite dyke swarm, amygdaloidal basalts become interbedded with massive fine grained basalt tuff and a peculiar flow breccia seen only in core to date. This breccia consists of rounded blocky fragments of basalt in a black aphanitic chloritic groundmass. Fragments often have "mated" contours as if the blocks moved against each other while still hot. This rock is very altered and fine grained chalcopyrite is found in the breccia groundmass.

Holes CNG-90-4 and CNG-90-5 (Fig. 14) were collared at the same location and drilled on the same section at 45 degrees and 60 degrees respectively. The purpose was to section the Ehrhart fault below a known surface exposure and create a vertical profile for study.

Both holes sectioned a rapidly alternating sequence of dacites and amygdaloidal basalts. Contacts are fault controlled or intrusive and occur at variable core angles. The Ehrhart fault is actually a set of tight slip faults in a strongly shear banded section of dacite and basalt. Several tight faults occur outside the zone of shear banding. One tight fault in particular, at 196.5 feet in hole CNG-90-4 and 247.2 feet in hole CNG-90-5 is believed to be the major offset in the system, bringing the ponded dacite rhyolite sequence into juxtaposition with relatively fresh basalt. The true thickness of the deformation zone is roughly 70 feet.

Mineralization in the deformation zone consists of veins and irregular masses of pyrite and sphalerite, galena and some arsenopyrite. One such 6 inch vein returned an assay of 2.1 oz/ton Au over 1 foot.

10.0 CONCLUSIONS AND RECOMMENDATIONS

Exploration of the Canagau property during 1990 has resulted in a fuller and more detailed understanding of the geology and mineralization of the area. Surface mapping and diamond drilling have defined a 1 Km by 0.6 Km area of moderately to strongly altered basalt and rhyolite. The sequence is thinly to thickly bedded and locally folded. All rocks exhibit chlorite alteration with variable amounts of sericite alteration. This alteration and attendant strong soda depletion are typical of alteration haloes surrounding volcanogenic massive sulphide deposits. Strongly anomalous copper and zinc mineralization is widespread through the map area and located in stringers and more particularly in vesicles indicating a proximal source for base metal mineralization.

Structural complexity within the altered package of rock in the Ehrhart and Canagau area has not been resolved. Large scale folding and irregular paleorelief features with respect to interflow contacts defy extrapolation of small scale features to a general interpretation.

Mineralization and alteration found to date underline the merit of continued exploration of the Canagau property. Further drilling and a broadening of scope in surface mapping to include a large radius of study are recommended.

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Wolfe W. J. 1977	Geochemical Exploration of Sulphide Mineralization. Ben Nevis township. O.G.S. - study paper 19.

CERTIFICATE OF QUALIFICATIONS

I, William John McGuinty of 63 Rand Avenue, West in the town of Kirkland Lake in the Province of Ontario,

Do hereby certify:

1. That I am a graduate of the University of Ottawa (1983) with a degree of Bachelor of Science (B.Sc.) with Honours in Geology.
2. That I have been practicing my profession as a Geologist and been engaged in mineral exploration since 1981.
3. That this report is based on visits to the property and personal appraisal of available data.
4. That I have disclosed in this report all relevant material which to the best of my knowledge might have a bearing on the viability or recommendations to the project.
5. That I do not have, nor do I expect to receive, directly or indirectly any interest in the property reported on herein.
6. That I am exploration manager for Joutel Resources Limited.

January 1991

W. J. McGuinty,
Kirkland Lake,
Ontario

CERTIFICATE OF QUALIFICATIONS

I, Bradley C. Leonard of 2081 Sunnyside Road in the City of Sudbury, in the Province of Ontario Do Hereby Certify that:

1) I am a graduate of the University of Toronto (1983) with a bachelor of Science degree (B.Sc.) with honours in geological sciences.
2) I have been practicing my profession as a geologist since 1983, and a consultant since 1988.
3) I have no interest, directly or indirectly in the property, Joutel Resources Ltd. or Mountain Lake Resources Inc., nor do I expect to acquire any interest, directly or indirectly in either of the aforementioned companies, or the property.
4) This report was prepared by me using government maps and reports; miscellaneous data on file in the files of the resident geologist, Ministry of Northern Development and Mines, Kirkland Lake, Ontario; and field visits to the property.

Bradley C. Leonard B.Sc.
Consulting Geologist
Kirkland Lake, Ontario
November 17, 1990.

APPENDIX I

WHOLE ROCK GEOCHEMISTRY
AND
ASSAY CERTIFICATES

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Established 1928

Assaying - Consulting - Representation

SEP - 6 1990

0W-1263-RG1

Geochemical Analysis Certificate

Company: **QUEENSTON MINING**
Project: BEN NEVIS
Attn: W. MCGUINTY

Date: SEP-04-90

Copy 1. BOX 193, KIRKLAND LAKE, ONT P2N 3H7
2. FAX TO 567-7002

We hereby certify the following Geochemical Analysis of 29 ROCK samples submitted AUG-28-90 by A. D. HUNTER.

Sample Number	Au ppb	Ag ppm	As ppm	Cu ppm	Pb ppm	Sb ppm	Sn ppm	Zn ppm
WR-90-1				30	38			83
WR-90-2				36	28			124
WR-90-3				3	11			85
WR-90-4				31	1			224
WR-90-5				22	3			78
WR-90-6				35	9			94
WR-90-7				38	43			1020
WR-90-8				54	27			179
WR-90-9				8	18			162
WR-90-10				3	6			106
WR-90-11				6	5			43
WR-90-12				80	2			77
WR-90-13				10	5			39
WR-90-14				51	1			91
128716	10	3.0		313	94			9540
128717	282/278	41.2		833	12600			24900
128721	7	2.9		114	290			1480
128722	27	16.4		228	8800			9000
128723	14	34.1		263	20600			3440
128724	7	2.6		220	74			486
128725	Nil	0.4		22	129			133
128731	7	0.6		25	82			65
128732	14	0.4		19	46			89
128734	10	2.0		71	942			1530
128735	847/857	32.7		402	23400			47100
72237	Nil							
72238	Nil							
72239	24	23.9		548	10500			37200
main-shaft (no tag)	14	2.7		176	1250			8680

As,Sb,Sn, WRA results to follow

Certified by G. Lebel

G. Lebel / Manager

90

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RECEIVED
SEP 19 1990
QU[illegible]
KIRKLAND LAKE

Certificate of Analysis

Certificate No. OW-1263-RG1 Date September 17, 1990

Received August 28, 1990 14 samples of Rock

Submitted by Queenston Mining Inc., Kirkland Lake, Ontario

Attention: Mr. B. McGuinty Page one of three

WHOLE ROCK ANALYSIS 1668

SAMPLE NO:		WR-90-1	WR-90-2	WR-90-3	WR-90-4	WR-90-5
SiO_2	%	62.08	66.09	69.41	58.01	72.25
Al_2O_3	%	13.99	12.84	14.42	15.28	12.38
Fe_2O_3	%	5.78	6.41	4.86	8.11	3.81
CaO	%	3.96	4.97	1.03	3.22	1.81
[illegible]O	%	4.15	1.66	1.78	4.91	1.55
Na_2O	%	3.32	0.73	3.56	4.22	3.65
K_2O	%	0.96	1.73	1.42	0.64	0.93
TiO_2	%	0.54	0.85	0.43	0.78	0.33
MnO	%	0.11	0.08	0.02	0.14	0.05
P_2O_5	%	0.11	0.15	0.15	0.15	0.11
LOI	%	4.92	4.41	2.87	4.48	3.08
Ba	PPM	281	468	322	536	241
Cr	PPM	866	835	631	664	1081
Nb	PPM	129	195	204	318	182
Sr	PPM	87	122	51	105	66
Y	PPM	29	34	44	22	39
Zr	PPM	368	534	476	341	468

Per G. Lebel
G. Lebel-Manager/rl

P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705) 642-3244 FAX (705) 642-3300

SL

Swastika Laboratories

Certificate No. OW-1263-RG1 Page 2

WHOLE ROCK ANALYSIS

SAMPLE NO:		WR-90-6	WR-90-7	WR-90-8	WR-90-9	WR-90-10
SiO_2	%	65.76	72.26	72.87	71.58	48.75
Al_2O_3	%	13.65	11.26	12.75	12.53	13.79
Fe_2O_3	%	4.29	4.84	5.58	5.85	7.27
CaO	%	4.86	2.38	0.11	0.81	7.78
[illegible]O	%	1.48	1.71	2.25	2.55	4.92
Na_2O	%	1.24	0.15	0.01	0.01	1.54
K_2O	%	2.31	1.95	1.41	2.04	1.25
TiO_2	%	0.38	0.29	0.31	0.35	0.73
MnO	%	0.15	0.08	0.03	0.08	0.15
P_2O_5	%	0.11	0.11	0.11	0.14	0.15
LOI	%	5.71	4.89	3.51	3.97	13.52
Ba	PPM	381	217	702	205	100
Cr	PPM	571	655	478	551	246
Nb	PPM	236	296	311	255	351
Sr	PPM	55	33	15	25	92
Y	PPM	33	37	44	39	25
Zr	PPM	415	399	478	376	300

Per G. Lebel

G. Lebel-Manager/rl

CTA Member Canadian Testing Association

Established 1928

SL

Swastika Laboratories Certificate No. OW-1263-RG1 Page 3

WHOLE ROCK ANALYSIS

SAMPLE NO:		WR-90-11	WR-90-12	WR-90-13	WR-90-14
SiO_2	%	74.86	61.42	73.68	52.79
Al_2O_3	%	12.22	11.29	10.56	16.45
Fe_2O_3	%	2.15	6.31	3.15	9.61
CaO	%	1.75	6.11	2.78	5.11
[illegible]O	%	0.56	3.58	0.71	6.35
Na_2O	%	3.31	2.15	2.75	3.53
K_2O	%	2.15	1.03	1.63	0.52
TiO_2	%	0.22	0.65	0.29	0.89
MnO	%	0.03	0.11	0.06	0.15
P_2O_5	%	0.11	0.19	0.11	0.22
LOI	%	2.61	7.08	4.11	4.33
Ba	PPM	170	125	328	71
Cr	PPM	1259	530	1798	320
Nb	PPM	359	593	542	451
Sr	PPM	46	93	102	198
Y	PPM	41	34	43	34
Zr	PPM	468	403	405	418

Slight Chromium contamination due to use of hard chrome steel pulverizer plates.

Per G. Lebel

G. Lebel-Manager/rl

CTA Member Canadian Testing Association

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Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

OCT -9 1990

15

Geochemical Analysis Certificate

0W-1458-RG1

Company: **JOUTEL RES. LTD.**
Project: C/O QUEENSTON MINING INC.
Attn:

Date: OCT-01-90
Copy 1. BOX 193, KIRKLAND LAKE P2N 3H7
2. FAX TO 567-7002

We hereby certify the following Geochemical Analysis of 26 CORE/ROCK samples submitted SEP-25-90 by .

	Sample Number	Au ppb	Ag ppm	Cu ppm	Zn ppm
	WR-90-15			14	65
	WR-90-16			88	93
	WR-90-17			469	99
	WR-90-18			60	91
	WR-90-19			35	666
	WR-90-20			74	93
	WR-R1			6	44
	WR-R2			17	114
Rob.	WR-R3	Nil	0.1	55	113
	WR-R4			14	43
	WR-R5			39	62
	CNG-90-1 423-433			119	520
	CNG-90-1 494-497.5			358	31
	CNG-90-1 556-566			660	207
	CNG-90-1 707-717			182	191
	CNG-90-1 887-897			99	519
	CNG-2-90 42-52			53	224
	CNG-2-90 285-295			271	3210
	CNG-2-90 401-411			56	4010
	CNG-2-90 517-527			98	4810
	CNG-2-90 642-653			57	301
	CNG-2-90 753-763			15	174
	CNG-2-90 896-906			12	601
	10122	51/41	1.6	7860	150
059	10123	Nil	0.1	88	83
ben	125065	10	0.1	23	65

Whole Rock Analysis results to follow where requested.

Certified by G. Lebel

G. Lebel / Manager

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Established 1928

Assaying - Consulting - Representation

Certificate of Analysis

Certificate No. OW-1458-RG1

Date October 9, 1990

Received September 25, 1990 18 Core/Rock Samples

Submitted by Joutel Res. Ltd., c/o Queenston Mining Inc, Kirkland Lake Ont.

WHOLE ROCK ANALYSIS

	SAMPLE NO:	WR-90-15	WR-90-16	WR-90-17	WR-90-18
SiO_2	%	79.41	47.65	56.92	65.05
Al_2O_3	%	9.69	12.79	10.76	12.48
Fe_2O_3	%	2.98	7.19	5.01	6.12
CaO	%	1.43	10.84	4.38	4.89
MgO	%	0.63	4.17	2.29	1.57
Na_2O	%	0.01	1.23	0.78	2.89
K_2O	%	2.59	1.62	2.31	1.13
TiO_2	%	0.15	0.75	0.42	0.88
MnO	%	0.22	0.25	0.27	0.11
P_2O_5	%	0.06	0.1	0.09	0.13
LOI	%	2.76	13.21	16.53	4.66
Ba	PPM	192	169	202	293
Cr	PPM	1024	781	347	630
Nb	PPM	144	118	336	98
Sr	PPM	15	81	55	71
Y	PPM	31	20	31	34
Zr	PPM	185	146	214	207

Per G. Lebel

G. Lebel-Manager/fl

CTA Member Canadian Testing Association

P.O. Box 10, Swastika, Ontario P0K 1T0

Telephone (705) 642-3244. FAX (705)642-3300

WHOLE ROCK ANALYSIS

SAMPLE NO:		WR-90-19	WR-90-20	WR-R2	WR-R3	WR-R4
SiO_2	%	61.09	55.98	53.29	55.99	65.21
Al_2O_3	%	14.14	16.01	12.47	13.55	12.62
Fe_2O_3	%	12.51	7.26	15.42	14.99	9.01
CaO	%	0.41	4.56	6.19	4.02	3.67
MgO	%	5.02	5.32	4.29	2.73	2.31
Na_2O	%	0.01	1.37	1.68	2.06	4.76
K_2O	%	1.27	1.46	0.01	2.41	0.19
TiO_2	%	0.69	0.82	1.76	1.86	1.12
MnO	%	0.19	0.09	0.21	0.13	0.12
P_2O_5	%	0.11	0.09	0.14	0.11	0.19
LOI	%	4.48	6.93	4.44	2.09	0.73
Ba	PPM	315	284	36	986	35
Cr	PPM	748	225	147	420	848
Nb	PPM	44	<10	42	52	84
Sr	PPM	10	53	110	162	83
Y	PPM	19	<10	44	45	83
Zr	PPM	186	154	234	255	337

Per

G. Lebel-Manager/rl

SL

Swastika Laboratories   Certificate No. OW-1458-RG1   Page 3

WHOLE ROCK ANALYSIS

SAMPLE NO:		WR-R5	CNG-90-1 423/433	CNG-90-2 42/52	CNG-90-2 285/295
SiO_2	%	60.48	53.34	52.74	73.45
Al_2O_3	%	13.45	15.68	14.53	12.88
Fe_2O_3	%	10.81	8.65	7.03	5.58
CaO	%	5.01	4.35	6.67	0.24
MgO	%	3.68	6.39	5.09	1.74
Na_2O	%	3.22	0.02	0.63	0.01
K_2O	%	0.22	2.08	1.51	2.35
TiO_2	%	1.21	0.78	0.82	0.21
MnO	%	0.14	0.25	0.22	0.09
P_2O_5	%	0.19	0.11	0.11	0.04
LOI	%	1.53	8.21	10.49	3.32
Ba	PPM	77	161	245	489
Cr	PPM	759	538	378	706
Nb	PPM	75	72	33	<10
Sr	PPM	143	29	74	12
Y	PPM	89	15	19	28
Zr	PPM	428	146	171	201

Per G. Lebel

G. Lebel-Manager/rl

CTA Member Canadian Testing Association

WHOLE ROCK ANALYSIS

SAMPLE NO:		CNG-90-2 401/411	CNG-90-2 517/527	CNG-90-2 642/653	CNG-90-2 753/763	CNG-90-2 896/906
SiO_2	%	75.21	73.93	48.01	71.29	73.39
Al_2O_3	%	12.39	13.76	15.86	13.54	13.21
Fe_2O_3	%	4.83	4.75	8.82	4.35	1.82
CaO	%	0.21	0.27	7.26	1.26	2.88
MgO	%	2.12	1.54	5.51	2.24	1.05
Na_2O	%	0.01	0.01	0.06	0.01	0.01
K_2O	%	2.22	2.59	2.27	2.59	3.09
TiO_2	%	0.19	0.23	0.98	0.22	0.21
MnO	%	0.09	0.08	0.25	0.33	0.15
P_2O_5	%	0.05	0.05	0.12	0.05	0.05
LOI	%	2.61	2.72	10.71	4.03	4.05
Ba	PPM	423	413	283	307	385
Cr	PPM	678	1285	236	590	833
Nb	PPM	18	<10	82	51	31
Sr	PPM	11	16	59	20	35
Y	PPM	34	32	20	38	32
Zr	PPM	188	201	146	245	184

Per G. Lebel

G. Lebel-Manager/rl

Established 1928

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Certificate of Analysis

Certificate No. 0W-1458-RG1 Date Nov. 2, 1990

Received Sept. 25, 1990 5 core samples

Submitted by Joutel Resources, Kirkland Lake, Ontario 1668 Canagau

WHOLE ROCK ANALYSIS

SAMPLE NO:		WR-R1	90-1 494-497.5	CNG-90-1 556-566	CNG-90-1 707-717	CNG-90-1 887-897
SiO2	%	73.38	73.64	53.84	50.12	48.74
Al2O3	%	13.52	11.60	14.76	14.45	14.61
Fe2O3	%	3.01	1.97	11.19	10.87	8.15
CaO	%	2.02	3.57	3.03	5.23	8.58
MgO	%	0.38	0.86	5.55	5.75	4.68
Na2O	%	4.38	0.44	0.19	0.15	0.11
[illegible]	%	1.54	2.64	1.86	2.24	2.52
TiO2	%	0.13	0.30	0.74	0.76	0.76
MnO	%	0.04	0.10	0.17	0.33	0.55
P2O5	%	<0.02	<0.02	0.08	0.08	0.12
LOI	%	1.18	4.95	7.57	10.38	10.60
Ba	PPM	342	189	111	179	321
Sr	PPM	86	35	20	23	44
Zr	PPM	246	179	84	92	95
Y	PPM	37	36	16	15	19
Sc	PPM	6	6	14	14	19

Per Donna Gardner
Donna Gardner

SWASTIKA LABORATORIES
P.O. BOX 10
TELEPHONE #: 05-642-3244
FAX #: 705-642-3300

7

I.C.A.P. WHOLE ROCK ANALYSIS
Lithium MetaBorate Fusion

SWASTIKA LABS QUEENSTON MINING INC
SWASTIKA ONT.

T.S.L. REPORT No. : M - 8427 - 1
T.S.L. File No. : N009RA
T.S.L. Invoice No. :

YOUR REFERENCE - OM-1699-RB1

SAMPLE #	SiO_2 %	Al_2O_3 %	Fe_2O_3 %	CaO %	MgO %	Na_2O %	K_2O %	TiO_2 %	MnO %	P_2O_5 %	LOI %	TOTAL %
8503	77.48	12.45	1.22	0.33	0.37	0.38	3.46	0.25	0.04	0.10	1.93	98.03
8504	66.53	16.55	5.63	0.07	1.34	0.32	4.02	0.66	0.31	0.16	4.03	99.63
8505	64.20	17.06	6.28	0.22	1.10	0.34	4.18	0.70	0.32	0.18	3.85	98.43
8506	77.82	11.58	2.59	0.07	0.35	0.20	3.20	0.26	0.17	0.12	2.28	98.64
8507	60.51	17.33	7.85	0.65	2.18	0.29	4.00	0.97	0.38	0.22	4.73	99.10
8508	75.00	11.37	3.56	0.86	0.56	0.18	3.08	0.26	0.57	0.14	2.97	98.56
8509	63.05	16.69	5.93	0.90	2.11	0.35	3.92	0.68	0.50	0.16	4.79	99.07
85	77.66	9.18	4.91	0.09	2.59	0.17	1.50	0.24	0.10	0.12	3.05	99.63
95	74.42	12.81	3.08	0.97	1.17	0.52	2.80	0.26	0.11	0.12	3.44	99.70
512	54.51	15.93	9.02	3.25	4.43	0.35	2.56	1.01	0.33	0.22	7.66	99.26
8513	72.74	13.04	3.05	1.92	0.87	2.67	2.08	0.29	0.07	0.10	2.73	99.56
8514	30.12	22.12	22.09	0.19	13.74	0.17	0.90	1.29	0.10	0.30	9.88	100.91
8515	57.08	15.81	8.81	3.97	3.56	3.02	0.72	0.73	0.10	0.18	4.27	98.24
8520	57.42	16.81	7.48	7.18	3.58	5.20	0.64	0.82	0.12	0.20	1.19	100.64
8521	53.16	15.06	11.29	3.03	7.28	0.89	2.24	2.38	0.17	0.56	4.83	100.92
8522	63.95	16.15	5.94	2.38	2.86	1.92	3.76	0.69	0.08	0.26	2.78	100.94
8523	52.87	17.57	9.85	3.35	6.80	2.52	2.10	0.92	0.17	0.24	4.53	100.63

DATE : NOV-14-1990

SIGNED :

SWASTIKA LABORATORIES
P.O. BOX 10
TELEPHONE #: 05-642-3244
FAX #: 705-642-3300

I.C.A.P. WHOLE ROCK
LITHIUM METABORATE FUSION

SWASTIKA LABS
SWASTIKA ONT.

T.S.L. REPORT No. : M - 8427 - 1
T.S.L. File No. : N009RA
T.S.L. Invoice No. :

YOUR REFERENCE - OW-1699-RG1

ALL RESULTS PPM

SAMPLE #	Ba ppm	Sr ppm	Zr ppm	Y ppm	Sc ppm
8503	451	21	149	36	6
8504	419	21	127	16	11
8505	473	20	111	17	13
8506	407	11	145	27	5
8507	435	20	111	18	21
8508	315	16	144	27	6
8509	401	25	129	15	12
8510	183	11	137	33	5
851	355	29	121	30	7
8	363	34	99	18	21
8513	349	49	170	31	7
8514	331	14	157	12	19
8515	706	142	97	18	17
8520	154	244	135	19	17
8521	426	101	187	24	23
8522	1026	180	148	17	18
8523	393	270	188	17	18

canyon

flood.

DATE : NOV-14-1990

SIGNED : Daniel J. Bilecki

21685

SWASTIKA LABORATORIES LIMITED
P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244 FAX (705) 642-3300

DATE JOUR DAY	MOIS MONTH	ANNÉE YEAR	TRANSPORTEUR SHIPPED VIA
9	Feb	1990	

VENDU À / SOLD TO
Joutel Resources Inc
Box 193
Kirkland Lake, Ontario
P2N 3H7

FEB 19 1990
KIRKLAND LAKE

1.5% LATE CHARGE OVER 30 DAYS (ANNUAL RATE 18%)

NO. D'EXEMPT. DE TAXE FÉD. FED. LICENCE NO.	NO. D'EXEMPT. DE TAXE PROV. PROV. LICENCE NO.	VOTRE NO DE COMMANDE YOUR ORDER NO.	NOTRE NO DE COMMANDE OUR ORDER NO.	CONDITIONS TERMS	REP. DES VENTES SALES REP.
				NET 30 DAYS	

QUANTITÉ QUANTITY	DESCRIPTION	PRIX UNITAIRE UNIT PRICE	MONTANT AMOUNT
41	Au assays	$ 8.75	$ 358.75
41	Ag Cu Pb Zn PPM	15.00	615.00
41	Sample Handling	3.00	123.00
	Cert.#OW-0016-RG1 Feb. 5, 1990		
		Sub-total.....	1096.75
		-10%.........	109.68
		TOTAL..........	$ 987.07

Description	Acct.	Dept.	Dr	Cr
Swastika Labs	2019	001		Canagan

FACTURE/INVOICE

ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS
ESTABLISHED 1928

U	[illegible]		[illegible]	291	90	141
1	51		2.5	299	77	108
	45		1.7	251	98	239
	17		1.0	96	35	173
	34	41	1.8	185	89	501
	38		2.7	671	167	372
	24		1.8	959	47	225
	31		1.3	210	82	302
	58		0.3	40	14	145
	7		0.3	63	17	188

Certified by G. Lebel
G. Lebel / Manager

21706

SWASTIKA LABORATORIES LIMITED
P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244 FAX (705) 642-3300

JOUR DAY	DATE MOIS MONTH	ANNÉE YEAR
16	Feb	1990

TRANSPORTEUR
SHIPPED VIA

VENDU À / SOLD TO
Joutel Resources
Box 193
Kirkland Lake, Ontario
P2N 3H7

FEB 21 1990

1.5% LATE CHARGE OVER 30 DAYS (ANNUAL RATE 18%)

NO. D'EXEMPT. DE TAXE FÉD. FED. LICENCE NO.	NO. D'EXEMPT. DE TAXE PROV. PROV. LICENCE NO.	VOTRE NO DE COMMANDE YOUR ORDER NO.	NOTRE NO DE COMMANDE OUR ORDER NO.	CONDITIONS TERMS	REP. DES VENTES SALES REP.
				NET 30 DAYS	

QUANTITÉ QUANTITY	DESCRIPTION	PRIX UNITAIRE UNIT PRICE	MONTANT AMOUNT
39	Au assays	$ 8.75	$ 341.25
39	Ag Cu Pb Zn PPM	15.00	585.00
39	Sample Handling	3.00	117.00
	Cert #OW-0041-RG1 Feb. 12, 1990		
	Sub-total.......		1043.25
	-10%..........		104.33
	TOTAL..........		$ 938.92

Description	Acct	Dept.	Dr	Cr.
Swastika Labs	2019	001	938.92	Leanagan

Date

FACTURE/INVOICE

ANALYTICAL CHEMISTS ● ASSAYERS ● CONSULTANTS

ESTABLISHED 1928

1101	Nil	1.9	135	407	1050
1102	Nil	0.9	78	74	170
1103	10	0.7	46	59	193
1104	Nil/Nil	2.1	293	60	329
1105	Nil	2.6	374	69	200
1106	10	4.2	402	111	197
1107	Nil	3.6	287	41	148
1108	Nil	2.5	109	33	151
1109	10	17.5	2670	140	72
1110	Nil	8.7	1030	120	224

Certified by G. Lebel
G. Lebel / Manager

P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705) 642-3244. FAX (705) 642-3300

21846

SWASTIKA LABORATORIES LIMITED
P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE (705) 642-3244 FAX (705) 642-3300

QUEENSTON CANADA ... KIRKLAND LAKE

JOUR / DAY	MOIS / MONTH	ANNÉE / YEAR
28	Feb	1990

TRANSPORTEUR
SHIPPED VIA

VENDU À / SOLD TO
Joutel Resources
Box 193
Kirkland Lake, Ontario
P2N 3H7

1.5% LATE CHARGE OVER 30 DAYS (ANNUAL RATE 18%)

NO D'EXEMPT. DE TAXE FÉD. / FED LICENCE NO	NO D'EXEMPT. DE TAXE PROV. / PROV LICENCE NO	VOTRE NO DE COMMANDE / YOUR ORDER NO	NOTRE NO DE COMMANDE / OUR ORDER NO	CONDITIONS / TERMS	REP. DES VENTES / SALES REP
				NET 30 DAYS	

QUANTITÉ / QUANTITY	DESCRIPTION	PRIX UNITAIRE / UNIT PRICE	MONTANT / AMOUNT
69	Au	$ 8.75	$ 603.75
69	Ag Cu Pb Zn PPM	15.00	1035.00
69	Sample Handling	3.00	207.00
	Cert.#OW-0227-RG1 ✓ CNG90 2		
54	Au assays	8.75	472.50
3	Ag-Cu-Pb-Zn-PPM	15.00	45.00
54	Sample Handling	3.00	162.00
	Cert.#OW-0234-RG1		
	Sub-total......		2525.25
	-10%.........		252.53
	TOTAL.........		$ 2272.72

Description				
	2019	001	1661.18 Kerrigan 0227	JTL
CG 90-2			611.54 BQ	JTL

Date
Chq #

FACTURE/INVOICE

ANALYTICAL CHEMISTS ● ASSAYERS ● CONSULTANTS
ESTABLISHED 1928

1207	202	171	0.7	223	3	153
1208	34		1.4	241	5	1370
1209	24					
1210	Nil					
1211	Nil					
1212	Nil					
1213	Nil					
1214	Nil					
1215	Nil					
1216	7					
1217	7					
1218	Nil					

Certified by G. Lebel
G. Lebel / Manager

P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705) 642-3244 FAX (705) 642-3300

21847

SWASTIKA LABORATORIES LIMITED

P.O. BOX 10 SWASTIKA, ONTARIO P0K 1T0
TELEPHONE (705) 642-3244 FAX (705) 642-3300

MAR 7 1990

JOUR DAY	MOIS MONTH	ANNÉE YEAR	TRANSPORTEUR SHIPPED VIA
28	Feb	1990	

VENDU A / SOLD TO
QUEENSTON GOLD MINES
Joutel Resources
Box 193
Kirkland Lake, Ontario
P2N 3H7

1.5% LATE CHARGE OVER 30 DAYS (ANNUAL RATE 18%)

NO. D'EXEMPT. DE TAXE FÉD. / FED. LICENCE NO.	NO. D'EXEMPT. DE TAXE PROV. / PROV. LICENCE NO.	VOTRE NO. DE COMMANDE / YOUR ORDER NO.	NOTRE NO. DE COMMANDE / OUR ORDER NO.	CONDITIONS / TERMS	REP. DES VENTES / SALES REP
		Canagau		NET 30 DAYS	

QUANTITÉ QUANTITY	DESCRIPTION	PRIX UNITAIRE UNIT PRICE	MONTANT AMOUNT
12	Whole-R0ck-Analysis	$ 25.00	$ 300.00
12	Sample Handling	3.00	36.00
	Cert.#0W-0234-RG2		
		Sub-total......	336.00
		-10%.........	33.60
		TOTAL..........	$ 302.40

Acct. Dept.
Swastika Lab 2019 001 ~~B.D.~~ CANAGAU

FACTURE/INVOICE ANALYTICAL CHEMISTS ● ASSAYERS ● CONSULTANTS
ESTABLISHED 1928

LOI	%	6.51	1.78	3.51	9.17	8.31	8.81
Ba	PPM	360	378	795	343	188	231
Cr	PPM	705	702	653	421	424	786
Nb	PPM	371	267	209	114	195	371
Sr	PPM	27	15	16	45	12	14
Y	PPM	11	56	61	<10	<10	<10
Zr	PPM	175	306	334	150	159	180

Per G. Lebel
G. Lebel - Manager /ns

22221

SWASTIKA LABORATORIES
(A DIVISION OF ASSAYERS CORPORATION LIMITED)
P.O. BOX 10, SWASTIKA, ONTARIO
TELEPHONE: (705) 642-3244 FAX (705) 642-3300

APR 26 1990
QU... STON GOLD MINES
KIRKLAND-LAKE

DATE: 23 April 1990

1.5% LATE CHARGE OVER 30 DAYS (ANNUAL RATE 18%)

VENDU À / SOLD TO
Joutel Resources
Box 193
Kirkland Lake, Ontario
P2N 3H7

NO. D'EXEMPT. DE TAXE FED. FED. LICENCE NO.	NO. D'EXEMPT. DE TAXE PROV. PROV. LICENCE NO.	VOTRE NO. DE COMMANDE YOUR ORDER NO.	NOTRE NO DE COMMANDE OUR ORDER NO.	CONDITIONS TERMS	REP. DES VENTES SALES REP.
				NET 30 DAYS	

QUANTITÉ QUANTITY	DESCRIPTION	PRIX UNITAIRE UNIT PRICE	MONTANT AMOUNT
1	Ag Cu Pb Zn PPM	$ 15.00	$ 15.00
1	Sample Handling	3.00	3.00
	Cert.#OW-0519-RG1 April 19, 1990		
	Sub-total.......		18.00
	-10%...........		1.80
	TOTAL..........		$ 16.20

Description	Acct.	Dept.	Dr	Cr.
Swastika Labs	2019	1	16.20	Caregau

Date

Chq.

