42A01SE0100 29 OTTO

DIAMOND DRILLING

TOWNSHIP: OTTO TWP **REPORT NO:** 29

WORK PERFORMED FOR: BATTLE MOUNTAIN CANADA

RECORDED HOLDER: **SAME AS ABOVE [X]**

: OTHER [ ]

CLAIM NO.	HOLE NO.	FOOTAGE	DATE	NOTE
L842494 AND 544546	VA90-01	181.66 m	July 90	(1)
L737144	VA90-02	120.70 m	Oct 91	(1)
L842494	VA91-03	309.1 m	Oct 91	(1)
L544546	va91-04	315.05 m	oct 91	(1)

NOTES:

(1) W 9280.00043

AFRO



020

Battle Mountain (Canada) Inc.

KIRKLAND LAKE PROJECT

REPORT ON DIAMOND DRILLING PROGRAMMES

JULY, 1990 AND OCTOBER, 1991

VIGRASS LAKE PROPERTY

OTTO TOWNSHIP, LARDER LAKE MINING DIVISION

ONTARIO, CANADA

Kirkland Lake, Ontario
November 29, 1991

W. Benham

Battle Mountain (Canada) Inc.

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1.0 SUMMARY

During July, 1990 and October 1991, two diamond drilling programmes were carried out by Battle Mountain (Canada) Inc. on the southern part of the Vigrass Lake property located in Otto Township, Ontario. In 1990, two holes were drilled for a total of 302.4 metres to test two horizontal-loop electromagnetic anomalies and to fulfil work obligations to the underlying vendors. In 1991, two additional holes totalling 624.15 metres were completed to follow-up anomalous gold mineralization intersected by HSK Minerals in 1988 in hole VI-88-8; to test a green carbonate zone with erratic low grade gold mineralization, further to the north along the southern shore of Vigrass Lake; and to evaluate a combined magnetic low and horizontal-loop electromagnetic anomaly yet further north beneath Vigrass Lake.

Hole VA91-03 intersected geochemically anomalous gold mineralization in four zones which averaged from 0.14 to 0.36 g/t Au over widths of 7.1 to 14.0 metres, within pyritic, silicified, brecciated basalts and mafic intrusives. This mineralization is similar in style and in a similar geological setting to the "flow-ore" in the Kerr Addison gold mine, located 40 km to the east.

Therefore, the Vigrass Lake property is considered to have excellent potential for the discovery of a major ore body, and further drilling is recommended at depth and along strike of the intersections in holes VA91-03 and VI-88-8.

2.0 INTRODUCTION

This report describes the results of two diamond drilling programmes completed by Battle Mountain (Canada) Inc. (BMCI) from July 4th to 9th, 1990 and from October 16th to 27th, 1991, on the southern portion of the Vigrass Lake property in Otto Township. All four holes were drilled by Heath & Sherwood of Kirkland Lake and the core assayed by Swastika Laboratories in Swastika. The core was logged in 1990 by Keith Barron, M.Sc., and in 1991 by Mark Masson, B.Sc., assisted by technicians J. St Jean (1990) and R. Peever (1991); both programmes were supervised by W. Benham, B.Sc., the BMCI Kirkland Lake project geologist. The drill plans and sections accompanying this report were drafted by B. Madill. The logs were typed by C. Anderson and the final logs designed and produced using WordPerfect 5.1 by MDC Geological Consultants.

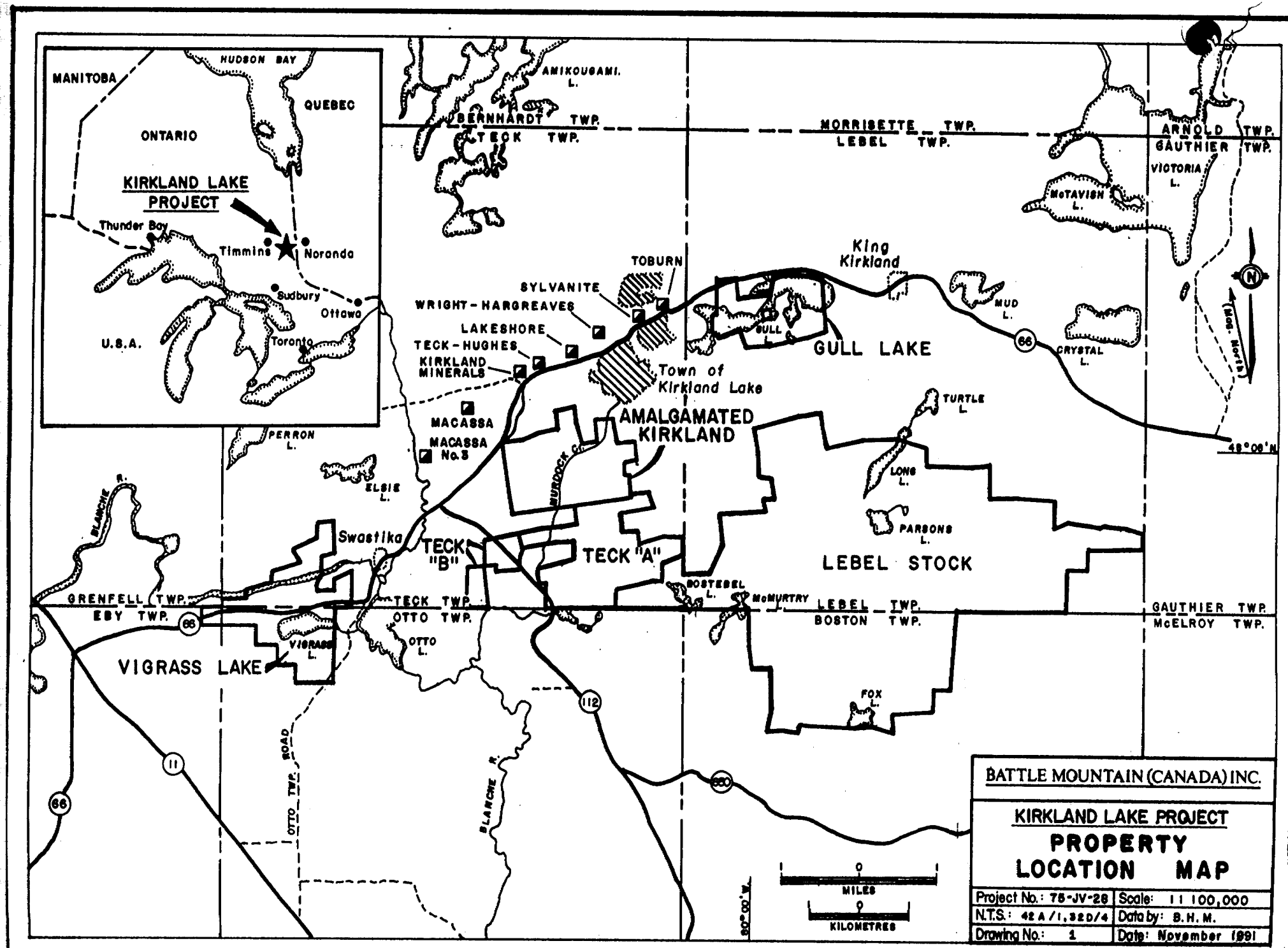
The two 1990 holes, totalling 302.4 metres, tested horizontal-loop electromagnetic anomalies identified from a geophysical survey completed by BMCI earlier that year, and fulfilled part of a work obligation to the underlying property vendors, Messrs Allsop & Zabudsky.

In 1991, a single 600 metre drill hole was planned to test, at greater depth, a carbonated, silicified intersection, geochemically anomalous in gold, in hole VI-88-8 drilled by HSK Minerals (now Queenston Mining Inc.) in 1988; a green carbonate zone, from which some surface samples were erratically geochemically anomalous in gold, located along the southern shore of Vigrass Lake; and a combined magnetic low and horizontal-loop electromagnetic anomaly, located yet further north beneath Vigrass Lake, which was interpreted to reflect a possible major structural zone or a volcanic contact. This hole (VA91-03) had to be abandoned at a depth of 309 metres after passing through the first of the three targets, due to drilling problems in a clay-filled fault. A second hole, VA91-04, was collared to the north in order to test the remaining two targets and complete the planned drill-section, for a total of 624.15 metres in the two holes.

2.1 Location and Access

The property is located at the intersection of Teck, Otto, Grenfell and Eby Townships in the Larder Lake Mining Division about 8 km west-southwest of the Town of Kirkland Lake and 0.5 km west of the village of Swastika (NTS 42 A/1; UTM 564750 E, 5327450 N; Drawings 1 & 2).

Access to the central part of the property is provided by Highway 66 which crosses the claim group. The southern claims are accessible by tractor roads leading from the Otto Lake road which passes through the southeastern corner of the property. Access to the claims north of the Blanche River is provided by a trail from Athena Blvd. in Swastika. Right of ways for hydro, natural gas and railway lines cross the central part of the property.