FACTURE/INVOICE

ANALYTICAL CHEMISTS ● ASSAYERS ● CONSULTANTS
ESTABLISHED 1928

Certified by G. Lebel
G. Lebel / Manager

23101

SWASTIKA LABORATORIES

(A DIVISION OF ASSAYERS CORPORATION LIMITED)
P.O. BOX 10 SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244 FAX (705) 642-3300

DATE JOUR / DAY	MOIS / MONTH	ANNÉE / YEAR	TRANSPORTEUR / SHIPPED VIA
12	Sept	1990	

SEP 17 1990

VENDU À / SOLD TO
Queenston Mining Inc
Box 193
Kirkland Lake, ONtario
P2N 3H7

1.5% LATE CHARGE OVER 30 DAYS (ANNUAL RATE 18%)

NO. D'EXEMPT. DE TAXE FÉD. / FED. LICENCE NO.	NO. D'EXEMPT. DE TAXE PROV. / PROV. LICENCE NO.	VOTRE NO. DE COMMANDE / YOUR ORDER NO.	NOTRE NO DE COMMANDE / OUR ORDER NO.	CONDITIONS / TERMS	REP. DES VENTES / SALES REP.
		BEN NEVIS		NET 30 DAYS	

QUANTITÉ / QUANTITY	DESCRIPTION	PRIX UNITAIRE / UNIT PRICE	MONTANT / AMOUNT
2	As PPM	$ 6.30	$ 12.60
2	Sb PPM	5.50	11.00
1	Sn PPM	6.80	6.80
	Cert.#OW-1263-RG1 Sept. 7, 1990		
		Sub-total	30.40
		-10%......	3.04
		TOTAL.....	$27.36

SWASTIKA LABS	1668		27.36	

Date
Chq #

FACTURE/INVOICE

ANALYTICAL CHEMISTS ● ASSAYERS ● CONSULTANTS
ESTABLISHED 1928

23115

SWASTIKA LABORATORIES

(A DIVISION OF ASSAYERS CORPORATION LIMITED)
P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244 FAX (705) 642-3300

SEP 17 1990

DATE JOUR DAY	MOIS MONTH	ANNÉE YEAR	TRANSPORTEUR SHIPPED VIA
12	Sept.	1990	

VENDU A / SOLD TO
Joutel Resources
c/o Queenston Mining Inc
Box 195
Kirkland Lake, Ontario
P2N 3H7

1.5% LATE CHARGE OVER 30 DAYS (ANNUAL RATE 18%)

NO. D'EXEMPT. DE TAXE FÉD. FED. LICENCE NO.	NO. D'EXEMPT. DE TAXE PROV. PROV. LICENCE NO.	VOTRE NO. DE COMMANDE YOUR ORDER NO.	NOTRE NO DE COMMANDE OUR ORDER NO.	CONDITIONS TERMS	REP. DES VENTES SALES REP.
				NET 30 DAYS	

QUANTITÉ QUANTITY	DESCRIPTION	PRIX UNITAIRE UNIT PRICE	MONTANT AMOUNT
14	Au assays	$ 8.75	$ 122.50
14	Ag Cu Pb Zn	15.00	210.00
14	Sample Handling	3.00	42.00
	Cert. #OW-1313-RG1 Sept. 12, 1990		
		Sub-total	374.50
		-10%......	37.45
		TOTAL.....	$ 337.05

Description	Acct.	Dept.	Dr	Cr.
SWASTIKA LABS	1668		337.05	

F FACTURE/INVOICE

ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

ESTABLISHED 1928

23146

SWASTIKA LABORATORIES

(A DIVISION OF ASSAYERS CORPORATION LIMITED)
P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244 FAX (705) 642-3300

26 1990

DATE JOUR DAY	MOIS MONTH	ANNÉE YEAR	TRANSPORTEUR SHIPPED VIA
19	Sept	1990	

1.5% LATE CHARGE OVER 30 DAYS (ANNUAL RATE 18%)

VENDU À SOLD TO
Queenston Mining Inc
Box 193
Kirkland Lake, Ontario
P2N 3H7

NO. D'EXEMPT. DE TAXE FED. FED. LICENCE NO.	NO. D'EXEMPT. DE TAXE PROV. PROV. LICENCE NO.	VOTRE NO. DE COMMANDE YOUR ORDER NO.	NOTRE NO DE COMMANDE OUR ORDER NO.	CONDITIONS TERMS	REP. DES VENTES SALES REP.
				NET 30 DAYS	

QUANTITÉ QUANTITY	DESCRIPTION	PRIX UNITAIRE UNIT PRICE	MONTANT AMOUNT
14	Whole Rock Analysis Cert.#OW-1263-RG1 Sept. 17, 1990	$ 30.00	$ 420.00
		-10%......	42.00
		TOTAL.....	$ 378.00

Description	Acct.	Dept.	Dr	Cr.
Swastika Labs				

FACTURE/INVOICE

ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

ESTABLISHED 1928

'2"5	"	0.11	0.15	0.15	0.15	0.11
LOI	%	4.92	4.41	2.87	4.48	3.08
Ba	PPM	281	468	322	536	241
Cr	PPM	866	835	631	664	1081
Nb	PPM	129	195	204	318	182
Sr	PPM	87	122	51	105	66
Y	PPM	29	34	44	22	39
Zr	PPM	368	534	476	341	468

Per G. Lebel
G. Lebel-Manager/rl

23054

SWASTIKA LABORATORIES
(A DIVISION OF ASSAYERS CORPORATION LIMITED)
P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244 FAX (705) 642-3300

DATE		
JOUR DAY	MOIS MONTH	ANNÉE YEAR
6	Sept	1990

TRANSPORTEUR
SHIPPED VIA

SEP 14 1990
KIRKLAND LAKE

NDU À
LD TO

Queenston Mining Inc
Box 193
Kirkland Lake, Ontario
P2N 3H7

1.5% LATE CHARGE OVER 30 DAYS (ANNUAL RATE 18%)

NO. D'EXEMPT. DE TAXE FÉD. FED. LICENCE NO.	NO. D'EXEMPT. DE TAXE PROV. PROV. LICENCE NO.	VOTRE NO. DE COMMANDE YOUR ORDER NO.	NOTRE NO DE COMMANDE OUR ORDER NO.	CONDITIONS TERMS	REP. DES VENTES SALES REP.
		BEN NEVIS		NET 30 DAYS	

QUANTITÉ QUANTITY	DESCRIPTION	PRIX UNITAIRE UNIT PRICE	MONTANT AMOUNT
15	Au assays	$ 8.75	$ 131.25
13	Ag Cu Pb Zn PPM	15.00	195.00
14	Cu Pb Zn PPM	11.50	161.00
29	Sample Handling	3.00	87.00
	Cert.#OW-1263-RG1 Sept. 4, 1990		
		Sub-total....	574.25
		-10%.........	57.43
		TOTAL........	$ 516.82

Description
1668
516.82
Date
Chq #

FACTURE/INVOICE

ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS
ESTABLISHED 1928

23175

SWASTIKA LABORATORIES
(A DIVISION OF ASSAYERS CORPORATION LIMITED)
P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244 FAX (705) 642-3300

RECEIVED
SEP 26 1990
QUEENSTON GOLD MINES
KIRKLAND LAKE

DATE	JOUR DAY	MOIS MONTH	ANNÉE YEAR	TRANSPORTEUR SHIPPED VIA
		Sept	1990	[illegible]

VENDU À SOLD TO
Queenston Mining Inc
Box 193
Kirkland Lake, Ontario
P2N 3H7

1.5% LATE CHARGE OVER 30 DAYS (ANNUAL RATE 18%)

NO. D'EXEMPT. DE TAXE FÉD. FED. LICENCE NO.	NO. D'EXEMPT. DE TAXE PROV. PROV. LICENCE NO.	VOTRE NO. DE COMMANDE YOUR ORDER NO.	NOTRE NO DE COMMANDE OUR ORDER NO.	CONDITIONS TERMS	REP. DES VENTES SALES REP.
[illegible]	[illegible]	[illegible]	[illegible]	NET 30 DAYS	[illegible]

QUANTITÉ QUANTITY	DESCRIPTION	PRIX UNITAIRE UNIT PRICE	MONTANT AMOUNT
2	Au assays	$ 8.75	$ 17.50
1	Ag Cu Pb Zn PPM	15.00	15.00
2	Sample Handling	3.00	6.00
	Cert.#OW-1397-RGI Sept. 20, 1990		
		Sub-total..	38.50
		-10%.......	3.85
		TOTAL.....	$ 34.65

Description	Acct.	Dept.	Dr	Cr
Swastika Labs	1668		17.32	CANAGAU ?
~~CANAGAU~~	650		17.33	050 general

Chq #

FACTURE/INVOICE

ANALYTICAL CHEMISTS ● ASSAYERS ● CONSULTANTS
ESTABLISHED 1928

Certified by G. Lebel
G. Lebel / Manager

P.O. Box 10, Swastika, Ontario P0K 1T0

23225

SWASTIKA LABORATORIES

(A DIVISION OF ASSAYERS CORPORATION LIMITED)
P.O. BOX 10, SWASTIKA, ONTARIO
TELEPHONE: (705) 642-3244 FAX (705) 642-3300

OCT -3 1990

DATE JOUR / DAY	MOIS / MONTH	ANNÉE / YEAR	TRANSPORTEUR / SHIPPED VIA
28	Sept.	1990	

VENDU À / SOLD TO
Queenston Mining Inc
Box 193
Kirkland Lake, Ontario
P2N 3H7

1.5% LATE CHARGE OVER 30 DAYS (ANNUAL RATE 18%)

NO. D'EXEMPT. DE TAXE FÉD. / FED. LICENCE NO.	NO. D'EXEMPT. DE TAXE PROV. / PROV. LICENCE NO.	VOTRE NO. DE COMMANDE / YOUR ORDER NO.	NOTRE NO DE COMMANDE / OUR ORDER NO.	CONDITIONS / TERMS	REP. DES VENTES / SALES REP.
		BEN NEVIS		NET 30 DAYS	

QUANTITÉ QUANTITY	DESCRIPTION	PRIX UNITAIRE UNIT PRICE	MONTANT AMOUNT
3	As PPM	$ 6.30	$ 18.90
3	Sb PPM	5.50	16.50
3	Sn PPM	6.80	20.40
	Cert.#OW-1263-RG1 Sept. 26, 1990		
		Sub-total...	55.80
		-10%.........	5.58
		TOTAL.......	$ 50.22

Description	Acct.	Dept.	Dr	Cr
Swastika Labs	1668		50.22	Dory

Date
Chq #
Comment

FACTURE/INVOICE ANALYTICAL CHEMISTS ● ASSAYERS ● CONSULTANTS
ESTABLISHED 1928

23332

SWASTIKA LABORATORIES

(A DIVISION OF ASSAYERS CORPORATION LIMITED)

P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244 FAX (705) 642-3300

DATE JOUR/DAY 8 MOIS/MONTH Oct. ANNÉE/YEAR 1990

TRANSPORTEUR/SHIPPED VIA

OCT 11 1990
QUEENSTON [illegible]
KIRKLAND LAKE

1.5% LATE CHARGE OVER 30 DAYS (ANNUAL RATE 18%)

VENDU À/SOLD TO
Joutel Resources
c/o Queenston Mining Inc
Box 193
Kirkland Lake, Ontario
P2N 3H7

NO. D'EXEMPT. DE TAXE FÉD. / FED. LICENCE NO.	NO. D'EXEMPT. DE TAXE PROV. / PROV. LICENCE NO.	VOTRE NO. DE COMMANDE / YOUR ORDER NO.	NOTRE NO DE COMMANDE / OUR ORDER NO.	CONDITIONS / TERMS	REP. DES VENTES / SALES REP.
				NET 30 DAYS	

QUANTITÉ QUANTITY	DESCRIPTION	PRIX UNITAIRE UNIT PRICE	MONTANT AMOUNT
18	Whole Rock Analysis Cert.#OW-1458-RGl Oct. 9, 1990	$ 30.00	$ 540.00
	-10%.		54.00
	TOTAL		$ 486.00

Description	Acct.	Dept.	Dr	Cr
Swastika Lab.	1665		486.00	

Date

Chq #

FACTURE/INVOICE

ANALYTICAL CHEMISTS ● ASSAYERS ● CONSULTANTS

ESTABLISHED 1928

23414

SWASTIKA LABORATORIES
(A DIVISION OF ASSAYERS CORPORATION LIMITED)
P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244 FAX (705) 642-3300

DATE: JOUR / DAY 18 MOIS / MONTH Oct ANNÉE / YEAR 1990
TRANSPORTEUR / SHIPPED VIA

OCT 22 1990
QUEENSTON
KIRKLAND LAKE

1.5% LATE CHARGE OVER 30 DAYS (ANNUAL RATE 18%)

VENDU À / SOLD TO
Queenston Mining Inc
Box 193
Kirkland Lake, Ontario
P2N 3H7

NO. D'EXEMPT. DE TAXE FED. / FED. LICENCE NO.	NO. D'EXEMPT. DE TAXE PROV. / PROV. LICENCE NO.	VOTRE NO. DE COMMANDE / YOUR ORDER NO.	NOTRE NO DE COMMANDE / OUR ORDER NO.	CONDITIONS / TERMS	REP. DES VENTES / SALES REP.
				NET 30 DAYS	

QUANTITÉ / QUANTITY	DESCRIPTION	PRIX UNITAIRE / UNIT PRICE	MONTANT / AMOUNT
1	As PPM	$ 6.30	$ 6.30
1	Sb PPM	5.50	5.50
1	Sn PPM	6.80	6.80
	Cert.#OW-1397-RG1 Oct. 17, 1990		
		Sub-total....	18.60
		10%.........	1.86
		TOTAL........	$ 16.74

Description	Acct.		Dr	Cr.
Swastika Labs	1668		16.74	

FACTURE/INVOICE

ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS
ESTABLISHED 1928

23465

SWASTIKA LABORATORIES
(A DIVISION OF ASSAYERS CORPORATION LIMITED)
P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244 FAX (705) 642-3300

OCT 25

JOUR / DAY	MOIS / MONTH	ANNÉE / YEAR	TRANSPORTEUR / SHIPPED VIA
24	Oct	1990	

VENDU À / SOLD TO
Joutel Resources
Box 193
Kirkland Lake, Ontario
P2N 3H7

1.5% LATE CHARGE OVER 30 DAYS (ANNUAL RATE 18%)

NO. D'EXEMPT. DE TAXE FÉD. / FED. LICENCE NO.	NO. D'EXEMPT. DE TAXE PROV. / PROV. LICENCE NO.	VOTRE NO. DE COMMANDE / YOUR ORDER NO.	NOTRE NO DE COMMANDE / OUR ORDER NO.	CONDITIONS / TERMS	REP. DES VENTES / SALES REP.
				NET 30 DAYS	

QUANTITÉ QUANTITY	DESCRIPTION	PRIX UNITAIRE UNIT PRICE	MONTANT AMOUNT
20	Au assays	$ 8.75	$ 175.00
20	Ag Cu Pb Zn PPM	15.00	300.00
20	Sample Handling	3.00	60.00
	Cert.#OW-1595-RG1 Oct. 24, 1990		
	Sub-total		535.00
	-10%		53.50
	TOTAL		$ 481.50

Description	Acct.	Dr	Cr
Swastika Labs	1668	481.50	

Date
Chq #

FACTURE/INVOICE

ANALYTICAL CHEMISTS ● ASSAYERS ● CONSULTANTS
ESTABLISHED 1928

23514

SWASTIKA LABORATORIES

(A DIVISION OF ASSAYERS CORPORATION LIMITED)
P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244 FAX (705) 642-3300

OCT 31 1990
KIRKLAND LAKE

DATE			
JOUR DAY	MOIS MONTH	ANNÉE YEAR	TRANSPORTEUR SHIPPED VIA
29	Oct	1990	

1.5% LATE CHARGE OVER 30 DAYS (ANNUAL RATE 18%)

VENDU A SOLD TO
Joutel Resources
Box 193
Kirkland Lake, Ontario
P2N 3K1

NO. D'EXEMPT. DE TAXE FÉD. FED. LICENCE NO.	NO. D'EXEMPT. DE TAXE PROV. PROV. LICENCE NO.	VOTRE NO. DE COMMANDE YOUR ORDER NO.	NOTRE NO DE COMMANDE OUR ORDER NO.	CONDITIONS TERMS	REP. DES VENTES SALES REP.
				NET 30 DAYS	

QUANTITÉ QUANTITY	DESCRIPTION	PRIX UNITAIRE UNIT PRICE	MONTANT AMOUNT
3	Cu Zn PPM	$ 8.00	$ 24.00
3	Sample Handling	3.00	9.00
	Cert.#OW-1651-RG1 Oct. 29, 1990		
	Sub-total......		33.00
	-10%..........		3.30
	TOTAL.........		$ 29.70

Description	Acct.	Dept.	Dr	Cr
Swastika Labs	1668		29.70	

Chq #

FACTURE/INVOICE

ANALYTICAL CHEMISTS ● ASSAYERS ● CONSULTANTS
ESTABLISHED 1928

Swastika Laboratories
P.O. Box 10
Swastika, Ontario
POK 1TO

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NOV - 1 1990
KIRKLAND LAKE

INVOICE

NO. 23527

DATE 10-30-90

PAGE: 1 of 1

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Joutel Resources
C/O Queenston Mine, Box 193
Kirkland Lake, Ontario
P2N 3H7

SHIP TO:
Same

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	F	P	UNIT PRICE	AMOUNT
47	1		Au Assays			8.750	411.25
47	1		Ag Cu Pb Zn FRM			15.000	705.00
47	1		Sample Handling			3.000	141.00
			Cert#0W-1640-RG1				
			10% Discount				125.73-

Description	Acct.	Dept.	Dr	Cr
Swastika Lab.	1668		1131.52	

Date
Ch. #

COMMENTS:
Net 30 Days

TOTAL 1,131.52

Swastika Laboratories
P.O. Box 10
Swastika, Ontario
P0K 1T0

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NOV -1 1990

INVOICE

NO.: 23538
DATE: 10-31-90
PAGE: 1 of 1

SOLD TO:

Joutel Resources
C/O Queenston Mine, Box 193
Kirkland Lake, Ontario
P2N 3H7

SHIP TO:

Same

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	F	P	UNIT PRICE	AMOUNT
	25	1	Au Assays			8.750	218.75
	25	1	Ag Cu Pb Zn PPM			15.000	375.00
			Cert#OW-1649-RG1				
			-10% Discount				59.38-

Description	Acct	Dept	Dr	Cr
Swastika Labs	1668		534.37	

Date
Chq #
A P
Ads
Chq
Cng

COMMENTS:

TOTAL 534.37

Swastika Laboratories
P.O. [illegible]x 10
Swast[illegible]a, Ontario
[illegible]K 1TO

RECEIVED
NOV 3 1990
QUEENSTON MINES
KIRKLAND LAKE

INVOICE

NO: 23564
DATE: 11-02-90
PAGE: 1 of 1

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Joutel Resources
C/O Queenston Mine, Box 193
Kirkland Lake, Ontario
P2N 3H7

SHIP TO:

Same

EM NO	QUANTITY	UNIT	DESCRIPTION	F.	P.	UNIT PRICE	AMOUNT
	5	1	Whole Rock Analysis Cert#OW-1458-RG1 -10% Discount			30.000	150.00 15.00-
						TOTAL	135.00

MENTS:
et 30 Days

Description	Acct.	Dept.	Dr.	Cr.
Swastika Labs	1668		135.00	

Comment

				20	23	44
	PPM	246	179	84	92	95
	PPM	37	36	16	15	19
	PPM	6	6	14	14	19

Per Donna Gardner
Donna Gardner

Swa[illegible]ka Laboratories
P.O[illegible]ox 10
Swastika, Ontario
P0K 1T0

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NOV 23 1990

INVOICE

NO.: 23749
DATE: 11-21-90
PAGE: 1 of 1

SOLD TO:

Joutel Resources
C/O Queenston Mine, Box 193
Kirkland Lake, Ontario
P2N 3H7

SHIP TO:

Same

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	F.	P.	UNIT PRICE	AMOUNT
	3	1	Whole Rock Analysis			30.000	90.00
			Cert#90W-1651-RG1				
			10% Discount				9.00

Description | Acct.
Swastika Labs | 1668 | 87 | 90
Date
Chq #
P

COMMENTS:
Net 30 Days

TOTAL 81.00

DATE : NOV-08-1990

SIGNED : Daniel J. Bileski

Swastika Laboratories
P.O. Box 10
Swastika, Ontario
P0K 1T0

RECEIVED
DEC 10 1990
QUE...

INVOICE

NO.: 23866
DATE: 12-06-90
PAGE: 1 of 1

SOLD TO:

Queenston Mining Inc.
P.O. Box 193
Kirkland Lake, Ontario
P2N 3H7

SHIP TO: Same

ITEM NO.	QUANTITY	UNIT	DESCRIPTION		UNIT PRICE	AMOUNT
3	1		Whole Rock Analysis Cert#0W-1760-RG1		30.000	90.00
17	1		Whole Rock Analysis Cert#0W-1779-RG1		30.000	510.00
			-10% Discount			60.00-

Description			
Swastika Labs	1668	351.72	
	757	107.28	
	633	81.00	510.00

COMMENTS:
Net 30 Days

TOTAL 540.00

Swas[illegible]ika Laboratories
P.O. [illegible]ox 10
[illegible]wastika. Ontario
[illegible]0K 1T0

RECEIVED
DEC 10 1990
[illegible] GOLD MINES
KIRKLAND LAKE

INVOICE

NO.: 23875
DATE: 12-06-90
PAGE: 1 of 1

SOLD TO:

Joutel Resources
C/O Queenston Mine,Box 193
Kirkland Lake, Ontario
P2N 3H7

SHIP TO:

Same

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	F	P	UNIT PRICE	AMOUNT
	24	1	Au Assays			8.750	210.00
	24	1	Ag Cu Pb Zn			15.000	360.00
	24	1	Sample Handling			3.000	72.00
			Cert#0W-1091-RG1				
			-10% Discount				64.20-
						TOTAL	577.80

Description	Acct.	Exp.	Dr	Cr
Swastika Labs	1668		577.80	

Date
MENTS:
Chq #
P

Swastika Laboratories
P.O [illegible]10
Swastika. Ontario
P0K 1T0

INVOICE

NO.: 23940
DATE: 12-17-90
PAGE: 1 of 1

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Joutel Resources
C/O Queenston Mine,Box 193
Kirkland Lake, Ontario
P2N 3H7

SHIP TO:

Same

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	F	P	UNIT PRICE	AMOUNT
J325	68	1	Au Assays			8.750	595.00
	68	1	Ag Pb			8.000	544.00
	69	1	Cu Zn			7.000	483.00
	69	1	Sample Handling			3.000	207.00
			Cert#0W-1930-RG1				
			-10% Discount				182.90-

Description	Acct	Dept	Dr	Cr.
Swastika Labs	1668		1646 10	

COMMENTS Chq #

Net 30 Days

TOTAL 1,646.10

Swastika Laboratories
[illegible]. Box 10
Swastika, Ontario
P0K 1T0

DEC [illegible]
QU[illegible] [illegible]NES
[illegible] LAKE

INVOICE

NO.: 23963
DATE: 12-20-90
PAGE: 1 of 1

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Joutel Resources
C/O Queenston Mine,Box 193
Kirkland Lake, Ontario
P2N 3H7

SHIP TO:

Same

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	F	P	UNIT PRICE	AMOUNT
J325	14	1	Au Assays			8.750	122.50
	14	1	Ag Cu Pb Zn			15.000	210.00
	14	1	Sample Handling			3.000	42.00
			Cert#0W-1961-RG1				
			-10% Discount				37.45-
COMMENT:						TOTAL	337.05

Description
Cr.
Swastika Lb. 1668. 33205
Date
Chq

Certified by Donna Gardner

Swastika Laboratories
P.O. Box 10
Swastika, Ontario
P0K 1T0

RECEIVED
JAN 11 1991
[illegible]
KIRKLAND LAKE

INVOICE

NO.: 24021
DATE: 01-09-91
PAGE: 1 of 1

GST Registration Number: R 100294743

Joutel Resources
C/O Queenston Mine, Box 193
Kirkland Lake, Ontario
P2N 3H7

SHIP TO:
Same

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	P	P	UNIT PRICE	AMOUNT
J3225	1	1	Whole Rock Analysis Cert#0W-1930-RG1	3		30.000	30.00
			-10%discount				3.00-
			3-GST @ 7 %, Excluded				1.89

Description	Amt	Dr	Cr. 3
Swastika Lab	1668	28.89	

Date		Chq	Chq	[illegible]
Chq #				

COMMENTS:
Net 30 Days

TOTAL 28.89

DATE : DEC-28-1990

SIGNED :

APPENDIX II

RESULTS OF MAXI-PROBE E.M. SURVEY
FOR JOUTEL RESOURCES INC
BEN NEVIS, ONTARIO
BY GEOPROBE LTD

GEOPROBE®

GEOPROBE® LIMITED

3045 UNIVERSAL DRIVE
MISSISSAUGA (TORONTO), ONTARIO
CANADA, L4X 2E2

TELEPHONE: (416) 238-8546
TELEX: 06-967583 IBC-TOR
FAX: (416) 238-8547

VIA COURIER

October 9, 1990

Mr. W.J. (Bill) McGuinty
Exploration Manager
The Queenston Group
4 Al Wende Avenue
Kirkland Lake, Ontario
P2N 3H7

RE: MAXI-PROBE E.M. RESULT on Line 150+00 E in Ben Nevis Twp, Ont.

Dear Mr. McGuinty:

Enclosed are the results of one line of MAXI-PROBE survey on your property in Ben Nevis, performed using a Tx-Rx separation of 400 metres. The results are shown in two E.M. profiles and in one depth-section.

The Plot No. 1 shows Tilt-angle profiles of frequencies from 58.6 KHz to 220 Hz. Abundance of the high frequency anomalies indicates many pockets of small sulphide zones at near surface. These have been marked with open circles. A good low frequency anomaly usually represents a good conductor. Absence of any low frequency anomaly on this line indicates that there is no highly conductive sulphide zones present down to 600 metres. The most useful frequency for this ground is 7.32 KHz which has screened through the smaller near surface pockets of sulphides to look deeper. An anomaly at this frequency usually represents a medium to poor conductor, such as a shear-zone, alteration-zone and mainly Zn-mineralization. Four anomalies are obtained at this frequency at 1000 S, 725 S, 300 S & 25 S, from south to north end of the line. The Plot No. 2 shows only the middle to low frequency E.M. profiles from 10.7 KHz to 220 Hz, at an enlarged tilt-angle scale. This clearly shows the four main conductor responses. (It is rather surprising that no anomalies were obtained in an UTEM survey!) The low frequency data is noisy due to lack of good conductors. The anomalies on this line have been rated as targets from good to poor:

...../2

Anomaly at	Symbol	Target
1000 S	⊕	Good
300 S	◕	Medium
25S	◒	Fair
725 S	◔	Poor

The depth-section (Plot No. 3) shows the apparent resistivities from a depth of 100 metres down to 600 metres. The four conductors outlined are steeply dipping, except for the conductor at 25 S which dips more gently towards south at a depth starting around 200 metre. The conductor at 300 S dips steeply north. Other conductors dip steeply south.

The top of the conductor at 1000 S is deep which is around 300 metres and it extends down to about 600 metres. The conductor at 300 S has the best conductivity around 200 - 250 metres and the conductivity continues at least down to 400 metres. The conductor at 25 S is a much smaller body.

It is recommended that adjacent lines are to be surveyed to select the best conductor which has continuity at more than one line for drilling.

Yours sincerely

GEOPROBE LIMITED

MKGhosh

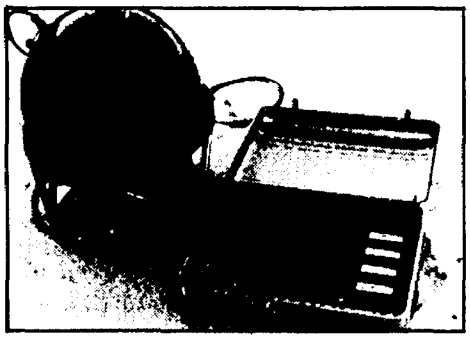
Mrinal K. Ghosh, Ph.D., P. Eng.
President

MKG:mm
Encl.

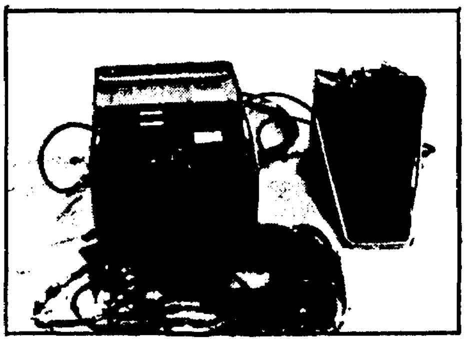
cc: Mr. Charles Page
Vice President

GEOPROBE®

Electromagnetic (E.M.) Survey with
MAXI-PROBE EMR-16* (MK-III)
(Frequency Range: 1-60,000 Hz)
(128 Discrete Frequencies)



Receiver



Transmitter

DEPTH-DETERMINATION by E.M. Sounding
CONDUCTOR-DETECTION by E.M. Profiling

PURPOSE:
MAXI-PROBE EMR-16 system may be used for DEPTH-DETERMINATION by performing E.M. sounding and for CONDUCTOR-DETECTION by performing E.M. profiling. These result in geological mapping from measurements made on the ground surface.

MAXI-PROBE EMR-16 system determines the electrical resistivity of the ground at different depths inductively using different frequencies, it thereby reveals the electrical resistivity section of the ground, which corresponds to the geological section. Prior knowledge of the resistivities of various layers in the ground is not necessary for interpreting MAXI-PROBE measurements. E.M. sounding is performed using a fixed transmitter-receiver separation and changing the frequencies to obtain variable penetration. E.M. profiling is performed using either a fixed transmitter set-up and moving the receiver, or moving the transmitter-receiver array along a survey line.

* Canadian Patent No. 993,512
* U.S. Patent No. 3,936,728
* Australian Patent No. 498,816
* Patents pending in other countries

GEOPROBE® LIMITED

1640 Bonhill Road
Suite: #10 & #11
Mississauga *(Toronto)*
Ontario, L5T 1C8, Canada

Telephone: (416) 673-1527
Telex: 06-983639 MSGA

DESCRIPTION:

MAXI-PROBE EMR-16 system is a multi-channel ground elctro-magnetic (E.M.) system operating in the frequency range 1 Hz to 60,000 Hz. This innovative E.M. system consists of a portable transmitter and a portable receiver, without any physical cable connecting the two. Frequencies are selected by a 16-position coarse control switch, and an 8-position fine control switch. Coarse control selects frequencies separated by a factor of two. Fine control provides 8 frequencies in-between two coarse control positions. In total, 16×8=128 frequencies may be obtained in this manner.

A large magnetic dipole moment is created at the transmitting station by sending a square wave current of up to 60 amperes into set of loops of cable placed on the ground. A range of transmitter loop sizes are available from approximately 5 to 150 metres in diameter.

One to three transmitting loops may be connected in parallel to increase the dipole moment of the transmitting station to yield large depth penetration.

Proper choice of the transmitting loop is made according to the desired depth of penetration. Energy at each frequency scans a different depth in the ground. Any discontinuity in the uniformity of the ground is reflected in the measurements. This allows accurate determination of the electrical conductivities, depths and sizes of various material present in the ground.

DEPTH OF PENETRATION:

A maximum depth of penetration equal to 2000 metres may be achieved using this system in favourable geological conditions. The receiver may be located at a maximum distance of 2000 metres from the transmitting loop, thereby allowing the greatest depth of penetration. However, depths as small as 20 metres may also be investigated. Thick conductive overburden may be penetrated for mineral exploration. Both high and low resistivity very thin layers such as coal, lignite, sulphide, etc. may be mapped.

MEASUREMENT PARAMETERS:

The parameters that may be measured using this system are:

1) Inphase and quadrature components of the vertical magnetic field,
2) Inphase and quadrature components of the horizontal magnetic field,
3) Inphase and quadrature components of the orthogonal electrical field (optional).

   The measurement of phase is normally with respect to a crystal-clock in the receiver. However, using a highly stable crystal-clock (optional), the phase with respect to the transmitter current may also be measured for both magnetic and electrical fields.

From these measurements, other following quantities may be calculated:

a) Amplitude and phase of vertical magnetic field,
b) Amplitude and phase of horizontal magnetic field,
c) Amplitude and phase of orthogonal electric field,
d) Tilt angle and ellipticity,
e) Ratio and phase difference between any two vector fields.

DATA PROCESSING:

The data is processed using a ruggedised field computer and plotted on a digital plotter in the form of *"depth"* vs. *"apparent resistivity"* for each frequency. This proprietary data processing technique and computer programs have been developed by GEOPROBE LTD. especially for MAXI-PROBE system. Plots of different stations may be stacked side by side to produce a vertical section showing true depth of interfaces. Any discontinuity in the *"apparent resistivity"* curve indicates a different medium in the ground. These different media may be correlated from station to station to reveal the structure. Thickness and electrical resistivities of different media can be determined. Faults are identified by station to station correlation of data.

ACCURACY:

A high degree of accuracy has been established in predicting depths. Depth estimates were confirmed by drilling to show an accuracy of 95% and better. Thin steeply dipping sulphide conductors have been mapped down to 1300 meters in precambrian shield areas with very high accuracy.

CONCLUSIONS:

Previous systems used in geophysics have been limited to only average readings and qualitative results. MAXI-PROBE EMR-16 system reveals the entire structure of the ground from the surface down to the maximum depth of penetration. Test results obtained using this system have been confirmed by drilling. This system is very useful for deep exploration work in areas of conductive cover. The equipment is portable, and a crew of only four can perform field operations. Setting-up of the stations and making measurements at 40 frequencies takes only about 15 minutes. This system has been used both for reconnaissance surveys in virgin areas and for detailed surveys around existing mines to find continuity of mineralisation and to detect new mineralisation.

MAXI-PROBE EMR-16 (MK-III)

Equipment Specifications

1. **GE[illegible]AL:**

a) Frequency Range : 1-60,000 Hertz.

b) Number of Frequencies : 128 16 Coarse selection x 8 Fine Selection. Consecutive frequencies are 12.5% apart.

c) Ground Parameter Measured : Apparent-resistivity and true-depth at each frequency.

d) True depth estimate : Accuracy 95% or better.

e) Detection Capability : 3% change in apparent resistivity.

f) Depth scan by frequency : At 128 depth points at a maximum 128 frequencies.

g) Depth penetration : 20 meters to 2000 meters.

h) Distance between transmitter & receiver : Maximum 2000 meters. Minimum 100 meters.

i) Set up time : 5 minutes for shallow depth 15 minutes for very deep.

j) Measurement Time : 5 minutes per station for shallow depth. 30 minutes per station for very deep.

k) RUGGEDISED FIELD COMPUTER & PLOTTER SYSTEM : An integral part for MAXI-PROBE survey operation, specifications in a separate sheet.

l) Portability : Transmitter, Receiver and field accessories are provided with back pack so that these can be carried on back to any place including hilly area where a vehicle cannot go.

m) Transmitter-Receiver remote operation : There is no cable connection between the transmitter and receiver stations. These stations are independent of each other. Transmitter & receiver operators communicate by portable walkie-talkies *(not included with MAXI-PROBE system)*.

2. **TRANSMITTER:**

a) Power : The power requirement for transmitter varies from 40V to 60V D.C. depending on shallow & deep depth investigation. This power source is 2.5 KW portable motor generators on back pack. This type of motor generator system is specially designed for the MAXI-PROBE transmitter to control and to stabilize the transmitter currents for very low and very high frequencies of operation. This motor generator system is also specially designed with high efficiency, high speed and low weight engine so that the total weight is about 34 Kg. for the sake of portability. The low weight together with our specially designed frame and back pack will enable the motor generator to be carried by a person even on hilly areas where a vehicle cannot go. The transmitter can be operated with one or two 2.5 KW motor generators. The transmitter has a capacity of handling a maximum power up to 5 KW for investigation in difficult geological areas. This 5 KW power is obtained by connecting two portable generators in parrallel each of power 2.5 KW to the transmitter console. This way we have achieved a maximum of 5 KW power keeping the system portable on back pack.

b) Frequency Range : 1 - 60,000 Hertz.

c) Wave Form : Square wave.

d) Transmitter Loops: : The loops for MAXI-PROBE System are as follows:

LOOPS	SMALL	MEDIUM	SUPER	ULTRA
Diameter *(in meters)*	5	10	50	150
No. of Loops	1	2	3	3
No. of Turns/Loop	8	8	3	1

e) Current : Maximum 60 Amps.

f) Transmitter Console : Approximate size of the transmitter console is 60 CM x 45 CM x 30 CM. This is portable and attached to a back pack for easy carrying. Approximate weight is 25 Kg.

g) Maximum Dipole Moment : 1.5×10^5 AMP. M^2.

3. **GENERATOR:**

a) Output : 40 - 60 Volts D.C.

b) Power : 2.5 KW

c) Maximum Current : 90 Amps

d) RPM : 3600 r.p.m.

e) Phase : 3 Phase

f) Special Circuit : Special circuitry for regulation to feed power to transmitter operating from very low to very high frequencies.

g) Back pack : Frame exclusively designed to be carried on back pack.

h) Weight : 34 Kg.

4. **RECEIVER:**

a) Input Power : 18 V, D.C. Power source is a portable back pack of light weight large capacity rechargeable Gel Cell batteries guaranteed for one full day of field operation. These can be used up to 3000 recharge cycles if used properly.

b) Reading : 4 channel readings

c) Measurements : Vertical & horizontal magnetic field vectors in two channels simultaneously.

d) Optional Measurements : Electric field vector. Phase with respect to transmitter current may be measured using a highly stable crystal clock.

e) Noise Rejection Filters : (60 Hz, 180 Hz) OR (50 Hz, 150 Hz) 1-VLF Station tunable filter. Low Pass & High Pass filters. Special filter for below 10 Hz operation.

f) Field Strength Sensitivity : In the order of 10^{-9} ampere/metre.

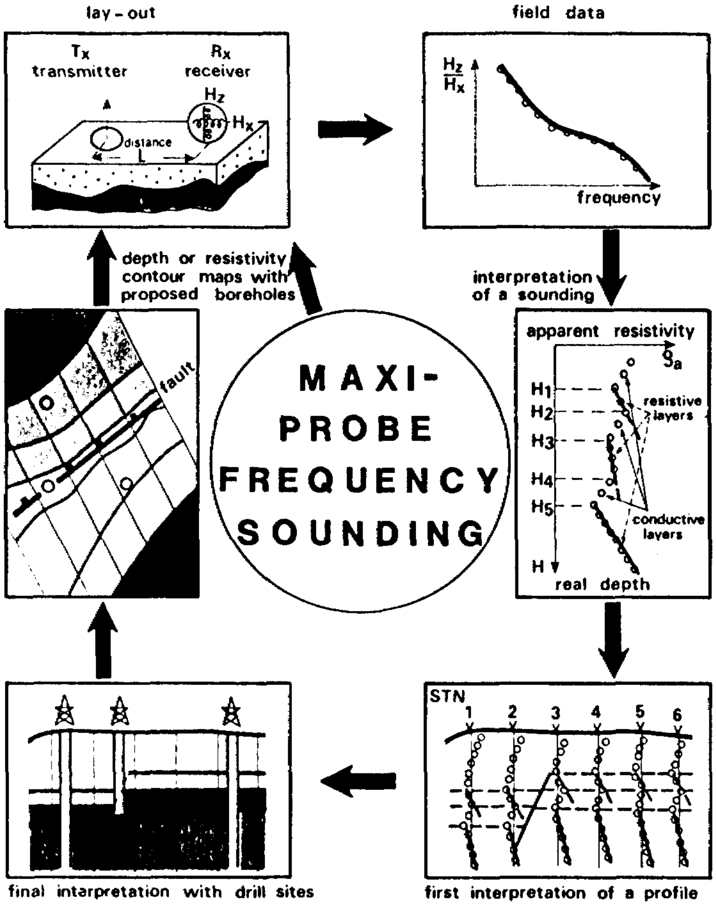
g) Integration Time : 1/4, 1, 4, 16, 64 seconds

h) Receiver Console: : Receiver console has been improved with fibreglass casing for durability. The approximate size is 50 CM x 40 CM x 22 CM. Weight is about 15 Kg. This is portable and attached to a back pack for easy carrying.

5. **RECEIVER ANTENNA:**

: 4 ferrite core coils in the shape of a frame housed inside a fibreglass ball with foam packing. Circular ring type tripod, levelling by a bubble.

Flow-chart of data acquisition and data processing



APPLICATIONS

A. RESOURCE ENERGY:
1. Coal
2. Lignite
3. Uranium
4. Oil & gas
5. Geothermal Energy
6. Heavy Oil, Oil Shale, etc.

B. MINERALS:
1. Massive Sulphides
2. Porphyry Copper
3. Skarns
4. Pb-Zn (Mississippi Valley Type)
5. Bauxite

C. NON-METALS:
1. Evaporites
2. Phosphates

D. GEOLOGICAL PROBLEMS:
1. Basement mapping
2. Stratigraphic mapping
3. Faults & Shear zones
4. Horst & graben structures
5. Basin & range problems

E. ENGINEERING PROBLEMS:
1. Radio-active waste disposal
2. Overburden thickness
3. Construction and foundation work
4. Dam site evaluation
5. Permafrost thickness

F. GROUND WATER:
1. Discrimination of clay and gravel/sand
2. Detection of fault line & shear zone for:
   - (i) Thermal water
   - (ii) Karst water
3. Fracture location in rock masses
4. Fresh water-brine border location and monitoring.

GEOPROBE® LIMITED

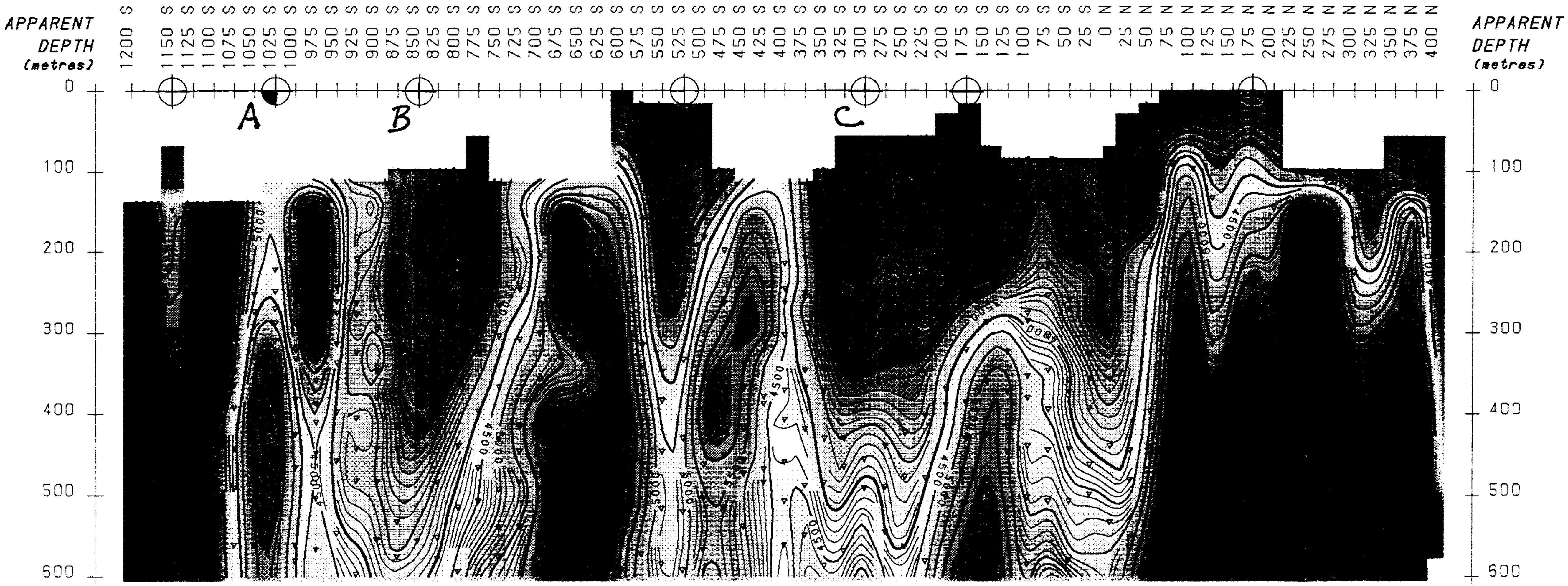
1640 Bonhill Road
Suite: #10 & #11
Mississauga *(Toronto)*
Ontario, L5T 1C8, Canada

Telephone: (416) 673-1527
Telex: 06-983639 MSGA

DEPTH SECTION of App. Resistivity (ohm-metres)

from MAXI-PROBE E.M. Survey

LINE 250+00E



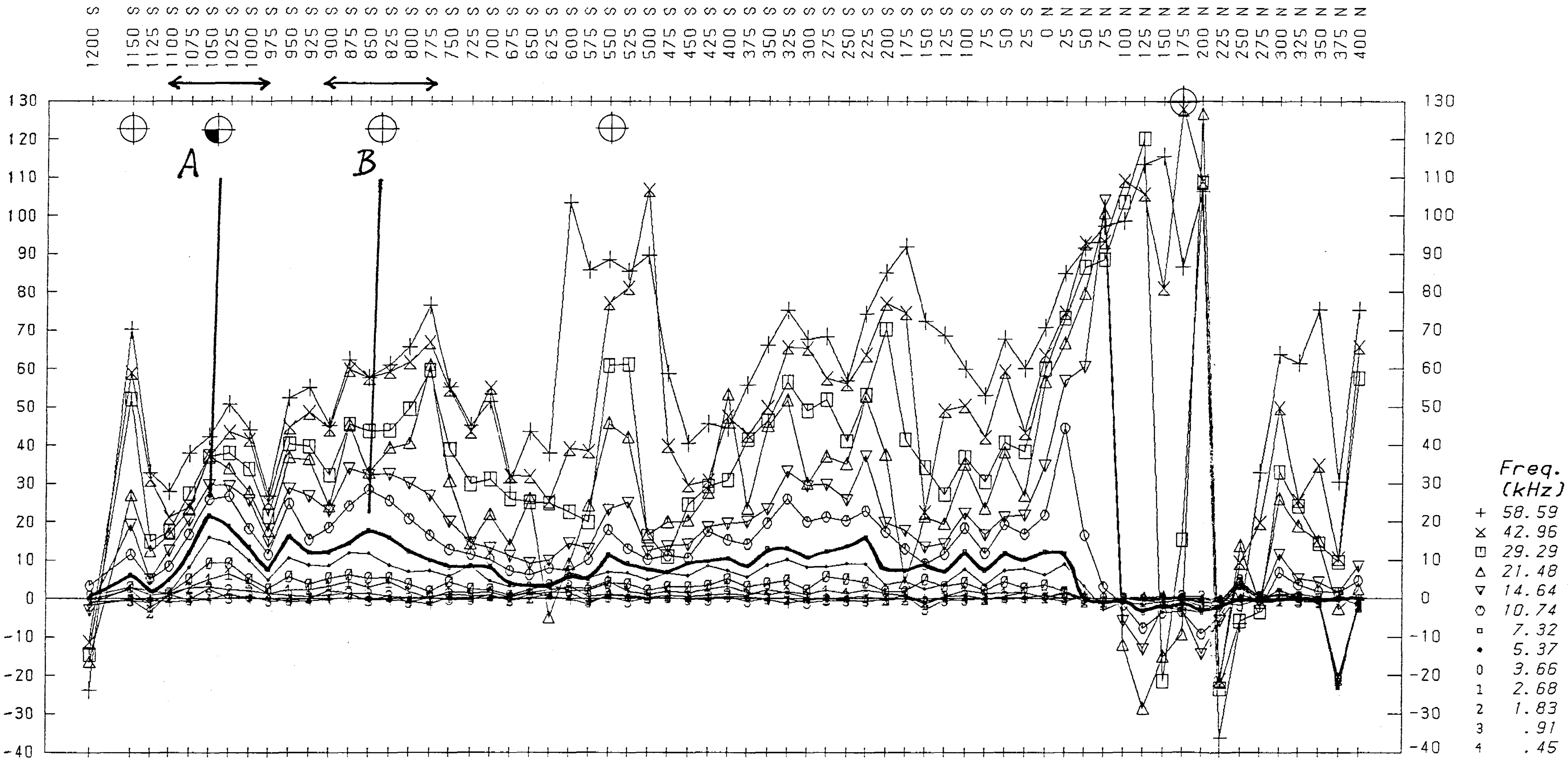
JOUTEL RESOURCES SURVEY BY GEOPROBE LTD. OPERATOR: J.WHELAN JOB No. 391

AREA: BEN NEVIS GRID: MAIN DATE: NOV./90 TX---400M---RX

PROFILE OF TILT (degrees)

from MAXI-PROBE E.M. Survey

LINE 250+00E



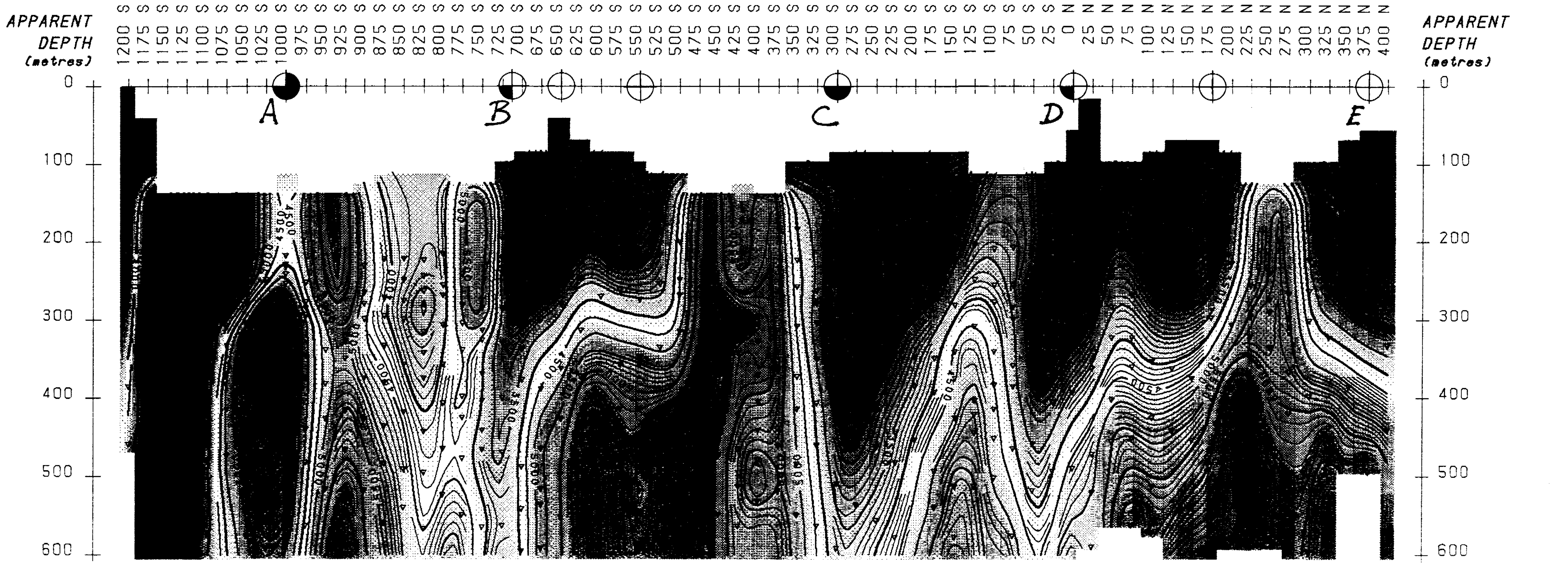
JOUTEL RESOURCES SURVEY BY GEOPROBE LTD. OPERATOR: J. WHELAN JOB No. 391

AREA: BEN NEVIS GRID: MAIN DATE: NOV./90 TX--400M--RX

DEPTH SECTION of App. Resistivity (ohm-metres)

from MAXI-PROBE E.M. Survey

LINE 150+00E



JOUTEL RESOURCES SURVEY BY GEOPROBE LTD. OPERATOR: J.WHELAN

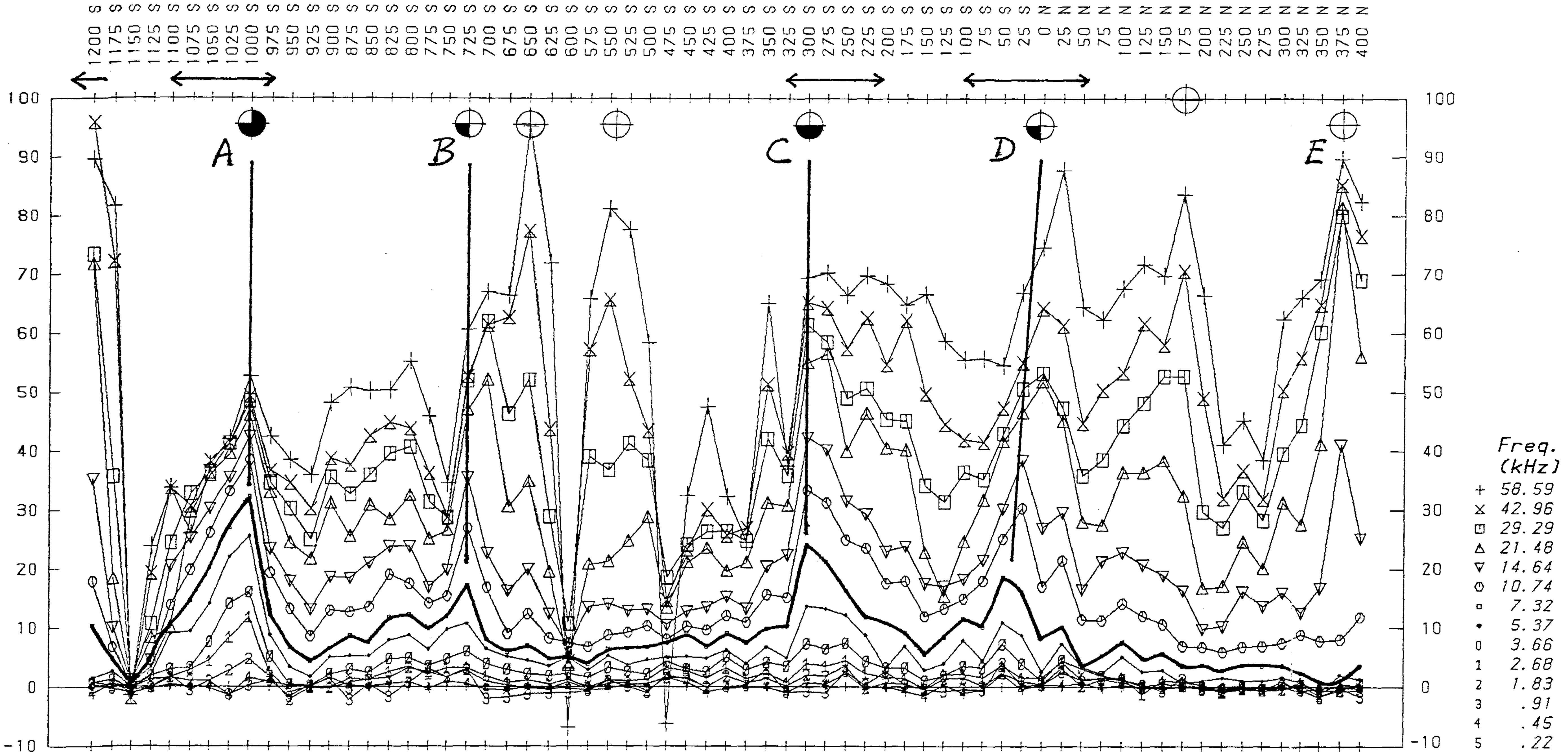
AREA: BEN NEVIS GRID: MAIN DATE: NOV./90 TX---400M---RX

JOB No. 391

PROFILE OF TILT (degrees)

from MAXI-PROBE E.M. Survey

LINE 150+00E



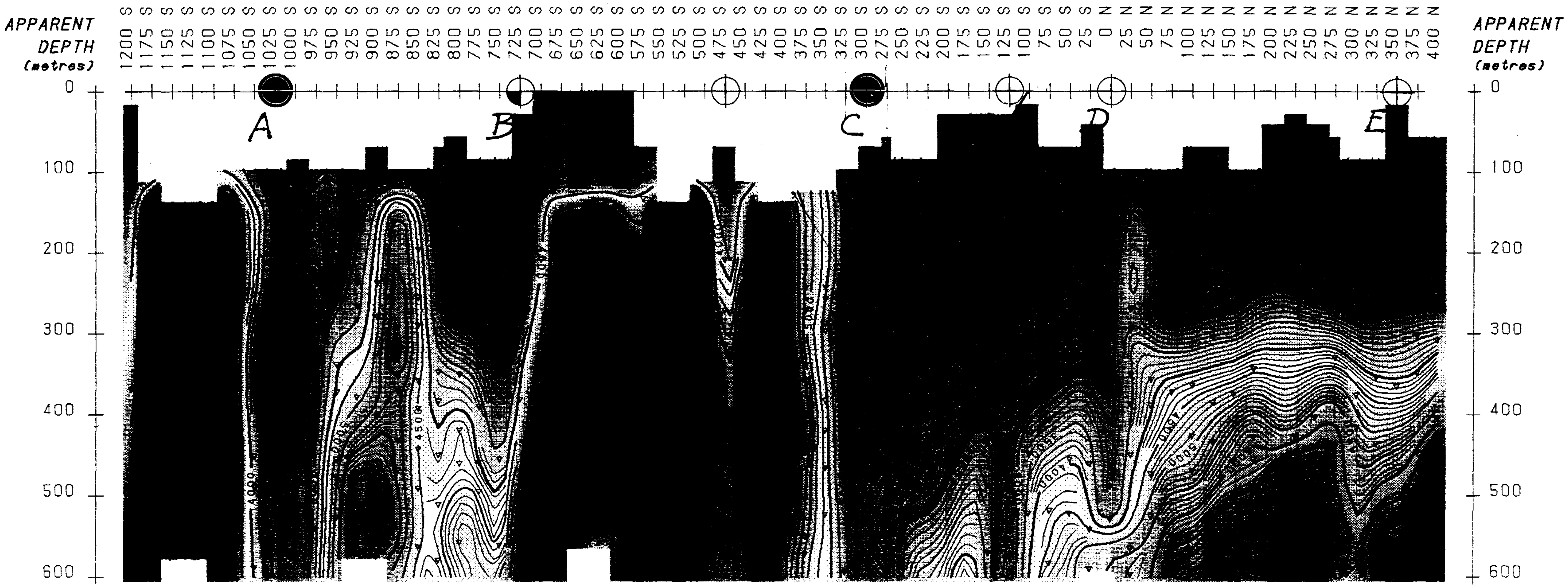
JOUTEL RESOURCES SURVEY BY GEOPROBE LTD. OPERATOR: J.WHELAN JOB No. 391

AREA: BEN NEVIS GRID: MAIN DATE: NOV./90 TX--400M--RX

DEPTH SECTION of App. Resistivity (ohm-metres)

from MAXI-PROBE E.M. Survey

LINE 050+00E

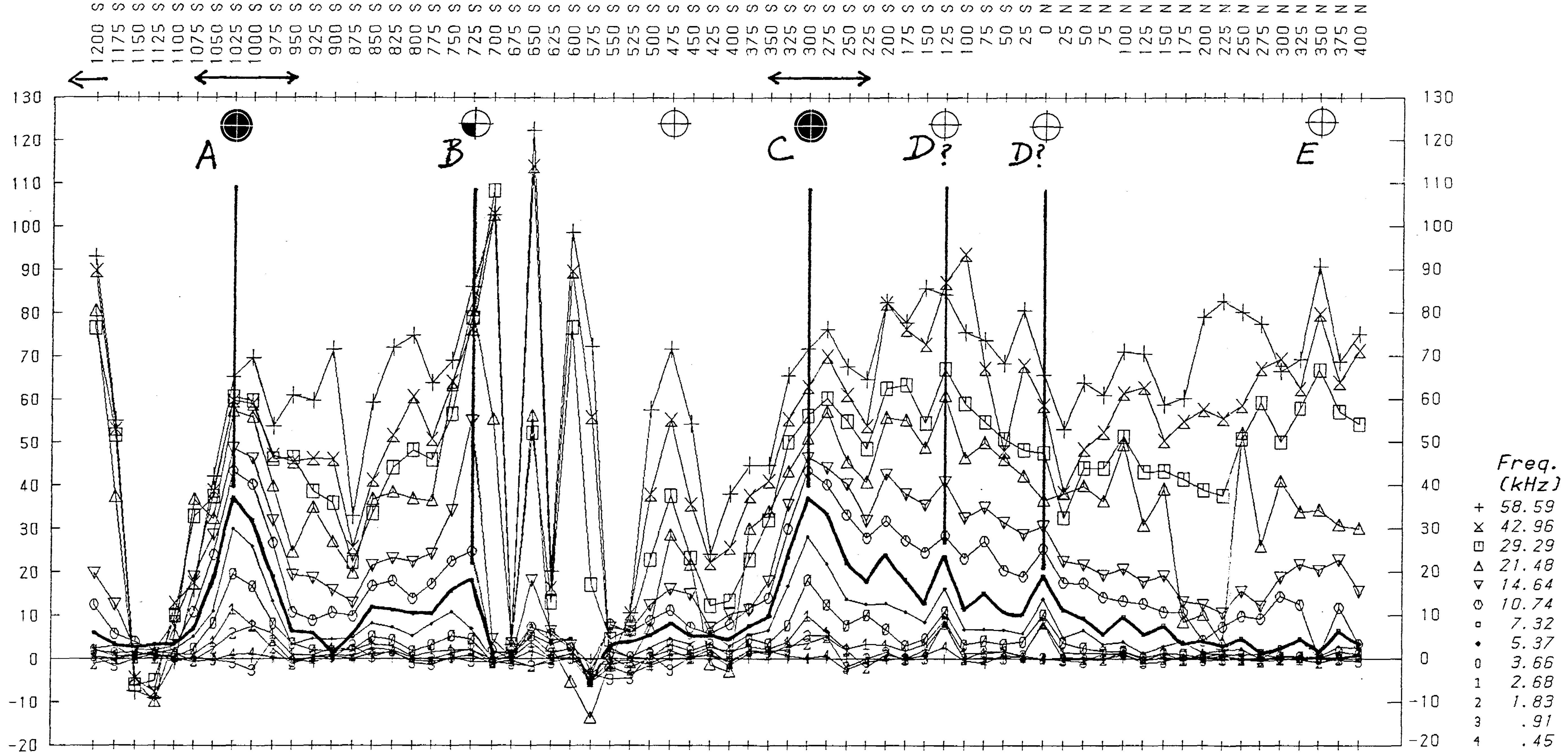


JOUTEL RESOURCES SURVEY BY GEOPROBE LTD. OPERATOR: J.WHELAN JOB No. 391

AREA: BEN NEVIS GRID: MAIN DATE: NOV./90 TX---400M---RX

PROFILE OF TILT (degrees)
from MAXI-PROBE E.M. Survey

LINE 050+00E



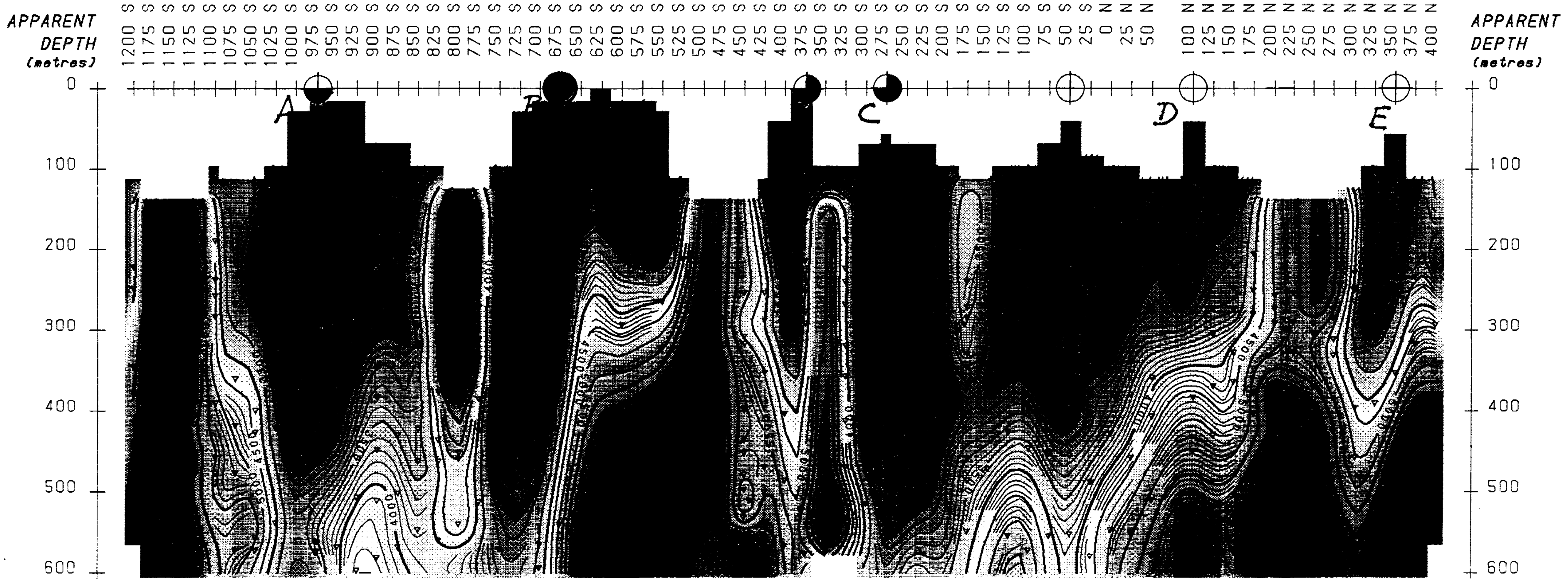
JOUTEL RESOURCES   SURVEY BY GEOPROBE LTD.   OPERATOR: J. WHELAN   JOB No. 391

AREA: BEN NEVIS   GRID: MAIN   DATE: NOV./90   TX--400M--RX

DEPTH SECTION of App. Resistivity (ohm-metres)