MANITOBA
HUDSON BAY
QUEBEC
ONTARIO
KIRKLAND LAKE PROJECT
Thunder Bay
Timmins
Noranda
Sudbury
Ottawa
Toronto
U.S.A.
AMIKOUGAMI L.
BERNHARDT TWP.
TECK TWP.
MORRISETTE TWP.
LEBEL TWP.
ARNOLD TWP.
GAUTHIER TWP.
VICTORIA L.
McTAVISH L.
King Kirkland
TOBURN
SYLVANITE
WRIGHT-HARGREAVES
LAKESHORE
TECK-HUGHES
KIRKLAND MINERALS
GULL L.
GULL LAKE
MUD L.
CRYSTAL L.
Town of Kirkland Lake
MACASSA
MACASSA No. 3
AMALGAMATED KIRKLAND
TURTLE L.
PERRON L.
ELSIE L.
MURDOCK CR.
LONG L.
PARSONS L.
BLANCHE R.
Swastika
TECK "B"
TECK "A"
LEBEL STOCK
BOSTEBEL L.
McMURTRY L.
GRENFELL TWP.
EBY TWP.
TECK TWP.
OTTO TWP.
LEBEL TWP.
BOSTON TWP.
GAUTHIER TWP.
McELROY TWP.
VIGRASS L.
VIGRASS LAKE
OTTO L.
FOX L.
OTTO TWP. ROAD
BLANCHE R.
48°08'N
80°00'W
0 MILES
0 KILOMETRES
BATTLE MOUNTAIN (CANADA) INC.
KIRKLAND LAKE PROJECT
PROPERTY LOCATION MAP
Project No.: 75-JV-28
Scale: 1:100,000
N.T.S.: 42A/1, 32D/4
Data by: B.H.M.
Drawing No.: 1
Date: November 1991

2.2 Claims

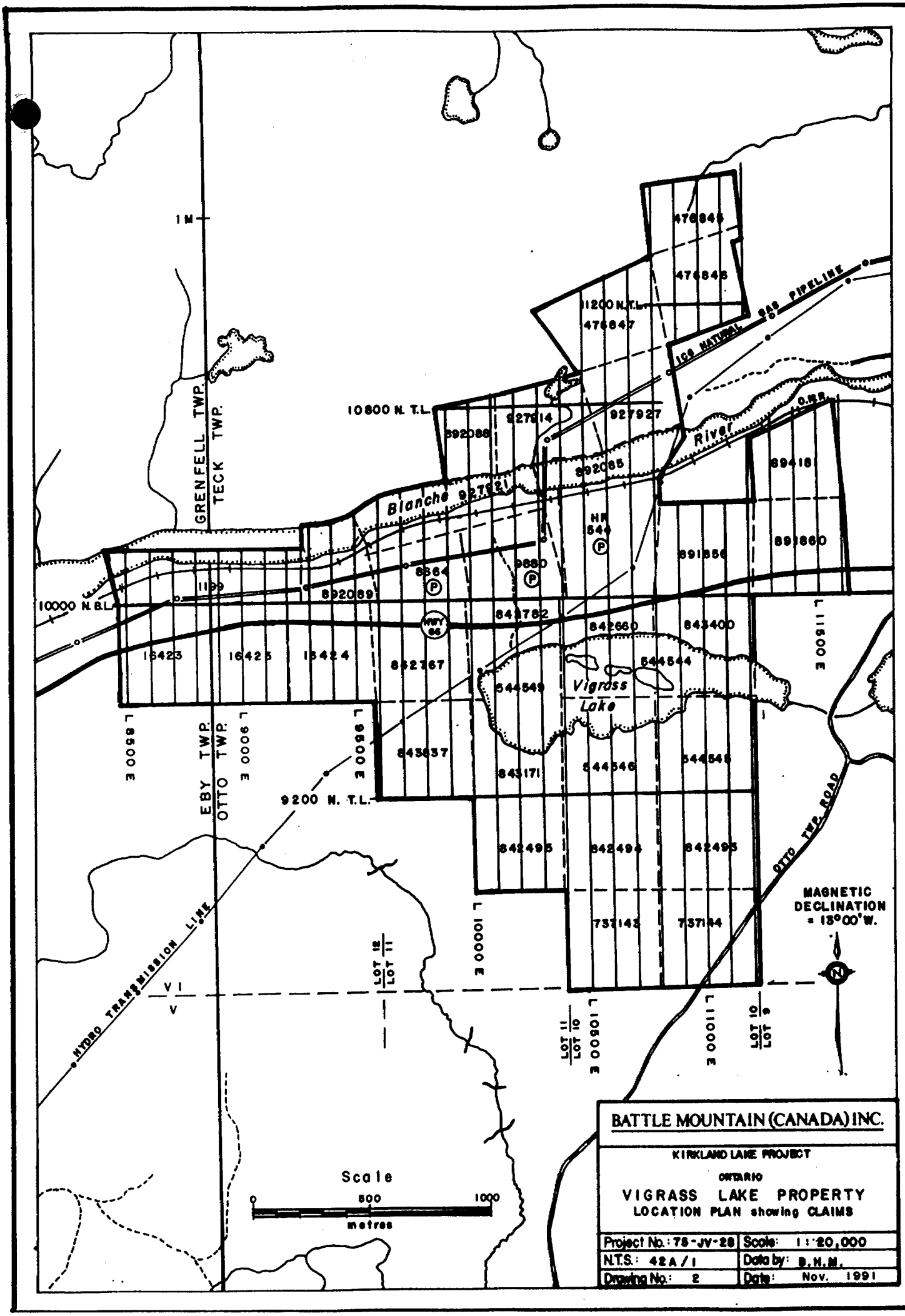
The Vigrass Lake property consists of thirty-three (33) mining claims and patents optioned by Queenston Mining Inc. (formerly HSK Minerals Ltd.) from seven vendors: C. Forbes, M. Leahy and J. Forbes (3 claims); R. Condie (3 claims); D. Strome (Trust) (7 patents); Premier Exploration Inc., R. Chrichton, M. Leahy and J. Forbes (6 claims); F. Kiernicki, T. Obradovich, J. Forbes, and Premier Exploration (6 claims); J. Kidston (4 claims); and A. Allsop and D. Zabudsky (5 claims). The property is currently held by Battle Mountain (Canada) Inc. as part of an option agreement with Queenston Mining Inc. dated June 15, 1989.

A mining rights lease (#105470) was issued for three Forbes/Leahy/Forbes claims on January 1, 1990 and an application to lease was submitted for the four Kidston claims on June 9, 1989. The five Allsop-Zabudsky claims were surveyed during 1991 in order to apply for a lease. The remaining unpatented mining claims are in good standing until at least 1997.

2.3 Topography & Vegetation

The property is characterised by low rounded knolls and steep-sided outcrop ridges up to 30 metres high. The Blanche River passes through the northern part, and Vigrass Lake lies in the southern part of the property.

Most of the claims are covered by balsam, spruce and poplar bush. Jack-pine forest covers the central area on either side of Highway 66, and there are cedar and tag alder swamps to the south and west of Vigrass Lake as well as between outcrop ridges.



BATTLE MOUNTAIN (CANADA) INC.

KIRKLAND LAKE PROJECT

ONTARIO

VIGRASS LAKE PROPERTY

LOCATION PLAN showing CLAIMS

Project No.: 75-JV-28	Scale: 1:20,000
N.T.S.: 42A/1	Data by: B.H.M.
Drawing No.: 2	Date: Nov. 1991

3.0 PREVIOUS WORK

The Vigrass-Otto Lakes area was one of the first to be prospected in the Kirkland Lake district around 1906. The Golden Crescent and Golden Gate Mines (the present Gateford-Crescent property) were developed between 1911 and 1928 along the north shore of Otto Lake to the immediate east of the present BMCI Vigrass Lake property. Details of the exploration work carried out on the property prior to 1980 are poorly recorded; however, numerous pits, adits and trenches were found during the 1989 and 1990 geological mapping programmes. The area north of Vigrass Lake in Teck Township was mapped by Thomson (1950).

During the 1980's, various exploration programmes, which consisted of prospecting, mapping, geophysical surveys, hand and power stripping and diamond drilling were completed by the vendors of the individual claim groups which form the present Vigrass Lake property.

The following is a list of the recorded work which has been carried out on the Vigrass Lake property:

1) In 1912 a 60 metre long adit on present claim L.891860 was driven on the Larder Lake Fault Zone by Homestead Mining Company.

2) In 1929 a 15 metre (50 foot) deep shaft was sunk on claim L.16425 by Matabanick Kirkland Gold Mines.

3) Three short holes were drilled to test the syenite which is exposed in the Homestead adit as well as other small syenite bodies along and south of the Larder Lake Fault Zone (results and date unknown).

4) In 1966 Kerr Addison drilled one hole to test a massive pyrite showing in a road-cut along Highway 66 on patent L.9880.