from MAXI-PROBE E.M. Survey

LINE 050+00W



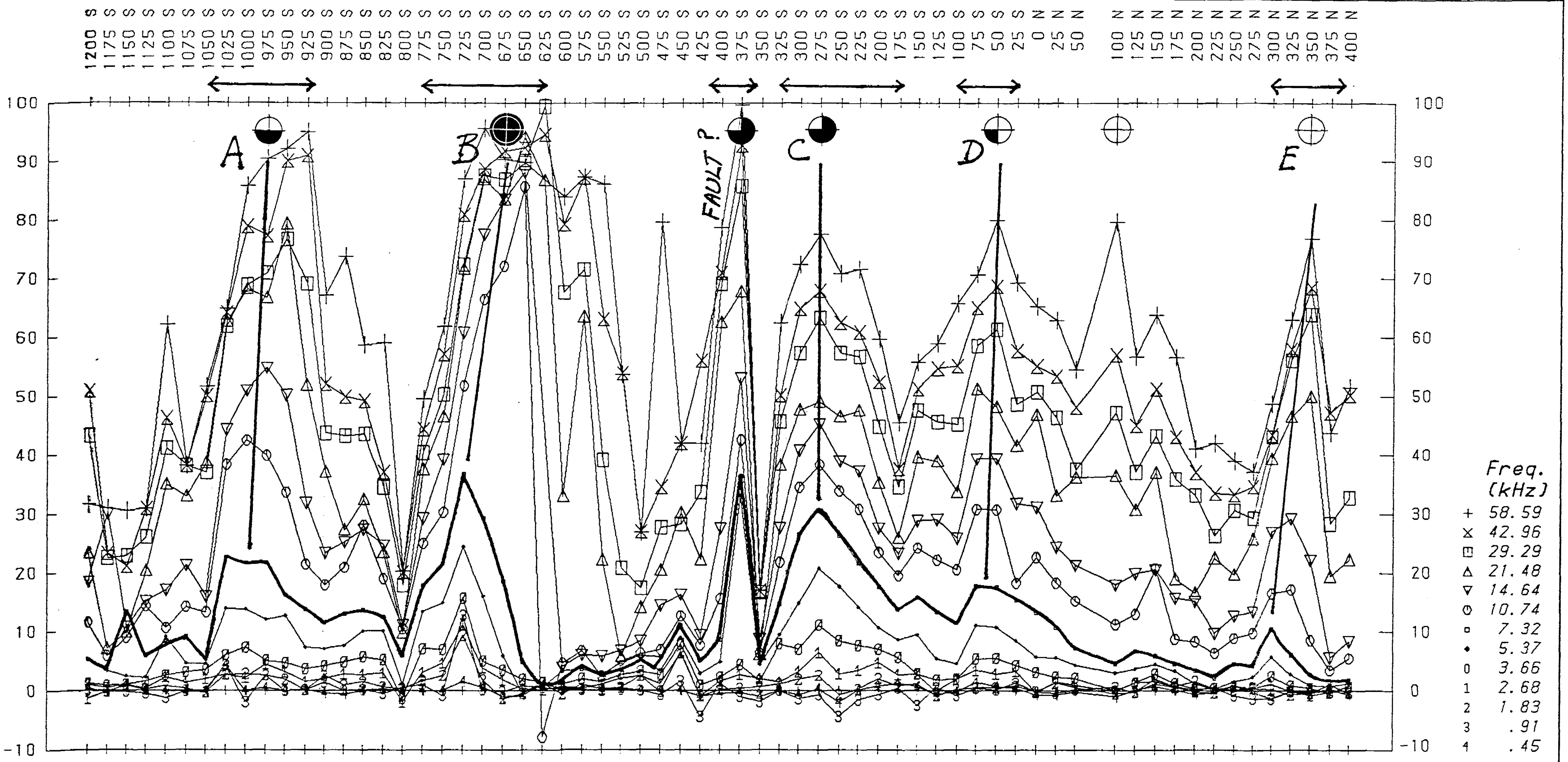
JOUTEL RESOURCES SURVEY BY GEOPROBE LTD. OPERATOR: J. WHELAN JOB No. 391

AREA: BEN NEVIS GRID: MAIN DATE: NOV./90 TX---400M---RX

PROFILE OF TILT (degrees)

from MAXI-PROBE E.M. Survey

LINE 050+00W



JOUTEL RESOURCES SURVEY BY GEOPROBE LTD. OPERATOR: J.WHELAN JOB No. 391

AREA: BEN NEVIS GRID: MAIN DATE: NOV./90 TX--400M--RX

APPENDIX III

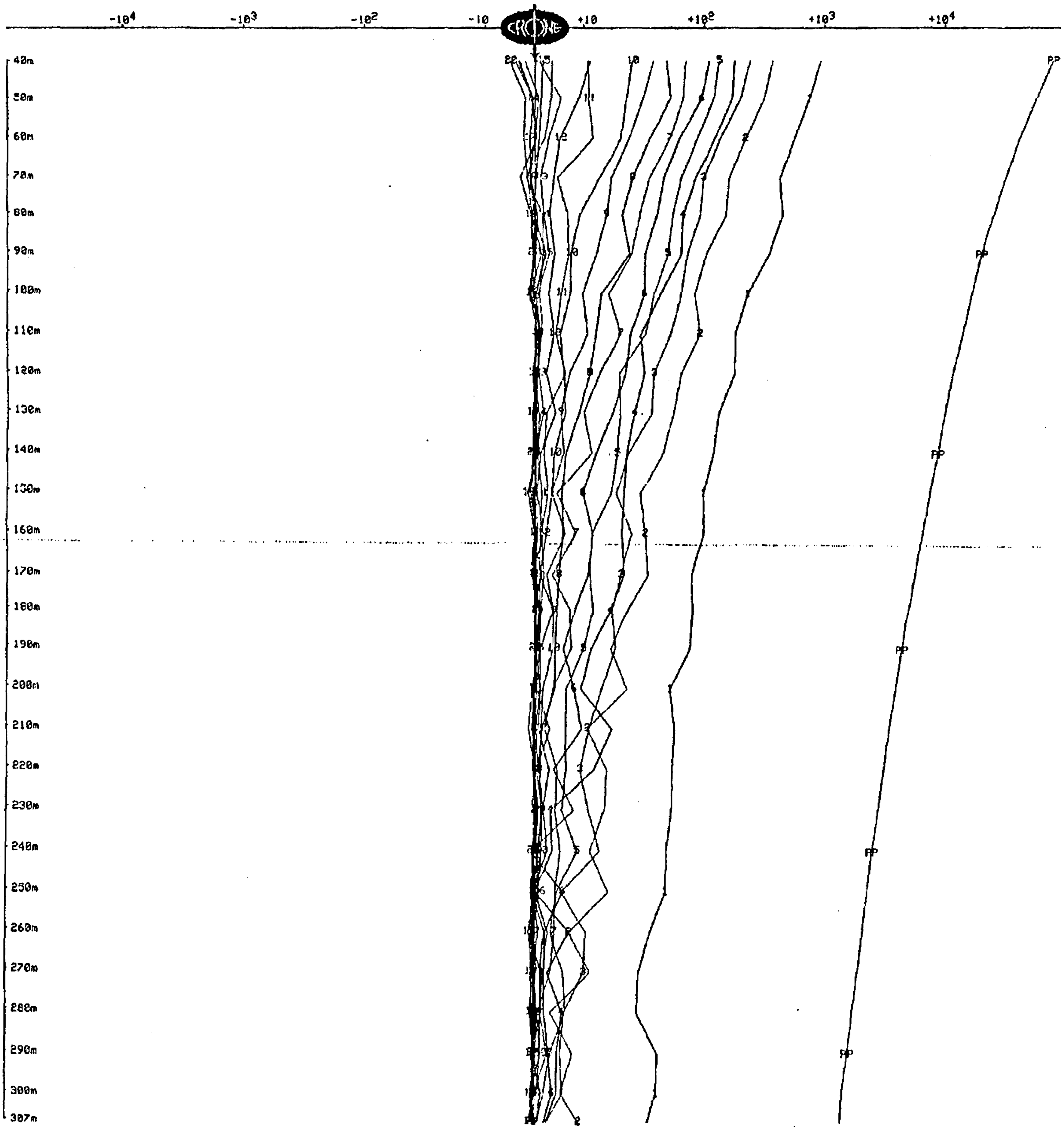
REPORT ON BORE HOLE PULSE E.M.
OF HOLES CNG-90-2 AND CNG-90-6
CANAGAU PROJECT

CRONE GEOPHYSICS & EXPLORATION LTD
VAL D'OR GEOPHYSIQUE LTEE
BOREHOLE PEM

Client : JOUTEL-RESOURCES
Grid : CANAGAU
Time Base : 16.66 ms
Ramp Time : 1.50 ms
Scale : 1:1000

Hole : CNG-90-2
Tx Loop : 1
Date : Feb 10, 1991
File : CNG902T1.PEM

AXIAL COMPONENT dBa/dt nanoTesla/sec - 20 channels and PP

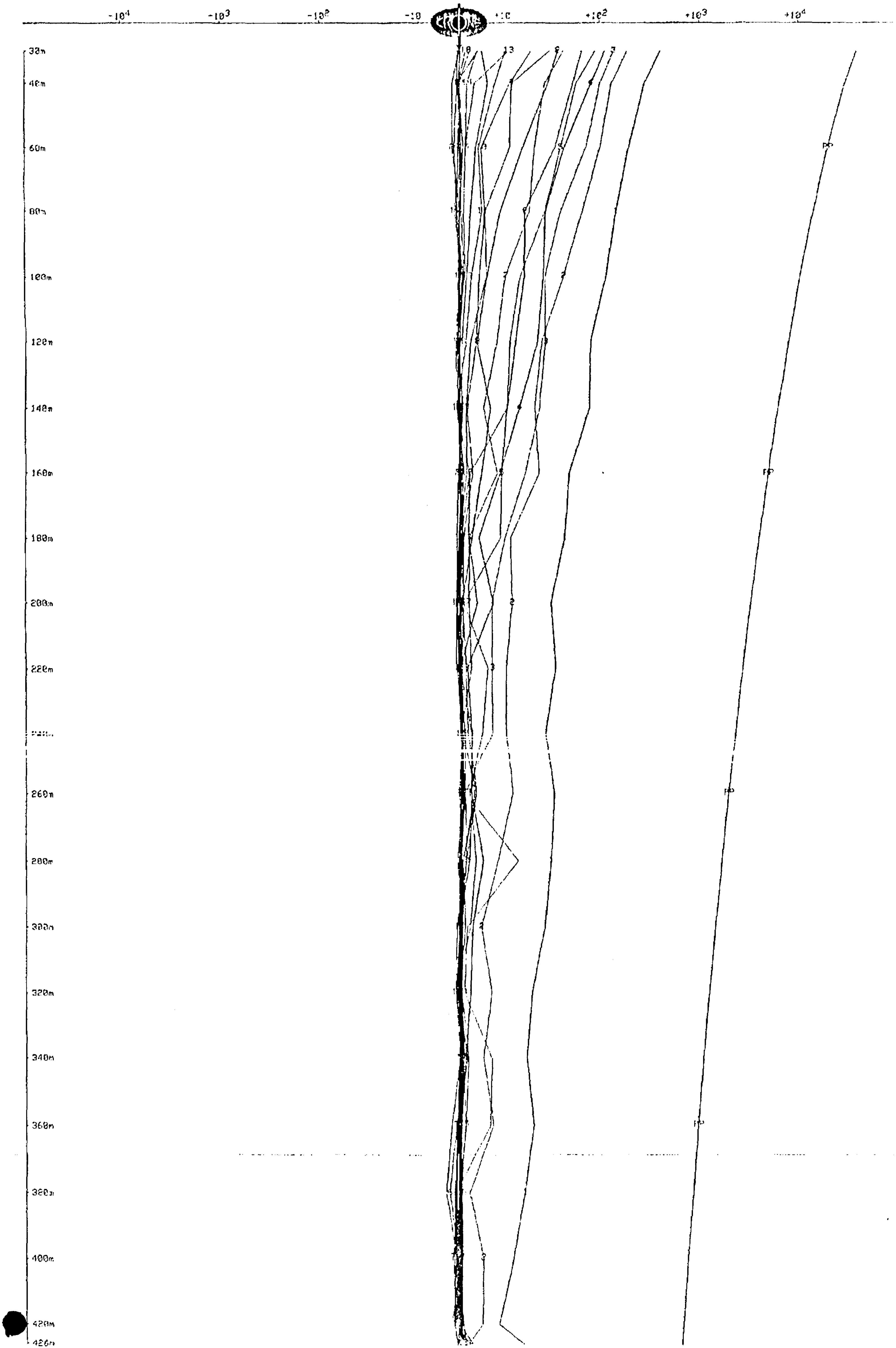


CRONE GEOPHYSICS & EXPLORATION LTD
VAL D'OR GEOPHYSIQUE LTEE
BOREHOLE PEM

Client : JOUTEL-RESOURCES
Grid : CANAGAU
Time Base : 16.66 ms
Ramp Time : 1.50 ms
Scale : 1:1000

Hole : CNG-90-6
Tx Loop : 2
Date : Feb 9, 1991
File : CNG906T2.PEM

AXIAL COMPONENT dBa/dt nanoTesla/sec - 20 channels and PP



APPENDIX IV

DIAMOND DRILL LOGS AND ASSAYS

DRILL HOLES CNG-90-1 TO CNG-90-6 INCLUSIVE

QUEENSTON GROUP
DIAMOND DRILL REPORT   Page 1 of 9

PROJECT: Canagau
Mountain Lake

COMMENCED: January 17,1990
PROPERTY: Canagau
DDH NO: CNG90-1

FINISHED: January 22, 1990
TOWNSHIP: Ben Nevis
ELEV:

CORE SIZE: BQ 1 3/8"
PROVINCE/NTS: Ontario
AZIM: 337 deg

TOTAL DEPTH: 997 ft.
LOCATION:
(re Grid): 56 metres
Azim 157 deg
from 2+50E 8+31S
(re Claim):

CONTRACTOR: Rayjo Drilling

LOGGED BY: W. J. McGuinty

DIP:	Collar
250'	-41 deg
500'	-39 deg
750'	-32 deg
997'	-31 deg

UNITS: Feet

FROM	TO	CORE LENGTH	
0	16.0	16.0	Casing in swampy overburden
16.0	16.5	.5	Boulder cuttings from basal till.
16.5	51.5	35.0	Amygdaloidal basalt - weakly altered amygdules are round to elliptical with no preferred orientation, moderately to weakly sericitized pillows 25.0, 37.1, 44.0 pillow selvages 20.0-21.2 flow breccia 27.0-29.0 disseminated pyrite 38.0-48.0 predominantly sericite altered glass with some sections of pillowed basalt, some disseminated pyrite @ 38.0-39.0, 40.0-42.0 48.0 small banded white quartz vein, 1/2" wide anastomosing bands, 3-5% pyrite.
51.5	55.1	3.6	Cherty dacite - pale buff grey colour, well fractured, fine sericite mineralization strongest and foliated near fractures, 3% disseminated euhedral pyrite -upper and lower contacts are sharp 30 degrees and 60 deg to C.A. respectively, no contact effects apparent Fracturing occurs throughout section in 30 and 60 degree sets.

55.1	75.3	20.2	Amygdaloidal basalt 57.0-61.0 fine grained, massive, grey white colour, few amygdules 1-2% dark pyrite in blebs 56.5-57.5, 68.7-69.6 thin chloritic glass horizons 61.0-65.9 glassy flow breccia, rare pyrite 65.9-75.3 massive amygdaloidal basalt, clear quartz filled amygdules are jointed and mineralized by white quartz pyrite and honey colored sphalerite, 1-2% pyrite disseminated throughout section.
75.3	77.3	2.0	Cherty dacite breccia, irregular upper contact, matrix is mainly the result of chloritization of fracture planes fragments are elliptical, buff colored, pyrite mineralization to 5% in irregular fractures sub parallel to C.A. and in brecciated pods.
77.3	78.6	1.3	Amygdaloidal basalt, strongly sericitized with 5-10% disseminated pyrite, upper contact irregular.
78.6	80.7	2.1	Cherty dacite upper contact sharp at 50 deg to C.A. 78.6-79.0 brecciated with pyrite, galena sphalerite and box work in quartz matrix pyrite occurs as jointed and locally rotated "pull away" bands - galena-quartz-sphalerite is secondary 79.0-80.7 flow banded cherty dacite 2-3% pyrite in groundmass dacite is fine grained, buff colour.
80.7	92.4	11.7	Amygdaloidal basalt, strong sericite alteration, 10% pyrite, upper contact is a 3 inch breccia band with cherty matrix and sericitized basalt fragments 83.7, 84.2, 87.3, 88.6 - 1/2" wide, jointed "pull away" pyrite bands with quartz fill bands vary from 45 deg to C.A. to irregular sub-parallel to C.A. -thinner bands with less secondary fill occur throughout section.
92.4	94.2	1.8	Cherty dacite - 2-3% fracture controlled pyrite, sharp upper contact 30 deg to C.A. 92.5 1/4" pyrite filled fracture with minor galena.

94.2	106.1	11.9	Amygdaloidal basalt very strong sericite alteration throughout, amygdules have zonation of quartz fill jointed sulphide bands common 95.0- 95.9 40% pyrite 96.0-106.0 5-10% pyrite 97.3 cherty dacite fragment? 99.6 1/4" quartz vein with some pyrite tetrahedrite and sphalerite
106.1	124.9	18.8	Cherty dacite, strongly sericitized foliated at 45 deg to C.A., upper contact at 20 deg to C.A. 106.1-107.5 strong silicification apparently fracture controlled - some box work after calcite 106.1-106.4 30% pyrite, 2% galena 107.5-109.0 strongly banded and fractured zone with sericitic alteration and knots of pyrite to 1/4" diameter 108.0 galena in fracture 109.0 quartz veinlet with galena and box work 112.6 quartz veinlets - sharp contacts 45 deg to C.A., some sphalerite 112.9-113.1 fracture controlled grey sphalerite mineralization, less than 2% 120.1 1/8" quartz veinlet, honey sphalerite, some galena 121.7 dark coloured irregular band with 1 inch long pod of honey coloured sphalerite 121.7-124.2 brecciated dacite with rusty brown dolomitic alteration - likely solution type breccia 124.4 rusty sericitic fracture 124.4-124.9 massive jointed pyrite band, some box work, upper contact irregular, lower contact 30 deg to C.A.
124.9	209.1	84.2	Sericitic dacite massive, grey-buff colour, fine grained, 2-3% disseminated fine grained pyrite (euhedral), joint sets at 30 deg and 45 deg to C.A. 134.0-150.0 "glassy" chloritic alteration in irregular fractures throughout section crosscut by later fracturing 150.0-180.0 darker coloured section similar to 134.0-150.0 160.0 irregular banded quartz vein no related sulphide

			173.0-175.0, 180.0-181.0, 182.0-184.0 - broken core 183.5 2" quartz vein 180.0-209.1 pale buff coloured dacite as at 134.0-150.0 with dark chloritized fractures 3% disseminated pyrite 185.4 corroded quartz calcite vein 186.2-186.6 calcite filled crackle breccia 189.4-192.0 broken core multiple fractures 192.0-192.8 silicified zone, banded lower contact 30 deg to C.A., wispy chlorite, possibly rhyolitic tuff 192.9 vuggy pink calcite veinlets less than 1/4 inch wide 194.0-197.2 massive white quartz veins well fractured 196.5-205.0 broken core 204.0-205.0 small quartz veins 1/4" to 1/2" two quartz phases white after clear 205.5-206.0 white quartz vein 207.9-208.4 quartz vein
209.1	209.5	.4	<u>White quartz vein</u> upper contact 45 deg to C.A.
209.5	210.1	.6	<u>Fault zone</u> - rubbly fault gouge quartz pebbles in grey-black matrix - upper contact 45 deg to C.A., lower contact not defined
210.1	493.4	283.2	<u>Amygdaloidal basalt</u> weakly altered pillow selvages are common but not pronounced, more massive sections have irregular (glassy) chloritic flow tops, glassy areas are often sericitized. Amygdules are quartz filled some with irregular cores of pyrite and chalcopyrite minor thin quartz veins at 50 deg to C.A. are crosscut by later vein sets at 10 deg and 45 deg to C.A. 248.5-249.3 strongly sericitized flow, yellow-brown colour, amygdules washed out but still visible 249.0 oval quartz blebs - vesicles? with small patches of sphalerite 249.3-252.0 massive white quartz vein, well fractured, upper contact 20 deg to C.A., small blebs cpy near upper contact, lower contact 25 deg to C.A. 252.0-420.0 concentric cooling fractures with concentrically aligned amygdules occur over entire section 254.0 white/clear quartz vein with minor chalcopyrite

258.4 1/2" wide banded quartz sericite vein 25 deg to C.A.

267.7-269.5 fracture related quartz-sericite -pyrite mineralization, sub-parallel to C.A., some local quartz filled breccia

280.5 irregular white quartz vein, some pyrite

298.6 small spar calcite vein

308.6-308.8 massive white quartz vein

281.0-283.0, 308.8-313.0, 332.0-336.0, blocky flow breccia with sinter pods and 2 quartz filled amygdules, some sphalerite, pyrite found with quartz

307.0-345.0 general increase in sulphide with bands or disseminations of pyrite, 2% throughout

323.0-323.5 low angle flow selvage vein, 10% pyrite interbanded with quartz

345.0-350.8 flow breccia

350.8-442.0 mainly pillowed basalt with strong selvages, localized flow breccias and interflow breccias, amygdules to 1 inch diameter

359.5 jointed pyrite band flooded by calcite

360.0-360.3 fault - volcanic rubble coated with sulphide in sparry calcite matrix

361.9, 362.7, 376.1-376.7 vuggy pink calcite veining

382.0-395.0 increased pyrite mineralization in and rimming amygdules, stringers preferentially formed along cooling fractures - some sphalerite in amygdules

409.5-409.8 quartz filled fault with calcite on contacts 25 deg to C.A.

412.5 - 1/2" pyrite-sphalerite band 45 deg to C.A.

418.8 - 1/4" chalcopyrite-pyrite-quartz-dolomite vein, 45 deg to C.A.

419.2-419.3 chalcopyrite-quartz-calcite vein 10% cpy 50 deg to C.A.

441.4 1" quartz vein fractured and filled with pink calcite, 5% pyrite in thin bands

442.0-487.0 chloritized section imparting a glassy pseudo flow breccia texture, ghosted cooling fractures and amygdules locally visible, chloritization occurs in rounded or angular shaped zones 40% of core, 2% pyrite throughout

493.4 499.4 6.0 Sericitic dacite, massive, fine grained grey colour, gradational or incipient upper contact with assimilated mafic material at

			30 deg to C.A., sharp lower contact with xenolith, some black coloured fractures rare, dispersed spherulitic pyrite, some calcite veining with pyrite stringers and blebs
499.4	501.9	2.5	Chloritized amygdaloidal basalt
501.9	509.8	7.9	Dacite as at 493.4-499.4 505.3-505.5 semi massive pyrite band 35-40% py, 45 deg to C.A. 506.3, 506.9 quartz-calcite-pyrite veins "stringer" vein type where quartz + calcite post dates pyrite, 10% pyrite
509.8	511.7	1.9	Chloritized basalt 5% pyrite in patchy blebs
511.7	514.3	2.6	Massive grey basaltic tuff, upper contact 45 deg to C.A.; sharp thin black bands parallel to contact may be cooling features, lower contact 45 deg to C.A. is weakly incipient
514.3	517.6	3.3	Chloritic amygdaloidal basalt 517.3-517.5 irregular quartz carbonate vein with 10% pyrite
517.6	518.7	1.1	Massive grey basaltic tuff with 5% fine grained chalcopyrite - upper and lower contacts 40 deg to C.A.
518.7	570.1	5.4	Massive chloritized amygdaloidal basalt as at 442.0-487.0, carbonate present in stringers and amygdules 519.4-519.6 quartz-pink calcite vein 520.0-527.0 several barren 1/2" white calcite veinlets 45 deg to C.A. 548.0 - 1" band semi massive pyrite about thin calcite vein, no preference to host or vein, 10 deg to C.A. irregular 540.0-560.0 fine grained chalcopyrite keyed to thin calcite stringers or blebs through out section 560.0-570.1 flow breccia? irregular shaped fragments dispersed throughout core with long axes 45-90 deg to C.A. 569.5-570.0 strong carbonate reaction contact effect?
570.1	575.4	5.3	Massive grey basaltic tuff, fine grained, spherulitic and vesicular - spherules are chloritic and mineralized with pyrite, several wispy chlorite filled fractures

575.4	587.6	12.2	"Banded hyaloclastite" irregular bands or blebs of pale sericitic volcanic - possibly dacitic, set in fine grained chloritic glassy groundmass. Dacitic fragments are often "paired" or nested with chlorite between indicating dacitic material was more viscous than chloritic matrix
587.6	592.5	4.9	Massive grey basaltic tuff - spherulitic
592.5	640.7	48.2	Weakly chloritized amygdaloidal basalt flow breccias, some "clasts" of dacitic material, trace disseminated chalcopyrite locally disseminated pyrite, less than 1% throughout
640.7	648.0	7.3	Massive grey basaltic tuff upper contact 10-15 deg to C.A., lower contact irregular 643.5-643.8 banded quartz carbonate vein minor pyrite, some quartz sericite fragments 647.0-648.0 sulphide enriched zone - host is well altered with quartz sericite, brecciated quartz vein at core 45 deg to C.A., vein is fractured and recemented with grey quartz
648.0	715.9	67.9	"Banded hyaloclastite" as at 575.4-587.6 local pyrite enrichment
715.9	717.9	2.0	Amygdaloidal basalt
717.9	724.6	6.7	Massive sericitic dacite? greenish colour chloritic fractures with some disseminated pyrite
724.6	727.9	3.3	Weakly chloritic amygdaloidal basalt
727.9	855.3	127.4	Massive grey basaltic tuff, fine grained, chloritized spherules, vesicular, pervasive general carbonate alteration from 757.0-805.0 727.9-732.6 massive amorphous alteration greenish sericitic tinge 732.6-733.0 irregular quartz calcite vein, 30 deg to C.A. 733-740.5 dark green chloritic section with amygdules(?) to one inch, weakly crenulated chlorite sericite wisps 30-40 deg to C.A., pervasive carbonate alteration, wispy sulphide in more banded sections

			734.0, 740.0-740.5 - 1/4-1/2 pyrite band, 50-55 deg to C.A. 738.0 clay seam 1/8" wide 30 deg to C.A. 769.0-770.0 weak flow breccia? 800.0-817.0 flow top zone? increased quartz-sericite-chlorite, carbonate absent 800.3 pods of pyrite in irregular space filling with dolomite 805.2 thin calcite vein with peripheral pyrite stringers 807.0-809.5 cooling fractures 809.5-817.0 mainly brecciated chloritic material with locally sericitized bands 809.9-810.1, 810.7-810.8, 813.7-814.0,- semi massive pyrite calcite "stringer veins" 819.0-855.3 massive spherulitic tuff, some calcite veining 1/4" wide - 45 deg to C.A.
855.3	965.5	110.2	Amygdaloidal basaltic flow - mainly pillows, pillow breccia and flow top breccia - strongly amygdaloidal, 25-30% of core, 1/3 to 1/2 inch diameter, small interbeds of grey basaltic tuff occur locally as do interflow sedimentary type deposits of quartz sericite altered glass material, concentric cooling fractures occur often with rapid orientation changes, disseminated bleby pyrite occurs throughout section 907.0-908.3 2-3% pyrite related to carbonate stringers 908.3-908.7 quartz-carbonate-sulphide stringer vein, semi massive pyrite (25%)-sphalerite (5%)-galena (2%)-chalcopyrite (2%)-arsenopyrite (minor) 919.0 blebs apple green sericite
965.5	966.5	1.0	Fault zone 40 deg to C.A. upper contact veined with pyrite-carbonate-sericite 965.6 1/2 inch sulphide band 965.6-965.9 banded quartz-chlorite-carbonate, minor pyrite 965.9-966.1 clay-quartz cemented fault gouge with small acicular fragments, matrix supported 966.1-966.5 brittle gouge
966.5	973.2	6.7	Massive grey basaltic tuff? sericitized and weakly banded, defined by thin dark chloritic bands at 30 deg to C.A. 2-3% disseminated pyrite and blebs to 1/2" diameter

973[illegible]	997.0	23.8	Massive amygdaloidal basalt, grey colour, carbonate altered 990.0 - pillow selvage? 982.6 pyrite filled joints less than 1/16" wide 55 deg to C.A. 991.0 1/4" pyrite vein 55 deg to C.A.
977.0			END OF HOLE

WHOLE ROCK CHIP SAMPLE LOCATION

Hole CNG 90-1

72213	(W-1)	Altered Amygdaloidal basalt	67.6, 70.5, 84.6
72214	(W-2)	Cherty dacite	54.3, 81.2, 91.7, 111.3, 117.2, 120.5
72215	(W-3)	Altered dacite	127.0, 132.0, 137.4, 144.0, 147.5, 156.7, 164.5, 170.6
72216	(W-4)	Unaltered Amyghaloidal basalt	239.0, 245.7, 256.3, 265.2, 273.0, 290.8, 301.2, 307.3, 317.0, 336.0, 341.0, 349.2, 359.2, 364.6, 369.4, 383.4, 396.3, 408.0, 421.5
72217	(W-5)	chloritized basalt	470.0, 479.5, 484.0, 521.5, 525.5, 531.3, 534.9, 538.4, 551.0, 558.2, 562.7
72218	(W-6)	Banded hyaloclastite	637.0, 640.2, 654.5, 658.8, 663.0, 673.1, 678.0, 687.5, 695.2, 700.0, 703.7
72219	(W-7)	Massive green-grey tuff	751.1, 758.5, 766.2, 772.7, 775.0, 785.1, 789.3, 793.2, 818.4, 824.1, 835.2, 841.9

QUEENSTON GROUP
DIAMOND DRILL REPORT

Page 1 of 9

PROJECT: Canagau
Mountain Lake Opt.

COMMENCED:

PROPERTY: Canagau

DDH NO: CNG90-2

FINISHED:

TOWNSHIP: Ben Nevis

ELEV:

CORE SIZE: BQ 1 3/8"

PROVINCE/NTS: Ontario

AZIM: 053 deg

TOTAL DEPTH: 1008 ft.

LOCATION:
(re Grid): L 1+00 W
0+54S

DIP: 0 -51 deg
250 - 43 deg
500 - 38 deg
750 - 35 deg

CONTRACTOR: Rayjo Drilling

LOGGED BY: W. J. McGuinty

(re Claim):

UNITS: Feet

FROM	TO	CORE LENGTH	
0	18.0	18.0	Casing in Overburden
18.0	33.0	15.0	Sericitized amygdaloidal basalt, coarse amygdules to 3/4", sericite concentrated near amygdule boundaries, amygdule banding @ 45 deg. to C.A.
33.0	33.5	.5	Banded interflow sediment grey fine grained cross-bedded or brecciated -1-2% disseminated pyrite.
33.5	41.7	8.2	Amygdaloidal basalt as at 18-33, amygdules range from less than 1/16 to 1/4" and are less sericitic, upper contact irregular 34.5 - 35.2 selvage or flow contact zone with increased silica flooding, flow banding (amyg) varies quickly over short distances.
41.7	57.1	15.4	Massive weakly banded tuff, grey colour, fine grained, weakly vesicular, fine, angular dark green chloritic minerals @ 5% of core, weak banding at 30 deg. to C. A. -upper contact sharp with 1/2" chloritic band @ 50 deg. to C. A.
57.1	77.6	20.5	Amygdaloidal basalt, amygdules increasing in size and number down hole to 58.5 57.1-63.6 weakly sericitic 63.6-73.0 very coarse amygdules and aggregate amygdaloidal masses in quartz sericite-matrix, some pyrite in amygdules and sericitic edges.