5) In 1984 Jomi Minerals undertook hand stripping, prospecting, magnetic and VLF-EM surveys on the five claims referred to as the Kidston claims.

6) In 1985 Rio Algom Exploration Inc. drilled a 162 metre hole from the island in Vigrass Lake on the Kidston claims.

7) In 1986 HSK Minerals Ltd. stripped and sampled an altered and mineralized area known as the "Highway Zone", immediately south of Highway 66 and north of Vigrass Lake, on claim L.843400. Surface channel samples from this zone assayed up to 12.3 g/t Au over 1.5 metres (Page, 1986).

8) In 1986 HSK Minerals Ltd. completed magnetic, HLEM, VLF-EM and IP surveys over the area south of Vigrass Lake (Bois, 1987; Allard, 1987).

9) In 1987 HSK Minerals Ltd. power stripped a carbonate altered area south of Vigrass Lake. Grab samples from the surface showing are reported to have assayed up to 5185 ppb Au (Workman, 1988).

10) In 1987/88 HSK Minerals Ltd. diamond drilled 11 holes (1223 metres) to test the "Highway Zone" and geophysical anomalies and alteration zones located south of Vigrass Lake. Drilling of the "Highway Zone" intersected up to 348 ppb Au over six metres (VI-87-2). Hole VI-88-8, which tested the area of a surface showing associated with the carbonate zone south of Vigrass Lake, intersected an average of 125 ppb Au over a core length of 56 metres (Workman, 1988).

11) In 1988 A. Workman geologically mapped the area south of Vigrass Lake and re-logged their core for HSK Minerals Ltd (Workman, 1988).

12) During 1989-90 BMCI geologically mapped the entire Vigrass Lake property; carried out overburden stripping, channel sampling on the southern Vigrass Lake claims; cut a new grid with survey control, with an east-west base-line along the Teck/Otto Township boundary, and north-south cross-lines every 100 metres; completed a total field and vertical-gradient magnetic survey over the entire grid; and a multi-frequency, horizontal loop electromagnetic (Max-Min I) survey over that part of the grid south of the base-line covering the Larder Lake Group rocks. The results of these various programmes have been described in Benham and Barron (1990) and Roth (1990); relevant features are discussed further below in so far as they relate to the drilling programme.

4.0 REGIONAL GEOLOGY AND MINERALIZATION

The Kirkland Lake district is in the Abitibi Greenstone belt of the Superior Province of the Archean Canadian Shield. It lies to the south of the major east-west trending Blake River synclinorium, the northern and southern limbs of which are defined by the Destor-Porcupine and Larder Lake-Cadillac Fault Zones or Breaks. Most of the historical gold production in the Abitibi Belt is spatially associated with these two regional structural zones. The southern limb of the Blake River synclinorium in the Kirkland Lake area consists of tholeiitic volcanics of the Kinojevis Group. These are unconformably overlain by the trachytic volcanic and coarse clastic sedimentary rocks of the Timiskaming Group, and their associated syenitic intrusives. The southern boundary of the Timiskaming Group is marked by the locally south-dipping Larder Lake Fault Zone. The assemblage to the south of this fault consists of mafic to ultramafic volcanic and sedimentary rocks of the Larder Lake Group. The latter are intruded by syenitic plutons including the Lebel, Murdock Creek and Otto stocks.

The Kirkland Lake gold camp has produced in excess of 23 million ounces of gold from quartz-veined shoots in a deposit known historically as the Kirkland Lake Break or Mile of Gold. There were six producing mines along the deposit, of which the one remaining active producer is the Macassa Mine of Lac Minerals Ltd, at the west end of the deposit. The deposit strikes 067°, with a dip to the south of 75°-80°. It lies mostly within augite-syenites which intrude interbedded coarse tuffaceous and clastic sedimentary units of the Timiskaming Group. The augite-syenites and the country rocks are intruded in the area of the deposit by hypabyssal felsic syenite plugs and by syenite porphyry dykes. All of the intrusive phases are comagmatic with the enclosing trachytic volcanic rocks. Some of these plugs and dykes are locally mineralised or form one of the walls of the shoots. The entire deposit has been dismembered by a complex series of younger, steeply dipping reverse faults, of which the largest is the Kirkland Lake Main Break. Many of the larger shoots lie against, or are terminated by, one or more of the branches of this fault system.