77.6	124.9	47.3	Massive grey tuff similar to 41.7-57.1, upper contact defined by thin irregular chlorite band @ 30 deg. to C. A. -upper section well banded at 45 deg. to C.A. and massive to 84.9 84.9-90.0 moderate to strong chlorite-sericite mineralization with some attendant quartz and pyrite occurring preferentially along fractures 86.4-88.6 breccia zone with quartz flooding and strong sericite mineralization 90.0-93.3 chloritic lapilli, 1/4" and small amygdules 93.3-93.7 brecciated quartz-ankerite? vein some boxwork at upper contact, no visible sulphides, sharp contacts at 45 deg. to C.A. 93.7-117.0 massive grey locally amygdaloidal tuff 107.0-109.0 wispy fracture controlled sericite alteration, weak pyrite mineralization parallel to banded quartz veining @ 15 deg. to C.A. 117.0-122.6 well fractured tuff with quartz-calcite fill, pyrite-galena-aspy mineralization, fractures are irregular, sub-parallel to C.A.
124.9	133.0	8.1	Flow top breccia in basalt with disrupted stringer type mineralization consisting of brecciated, distended pyrite bands interstitially filled with quartz ankerite? and galena 2-5% sulphide overall 128.6-129.2 thin shear, 25 deg. to C.A. 10% brecciated pyrite 129.2-133.0 increased chlorite alteration with 3-5% disseminated euhedral pyrite.
133.0	149.8	16.8	Pillowed amygdaloidal basalt sericitic alteration and pyrite-sphalerite-galena? filled amygdule and amygdaloidal aggregates from upper contact (top south indicated) to 147.0, numerous selvage zones with 3-5% pyrite-galena-sphalerite.
149.8	260.6	110.8	Massive weakly amygdaloidal tuff 149.8-200.0 weak pervasive sericitization and thin irregular quartz-calcite filled fracturing, amygdules are zoned with diffuse contacts 200.0-231.7 massive tuff with weak sericitization and local sulphide aggregates less than 1 inch width.

			231.7-260.6 chloritized zone, fractures and amygdules are preferentially altered, core is generally dark green-grey in colour pyrite is found in stringers, aggregates and in quartz pyrite stringers, 1-2% overall, locally 5% over 6" widths 238.5-238.8 quartz-chlorite-arsenopyrite-pyrite-chalcopyrite vein 10% sulphide 257.0-260.6 increased pyrite mineralization in quartz-carbonate haloed stringers, weak bands and patchy aggregates some attendant aspy at 578.0-578.4, lower contact sharp and foliated 40 deg. to C.A.
260.6	264.1	3.5	Cherty breccia with sulphides 260.6-262.7 siliceous grey-black breccia with dark chlorite bearing groundmass, no visible sulphides 262.7-264.1 massive sulphide, distended pull-away pyrite bands re-mineralized by quartz-arsenopyrite-galena-sphalerite-dolomite veins, host rock strongly chloritized, 35-40% sulphide.
264.1	271.3	7.2	Altered tuff - chloritization on irregular fractures and in amygdules, numerous sulphide stringers with distended pyrite and quartz-carbonate re-mineralization, thinner stringers with minor re-mineralization are chloritic, 5-8% sulphide 270.7-271.3 massive white quartz veins, 1/2" massive pyrite band on upper contact 25 deg. to C. A. lower contact area silicified and brecciated with thin brecciated band of pyrite.
271.3	273.3	2.0.	Chloritic breccia similar to 260.6-262.7 with fewer cherty fragments possibly extension of altered tuff?
273.3	285.0	11.7	Rhyodacite? porphyritic feldspar, possible flow banding at 30-40 deg. to C. A. 273.3-277.9 strongly sericitized green colour pervasive with thin sericite wisps 40 deg. to C.A. generally but with "folded" or warped zones 277.9-287.0 grey coloured porphyritic, soft possibly chloritized groundmass supporting harder, paler breccia fragments.

285.0	315.6	30.6	Brecciated tuff? strongly chloritic fragments in paler slightly harder groundmass – 3-5% disseminated and patchy pyrite not breccia specific – larger patches distended and re-mineralized 285.0-292.5 massive tuff 292.5-305.7 brecciated tuff 305.7-315.6 massive tuff banded with chlorite-sericite bands at 35 deg. to C.A., upper contact 30 deg. to C.A.
315.6	325.8	10.2	Porphyritic rhyodacite? similar to 273.3-285.0 moderately chloritized and sericitized in wispy bands 30-40 deg. to C.A. minor to trace pyrite.
325.8	370.0	44.2	Tuff agglomerate? tuff similar to 285.0-315.6, locally brecciated. Agglomerate consists mainly of greyish rounded fragments in a dark chloritic groundmass with strong chlorite-sericite wisps keyed to fragment boundaries at 35 deg. to C.A., brecciated areas may be massive flow breccia, sulphides 2-5% (pyrite) 325.8-338.0 agglomerate with small brecciated zones 338.0-342.9 lapilli tuff unit? finer grained rounded fragments, more felsic appearance 342.9-358.6 massive agglomerate, brecciated near upper contact 358.6-358.8 massive white quartz vein 30 deg. to C.A. 358.8-361.4 silicified agglomerate pervasive silicification with thin quartz veining mainly within fragments small quartz blebs mainly extension of veins in fragments into groundmass, bands of chlorite-sericite terminate quartz veins 349.4, 351.3 sulphide stringers re-mineralized with qtz-dol-aspy-cpy 361.4-370.0 tuff agglomerate, chloritic groundmass similar to 325.0-338.0 368.4-368.9 massive sulphide "vein" distended pyrite-chalcopyrite stringer filled with quartz-carbonate-arsenopyrite-sphalerite, 60% py 20% cpy, 5-10% other sulphides 369.5 thin drag-folded quartz veinlets 368.0-370.0 increased sulphide (py cpy) in host, 4-5%.

370[illegible]	373.0	3.0	Sericitized and chloritized amygdaloidal tuff (basalt?) upper contact 35 deg. to C.A. 372.8 thin vein, less than 1", 10% py in qtz- aspy-cpy matrix.
373.0	380.8	7.8	Chloritic Tuff agglomerate similar to 325.0-338.0 well veined with quartz-cpy-aspy in pyrite stringers, generally silicified.
380.8	385.7	4.9	Sericitized and chloritized amygdaloidal tuff as at 370.0-373.0 several distended pyrite stringers, quartz and other sulphides are rare in these veins.
385.7	453.3	67.6	Chloritic tuff-tuff agglomerate as at 325.0-338.0 386.3-387.0 distorted stringer vein showing chloritized halo on non offset contacts. Offset is dextral and offset plane has quartz sulphide smear, cpy-aspy present within stringer vein, 20% sulphide. 387.0-418.0 numerous slightly re-mineralized sulphide stringers and disseminated pyrite throughout core, 5% overall. 415.4-415.6 re-mineralized stringer vein, 15% py in quartz-sericite matrix. 418.0-427.0 increased silicification and veining keyed to banded structure at 30 deg. to C.A., quartz filled joints occur in this area and are parallel to direction of banded structures , no associated sulphides 439.5-444.6 zone of silicification, pale buff colour associated with diffuse sulphide bands likely due to addition of quartz to sericitic bands 439.9-440.2, 441.5-442.0 and 442.7-443.2 sulphide bands show weak 30 deg. to C.A. orientation, 10-15% py 444.6-453.3 chloritic tuff locally brecciated.
453.3	456.6	3.3	Massive fine grained weakly amygdaloidal tuff upper contact occupied by small quartz breccia vein with minor pyrite.
456.6	412.9	16.3	Porphyritic volcanic (rhyolite?) breccia, strong sericite alteration quartz flooding, weak banding 40 deg. to C.A.

472.[illegible]	507.3	34.4	Amygdaloidal mafic tuff chloritized and sulphidized amygdules near upper contact (top?) for 1.5 feet, unit is similar to 77.6-124.9, mainly fine grained, massive, sericitic with interbands of coarse lapilli sized tuff, banding at 40 deg. to C.A. 482.5 thin sulphide-galena band, less than 1/4 inch.
507.3	510.2	2.9	Chloritic tuff agglomerate with chloritic fragments in pale groundmass, upper contact is glassy and disrupted, rock is similar 285.0-315.0.
510.2	512.0	1.8	Thin massive rhyolite irregular upper contact silicified lower contact some sercitized fractures and thin sulphide stringer veins.
512.0	539.6	27.6	Chloritic tuff - tuff breccia disseminated and "stringer type" pyrite veins throughout core 2-3%, weak banding 30 deg. to C.A.
539.6	637.4	97.8	Rhyolite-rhyodacite? tuff, massive to banded fine grained to aphanitic, locally porphyritic or lapilli bearing, lapilli are more chloritic than massive portions which are sericite altered, weak banding in evidence locally 35-40 deg. to C.A. usually associated with increased sericite -chlorite wisps, some agglomerate sized fragments visible from 615.0-637.4 -some weak zones of increased disseminated pyrite also associated to sericite-chlorite bands, less than 1% throughout core with small 2-3 inch lengths to 2% 636.6 thin quartz vein parallel to C.A. with euhedral galena.
637.4	703.2	65.8	Massive fine grained grey basaltic tuff similar to 77.6-124.9 upper contact 40 deg. to C.A. 637.6-640.0 weakly amygdaloidal, some with chlorite-pyrite cores 638.2, 638.6, 639.3, 651.4, 652.1-652.3 "stringer veins" jointed pyrite bands with quartz-carbonate-galena-sphalerite fill, base metal sulphides increase with higher quartz content 664.0-668.3 sulphide-alteration zone numerous sulphide stringers, pyrite filled

			by quartz-sphalerite with chlorite altered contacts and a general increase in sericite mineralization 674.0-692.0 numerous barren white quartz-calcite veinlets 1/16" to 1/2" width, possibly joint filling at 30, 45 and 50 deg. to C.A. 687.5-691.0 quartz calcite filled fracture sub-parallel to quartz vein numerous slivers of host tuff, some sericite and pyrite (less than 2%)
703.3	779.0	75.8	Rhyodacitic? tuff similar to 539.6-637.4. Generally darker and more chloritic than above, feldspar lapilli more defined 702.3 late fault, unconsolidated gouge with host rock fragments, 30 deg. to C.A., cutting banding of host near 90 deg. 736.0-736.5 rhyolite bomb 746.5-747.5 irregular quartz-carbonate filled fracture parallel to C.A., trace pyrite 715.0-724.0 several pyrite pods and stringer type veinlets - little apparent base metal sulphides (aspy-sph) and little quartz influx 748.7-747.9 1/2-1" stringer vein, irregular contacts, pyrite-arsenopyrite-sphalerite-chalcopyrite-white quartz 747.5-764.0 increased chloritic content and more homogeneous unit. Lapilli are smaller and greenish rhyolitic material is mostly absent 764.0-766.5 massive fine grained pale rhyolitic unit contacts gradational 768.7 thin fault-upper contact brecciated 45 deg. to C.A. 768.0-775.0 numerous irregular fine calcite filled fractures 771.5-778.0 numerous thin stringer veins with weak quartz-basemetal sulphide content 776.9-777.6 old fault, host rock fragments in comminuted groundmass of similar material 40 deg. to C.A., well annealed.
779.0	805.8	26.8	Banded volcanic interbedded yellow-green sericitized massive rhyolite with inter-bands of darker tuffaceous material, banding at 35-40 deg to C.A., weak sulphide (py) development in darker areas. 798.6 stringer vein lower contact chloritized, pyrite and quartz.

805[illegible]	827.7	21.9	Massive grey basaltic tuff fine grained weakly amygdaloidal similar to 77.6-124.9 805.8-807.3 sericitized contact zone 805.9 thin disseminated pyrite band, 10% pyrite.
827.7	879.6	51.9	Rhyolite? massive variably altered volcanic weak banding implied in zones of stronger sericite alteration, small stringer veins with quartz throughout core, irrespective of degree of alteration 827.7-847.0 massive yellow -white rhyolite?, similar to yellow portions in 779.0-805.8, sulphide bearing fractures show sericitic haloes, ghosted amygdules or versicles present 847.0-865.0 massive greyish rhyolite? less sericitic than yellowish zones although texturlly similar 865.0-879.6 yellowish rhyolite as at 827.7-847.0
879.6	886.0	6.4	Massive fine grained mafic tuff weakly chloritic fracturing and weak sericite mineralization -quartz-calcite filled fracturing occurs throughout section parallel to C.A.
[illegible]86.0	921.5	35.5	Massive yellow rhyolite 910.0-914.0 amygdaloidal section greyish against host groundmass 914.0-921.5 siliceous section, irregular, wispy quartz rich interbands, some amygdules persist.
921.5	926.5	5.0	Transitional contact-feldspar-crystal-lapilli in groundmass with chloritic material becoming dominant near 922.5 prevalent banding at 40 deg. to C.A.
926.5	931.5	5.0	Grey basaltic tuff similar to 77.6-124.9 well sericitized, massive, upper contact gradational marked by increased sericite, some amygdules locally have bleached haloes 926.5-928.3 some brecciation with py stringer veins.

931.5	944.0	12.5	Rhyolitic lapilli tuff similar to 539.6-637.4 banding at 40 deg. to C.A. crystal lapilli and small fragments visible in intercalated bands of chloritic and non-chloritic rhyolitic material.
944.0	998.0	5.4	Massive grey basaltic tuff fine grained-upper contact gradational some feldspar crystal lapilli present locally, weak orientation of wispy foliation 45 deg. to C.A., little or no alteration visible, no sulphide stringer veins present.
998.0	1008.0	10.0	Rhyolitic lapilli tuff as at 931.5-944.0 gradational upper contact increasing sericite and chlorite alteration 1000.0 to 1008.0
1008.0			END OF HOLE

DIAMOND DRILL REPORT ASSAY RESULTS

PROJECT: Canagau (Mountain Lake Opt)
DDH NO. CNG90-2
PROPERTY: Canagau
TOWNSHIP:Ben Nevis

FROM	TO	LENGTH	SAMPLE #	ASSAY	RECHECK
85.0	90.0	5.0	1120	49.5*	
90.0	95.0	5.0	1121	10	
100.0	105.0	5.0	1122	Nil	
105.0	110.0	5.0	1123	Nil	
116.0	121.0	5.0	1124	Nil	
121.0	125.0	4.0	1125	Nil	
125.0	130.0	5.0	1126	Nil	
130.0	133.5	3.5	1127	10	
133.5	138.5	5.0	1128	Nil	
138.5	143.5	5.0	1129	Nil	
143.5	148.5	5.0	1130	Nil	
157.0	162.0	5.0	1131	Nil	
162.0	167.0	5.0	1132	Nil	
212.0	217.0	5.0	1133	Nil	
232.0	236.0	4.0	1134	7	
236.0	238.5	2.5	1135	Nil	
238.5	239.0	0.5	1136	Nil	
239.0	244.0	5.0	1137	Nil	
244.0	249.0	5.0	1138	Nil	
256.0	261.0	5.0	1139	7	
261.0	266.0	5.0	1140	175*	
266.0	270.0	4.0	1141	17	
270.0	273.5	3.5	1142	Nil	
273.5	278.5	5.0	1143	Nil	
285.0	290.0	5.0	1144	Nil	
290.0	295.0	5.0	1145	Nil	
305.0	310.0	5.0	1146	34	
348.6	353.8	5.2	1147	21	
353.8	358.6	4.8	1148	Nil	
358.6	362.0	3.4	1149	8.5*	

Notes and Reference (Assay Certificate): Swastika Labs
OW-0227-RG1

average of two analyses (*)
average of four " (**)

DIAMOND DRILL REPORTS   ASSAY RESULTS   PAGE   OF
OJECT: Canagau   DDH NO. CNG90-2
OPERTY Canagau   TOWNSHIP:Ben Nevis

367.0	370.0	3.0	1150	372*
370.0	375.0	5.0	1151	96
375.0	380.0	5.0	1152	Nil
380.0	385.0	5.0	1153	Nil
385.0	390.0	5.0	1154	17
390.0	395.0	5.0	1155	14
395.0	400.0	5.0	1156	7
415.0	418.0	3.0	1157	Nil
436.0	439.0	3.0	1158	10
439.0	444.0	5.0	1159	Nil
452.0	457.0	5.0	1160	Nil
482.0	485.0	3.0	1161	Nil
507.0	512.0	5.0	1162	Nil
512.0	517.0	5.0	1163	24
517.0	522.0	5.0	1165	Nil
527.0	532.0	5.0	1166	17
540.0	545.0	5.0	1167	Nil
558.0	563.0	5.0	1168	21
563.0	568.0	5.0	1169	Nil
583.0	588.0	5.0	1170	Nil
627.0	632.0	5.0	1171	Nil
632.0	637.0	5.0	1172	Nil
650.5	654.0	3.5	1173	34.5*
664.0	669.0	5.0	1174	Nil
687.0	692.0	5.0	1175	Nil
702.0	707.0	5.0	1176	17
746.5	749.5	3.0	1177	Nil
773.0	778.0	5.0	1178	Nil
778.0	783.0	5.0	1179	Nil
788.0	793.0	5.0	1180	Nil

Notes and Reference (Assay Certificate): Swastika Labs
OW-0227-RG1

average of two analyses (*)
average of four " (**)

DIAMOND DRILL REPORTS ASSAY RESULTS PAGE OF
PROJECT: Canagau DDH NO. CNG90-2
PROPERTY Canagau TOWNSHIP:Ben Nevis

793.0	798.0	5.0	1181	Nil
828.2	833.2	5.0	1182	Nil
833.2	838.0	5.0	1183	Nil
857.0	862.0	5.0	1184	10
895.0	900.0	5.0	1185	7
900.0	905.0	5.0	1186	12
905.0	910.0	5.0	1187	Nil
926.5	929.0	2.5	1188	24

Notes and Reference (Assay Certificate): Swastika Labs
OW-0227-RG1

average of two analyses (*)
average of four " (**)

WHOLE ROCK CHIP SAMPLE LOCATIONS
Hole CNG 90-2

72220	(W-8)	grey basalt tuff;	81.0, 85.4, 90.5, 100.8, 106.4 108.9, 113.5, 119.6, 123.4
72221	(W-9)	massive amygdaloidal tuff;	158.8, 160.8, 165.6, 169.6, 173.8, 179.0, 186.2, 188.6, 198.5, 203.4, 207.7, 213.6, 219.1, 223.4, 227.0, 231.5, 249.8
72223	(W-11)	brecciated tuff;	287.5, 294.0, 297.0, 307.0, 312.0, 327.5, 336.0, 332.5, 356.0, 351.4, 360.0, 365.5
72222	(W-10)	rhyodacite tuff;	546.4, 550.8, 556.0, 560.7, 567.2, 574.4, 579.9. 584.9, 589.0, 594.8, 599.4, 606.0, 610.3, 614.6
72224	(W-12)	yellow rhyolite;	831.5, 834.0, 838.8, 844.3, 873.7, 889.8, 894.9, 899.7, 904.3, 909.1, 913.7, 918.1

QUEENSTON GROUP
DIAMOND DRILL REPORT

Page 1 of 6

		PROJECT: Canagau
COMMENCED:	PROPERTY: Canagau	DDH NO: CNG-90-3
FINISHED: October 16, 1990	TOWNSHIP: Ben Nevis	ELEV:
CORE SIZE: BQ	PROVINCE/NTS: Ontario	AZIM: 045 deg
TOTAL DEPTH: 754 feet	LOCATION: (re Grid): L 1+00E 2+155	DIP: -45 deg. collar
CONTRACTOR: R. Yost		
LOGGED BY: W. J. McGuinty	(re Claim):	

UNITS: Feet

FROM	TO	CORE LENGTH	
0	10	10	Casing in Overburden
10	49.4	39.4	Amygdaloidal basalt, strongly altered, chlorite-sericite-ankerite? (dolomite?), no carbonate reaction, quartz-carbonate amygdule fill with chlorite haloes and sulphide (pyrite+ sphalerite) cores 26.0-48.3 brecciated pyrite stringers and pods with chalcopyrite. Sulphide appears to respond to chloritic zone in flow texture 33.0-45.0 increased bleby chalcopyrite and sphalerite 3-5% roughly parallel to banding 30-45 deg to C.A. variable 45.0-48.3 "loby" flow breccia, buff coloured lobes in chloritic groundmass
49.4	74.6	25.2	Chlorite-rhyolite sericite altered, apparent banding defined by chlorite at 45 deg to C.A. Amygdules with pyrite cores and chlorite haloes occur throughout section 51.0-60.0 chalcopyrite in amygdule cores
74.6	101.2	26.6	Massive-rhyolite five grained, dark grey colour, pervasively chloritized with 10% diss pyrite chalcopyrite and local chlorite quartz stringers with pyrite (95-102) small chlorite blebs also common
101.2	102.2	1.0	Rhyolite breccia-angular rhyolite fragments and flattened chloritized ash fragments Upper contact 45 deg to C.A., lower contact 90 deg.

102.2	103.9	1.6	Rhyolite as at 74.6-101.2, well chloritized
103	129.2	25.3	Intermediate to felsic ash, sericitic, weakly foliated, locally fragmental, pale grey white to dark grey colour. Wispy chlorite mineralization throughout, possibly altered fragments 103.9-107.0 general chloritization 110.0-111.0, 117.0-118.0 quartz-dolomite-pyrite-sphalerite stringer vein zones 111.0-117.0 amygdaloidal with trace pyrite in cores 120.5-124.0 increased chlortization, some veinlets with honey colored sphalerite near 121.0 128.4-129.2 flow breccia with sharp irregular lower contact (top up hole?)
129.2	157.3	28.1	Basalt massive, grey white colour 131.0-133.0 numerous slips with weak chlorite 133.0-134.6 coarse amygdules, frothy appearance some chlorite haloes with sulphide cores 135.0-138.7 increased chloritization 136.7-137.0 strong alteration zone 136.7-136.8 silica dumping overlying band of pyrite-sphalerite mineralization 136.8-137.0 chloritic breccia-fragments are buff, carbonate altered basalt lower contact 45 deg to C.A. 137.0-138.7 gradual decrease in chlorite alteration 138.7-157.3 amygdaloidal basalt-carbonate altered, pyrite and minor sphalerite in amygdules, blebs and stringers, no associated chlorite 149.6-149.9 some sericite mineralization 152.8-154.4 chloritized flow top some breccia 152.9-153.4 154.4-156.2 chloritized amygdules 156.2-157.3 intense chloritization with banded pyrite 157.0-157.2 lower contact defined by irregular quartz sulphide band
157.3	165.2	7.9	Flow banded and flow brecciated rhyolite, well chloritized, banding at 70 deg to C.A. pyrite in blebs and stringers parallel to banding
165.2	168.3	3.1	Chloritized massive basalt, lower contact defined by strong chlorite zone, sharp at 90

			deg to C.A.
168	175.0	6.7	Rhyolite as at 157.3-165.2 lower contact 80 deg to C.A. some fine grained pyrite+/-sphalerite blebs
175.0	428.9	253.9	Massive basalt, buff fragments in chloritized groundmass near upper contact 175.0-184.2 chloritized basalt 175.0-182.0 diss chalcopyrite-sphalerite mineralization 1-2% centred on amygdules 175.4 pyrite-quartz band 1/2" 176.7-177.6 silica dumping 182.0-183.0 very strong chlorite with minor chalcopyrite 184.2-210.4 grey, weakly chloritized basalt 184.6-184.9 silica dumping 186.0 stringer of pyrite-chalcopyrite, no chlorite 187.0-190.0 frothy amygdaloidal basalt with pyrite-sphalerite mineralization 190.0-193.0 quartz-dolomite-sericite vein sub-parallel to C.A. with fracture controlled weak pyrite, sphalerite 193.0-196.0 massive, weakly altered basalt pyrite in amygdules 196.0-198.6 chalcopyrite and sphalerite in amygdules 198.6-207.0 fine grained basalt, weak chlorite alteration 199.4, 200.4 pyrite-quartz stringers with chloritic contacts 202.1 chalcopyrite-pyrite-quartz stringer 204.1 chlorite stringer 207.0-208.4 chlorite-chalcopyrite stringer zone 2% chalcopyrite with quartz contacts sharp 60-70 deg to C.A. 208.4-209.8 massive weakly chloritized basalt 209.8-210.4 chalcopyrite-chlorite stringer zone 210.4-229.7 massive pale grey amygdaloidal basalt-broken core on risty fractures 212.7-213.0 frothy section with pyrite 229.7-231.0 weak chloritization with fracture controlled pyrite, chalcopyrite (1%) 231.0-246.0 chloritized basalt 231.0-234.0 strong chlorite alteration sphalerite stringer 233.8 236.0, 237.0, 238.0 sphalerite stringers sub parallel to C.A.

242.5-243.3 irregular quartz breccia vein contacts 45 deg to C.A.
246.0-381.5 massive grey basalt, local calcite veins
252.4 dry fault gouge 40 deg to C.A.
267.0-269.2 breccia, fine grained basalt fragments of variable size, fine fragments only 268.0-268.4
267.8 chalcopyrite blebs
279.0-280.0 pyrite-sphalerite mineralization in fractures and green translucent mineral in amygdules (chrysocolla?)
298.0, 303.0 sphalerite bleb
297.0-298.0 carbonate sericite mineralization
297.0-307.0 weak chlorite alteration
302.0-304.0 pink calcite stringers
307.0-369.0 trace pyrite
369.0-382.5 flow top zone
376.377.0 brecciated quartz calcite vein
379.6 carbonate-pyrite-sphalerite veinlet
381.5-428.9 massive grey medium grained basalt, locally amygdaloidal numerous irregular bands of silica dumping, weakly porphyritic feldspar with chlorite after pyroxene some calcite filled joints lower contact 40 deg to C.A.

428.9	429.8	.9	Rhyolite-chloritzed, 10% pyrite in bleby bands lower contact 90 deg to C.A.
429.8	433.9	4.1	Amygdaloidal basalt medium grained minor pyrite, chloritized lower contact irregular
433.9	440 2	6.3	Rhyolite-chloritized, sericitized-flow banded trace pyrite, lower contact 40 deg to C.A.
440.2	441.6	1.4	Weakly chloritized basalt lower contact irregular
441.6	454.2	12.6	Rhyolite-flow banded, chloritized, locally sericitized, lower contact 90 deg to C.A., irregular
454.2	473.4	19.2	Massive amygdaloidal basalt 454.2-468.0 grey coloured medium grained amygdaloidal, pyrite and trace sphalerite some pale green mineral (chrysocolla) 468.0-473.4 increased chloritization particularily in amygdules and fractures 469.0-470.0 weak fracture controlled

			pyrite, specks galena lower contact 45 deg to C.A.
473.4	475.2	1.8	Rhyolite-flow-banded, chloritic, rare pyrite 473.5-473.7 banded quartz carbonate vein contacts and bands at 45 deg to C.A.
475.2	475.4	.2	Quartz vein 45 deg to C.A., barren
475.4	754.0	267.6	Amygdaloidal basalt general weak to moderate chloritization as well as in amygdules and fractures 478.8-478.9 quartz-pyrite-carbonate banded vein with some adjacent chlorite alteration 5-10% pyrite 478.9-495.0 chloritized, silicified zone dark grey black colour 485.0-495.0 stringers and veins of chalcopyrite-pyrite-sphalerite-galena 493.5-495.0 - 2-3% basemetal sulphides 495.0-495.2 banded quartz carbonate vein with pyrite-sphalerite-chalcopyrite 495.2-513.5 flow top breccia zone weakly chloritized 500.0 pyrite and sphalerite in amygdules 513.5-606.0 medium grained grey basalt 525.0-526.0 chloritized with brittle fractures calcite filled 557.0-558.5 vuggy quartz-pink dolomite vein 35 deg to C.A. some pyrite stringers at lower contact - contact defined by sharp dip 567.0 quartz-carbonate-pyrite-sphalerite vein 30 deg to C.A. 571.5-578.5 carbonate reaction 578.8 chalcopyrite in joints 581.8-582.3 strong chlorite alteration with 1 inch carbonate-pyrite-sphalerite stringer and calcite veining 595.0-606.0 carbonate reaction 606.0-621.0 flow top breccia 621.0-626.5 quartz veining in strongly chloritized basalt - no sulphide 626.5-631.0 weakly chloritized amygdaloidal basalt 631.0-645.0 carbonate reaction in grey basalt 645.0-646.5 white quartz-dolomite vein 646.5-755.0 - fine medium grained basalt trace pyrite generally 648.8-648.9 chlorite band, dolomite-pyrite-sphalerite-galena stringer at core 649.0-650.0, 650.5-651.2, 652.8-653.0 low

angle banded white quartz veins
653.7-676.4 carbonate reaction
682.2-705.4 carbonate reaction, trace pyrite
707.6, 708.4-708.7 moderate chloritization
710.1-712.5 carbonate reaction
716.1-716.3 banded quartz vein, chlorite
on lower contact
718.1-737.8 carbonate reaction
738.8- 739.0 banded quartz vein
40 deg to C.A
739.3-755.0 carbonate reaction

755.0 END OF HOLE

AMOND DRILL REPORT
OJECT: Canagau
PROPERTY: Canagau

ASSAY RESULTS
DDH NO. CNG90-3
TOWNSHIP:Ben Nevis

FROM	TO	LENGTH	SAMPLE #	ASSAY	RECHECKN K
21.0	26.0	5.0	L4126	Nil	
26.0	31.0	5.0	4127	14	
31.0	36.0	5.0	4128	106*	82/130
36.0	41.0	5.0	4129	27	
41.0	46.0	5.0	4130	3	
46.0	49.4	3.4	4131	Nil	
49.4	54.4	5.0	4132	Nil	
54.4	59.4	5.0	4133	Nil	
59.4	64.4	5.0	4134	Nil	
64.4	69.4	5.0	4135	Nil	
69.4	74.6	5.2	4136	Nil	
74.6	79.6	5.0	4137	Nil	
79.6	84.6	5.0	4138	Nil	
84.6	89.6	5.0	4139	Nil	
89.6	94.6	5.0	4140	Nil	
94.6	99.6	5.0	4141	Nil	
99.6	104.0	4.4	4142	42.5*	51/34
104.0	109.0	5.0	4143	45	
109.0	114.0	5.0	4144	Nil	
114.0	119.0	5.0	4145	34	
136.5	137.5	1.0	4146	7	
137.5	140.0	3.0	4147	Nil	
165.2	168.4	3.2	4148	Nil	
168.4	173.5	5.1	4149	Nil	
173.5	177.0	3.5	4150	14	
177.0	182.0	5.0	4151	Nil	
182.0	185.0	3.0	4152	Nil	
192.0	197.0	5.0	4153	Nil	
197.0	202.0	5.0	4154	Nil	
202.0	207.0	5.0	4155	Nil	
207.0	210.5	3.5	4156	103	
481.0	485.0	4.0	4157	Nil	
485.0	490.0	5.0	4158	Nil	
490.0	495.0	5.0	4159	31	
495.0	500.0	5.0	4160	10	

Notes and Reference (Assay Certificate): Swastika Labs OW-1595-RG1
OW-1640-RG1

average of two analyses (*)
average of four " (**)

DIAMOND DRILL REPORTS ASSAY RESULTS PAGE OF
PROJECT: DDH NO.
PROPERTY TOWNSHIP:

581.5	582.5	1.0	4161	10

Notes and Reference (Assay Certificate): Swastika Labs OW-1595-RG1
OW-1640-RG1

average of two analyses (*)
average of four " (**)

QUEENSTON GROUP
DIAMOND DRILL REPORT

Page 1 of 4

PROJECT: CANAGAU

COMMENCED:

PROPERTY: Canagau

DDH NO: CNG90-4

FINISHED:

TOWNSHIP: Ben Nevis

ELEV:

CORE SIZE: BQ

PROVINCE/NTS: Ontario

AZIM: 130 deg

TOTAL DEPTH: 250 feet atcollar

LOCATION:

DIP: -45 deg

(re Grid):

CONTRACTOR: R. Yost

LOGGED BY: W. J. McGuinty

(re Claim):