The Kerr Addison mine, which is located 36 km to the east in the Larder Lake district, has produced in excess of ten million ounces, and is still in production. This ore deposit is hosted by altered and strongly sheared mafic to ultramafic volcanics of the Larder Lake Group immediately to the south of the Larder Lake Fault Zone, and is associated with altered plugs and dykes, known locally as "albitite", of unknown original composition. It contains two distinct ore-types: "green-carbonate ore", as quartz veins in altered ultramafic volcanic rocks; and "flow-ore", as pyritic, altered and deformed variolitic, pillowed basalts, with only minor quartz veining. Both ore types are spatially associated with the "albitite" plugs and dykes, but they have different distribution and plunges on the longitudinal section.

5.0 PROPERTY GEOLOGY

5.1 Stratigraphy

The Vigrass Lake property is underlain by two distinct assemblages: the southern, consisting of the mafic to ultramafic volcanic rocks and interbedded sediments of the Larder Lake Group; and the northern, of the Timiskaming Group trachyte flows and tuffs, conglomerates, graywackes and basal grits. These two assemblages are separated by the Larder Lake Fault Zone. The northern assemblage can be further subdivided into two structural blocks by the Blanche River Fault.

The 1990 and 1991 drill programmes tested targets located in the Larder Lake Group assemblage in the southern part of the property, south of Vigrass Lake.

The volcanic rocks of the Larder Lake Group, south of the Larder Lake Fault Zone, are komatiitic to basaltic flows with interflow graphitic, pyritic clastic sediments. The flows locally contain distinctive features, and are either massive, pillowed, variolitic, polysutured or spinifex-textured.

Massive, fine grained basalts form east-west trending outcrop ridges separated by topographically low areas represented by a swamp at 87+00N and by Vigrass Lake at 96+00N. These low-lying areas are probably underlain by komatiitic units.

The graphitic interflow sediments are best observed in drill core and in the area stripped of overburden between lines 105+00E and 107+00E at 92+50N. They consist of finely bedded argillites locally grading to fine grained graywacke. These sediments contain semi-massive pyrite lenses and 1 to 2 cm diameter pyrite nodules.

A south-facing sequence of komatiitic volcanics, mixed basalt and komatiite, locally variolitic, and tholeiitic basalt has been established from detailed mapping and the drilling in the area immediately south of Vigrass Lake between lines 103+00E and 112+00E. The contact between the northern komatiitic unit and the mixed komatiite and variolitic basalt is marked by a zone of green-carbonate alteration with quartz veins, pyritization and locally anomalous gold mineralization. The boundary between the mixed komatiite and variolitic basalt and the more southerly basalt is marked by one of the interflow graphitic sedimentary units, with a strataform zone of alteration and mineralization in the volcanic rocks on either side of this unit.

5.2 Intrusive Rocks

Small irregular syenite bodies and lamprophyre dykes intrude the Blanche River and Larder Lake Fault Zones as well as related sub-parallel structures. Otherwise there are no other intrusive bodies on the property. A large body to the north of the Blanche River mapped as mafic syenite was shown to be a composite trachytic flow (Benham & Barron, 1990).

5.3 Structure

The Larder Lake Group rocks strike 065° to 110° and dip steeply to the south at 75° to 90°. Top determinations from pillowed basalts indicate that they are south facing.

The main trace of the Larder Lake Fault zone, defined as the boundary which separates the Larder Lake Group from the Timiskaming Group to the north, consists of a poorly exposed, east-west belt of talc + chlorite + carbonate schist, north of the north shore of Vigrass Lake.

Splay faults of the Larder Lake Fault Zone form strongly altered, carbonated and silicified shear zones, with finely disseminated sulphides and irregular quartz veins, within the Larder Lake Group, up to 1000 metres south of, and sub-parallel to, the Larder Lake Fault Zone. These shear zones usually mark the contacts between komatiitic and basaltic flows, as for example along the north and south shores of Vigrass Lake as well as at 86+75N on line 107+00E.

A complex zone of shearing and faulting, with associated carbonatization and silicification, is located to the south of the south shore of Vigrass Lake. This complex structural zone, known as the Vigrass Lake Fault, is part of a regional feature which is sub-parallel to the Larder Lake Fault Zone.

5.4 Mineralization and Alteration

Within the Larder Lake Group there are a series of linear, altered, sheared and mineralized zones which have been explored in the past. These are described below from north to south, based on the results of the 1989 and 1990 BMCI programmes.

Samples of semi-massive pyrite in strongly altered, quartz veined mafic volcanics exposed along the highway, at 89+00E, 99+15N, assayed between 290 and 1440 ppb Au.

Channel samples were cut on the Highway Zone by BMCI in 1989, along two lines 7.5 metres apart, in the area of mineralization previously sampled by HSK Minerals (Page, 1986). Narrow, irregular, pyritic white quartz veins correspond to single assays of 4.37 g/t Au over 0.3 metres and 1.90 g/t Au over 0.3 metres on each line.

Linear, low magnetic susceptibility anomalies and coincident electromagnetic anomalies indicate the possibility of additional structural and alteration zones south of the chain of islands in Vigrass Lake and to the east of the area of alteration south of the south shore of the lake, as described above. The potential shear zone south of the chain of islands was tested by hole VA91-04, but this geophysical feature was found to be due to a stratigraphic contact between distinctive volcanic units.

An area of locally intense alteration, minor intrusives, pyritic mineralization and locally anomalous gold mineralization coincides with the shearing to the south of the south shore of Vigrass Lake, i.e. the Vigrass Lake Fault Zone, and the south-facing sequence of komatiite, variolitic basalt and interflow graphitic sediments described above. Two distinct areas of alteration and mineralization have been defined.

The northern zone lies between the northern komatiitic unit and the mixed variolitic basalt and komatiite to the south. A distinctive lamprophyre dyke is exposed along the south side of the zone. This altered zone consists of "green carbonate" (strongly altered, iron-carbonate and fuchsite bearing rock) with quartz veins and local pyrite, from which grab samples assayed up to 347 ppb Au. It was tested by hole VA91-04, where it was only weakly altered and mineralised.

The southern zone is along the south side of the mixed variolitic basalt and komatiite unit, the adjacent basalt immediately to the south, and on either side of one of the graphitic sedimentary units. The volcanic rocks in this area are highly altered, carbonated, silicified and pyritic; they are intruded by feldspar porphyritic dykes which are also silicified and pyritic; and the graphitic sediments contain semi-massive pyrite. Channel samples of carbonate altered komatiite to the north of the graphitic sediments assayed an average of 157 ppb Au over 3.0 metres; the basalts to the immediate south of the graphite unit averaged 187 ppb Au over 7.5 metres and 565 ppb Au over 2.0 metres; and grab samples of the semi-massive sulphides from the graphite unit assayed up to 223 ppb Au, 1.4 ppm Ag, 528 ppm Cu and 518 ppm Zn.

This southern zone was tested by HSK drill hole VI-88-8, which intersected an average of 125 ppb Au over a core length of 56 metres, and by hole VA91-03, collared approximately 115 metres further east. Hole VA90-01 tested the more southerly basaltic unit at a bearing of 035°, based on an earlier interpretation of the orientation of the graphitic units as identified from the horizontal-loop electromagnetic survey. Subsequent mapping has shown that the units along the south shore of Vigrass Lake are disrupted into structural blocks by a series of north striking faults, which dip east at 65°, with either dextral or sinistral motion. The conductive graphitic sediments, as identified from the electromagnetic survey, were shown as having a strike of approximately 305° to 035°, by joining up conductors; these graphitic sediments are now interpreted as striking 070° to 090°, but off-set along faults which are sub-parallel to the grid lines.

Grab samples taken in 1989 from narrow, northerly flat-dipping carbonatized zones in the stripped area along line 107+00E at 90+00N assayed 180 to 670 ppb Au. Channel samples cut during the 1990 field season assayed up to 179 ppb Au over widths of 1 to 2 metres.

Grab samples of pyritic quartz veins in altered mafic volcanics along the southern edge of the outcrop ridge at 109+00E, 88+00N, assayed 100 to 320 ppb Au.

6.0 DRILLING

6.1 Drilling Programmes

The 1990 diamond drilling on the Vigrass Lake property was started on July 4th 1990, and completed on July 9th, 1990 by Heath & Sherwood Drilling (1986) Inc. of Kirkland Lake under the supervision of W. Benham, the BMCI Kirkland Lake Project Geologist. The core was logged by K. Barron a BMCI employee. Two holes, the first of 175 metres and the second of 125 metres, were planned to test horizontal-loop electromagnetic (H.E.M.) conductors identified from the 1990 geophysical survey completed by BMCI. The first (VA90-01) was southwest of HSK hole VI-88-8, which had been collared to the north of the interpreted position of the conductor. The second (VA90-02) was along the probable mafic-ultramafic volcanic rock contact in the southern part of the property, along the south side of the ridge underlain by mafic volcanic rocks from which samples had assayed 100 to 320 ppb Au. A total of 176 samples of core were sawn in half, and one half assayed for gold by fire-assay, using one assay-ton fusions, by Swastika Laboratories in Swastika. Eight of these samples were assayed for zinc, one for copper and three for silver.