UNITS: Feet

FROM	TO	CORE LENGTH	
0	5.0	5.0	Casing
5.0	13.2	8.2	Amygdaloidal basalt, carbonate altered (acid reaction) disseminated euhedral pyrite, grey coloured rock
13.2	14.3	1.1	Dacite lobe, light grey colour, amygdaloidal
14.3	16.7	2.4	Altered amygdaloidal basalt as at 5.0-13.2
16.7	17.2	.5	Dacite dykelet, contacts 70 deg, sharp and irregular
17.2	20.6	3.4	Altered amygdaloidal basalt as at 5.0-13.2 lower contact 15 deg to C.A.
20.6	43.0	22.4	Dacite pale grey to grey massive with irregular shaped chlorite belbs to 2mm (amygdule alteration?)
43.0	45.5	2.5	Dacite yellow sericite alteration 44.3-44.6 quartz-carbonate-pyrite vein 45 deg to C.A.
45.5	52.7	7.2	Dacite massive grey colour
52.7	57.5	4.8	Dacite carbonate-sericite alteration pyrite veinlets and 2% fracture controlled pyrite (55.5-56.5) 56.4-56.5 semi massive band of pyrite-sphalerite-arsenopyrite-galena

57.5	76.6	19.1	Dacite,massive weakly chloritized, dark colour locally amygdaloidal and weakly feldspar porphyritic 63.3-64.3 slip/fracture zone 15-20 deg to C.A.
76.6	80.5	3.9	Dacite, sericite-chlorite altered 78.5-80.5 pyrite stringers, 2-3% pyrite 45 deg to C.A. 79.5 2 inch semi massive band with pyrite-sphalerite-galena
80.5	83.0	2.5	Dacite, dark grey unaltered
83.0	87.5	4.5	Dacite, sericite-chlorite altered with fracture controlled pyrite 83.8-86.5 2-3% pyrite
87.5	91.0	3.5	Dacite, chloritized massive appearance dark colour slip controlled lower contact at 25 deg to C.A.
91.0	96.0	5.0	Basalt, strong carbonate alteration with patchy sericite lower contact 25 deg to C.A. on sericite-carbonate slip
96.1	98.0	1.9	Milled zone - brecciated dacite with significant carbonate-sericite-pyrite banding. Brecciated pyrite banding with quartz-carbonate-sphalerite fill
98.0	98.1	.1	Sharp carbonate-sericite slip zone 45 deg to C.A.
98.1	109.2	11.1	Dacite, massive, sericite altered 99.5-100.2 semi massive silicified sulphide band 15% pyrite trace sphalerite-galena 100.2-108.7 strong sericite alteration 2-3% pyrite in stringers and disseminations 108.7-109.2 silicified 2-3% pyrite as at 100 2-108.7
109.2	117.6	8.4	Basalt, shear banded strongly carbonate altered. Carbonate sericite foliation at 35-45 deg to C.A. calcite in fractures, irregular wispy sulphide bands parallel to foliation
117.6	117.9	.3	Shear banded quartz-sericite-sulphide vein

117.[illegible]	122.7	4.8	Dacite, silicified with sericite and pyrite in fractures, strongly brecciated 119.0-120.5 very broken core and fault gouge 35 deg to C.A. strongly fractured 121.0-121.8 broken core 121.8-122.7 weakly silicified sericite banding - sharp lower contact 45 deg to C.A.
122.7	125.0	2.3	Dacite, massive grey colour, few pyrite bands with sericite haloes, lower contact gradational
125.0	138.0	13.0	Dacite sericite altered, massive moderately fractured with pyrite-galena-sphalerite mineralization 125.5-128.2 moderate shear banding with sericite bands and pyrite-galena-sphalerite stringers 126.8-127.2, 127.6-127.9 quartz sulphide veins 132.5-133.9 silicified zone with fracture controlled pyrite-sphalerite 132.8-133.4 quartz-sulphide filled fault breccia, contacts 45 deg to C.A. 133.2 sulphide filled fault gouge 45 deg to C.A.
138.0	158.8	20.8	Dacite, massive, dark grey to grey, fine grained, chloritized phenocrysts(?) strong to moderate carbonate alteration 145.9-146.3 banded quartz vein, minor pyrite sphalerite on upper boundary
158.8	159.2	.4	Fault zone - crushed dacite contacts 45 deg to C.A.
159.2	163.7	4.5	Dacite, corroded due to adjacent fault zone 163.6-163.7 fault gouge 45 deg to C.A.
163.7	179.1	15.4	Dacite, grey to yellow grey, sericitized, carbonate and chlorite alteration also apparent with disseminated blebs of pyrite, lower contact chloritized, brecciated
179.1	180.5	1.4	Basalt, brecciated amygdaloidal, some sulphide in amygdules, weakly sheared lower contact with chlorite
180.5	181.6	1.1	Dacite, carbonate altered, grey colour sheared lower contact with chlorite

181.6	185.3	3.7	Basalt, chlorite-carbonate altered flow top zone
185[illegible]	192.9	7.6	Dacite lobes(?) in basalt flow top zone lower contact 30 deg to C.A. irregular with chlorite
192.9	196.5	3.6	Dacite, carbonate sericite altered with pyrite stringers at 45 deg to C.A. - lower contact 40 deg to C.A. with some breccia
196.5	250.0	53.5	Basalt massive, amygdaloidal, grey colour concentric cooling fractures, continuous pillow zone
250.0			END OF HOLE

DIAMOND DRILL REPORT
PROJECT: Canagau
PROPERTY: Canagau

ASSAY RESULTS
DDH NO. CNG90-4
TOWNSHIP: Ben Nevis

FROM	TO	LENGTH	SAMPLE #	ASSAY	RECHECK
43.4	45.4	2.0	L4162	17	
45.4	50.4	5.0	4163	10	
50.4	54.4	4.0	4164	10	
54.4	57.4	3.0	4165	1181	
68.5	73.5	5.0	4166	Nil	
73.5	78.5	5.0	4167	Nil	
78.5	83.5	5.0	4168	936	
83.5	87.0	3.5	4169	504	
87.0	92.0	5.0	4170	14	
92.0	96.0	4.0	4171	Nil	
96.0	101.0	5.0	4172	274	
101.0	106.0	5.0	4173	45	
106.0	109.0	3.0	4174	62	
109.0	114.0	5.0	4175	10	
114.0	117.5	3.5	4176	17	
117.5	120.5	3.0	4177	723	
120.5	125.0	4.5	4178	75	
125.0	128.0	3.0	4179	1937	
128.0	131.0	3.0	4180	394	
131.0	135.0	4.0	4181	1306	
135.0	137.0	2.0	4182	463	
167.0	172.0	5.0	4183	24	

Notes and Reference (Assay Certificate): Swastika Labs 0W-1640-RG1
average of two analyses (*)
average of four " (**)

QUEENSTON GROUP
DIAMOND DRILL REPORT

Page 1 of 3

PROJECT: Canagau

COMMENCED:

PROPERTY: Canagau

DDH NO: CNG90-5

FINISHED:

TOWNSHIP: Ben Nevis

ELEV:

CORE SIZE: BQ

PROVINCE/NTS: Ontario

AZIM: 130 deg

TOTAL DEPTH: 350 feet

LOCATION:
(re Grid):

DIP: 60 deg collar

CONTRACTOR: R. Yost

LOGGED BY: W. J. McGuinty

(re Claim):

UNITS: Feet

FROM	TO	CORE LENGTH	
0	4.0	4.0	Casing
4.0	70.3	66.3	Basalt massive amygdaloidal, fine grained general carbonate alteration, diss pyrite blebs and pyrite in amygdules 1-2% overall, small chlorite blebs
70.3	115.4	45.1	Dacite massive dark grey to yellow grey ankeritic (dolomitic) alteration pervasive 81.1 - quartz-carbonate-pyrite-sphalerite vein 82.0-88.0 sericite alteration 3% pyrite in fractures and disseminated 83.6-84.0 semi-massive banded sulphide-quartz-sericite-carbonate vein, arsenopyrite (10%), pyrite (30%), sphalerite (10%), galena (5%) 88.1-110.1 mainly dark grey dacite minor pyrite-sphalerite blebs 98.1 - irregular quartz-carbonate-pyrite-sphalerite vein 110.1-110.5 pale yellow sericitized zone 110.2-110.3 quartz-carbonate-pyrite-sphalerite vein, banded 45 deg to C.A. 115.4 lower contact poorly defined
115.4	126.7	11.3	Basalt, amygdaloidal carbonate altered white amygdules with chlorite rims and no sulphide 122.0-126.0 bleby pyrite and sphalerite, disseminated 126.7 lower contact irregular 90 deg to C.A.

126.7	138.5	126.7	Dacite, brecciated, strongly silicified and sericitized, well veined 5-10% sulphide 133.5-135.0 quartz vein, upper contact 50 deg 133.5-134.1 20% chalcopyrite + pyrite + sphalerite, lower contact rotated from upper at 40 deg to C.A. 135.0 lower vein contact 20 deg to C.A. 135.0-138.5 silicified brecciated dacite 10% pyrite in fracture controlled breccia bands, lower contact 35 deg to C.A.
138.5	144.1	5.6	Basalt, shear banded with carbonate-sericite bands along numerous quartz vein contacts, 5-10% vein controlled pyrite with minor sphalerite and galena lower contact 30 deg to C.A. sharp
144.1	146.0	1.9	Dacite, silicified, sericite-carbonate altered with minor brecciation 145.5-146.0 4-5% pyrite
146.0	148.1	2.1	Basalt, sericite-carbonate alteration, 5% pyrite with sphalerite 147.9-148.1 sulphide-sericite shear banding (as in hole #4) lower contact 45 deg to C.A.
148.1	148.4	.3	Cherty quartz vein, grey colour, fracture controlled pyrite, thin black sulphide seam on lower contact 45 deg to C.A.
148.4	152.3	3.9	Dacite, silicified, sericite altered, 5-10% stringer and fracture controlled pyrite 152.1-152.3 breccia zone with late fault gouge on 35 deg to C.A.
152.3	153.8	1.5	Basalt, amygdaloidal, pyrite in fractures and amygdules, sericite and carbonate alteration pervasive 152.3-153.5 breccia zone 153.8 lower contact 90 deg to C.A. sharp
153.8	155.0	1.2	Dacite, silicified, chlorite-sulphide band on sharp irregular lower contact
155.0	161.7	6.7	Basalt - weakly sheared
161.7	162.5	.8	Breccia zone, weakly foliated at 45 deg to C.A., quartz-calcite breccia fill surrounding grey sulphide and matrix material 162.4-162.5 grey sulphide band

162.5	210.6	48.1	Dacite silicified, sericite altered, yellow colour, 5% fracture controlled pyrite and sphalerite locally 162.5-177.0, 190.0-205.0 strong silicification
210.6	212.5	1.9	Weak shear zone in dacite, silicified, 15-20 deg to C.A. grey colour (rock powder?)
212.5	247.2	34.7	Dacite, massive, fine grained, grey, unaltered weakly amygdaloidal 212.0-215.0 weak foliation 212.5-221.0 pervasive carbonate reaction 219.3-219.6 quartz-carbonate-pyrite vein 30 deg to C.A. 221.0-221.5 fault zone - unconsolidated gouge 30 deg to C.A. upper contact has calcite veining 223.7-224.0 fault gouge 229.0-247.2 increased sericite alteration lower contact area chloritized contact sharp, irregular at 45 deg to C.A.
247.2	347.0	100.5	Basalt, massive, grey, amygdaloidal mainly flow top/pillow material weak to moderate pervasive carbonate alteration (calcite) minor disseminated pyrite 279.0-293.0, 300.0-301.5 localized pods of pyrite + sphalerite in frothy flow zones along selvages 347.7 lower contact sharp, irregular with chlorite halo
347.7	350.0	2.3	Dacite - silicified, 2% disseminated and amygdaloidal fill pyrite, weak sericite, no calcite.
350.0			END OF HOLE

DIAMOND DRILL REPORT
PROJECT: Canagau
PROPERTY: Canagau

ASSAY RESULTS
DDH NO. CNG90-5
TOWNSHIP: Ben Nevis

FROM	TO	LENGTH	SAMPLE #	ASSAY	RECHECK
53.6	57.0	3.4	L4184	Nil	
57.0	59.0	2.0	4185	Nil	
63.0	64.0	1.0	4186	Nil	
78.5	83.5	5.0	4187	Nil	
83.5	84.5	1.0	4188	76800*	75635/77966
84.5	87.5	3.0	4189	82	
87.5	92.5	5.0	4190	Nil	
97.0	102.0	5.0	4191	Nil	
102.0	107.0	5.0	4192	31	
126.7	130.0	3.3	4193	27	
130.0	133.5	3.5	4194	14	
133.5	135.0	1.5	4195	305*	315/295
135.0	138.5	3.5	4196	79	
138.5	144.0	5.5	4197	147	
144.0	148.0	4.0	4198	99	
148.0	153.0	5.0	4199	130	
153.0	158.0	5.0	4200	79	
158.0	161.7	3.7	4201	27	
161.7	163.7	2.0	4202	271	
163.7	168.7	5.0	4203	99	
168.7	172.0	3.3	4204	113	
172.0	176.0	4.0	4205	1503.5*	1416/1591
176.0	181.0	5.0	4206	27	
181.0	186.0	5.0	4207	17	
186.0	191.0	5.0	4208	51	
191.0	196.0	5.0	4209	82	
196.0	201.0	5.0	4210	58	
201.0	206.0	5.0	4211	127	
206.0	210.5	4.5	4212	51	
210.5	215.5	5.0	4213	104.5*	113/96
229.0	234.0	5.0	4214	14	
289.0	292.5	3.5	4215	14	
300.5	305.5	5.0	4216	10	

Notes and Reference (Assay Certificate): Swastika Labs OW-1640-RG1
average of two analyses (*)
average of four " (**)

DIAMOND DRILL REPORTS ASSAY RESULTS PAGE OF
PROJECT: DDH NO.
PROPERTY TOWNSHIP:

347.0	350.0	3.0	4217	24

Notes and Reference (Assay Certificate): Swastika Labs OW-1640-RG1
average of two analyses (*)
average of four " (**)

QUEENSTON GROUP
DIAMOND DRILL REPORT

PROJECT: Canagau

COMMENCED: Nov. 23/90
FINISHED:
CORE SIZE: BQ
TOTAL DEPTH: 1480 feet
CONTRACTOR:
LOGGED BY: W. J. McGuinty

PROPERTY: Canagau
TOWNSHIP: Ben Nevis
PROVINCE/NTS: Ontario
LOCATION:
(re Grid): 25m grid east of L1+50E 1+35S
(re Claim):

DDH NO: CNG90-6
ELEV:
AZIM: 225 deg ast.
DIP: -60 deg casing
600 -47 deg
900 -44 deg
1200 -41 deg
1480 -36 deg

UNITS: Feet

FROM	TO	CORE LENGTH	
0	8.0	8.0	Casing in overburden
8.0	46.9	38.9	Basalt, grey to dark grey, weakly amygdaloidal, well to moderately chloritized, amygdules preferentially chloritized 23.8-24.2 very strong black chlorite replacement with irregular quartz-dolomite-pyrite-sphalerite vein on lower contact 25 deg to C.A. 27.7-28.1 chlorite replacement with 1/2" quartz-dolomite-pyrite-sphalerite band at 30 deg to C.A. 30.8-31.2 strong chlorite replacement 32.6 1/2" dolomite vein with minor chalcopyrite 36.4-36.5 quartz-pyrite-sphalerite vein irregular shapes 46.9 lower contact 45 deg to C.A. sharp
46.9	99.7	52.8	Rhyolite - moderate to strongly chloritized, locally flow banded, locally brecciated, pale green white to black in colour, groundmass preferentially chloritized 46.9-70.0 alternately flow banded and flow brecciated, well chloritized 58.0-63.0 quartz-dolomite veining with pyrite-sphalerite mineralization 5% locally 70.0-99.7 predominantly massive, fine grained, weakly flow banded, well chloritized 75.5 specks red-brown sphalerite in rhyolite and in fractures with dolomite

			77.2 chloritized stringer with pyrite sphalerite dolomite band and then quartz veinlet with specks galena 82.0-85.0, 97.0-99.7 very strong chlorite replacement with some vestigial rhyolite fragments, lower contacts sharp
99.7	121.4	21.7	Amygdaloidal basalt massive pale grey colour 99.7-102.5 chlorite mineralized amygdules and silica dumping in evidence 102.5-107.0 numerous amygdules with pyrite-sphalerite cores 110.0-111.0 dolomite pyrite stringers 115.5 pink calcite veinlet with speck galena
121.4	149.2	27.8	Rhyolite, massive, locally weakly porphyritic, faint banding apparent throughout, weak chloritization causing grey colour 128.0 specks red-brown sphalerite in thin fractures with dolomite, lower contact sharp, brecciated, chloritized
149.2	150.5	1.3	Amygdaloidal basalt, well chloritized, lower contact sharp at 45 deg to C.A.
150.5	154.6	4.1	Massive chloritized rhyolite as at 121.4-149.2 lower contact irregular at 30 deg to C.A.
154.6	155.2	.6	Chloritized amygdaloidal basalt
155.2	156.0	.8	Rhyolite as at 121.4-149.2
156.0	268.6	112.6	Massive amygdaloidal basalt, some flow top areas 156.0-200.0 156.0-190.4-chloritized section, groundmass preferentially altered trace pyrite 171.0-171.5, 173.0-173.5, 175.0-176.0 weakly banded white quartz-dolomite veins minor associated pyrite irregular contacts. 174.0-175.0 broken core, strongly chloritized 186.0, 186.5-187.0 quartz dolomite veining trace pyrite - some host rock fragments 188.0-190.4 increased, narrow flow banding some pyrite 190.4-251.4 pale grey buff coloured amygdaloidal basalt, silica dumping evident in narrow irregular bands, thin seams of chloritized material in flow top breccia groundmass and along quartz -dolomite-pyrite veinlet contacts 190.4-190.6 pale basalt chips

			190.6-198.3 narrow persistent flow banding 30-40 deg to C.A. 233.0-234.0, 237.0-239.0, 243.5-244.2 moderately chloritized flow breccia 250.9-251.4 banded quartz-dolomite-pyrite vein, contacts at 50 deg to C.A. 1% pyrite, trace sphalerite 251.4-262.0 chloritized basalt well altered with black chlorite, pyrite stringers and quartz-dolomite-sphalerite veins 254.8-259.6 massive white quartz vein some pyrite banding near lower contact 262.0-268.6 massive grey amygdaloidal basalt fine grained little evidence of flow top material 264.1-271.0 intermittently strong chloritization 264.1-264.6, 265.4-265.5, 268.0-268.6 strong chloritzation possibly selvage controlled. Some associated pyrite-quartz-dolomite veining
268.6	270.7	2.1	Chloritized felsic ash, approximately 90 deg to C.A.
270.7	416.0	145.3	Massive grey basalt as above 271.6-271.9, 272.6-273.0 banded quartz-dolomite-pyrite veins 50 deg to C.A. 275.0-310.0 disseminated and amygdule fill pyrite 1-2% 275.6-275.9 white quartz dolomite vein 275.9-278.2 chalcopyrite mineralization, fracture controlled with quartz-dolomite pyrite veining or as discrete specks or stringers 285.5, 292.6-292.7, 295.9 quartz-dolomite-sulphide veining 298.7-299 1, 301.7-302.2, 303.0-303.2, 306.6 weak to strong chloritization with quartz-dolomite-pyrite veining 300.0-307.0 increased pyrite, disseminated and in amygdules 2-3% 307.0-315.0 numerous specks and thin discontinuous stringers chalcopyrite in addition to 2-3% pyrite 317.0-317.2, 317.9-318.4, 322.0-322.4 chloritized zones with quartz-dolomite-pyrite veining 356.4-357.0 banded quartz dolomite pyrite-sphalerite vein, upper contact host rock chloritized 357.5, 358.0-358.1, 362.0-362.5, 363.7, 368.6-368.7, 371.1-371.3 (chloritized)

			372.8 banded quartz-dolomite-pyrite veins various orientations 374.3-374.5 calcite filled fault breccia 45 deg to C.A. sharp contact 374.8 thin vuggy calcite veinlet nailhead spar and nodular pyrite 389.8-390.1 - chlorite band with quartz-dolomite-pyrite vein at core 398.3 quartz-dolomite-pyrite-sphalerite vein 80 deg to C.A. 401.2-402.3 increased chloritization with numerous pyrite blebs and stringers and quartz-dolomite-pyrite veins
416.0	432.5	165.0	Banded basaltic flow top/ash zone,interbedded basaltic material with mixed beds of basaltic felsic ash material general chlorite alteration with moderate sericite alteration,apparent banding at 45 deg to C.A. 428.8-429.3 quartz-dolomite-pyrite vein 30 deg to C.A. lower contact on sharp slip plane 432.2-432.4 disseminated chalcopyrite sphalerite mineralization
432.5	438.2	5.7	Massive basalt, weakly amygdaloidal, chloritized 437.5 quartz-dolomite-pyrite vein 15 deg to C.A.
438.2	443.2	5.0	Sulphide zone - host is highly altered (chlorite-sericite) brecciated basalt, sulphide mineralization found as bands broken bands and pods. Upper contact defined by contorted quartz vein approximately 40 deg to C.A. 438.2-439.0 25% pyrite, 2% grey yellow sphalerite and later brown sphalerite, 1% chalcopyrite 439.0-439.7 chloritized basalt 439.7-440.2 pyrite band some quartz-dolomite 40 deg to C.A. 60% pyrite 440.2-442.0 strong chlorite sericite alteration pyrite-arsenopyrite-sphalerite -chalcopyrite mineralization in irregular bands some weak mineral segregation 10-15% sulphide overall 442.0-443.2 chlorite-sericite rock with 10% pyrite sphalerite mineralization upper contact 15 deg to C.A. defined by slip and 1/4 inch quartz vein

443.8	448.0	14.8	Dacite dyke-grey green colour moderately to strongly sericitized-quartz-dolomite-pyrite fracture filing throughout 445.7-446.1 silicified hematized zone with chloritized section on upper contact. Chloritized section has minor chalcopyrite, silicified zone has 2% euhedral arsenopyrite 446.6-446.8 silicified zone 447.0-448.0 quartz-dolomite vein with chlorite-sericite fragments and pyrite blebs
448.0	875.2	427.2	Amygdaloidal basalt, abundant quartz-pyrite filled amygdules 448.0-510.0 5-7% pyrite in amygdules and disseminated, weak to moderate chloritization 448.0-448.7 weakly foliated upper contact 479.2 quartz veining, specks chalcopyrite 510.0-544.0 pale grey moderately amygdaloidal, trace pyrite 544.0-665.0 grey to pale grey coarsely amygdaloidal to frothy basalt narrow bands silica dumping throughout, 45 deg to C.A.minor to trace pyrite 581.0-583.0 chalcopyrite, sphalerite and pyrite in amygdules 589.0-599.0 increased chlorite sericite alteration with pyrite and chalcopyrite 624.0-629.0 sphalerite, honey colored in amygdules 665.0-707.0 grey weakly to moderately chloritized basalt 2-3% pyrite, in amygdules with quartz carbonate 707.0-742.0 well chloritized with predominantly quartz filled amygdules with pyrite chalcopyrite cores 2-3% pyrite, 1/2 -1% cpy 718.5, 722.3 cpy rich, frothy flow selvages 2 inches 742.0-757.0 sericite alteration in addition to chloritic, cpy weaker in this zone 757.0-791.0 chloritized basalt as at 707.0-742.0 with minor pervasive chalcopyrite in amygdules with pyrite 771.0 fault zone at 35-40 deg to C.A. 791.0-805.0 chloritized basalt as at 757.0-791.0 chalcopyrite absent, 3-5% pyrite. 805.0-825.0 pale grey weakly amygdaloidal massive basalt 825.0-834.0 amygdaloidal basalt pyrite-quartz-dolomite fill, less that 1% pyrite,

			amygdules elongated 45 deg to C.A. 834.0-875.2 loby flow top amygdaloidal basalt with chloritized interflow selvages "ashy" texture between lobes moderately chloritized, calcite mineralization in amygdules and in "ash" 842.3-842.4 fault zone weakly cemented unaltered rubble
875.2	878.8	3.6	Rhyolite, weakly sericitized and chloritized upper contact 60 deg to C.A. faulted lower contact sharp at 60 deg defined by 0.8 ft banded quartz-carbonate-sericite vein
878.8	881.1	2.3	Amygdaloidal basalt, upper 3 inches strongly sericitized lower contact sharp at 60 deg to C.A. weak pyrite, trace chalcopyrite
881.1	919.3	38.2	Rhyolite, massive, weakly porphyritic, moderately chloritized and sericitized 895.4 1 inch sulphide fault zone 70 deg to C.A. lower contact sharp, chloritized 65 deg to C.A.
919.3	922.4	3.1	Amygdaloidal basalt weakly mineralized with pyrite in amygdules lower contact sharp 60 deg to C.A.
922.4	932.9	10.5	Rhyolite, open breccia and fault zone 922.3-923.4 silicified and sericitized rhyolite breccia with carbonate-chalcopyrite-pyrite fill 923.4-925.5 sheared and strongly sericitized rhyolite with several sharp chlorite slips controlling carbonate veining, minor pyrite 925.5-928.7 open fault breccia with white carbonate fill 2-3% pyrite disseminated and on fragment boundaries, sericite alteration strong 928.7-929.9 siliceous ash? in irregular bands within strongly chloritized and sericitized rhyolite 929.9-931.0 sulphide enriched, sericitized and chloritized rhyolite, 10% stringer and disseminated pyrite 931.0-932.9 vuggy crystalline coarse grained quartz, pink calcite vein with chloritized-sericitized rhyolite fragments and blebs chalcopyrite contacts irregular

932.9	939.3	6.4	Amygdaloidal basalt dark grey colour, chloritized, pyrite and chalcopyrite in amygdules lower contact sub-parallel to C.A.
939.3.	947.6	8.3	Rhyolite, brecciated and veined, strongly sericitized, 3-5% irregularly banded and disseminated pyrite. Veining is mainly quartz carbonate lower contact sheared 30 deg to C.A.
947.6	949.7	2.1	Amygdaloidal basalt, chloritized, lower contact conformable 25 deg to C.A.
949.7	992.3	42.6	Rhyolite, massive, weakly porphyritic as at 881.1-919.3 lower contact irregular
992.3	1015.3	2.3	Amygdaloidal basalt amygdules are small and very abundant 994.8-995.4, 1000.2-1000.3, 1003-1003.4 bedded ash interflow sediment, calcite mineralization with quartz and dolomite in amygdules
1015.3	1016.7	1.4	Rhyolite, weakly sericitized massive, contacts are sharp and conformable
1016.7	1038.9	22.2	Amygdaloidal basalt, dark grey, coarse amygdules with pyrite-quartz-carbonate and sericite fill, lower contact sharp slip on 50 deg to C.A.
1038.9	1046.2	7.3	Rhyolite as at 1015.3-1016.7
1046.2	1135.0	88.8	Amygdaloidal basalt, dark grey, with amygdules as at 1016.7-1038.9 1049.6-1049.7 fault gouge, calcite cement, minor pyrite 1085.0-1086.2 bedded interflow sediment 1086.2-1088.0 strong chloritization 1101.0-1102.0 silica dumping 1102.0-1136.0 concentric cooling fractures
1135.0	1148.0	13.0	Basalt, massive, homogeneous, pale grey, irregular to oval amygdules are sparse with green chloritized cores 1145.7-1145.9 rhyolite fragment lower contact sharp conformable 45 deg to C.A.
1148.0	1168.6	20.6	Rhyolite? massive, pale green grey, sericite wisps throughout, upper contact area chilled 1167.0-1168.6 jointed section with vuggy

			calcite veining, lower contact irregular conformable
1168.6	1315.5	146.9	Amygdaloidal basalt, 1168.6-1184.0 moderately to well chloritized, mineralized with pyrite in amygdules and in selvages with silica dumping 1184.0-1209.0 pale grey unaltered amygdaloidal basalt 1206.0 silica dumping 1209.0-1214.3 moderately to well chloritized and moderately sericitized basalt, localized silica dumping 1214.3-1219.5 strongly sericitized 2" pyrite-arsenopyrite band on upper contact with chlorite and carbonate 1214.7-1215.0 rhyolite layer fractured and mineralized with sphalerite-galena-pyrite-chalcopyrite 1215.0-1215.5 basalt with pyrite mineralization 1215.5-1217.0 sheared quartz-dolomite vein 15 deg to C.A. 1217.0-1219.0 strong sericite 1219.0-1219.5 banded quartz-dolomite vein at 15 deg to C.A. 1236.0-1249.0, 1256.0-1257.0, 1263.5-1269.0 increased fracture and amygdule controlled galena-sphalerite +/- chalcopyrite mineralization 1260.8-1261.2 banded dolomite vein 1273.0-1275.8 strong sericite alteration 1273.4-1274.4 banded quartz dolomite vein 40 deg to C.A. some sericite slips 1277.9 sharp fault 1/8", 35 deg to C.A. 1279.7-1281.2 banded interflow sediment and silica dumping 1281.0-1310.0 silica dumping common 1289.9-1290.4 rhyolite layer? 1312.0-1313.0 basalt flow rubble in chlorite groundmass
1315.5	1337.5	22.0	Rhyolite, fine grained 1315.5-1325.0 brecciated, yellow green rhyolite 25-30% quartz carbonate veining minor pyrite on seams 1325-1337.3 dark coloured chloritized and sericitized massive rhyolite, 3% pyrite and trace chalcopyrite (1330.0-1337.0 - 5 feet missing core)

1337.5	1346.1	8.6	Fault zone broken core poorly consolidated fault gouge calcite mineralization fault breccia material is sericitized basalt
1346.1	1346.4	.3	Moderately foliated basalt, well sericite altered
1346.4	1387.1	40.7	Amygdaloidal basalt 1346.4-1373.0 well chloritized particularily in amygdules some pyrite and chalcopyrite 1352.5-1354.0, 1355.0-1356.6; 1359.5-1360.5 sericite carbonate altered breccia 1373.0-1387.0 moderate chloritization lower contact sharp 70 deg to C.A. chloritized
1387.1	1401.7	14.6	Rhyolite? massive, pale grey, with chloritized phenocrysts or amygdules lower contact 30 deg to C.A.
1401.7	1403.0	1.3	Chloritized basalt, lower contact conformable
1403.0	1404.1	1.1	Rhyolite lobe with concentric layer of bedded interflow sediment enclosing on upper and lower contacts
1404.1	1408.2	4.1	Chloritized, moderately amygdaloidal basalt
1408.2	1409.2	1.0	Rhyolite flow rubble, top uphole?
1409.2	1466.3	57.1	Rhyolite, massive, weakly chloritized, pale grey dark grey in colour
1466.3	1480.0	63.7	Amygdaloidal basalt well chloritized, amygdules have rare sulphides 1425.0-1430.0 trace chalcopyrite and sphalerite 1443.0 dolomite vein 15 deg to C.A. 1472.3 quartz chalcopyrite mineralization
1480.0			END OF HOLE

DIAMOND DRILL REPORT
PROJECT: Canagau
PROPERTY: Canagau

ASSAY RESULTS
DDH NO. CNG90-6
TOWNSHIP:Ben Nevis

FROM	TO	LENGTH	SAMPLE #	ASSAY	RECHECK
21.8	23.5	1.7	4427	24	
27.7	28.7	1.0	4428	54.5*	58/51
47.0	52.0	5.0	4429	Nil	
52.0	57.0	5.0	4430	Nil	
57.0	62.0	5.0	4431	Nil	
62.0	67.0	5.0	4432	Nil	
75.0	80.0	5.0	4433	Nil	
80.0	84.0	4.0	4434	Nil	
84.0	89.0	5.0	4435	Nil	
89.0	92.0	3.0	4436	Nil	
92.0	97.0	5.0	4437	Nil	
97.0	100.0	3.0	4438	Nil	
100.0	104.0	4.0	4439	Nil	
152.0	157.0	5.0	4440	Nil	
157.0	162.0	5.0	4441	Nil	
162.0	167.0	5.0	4442	Nil	
172.0	177.0	5.0	4443	Nil	
186.0	191.0	5.0	4444	Nil	
191.0	196.0	5.0	4445	Nil	
237.0	242.0	5.0	4446	Nil	
242.0	247.0	5.0	4447	Nil	
247.0	251.0	4.0	4448	14	
251.0	255.0	4.0	4449	12*	10/14
255.0	259.6	4.6	4450	10	
259.6	262.0	2.4	5651	Nil	
262.0	267.0	5.0	5652	Nil	
267.0	271.0	4.0	5653	Nil	
271.0	276.0	5.0	5654	28	
276.0	280.0	4.0	5655	31	
296.0	301.0	5.0	5656	Nil	
301.0	306.0	5.0	5657	Nil	
306.0	310.0	4.0	5658	27	
356.0	357.0	1.0	5659	60*	65/55
416.0	421.0	5.0	5660	Nil	
421.0	426.0	5.0	5661	Nil	
426.0	428.8	2.8	5662	34	
428.8	432.5	3.7	5663	21	
432.5	438.0	5.5	5664	45	
438.0	443.0	5.0	5665	778.5*	792/765

Notes and Reference (Assay Certificate): Swastika Labs OW-1891-RG1
OW-1930-RG1 OW-1961-RG1

average of two analyses (*)
average of four " (**)

DIAMOND DRILL REPORTS ASSAY RESULTS PAGE OF 3
PROJECT: Canagau DDH NO.CNG90-6
PROPERTY Canagau TOWNSHIP:Ben Nevis

443.0	448.0	5.0	5666	206	
448.0	453.0	5.0	5667	27	
453.0	458.0	5.0	5668	17	
458.0	463.0	5.0	5669	31	
463.0	468.0	5.0	5670	14	
468.0	473.0	5.0	5671	24	
473.0	478.0	5.0	5672	21	
478.0	483.0	5.0	5673	29*	31/27
497.0	502.0	5.0	5674	21	
502.0	507.0	5.0	5675	Nil	
581.0	586.0	5.0	5676	17	
586.0	591.0	5.0	5677	17	
591.0	596.0	5.0	5678	14	
622.0	627.0	5.0	5679	21	
627.0	631.0	4.0	5680	17	
697.0	702.0	5.0	5681	10	
702.0	707.0	5.0	5682	10	
707.0	712.0	5.0	5683	5*	10/nil
712.0	717.0	5.0	5684	Nil	
717.0	722.0	5.0	5685	Nil	
722.0	727.0	5.0	5686	Nil	
727.0	732.0	5.0	5687	17	
732.0	737.0	5.0	5688	10	
737.0	742.0	5.0	5689	Nil	
742.0	747.0	5.0	5690	Nil	
747.0	752.0	5.0	5691	Nil	
752.0	757.0	5.0	5692	14	
757.0	762.0	5.0	5693	Nil	
762.0	767.0	5.0	5694	Nil	
767.0	772.0	5.0	5695	Nil	
772.0	777.0	5.0	5696	14	
777.0	782.0	5.0	5697	Nil	
782.0	787.0	5.0	5698	Nil	
787.0	792.0	5.0	5699	Nil	
792.0	797.0	5.0	5700	Nil	
922.4	927.4	5.0	5701	334*	353/315
927.4	931.0	3.6	5702	27	
931.0	933.0	2.0	5703	Nil	
933.0	938.0	5.0	5704	45	
938.0	942.0	4.0	5705	Nil	
942.0	945.0	3.0	5706	308.5*	315/302
1046.2	1051.2	5.0	5707	Nil	
1051.2	1056.2	5.0	5708	Nil	
1169.0	1174.0	5.0	5709	Nil	

Notes and Reference (Assay Certificate): Swastika Labs OW-1891-RG1
OW-1930-RG1 OW-1961-RG1

average of two analyses (*)
average of four " (**)

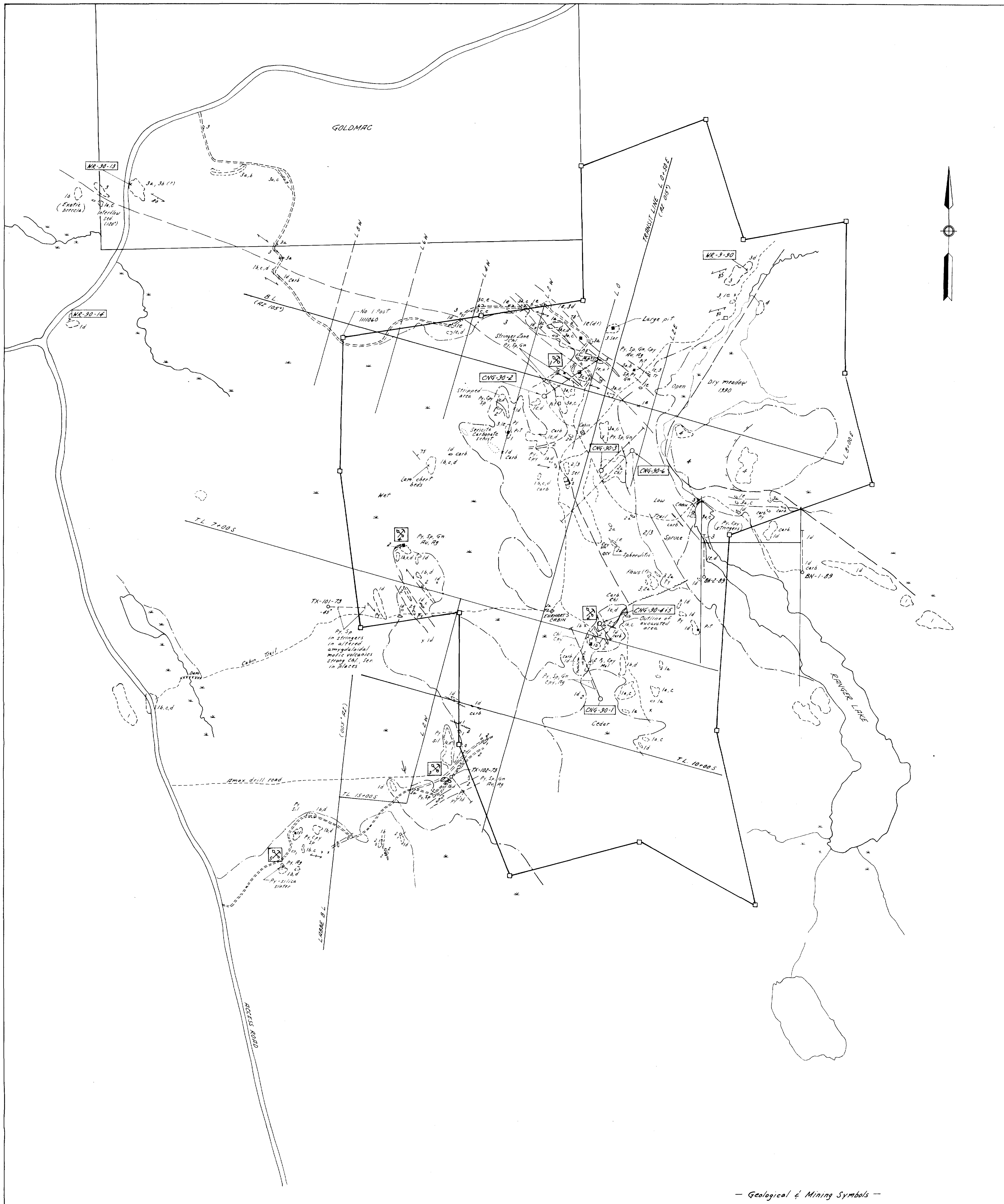
DIAMOND DRILL REPORTS ASSAY RESULTS PAGE OF 3
PROJECT: Canagau DDH NO.CNG90-6

PROPERTY Canagau TOWNSHIP:Ben Nevis

1174.0	1179.0	5.0	5710	Nil	
1212.0	1217.0	5.0	5711	133.5*	130/137
1217.0	1221.0	5.0	5712	Nil	
1221.0	1226.0	5.0	5713	Nil	
1226.0	1231.0	5.0	5714	Nil	
1231.0	1236.0	5.0	5715	Nil	
1236.0	1241.0	5.0	5716	Nil	
1241.0	1246.0	5.0	5717	Nil	
1246.0	1249.0	3.0	5718	10	
1256.0	1261.0	5.0	5719	Nil	
1261.0	1266.0	5.0	5720	Nil	
1266.0	1311.0	5.0	5721	Nil	
1315.0	1320.0	5.0	5722	Nil	
1320.0	1325.0	5.0	5723	10	
1325.0	1330.0	5.0	5724	24	
1337.0	1342.0	5.0	5725	Nil	
1342.0	1347.0	5.0	5726	21	
1347.0	1352.0	5.0	5727	Nil	
1352.0	1357.0	5.0	5728	Nil	
1357.0	1362.0	5.0	5729	Nil	
1362.0	1367.0	5.0	5730	Nil	
1367.0	1372.0	5.0	5731	Nil	
1425.0	1430.0	5.0	5732	10	

Notes and Reference (Assay Certificate): Swastika Labs OW-1891-RG1
OW-1930-RG1 OW-1961-RG1

average of two analyses (*)
average of four " (**)



— LEGEND —

6 DIABASE

5 LAMPROPHYRE

4 MAFIC INTRUSIVE ROCKS

- 4a Diorite/Gabbro

3 FELSIC VOLCANIC ROCKS / Dacite & Rhyolite

- 3 Unsubdivided
- 3a Massive, well jointed lava
- 3b Flow breccia / banded lava
- 3c Lapilli-tuff & tuff breccia
- 3d Ash tuff, commonly well bedded
- 3e Breccia containing calcareous tuff fragments
- 3f Vesicular lava or subvolcanic intrusion

2 DACITIC SUBVOLCANIC ROCKS

- 2 Unsubdivided
- 2a Vesicular
- 2b Well jointed
- 2q Quartz-phyric dacite

1 MAFIC VOLCANIC ROCKS / Basalt & Andesite

- 1 Unsubdivided
- 1a Massive & weakly amygdaloidal lava
- 1b Flow breccia / hyaloclastic
- 1c Pillow lava
- 1d Highly vesicular to scoriaceous lava
- 1e Massive tuff
- 1f Phreatic breccia

— Geological & Mining Symbols —

- Glacial striae
- × Small bedrock outcrop
- Area of bedrock outcrop
- Bedding, top unknown, inclined, vertical
- Bedding, top known, inclined, vertical
- Direction of top (arrow) in lava flow from pillow shapes & packing
- Foliation, inclined, vertical
- Geological boundary, observed (solid) & position interpreted
- Zone of shearing
- Diamond drill hole projected vertically with inclination & hole identification
- Shaft, depth in metres
- ■ Old test pit
- Prominent scarp

— Metal & Mineral Reference —

Ag - Silver
asp - Arsenopyrite
Au - Gold
carb. - Fe-rich carbonate
Chl. - Chlorite
Cpy - Chalcopyrite
Gn - Galena
mal - Malachite
bn - Bornite
Ser. - Sericite
Sil - Silicified
Po - Pyrrhotite
Py - Pyrite
Sp - Sphalerite
Q.V - Quartz vein
QCV - Quartz carbonate vein

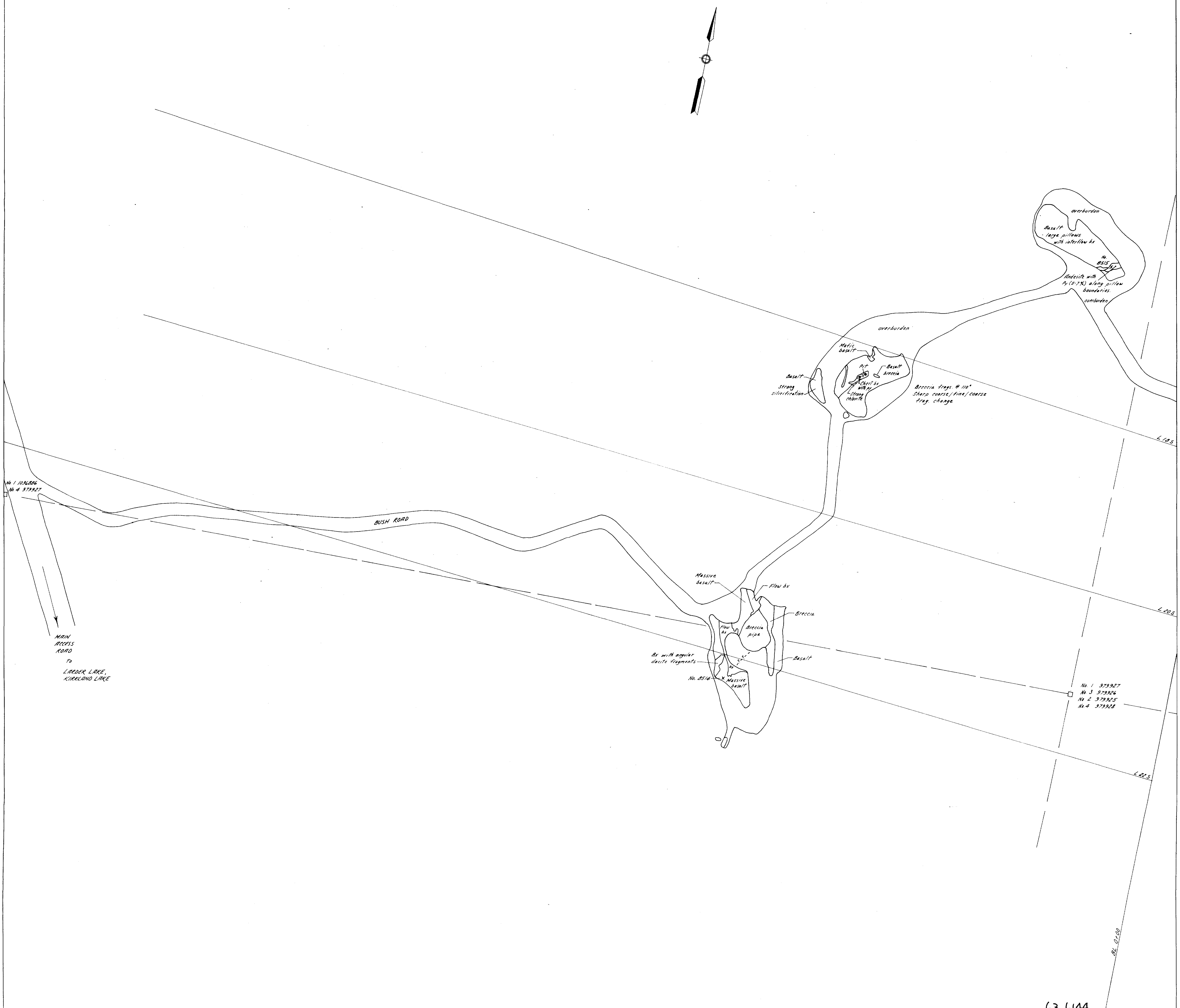
200

— List of Occurrences —

⚒ 1 Canagau Mines Limited (Interprovincial Mine)
⚒ 2 Ehrhart Occurence (Westbank Zone 1988)
⚒ 3 Amax Zone (DDH'S TX-102, 105, 106, 1973)
⚒ 4 Cabin trail prospect (near TX-101-73)
⚒ 5 Labbe Sulphide Siliceous Sinter (Py, Ag)

63.6144

PROV. ONTARIO			MOUNTAIN LAKE RESOURCES - JOINT JOUTEL RESOURCES LTD. VENTURE		
TWP. BEN NEVIS					
NTS 32D5					
REF.			AREA GEOLOGY OF THE CANAGAU PATENTED CLAIMS		
DWN. BY ADH / RG					
REVISIONS	DATE	BY			
			SCALE 1:5000	DATE NOV/90	PLATE FIG. 5



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JOUTEL RESOURCES LTD. VENTURE

DETAILED STRIPPING PLAN
LABBE CLAIMS - CANAGAU PROPERTY
WEST SHEET

SCALE 1:500
DATE NOV./90
PLATE FIG. 7a

210

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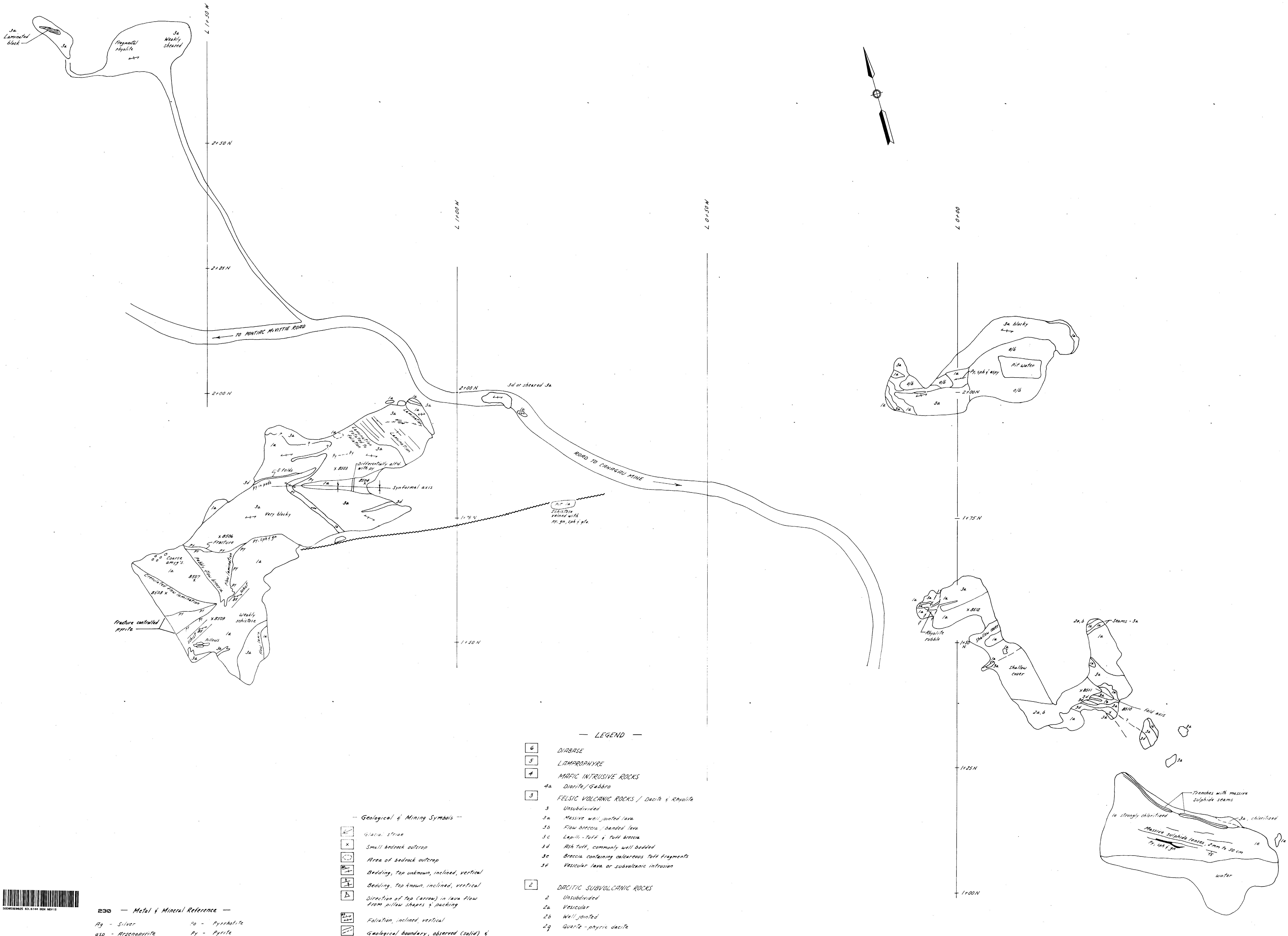
NTS	32D5
REF.	
DWN. BY	B.L./R.

REVISIONS	DATE	BY

MOUNTAIN LAKE RESOURCES INC. – JOINT
JOUTEL RESOURCES LTD. – VENTURE

DETAILED STRIPPING PLAN
LABBE CLAIMS - CANAGAU PROPERTY
EAST SHEET

SCALE 1:500 DATE NOV./90 PLATE FIG. 7b



— LEGEND —

6 DIABASE

5 LAMPROPHYRE

4 MAFIC INTRUSIVE ROCKS
4a Diorite/Gabbro

3 FELSIC VOLCANIC ROCKS / Dacite & Rhyolite
3 Unsubdivided
3a Massive well jointed lava
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3e Breccia containing calcareous tuff fragments
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1d Highly vesicular to scoriaceous lava
1e Massive tuff
1f Phreatic breccia

— Geological & Mining Symbols —

Glacial striae
× Small bedrock outcrop
Area of bedrock outcrop
Bedding, top unknown, inclined, vertical
Bedding, top known, inclined, vertical
Direction of top (arrow) in lava flow from pillow shapes & packing
Foliation, inclined, vertical
Geological boundary, observed (solid) & position interpreted
Zone of shearing
Diamond drill hole projected vertically with inclination & hole identification
Shaft, depth in metres
■ Old test pit
Prominent scarp

230 — Metal & Mineral Reference —

Ag - Silver
asp - Arsenopyrite
Au - Gold
carb. - Fe-rich carbonate
Chl. - Chlorite
Cpy - Chalcopyrite
Gn - Galena
mal - Malachite
bn - Bornite
Ser - Sericite
Sil - Silicified
Po - Pyrrhotite
Py - Pyrite
Sp - Sphalerite
Q.V. - Quartz vein
QCV - Quartz carbonate vein

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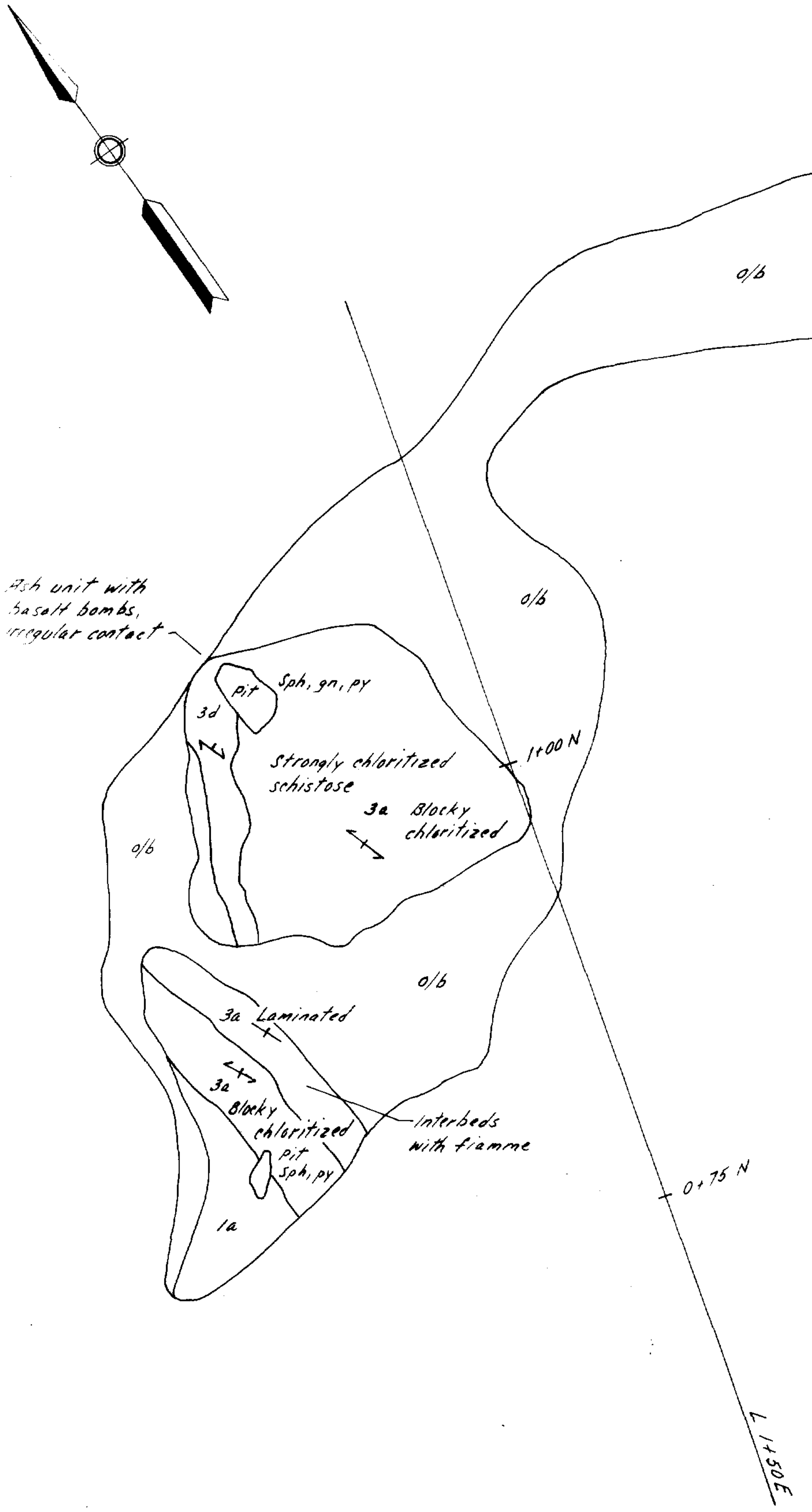
MOUNTAIN LAKE RESOURCES - JOUTEL RESOURCES LTD JOINT VENTURE

GEOLOGY OF
CANAGAU 1990 STRIPPING
PART I

SCALE 1:250
DATE MAR/91
PLATE FIGURE 8a



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NTS 32D5
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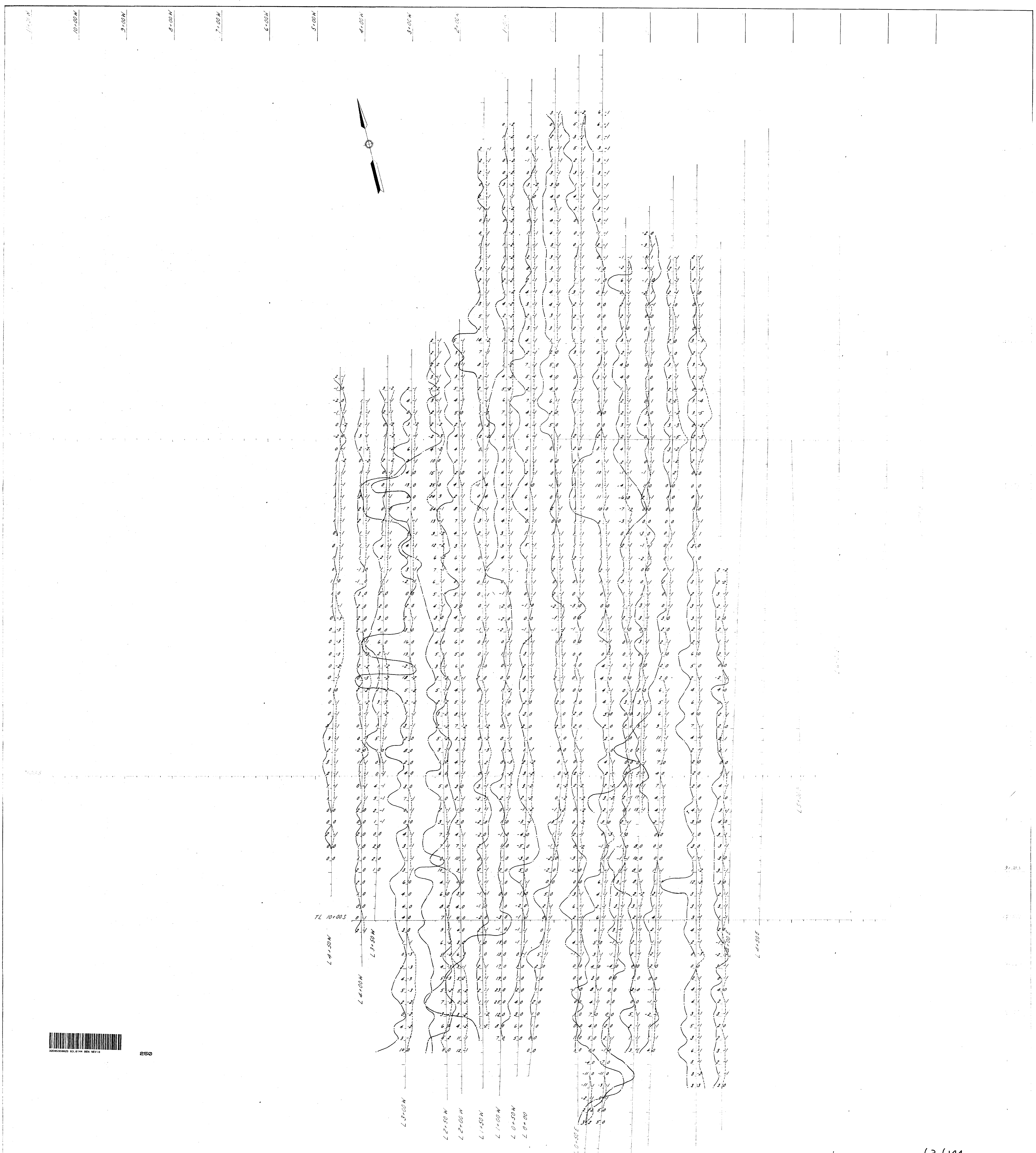
DWN. BY
REVISIONS DATE BY

MOUNTAIN LAKE RESOURCES - JOINT
JOUTEL RESOURCES LTD. VENTURE

GEOLOGY OF
CANAGAU 1990 STRIPPING
PART 2

SCALE 1:250 DATE MAR/91 PLATE FIGURE 8b



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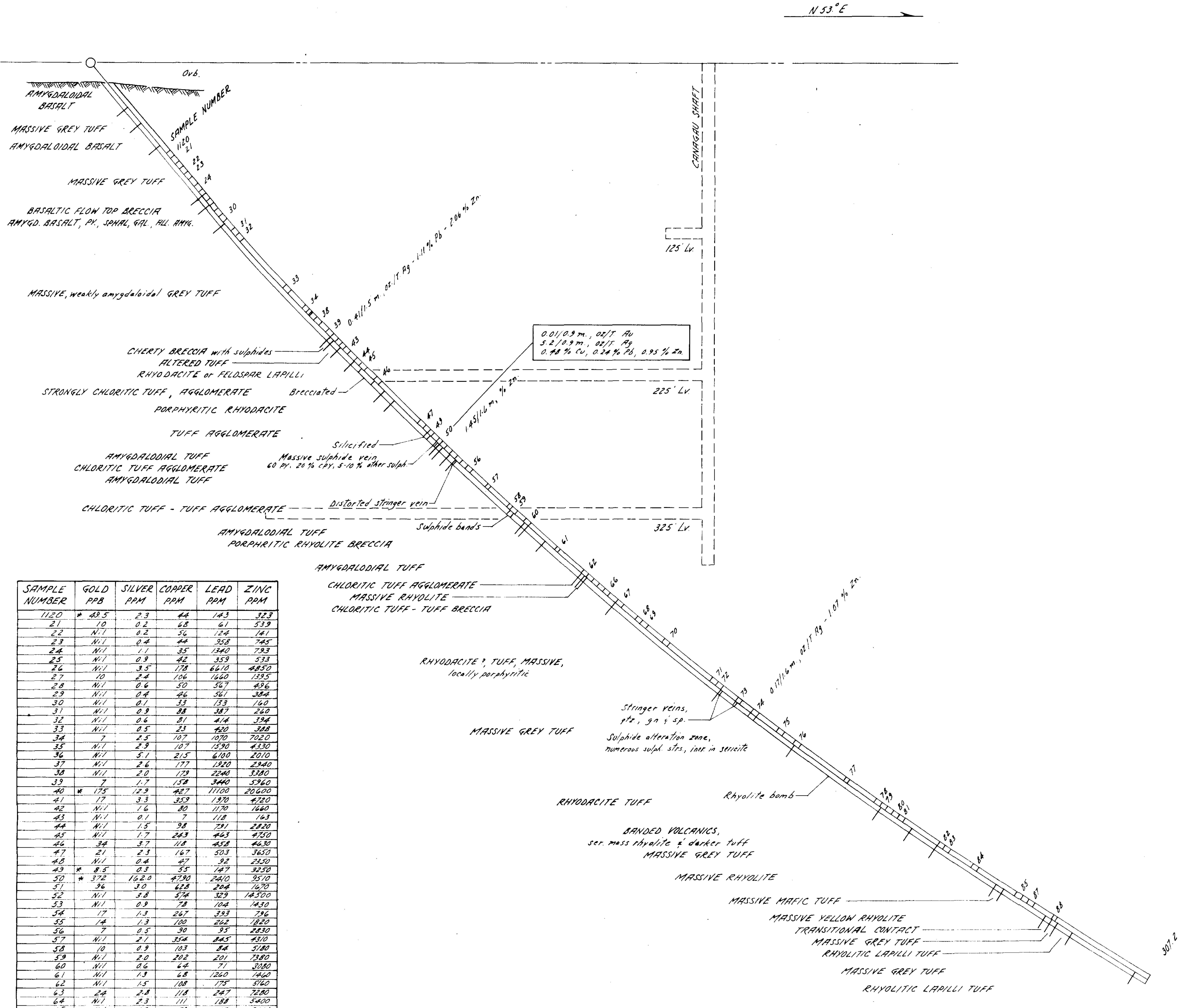
PROV	ONTARIO
TWP	BEN NEVIS
NTS	32D5
REF	
DWN BY	

MAX-MIN II SURVEY - 444 Hz
CANAGAU PROPERTY
BEN NEVIS TWP.

FIG. 9



SAMPLE NUMBER	GOLD PPB	SILVER PPM	COPPER PPM	LEAD PPM	ZINC PPM
1120	* 49.5	2.3	44	143	323
21	10	0.2	68	61	539
22	Nil	0.2	56	124	141
23	Nil	0.4	44	958	745
24	Nil	1.1	35	1340	793
25	Nil	0.9	42	359	533
26	Nil	3.5	178	6610	4850
27	10	2.4	106	1660	1395
28	Nil	0.6	50	567	496
29	Nil	0.4	46	561	384
30	Nil	0.1	33	133	160
31	Nil	0.9	88	387	260
32	Nil	0.6	81	414	394
33	Nil	0.5	23	420	388
34	7	2.5	107	1070	7020
35	Nil	2.9	107	1590	4330
36	Nil	5.1	215	6100	2010
37	Nil	2.6	177	1920	2940
38	Nil	2.0	179	2240	3380
39	7	1.7	158	3440	5960
40	* 175	12.9	427	11100	20600
41	17	3.3	359	1970	4720
42	Nil	1.6	80	1170	1660
43	Nil	0.1	7	118	163
44	Nil	1.5	98	791	2820
45	Nil	1.7	243	463	4750
46	34	3.7	118	458	4630
47	21	2.3	167	503	3650
48	Nil	0.4	47	92	2350
49	* 8.5	0.3	55	147	3250
50	* 372	162.0	4790	2410	9510
51	96	3.0	628	204	1670
52	Nil	3.8	574	329	14500
53	Nil	0.9	78	104	1430
54	17	1.3	267	393	796
55	14	1.3	100	262	1820
56	7	0.5	90	95	2830
57	Nil	2.1	354	845	4310
58	10	0.9	103	84	5180
59	Nil	2.0	202	201	7380
60	Nil	0.6	64	71	3080
61	Nil	1.3	68	1260	1460
62	Nil	1.5	108	175	5160
63	24	2.8	118	247	7280
64	Nil	2.3	111	188	5400
65	Nil	1.2	78	117	3600
66	17	1.8	80	351	3610
67	Nil	0.1	6	105	69
68	21	0.9	44	304	2050
69	Nil	0.6	40	230	348
70	Nil	0.1	6	41	41
71	Nil	0.7	24	352	321
72	Nil	1.1	25	279	307
73	* 34.5	2.0	62	1270	901
74	Nil	5.4	392	1230	10700
75	Nil	0.8	69	92	190
76	17	0.7	63	129	627
77	Nil	3.5	216	1280	6280
78	Nil	4.8	169	108	3120
79	Nil	0.6	49	46	420
80	Nil	0.2	15	18	135
81	Nil	0.4	28	29	37
82	Nil	0.3	18	49	379
83	Nil	1.0	46	94	381
84	10	0.8	69	66	665
85	7	2.3	19	138	890
86	12	1.6	13	68	220
87	Nil	0.5	17	44	60
88	24	2.2	72	277	1950

NOTE: * AVERAGE OF TWO ANALYSIS

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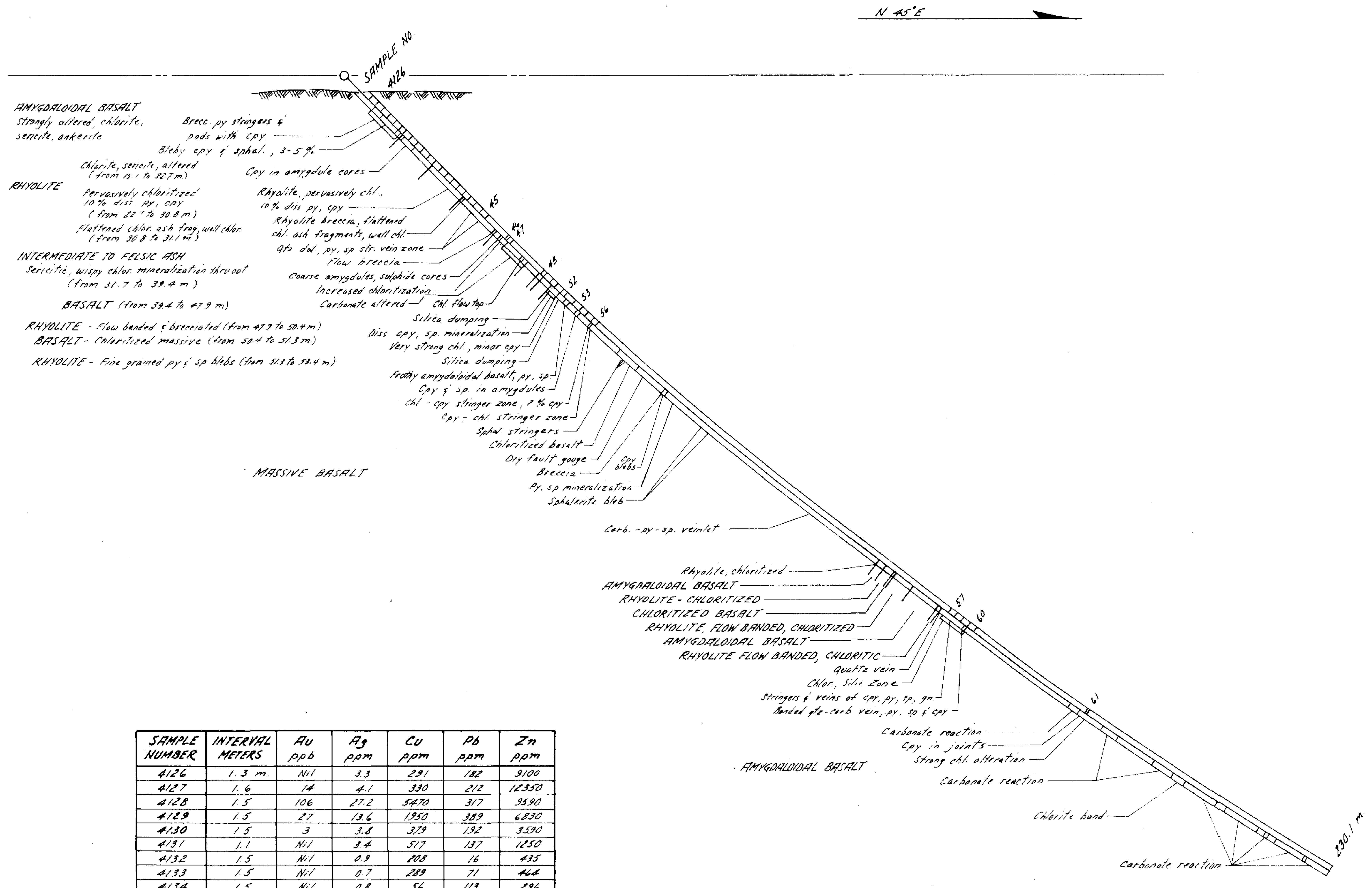
REF.	
DWN. BY	

REVISIONS	DATE	BY

MOUNTAIN LAKE RESOURCES INC. - JOINT
JOUTEL RESOURCES LTD. VENTURE

DRILL SECTION
DDH No. CNG-90-2
CANAGAU PROPERTY

SCALE 1:500 | DATE FEB./90 | PLATE FIG. 10



SAMPLE NUMBER	INTERVAL METERS	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm
4126	1.3 m.	Nil	3.3	291	182	9100
4127	1.6	14	4.1	330	212	12350
4128	1.5	106	27.2	5470	317	9590
4129	1.5	27	13.6	1950	389	6830
4130	1.5	3	3.8	379	192	3590
4131	1.1	Nil	3.4	517	137	1250
4132	1.5	Nil	0.9	208	16	435
4133	1.5	Nil	0.7	289	71	464
4134	1.5	Nil	0.8	56	113	296
4135	1.6	Nil	0.6	59	88	472
4136	1.5	Nil	0.9	86	65	631
4137	1.6	Nil	0.8	87	53	1930
4138	1.5	Nil	2.6	601	71	1640
4139	1.5	Nil	1.6	119	115	2840
4140	1.5	Nil	1.0	93	37	2180
4141	1.6	Nil	1.0	49	42	505
4142	1.3	42.5	5.3	404	170	3330
4143	1.5	45	13.9	417	318	936
4144	1.6	Nil	0.8	110	32	995
4145	1.5	34	1.1	111	117	907
4146	0.3	7	0.6	23	85	1640
4147	0.9	Nil	1.8	253	104	2220
4148	0.9	Nil	1.5	35	51	1560
4149	1.6	Nil	0.3	33	22	1740
4150	1.1	14	3.9	1240	75	888
4151	1.5	Nil	7.5	2150	212	2030
4152	0.9	Nil	1.1	202	40	1600
4153	1.6	Nil	2.1	162	49	3260
4154	1.5	Nil	1.2	331	34	736
4155	0.5	Nil	2.2	637	33	807
4156	1.1	* 110	17.0	7020	227	1750
4157	1.3	Nil	0.7	28	281	258
4158	1.5	Nil	0.9	81	685	683
4159	1.5	31	11.8	2140	1230	4570
4160	1.5	10	3.6	336	202	4580
4161	0.3	10	2.4	122	383	6820

63.6144

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TWP. BEN NEVIS
NTS 32D5
REF.
DWN. BY

REVISIONS	DATE	BY

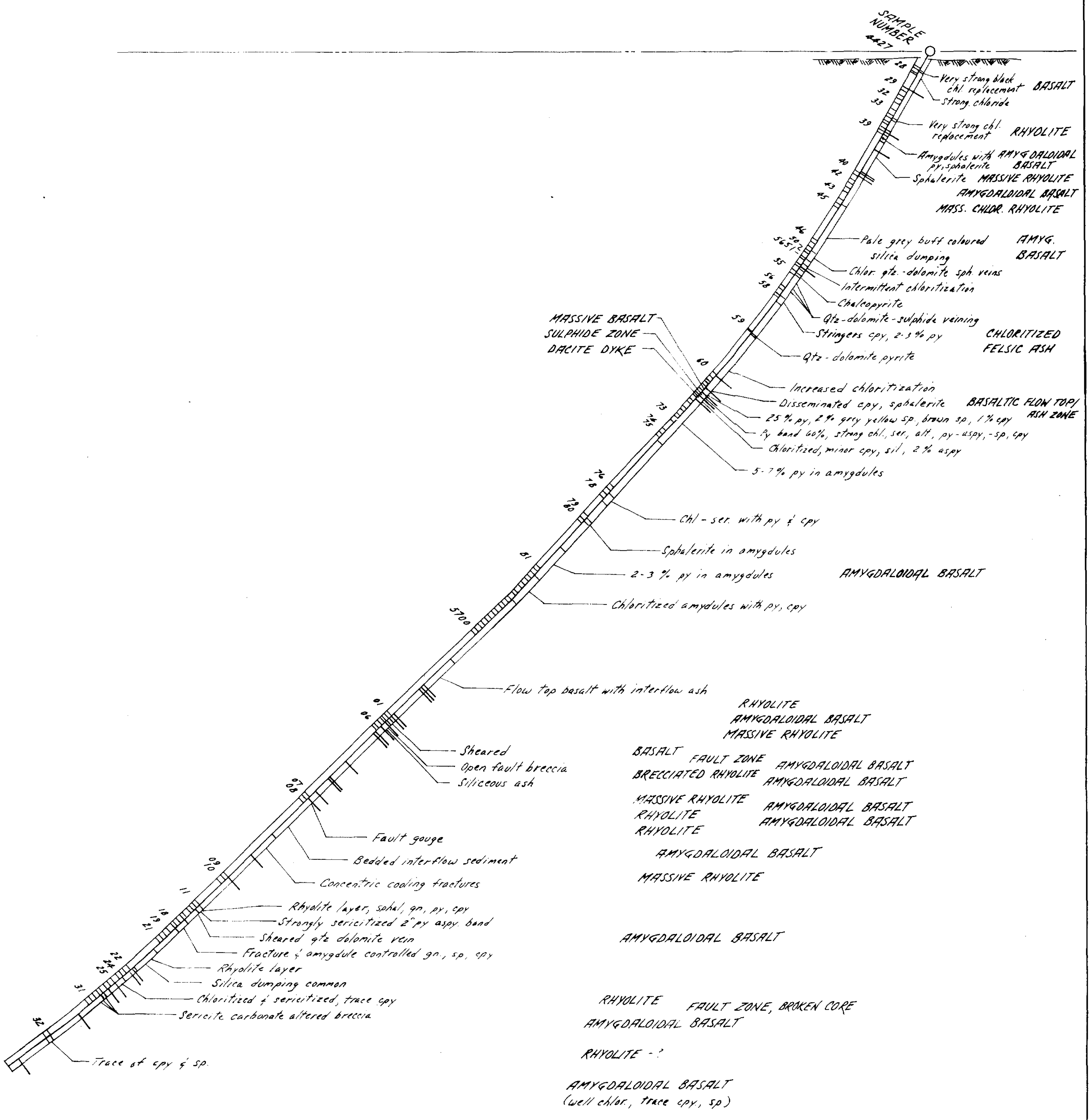
MOUNTAIN LAKE RESOURCES - JOINT
JOUTEL RESOURCES LTD. - VENTURE

DRILL SECTION
DDH No. CNG-90-3
CANAGAU PROPERTY

SCALE 1:500
DATE OCT./90
PLATE FIG. 11

270

SAMPLE NUMBER	INTERVAL METERS	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm
4427	0.6	24	0.8	94	146	2380
28	0.3	* 54.5	2.2	122	190	3210
29	1.5	Nil	0.1	20	25	183
30	1.6	Nil	0.3	32	21	725
31	1.5	Nil	2.0	74	78	5090
32	1.5	Nil	2.6	49	99	1350
33	1.5	Nil	0.4	25	17	840
34	1.2	Nil	0.1	15	7	421
35	1.5	Nil	0.3	21	43	489
36	0.9	Nil	0.8	39	51	1310
37	1.6	Nil	0.7	101	34	3640
38	1.6	Nil	3.3	382	241	4790
39	1.2	Nil	1.8	248	141	3060
40	1.6	Nil	0.1	10	9	479
41	1.5	Nil	0.1	8	2	401
42	1.5	Nil	0.5	32	16	784
43	1.6	Nil	1.0	101	91	4750
44	1.5	Nil	0.5	116	105	2890
45	1.6	Nil	0.4	62	3	169
46	1.6	Nil	0.6	36	2	752
47	1.5	Nil	0.3	35	5	466
48	1.2	14	1.8	254	57	2960
49	1.2	* 12	0.2	46	3	2250
50	1.4	10	0.2	46	2	44
5651	0.8	Nil	0.4	47	86	1010
52	1.5	Nil	0.6	48	50	473
53	1.2	Nil	0.2	10	19	424
54	1.5	28	2.9	827	78	530
55	1.3	31	10.2	4060	277	871
56	1.6	Nil	2.1	671	100	2070
57	1.5	Nil	5.3	556	194	1250
58	1.2	27	5.9	2500	156	534
59	0.3	* 60	4.9	2800	31	43000
60	1.5	Nil	0.9	208	18	1430
61	1.6	Nil	1.4	197	24	331
62	0.8	34	4.0	1150	33	633
63	1.6	21	3.8	1870	25	490
64	1.7	45	6.6	1310	94	846
65	1.6	* 778.5	54.0	2060	1180	16800
66	1.5	206	36.0	837	593	1800
67	1.5	27	3.9	458	108	556
68	1.5	17	3.3	322	113	793
69	1.6	31	2.2	250	55	702
70	1.5	14	2.8	254	82	680
71	1.5	24	2.5	258	91	556
72	1.5	21	3.7	359	134	1050
73	1.6	* 29	3.9	422	141	2380
74	1.5	21	3.2	436	542	5520
75	1.6	Nil	2.2	217	154	7580
76	1.6	17	0.7	75	25	454
77	1.5	17	1.1	326	37	606
78	1.5	14	5.5	1330	54	1480
79	1.6	21	0.8	14	24	900
80	1.2	17	0.2	9	9	417
81	1.5	10	2.5	385	39	202
82	1.5	10	2.8	575	36	203
83	1.6	* 5	3.8	873	31	196
84	1.3	Nil	4.1	650	37	222
85	1.7	Nil	10.5	2770	46	229
86	1.5	Nil	8.3	1320	66	255
87	1.6	17	12.4	2790	110	357
88	1.5	10	3.7	621	73	232
89	1.5	Nil	8.7	1600	89	214
90	1.5	Nil	2.2	448	27	98
91	1.6	Nil	1.6	331	43	92
92	1.5	14	1.4	230	19	117
93	1.5	Nil	3.4	674	44	139
94	1.5	Nil	5.5	1370	93	251
95	1.6	Nil	4.1	708	69	253
96	1.5	14	7.3	1010	88	298
97	1.5	Nil	9.4	1140	156	370
98	1.5	Nil	7.2	922	121	258
99	1.6	Nil	2.5	294	77	265
5700	1.5	Nil	2.8	334	108	229
01	1.5	* 334	27.8	3030	96	104
02	1.1	27	17.7	1900	225	1090
03	0.7	Nil	10.7	1310	98	281
04	1.5	45	5.4	1270	101	1260
05	1.2	Nil	6.2	621	119	552
06	0.9	* 308.5	14.9	220	230	147
07	1.5	Nil	1.5	138	85	245
08	1.5	Nil	2.6	351	139	416
09	1.5	Nil	1.8	264	473	535
10	1.6	Nil	0.6	78	122	663
11	1.5	133.5	6.4	263	1570	7720
12	1.2	Nil	0.8	96	275	421
13	1.6	Nil	0.6	88	112	194
14	1.5	Nil	0.6	28	524	468
15	1.5	Nil	0.9	80	583	827
16	1.6	Nil	2.2	147	793	3320
17	1.5	Nil	3.2	190	2110	1910
18	0.9	10	4.2	245	2850	6280
19	1.6	Nil	1.3	122	649	1060
20	1.5	Nil	3.5	223	1670	5160
21	1.5	Nil	2.6	239	794	2100
22	1.5	Nil	0.3	152	49	161
23	1.6	10	1.0	388	121	150
24	1.5	24	1.5	729	100	193
25	1.5	Nil	0.6	112	21	81
26	1.6	21	0.9	30	24	62
27	1.5	Nil	0.3	108	5	127
28	1.5	Nil	0.4	83	16	119
29	1.5	Nil	1.1	182	31	156
30	1.6	Nil	0.4	447	37	254
31	1.5	Nil	0.5	390	3	222
32	1.6	10	0.7	238	4	132



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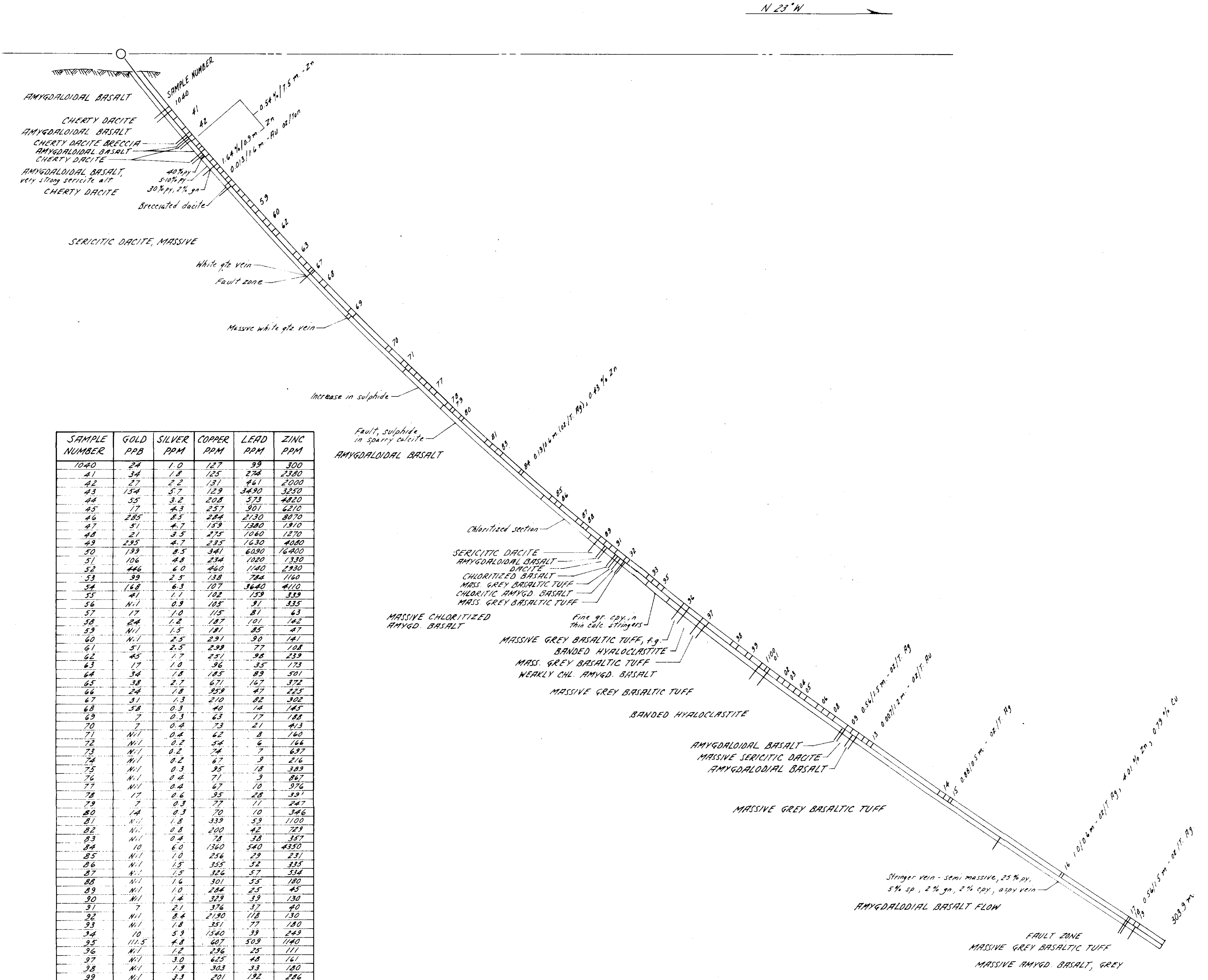
MOUNTAIN LAKE RESOURCES - JOINT
JOUTEL RESOURCES LTD. VENTURE

DRILL SECTION
DDH No. CNG-90-6
CANAGAU PROPERTY

SCALE 1:1000 DATE DEC/90 PLATE FIG. 12



SAMPLE NUMBER	GOLD PPB	SILVER PPM	COPPER PPM	LEAD PPM	ZINC PPM
1040	24	1.0	127	99	300
41	34	1.8	125	274	2380
42	27	2.2	131	461	2000
43	154	5.7	129	3490	3250
44	55	3.2	208	573	4820
45	17	4.3	257	901	6210
46	285	8.5	284	2130	8070
47	51	4.7	159	1380	1910
48	21	3.5	275	1060	1270
49	295	4.7	235	1630	4080
50	199	8.5	341	6090	16400
51	106	4.8	234	1020	1330
52	446	6.0	460	1140	2930
53	99	2.5	138	784	1160
54	168	6.3	107	3640	4110
55	41	1.1	102	159	339
56	Nil	0.9	105	91	335
57	17	1.0	115	81	63
58	24	1.2	187	101	142
59	Nil	1.5	181	85	47
60	Nil	2.5	291	90	141
61	51	2.5	299	77	108
62	45	1.7	251	98	239
63	17	1.0	96	35	173
64	34	1.8	185	89	501
65	38	2.7	671	167	372
66	24	1.8	959	47	225
67	31	1.3	210	82	302
68	58	0.3	40	14	145
69	7	0.3	63	17	188
70	7	0.4	73	21	413
71	Nil	0.4	62	8	160
72	Nil	0.2	54	6	166
73	Nil	0.2	74	7	697
74	Nil	0.2	67	9	216
75	Nil	0.3	95	18	389
76	Nil	0.4	71	9	867
77	Nil	0.4	67	10	976
78	17	0.6	95	28	391
79	7	0.3	77	11	247
80	14	0.3	70	10	346
81	Nil	1.8	339	59	1100
82	Nil	0.8	200	42	729
83	Nil	0.4	78	38	357
84	10	6.0	1360	540	4350
85	Nil	1.0	256	29	231
86	Nil	1.5	355	52	335
87	Nil	1.5	326	57	534
88	Nil	1.6	301	55	180
89	Nil	1.0	284	25	45
90	Nil	1.4	329	39	130
91	7	2.1	376	37	40
92	Nil	8.4	2190	118	130
93	Nil	1.8	351	77	180
94	10	5.9	1540	99	249
95	111.5	4.8	607	509	1140
96	Nil	1.2	296	25	111
97	Nil	3.0	625	48	161
98	Nil	1.9	303	33	180
99	Nil	3.3	201	192	286
1100	Nil	1.2	94	65	185
01	Nil	1.9	135	407	1050
02	Nil	0.9	78	74	170
03	10	0.7	46	59	193
04	Nil	2.1	293	60	329
05	Nil	2.6	374	69	200
06	10	4.2	402	111	197
07	Nil	3.6	287	41	148
08	Nil	2.5	109	33	151
09	10	17.5	2670	140	72
10	Nil	8.7	1030	120	224
11	Nil	2.3	344	44	59
12	Nil	2.7	115	159	406
13	252	4.3	351	1260	2070
14	Nil	1.6	231	102	995
15	34	27.4	224	1090	2710
16	27	31.0	1780	7940	40100
17	10	8.9	982	279	389
18	14	17.5	1330	1010	3190
19	10	12.5	1770	214	568

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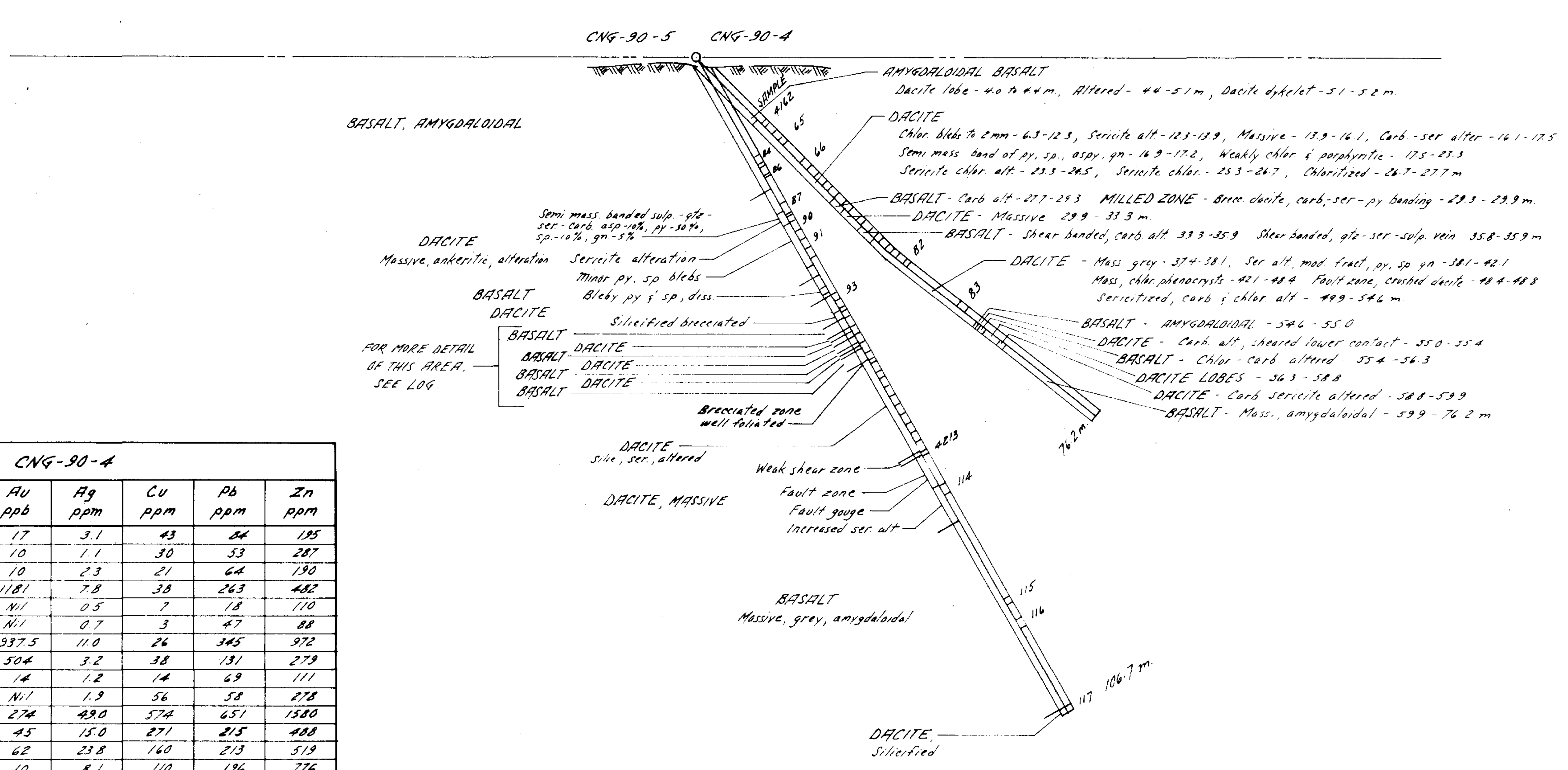
MOUNTAIN LAKE RESOURCES INC. - JOINT
JOUTEL RESOURCES LTD. - VENTURE

DRILL SECTION
DDH No. CNG-90-1
CANAGAU PROPERTY

SCALE 1:500 DATE JAN./90 PLATE FIG. 13



CNG-90-4						
SAMPLE NUMBER	INTERVAL METERS	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm
4162	0.6 m.	17	3.1	43	84	195
4163	1.6	10	1.1	30	53	287
4164	1.2	10	2.3	21	64	190
4165	0.9	1181	7.8	38	263	482
4166	1.5	Nil	0.5	7	18	110
4167	1.5	Nil	0.7	3	47	88
4168	1.6	* 937.5	11.0	26	345	972
4169	1.0	504	3.2	38	131	279
4170	1.5	14	1.2	14	69	111
4171	1.3	Nil	1.9	56	58	278
4172	1.5	274	49.0	574	651	1580
4173	1.5	45	15.0	271	215	488
4174	0.9	62	23.8	160	213	519
4175	1.6	10	8.1	110	196	776
4176	1.0	17	2.8	84	269	495
4177	0.9	723	102.1	332	635	1740
4178	1.4	75	1.9	99	137	1070
4179	0.9	* 2124	18.5	109	1880	2620
4180	0.9	394	16.4	80	830	2120
4181	1.3	1306	14.1	282	1890	2710
4182	0.6	463	7.6	92	603	1090
4183	1.5	24	0.4	18	14	58
CNG-90-5						
4184	1.1	Nil	1.5	21	73	112
4185	0.6	Nil	1.0	18	79	120
4186	0.3	Nil	8.5	158	506	6160
4187	1.6	Nil	7.8	56	303	368
4188	0.3	*76,800.5	362	390	18500	16900
4189	0.9	82	4.0	27	266	337
4190	1.5	Nil	2.9	49	43	113
4191	1.5	Nil	0.3	6	19	98
4192	1.5	31	2.4	19	35	109
4193	1.0	27	5.6	107	143	1880
4194	1.1	14	3.2	33	66	815
4195	0.5	* 305	78.8	16300	666	802
4196	1.0	79	16.6	389	541	344
4197	1.7	147	6.6	109	309	1410
4198	1.2	99	4.2	137	363	1410
4199	1.5	130	5.6	123	118	1120
4200	1.6	79	10.2	359	205	1810
4201	1.1	27	1.4	44	126	828
4202	0.6	271	8.2	255	230	1210
4203	1.5	99	4.0	78	91	415
4204	1.0	113	8.6	275	153	120
4205	1.3	* 1503.5	11.4	354	545	756
4206	1.5	27	0.8	29	33	107
4207	1.5	17	0.6	17	27	183
4208	1.5	51	1.4	82	70	321
4209	1.6	82	1.0	46	45	379
4210	1.5	58	2.0	34	61	314
4211	1.5	127	7.0	482	147	1330
4212	1.4	51	3.0	38	152	252
4213	0.6	* 104.5	3.4	124	155	1020
4214	1.5	14	0.5	53	25	440
4215	1.1	14	0.5	61	20	108
4216	1.5	10	0.4	53	19	110
4217	0.9	24	0.4	37	20	44

NOTE: * AVERAGE OF TWO ANALYSIS

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PROV. ONTARIO	MOUNTAIN LAKE RESOURCES - JOINT
TWP. BEN NEVIS	JOUTEL RESOURCES LTD. VENTURE
NTS 32D5	DRILL SECTION
REF.	DDH's No. CNG-90-4 & 5
DWN. BY	CANAGAU PROPERTY

REVISIONS	DATE	BY

SCALE 1:500 DATE NOV./90 PLATE FIG. 14