The 1991 drilling was started on October 16th and completed on October 27th, 1991 by Heath & Sherwood Drilling (1986) Inc. of Kirkland Lake under the supervision of W. Benham. The 1991 holes were logged by M. Masson. One 600 metre drill hole was planned along section 107+00E from 19+50N to 95+25N; however the planned hole, VA91-03, had to be abandoned at a depth of 309.1 metres due to drilling problems encountered in a mud fault gouge. A second hole, VA91-04, was collared to the north in order to complete the planned drill section, for a total of 624.15 metres in the two holes. A total of 399 sawn half-core samples were assayed for gold, using one assay-ton fusions, by Swastika Laboratories Ltd.

6.2 Drill Results

Hole VA90-01, drilled at an azimuth of 035°, tested a strong H.E.M. anomaly, interpreted as striking 305°, and crossing the common boundary between the claims optioned from Allsop-Zabudsky and Kidston at 105+30E, 92+00N. The hole intersected highly altered, carbonated, silicified basalts, graphitic sediments, lamprophyre dykes and komatiites. There is finely disseminated pyrite, locally up to 15%, throughout the hole. Locally intense fuchsite, sericite and siliceous alteration zones were encountered, as well as multiple phases of quartz veining. Up to 2% sphalerite was intersected in the graphitic sediments, quartz veining, and silicified basalts.

The source of the EM conductor is the graphitic sediment units interbedded within the basaltic volcanic rocks. A thick graphitic sediment unit was intersected towards the base of the hole, probably at the top of the mixed komatiite and variolitic basalt unit to the north. The single conductive horizon interpreted prior to the drilling is probably artificial, as it joins together what are now interpreted as two separate horizons, one to the south behind the collar of the hole as identified on the line to the east, and one further north as intersected at the bottom of the hole, as identified on the line to the west, and as seen in the area stripped of overburden.

A fault zone was intersected at 20 to 23 metres down the hole. The orientation of this fault is uncertain, but it is possibly one of the approximately north-south striking, east dipping faults as described above.

The entire hole VA90-01 was cut and sent for assay. Only four samples assayed greater than 100 ppb Au. Selected samples assayed up to 7080 ppm Zn, 418 ppm Cu and 1.6 ppm Ag.

Hole VA90-02, collared with an azimuth of 015°, tested a weak H.E.M. anomaly along the sheared southern edge of the bedrock ridge at 87+70N 109+00E. It intersected the contact between sheared, altered komatiites at the top of the hole and weakly silicified and carbonated (from 89 to 110 metres) basalts at the bottom, as well as minor lamprophyre dykes. The section of silicified basalts was cut and sent for assay, but none of the samples were anomalous. The weak conductor is probably due to the sheared contact between the komatiites and the basalts and/or the overburden-bedrock interface.

Hole VA91-03 intersected pillowed basalts, silicified, brecciated, pyritic and carbonated basalts, graphitic argillites, altered mafic intrusives, lamprophyre dykes and serpentinized komatiites. The silicified basalts and altered intrusives returned geochemically anomalous gold assays over significant widths including the following weighted averages:

33.5 - 40.6 m	0.16 g/t Au over 7.1 metres including 1.30 g/t Au over 0.90 metres
44.0 - 58.0 m	0.36 g/t Au over 14.0 metres
167.8 - 180.4 m	0.22 g/t Au over 12.6 metres
200.4 - 209.0 m	0.14 g/t Au over 8.6 metres

This wide interval of anomalous mineralization is similar to the average intersection of 0.125 g/t Au over 56.4 metres in HSK hole VI-88-8.

Hole VA91-04, totalling 312.7 metres, intersected a moderately foliated, weak carbonate altered zone from 62.3 to 80.5 metres. A 5.3 metre wide section of serpentinized komatiites from 90.1 to 95.4 contains 15%, 5 - 60 cm wide, grey, buff and brown carbonate and quartz veins with 1-2% fine grained pyrite. Assay results were nil to trace gold. No significant structures or mineralized alteration zones were encountered under the lake. The geophysically interpreted (low magnetics and co-incident VLF-EM anomaly) structural zone beneath the lake is probably due to a 33 metre wide interval of non-magnetic komatiites within a thick section of moderately to strongly magnetic serpentinized komatiites.

The results of the drilling are described in drill logs VA90-01, VA90-02, VA91-03 and VA91-04 (Appendix I) and illustrated on drill sections DC-001, DC-002, DC-043-1 & 2 and DC-044-1 & 2, at a scale of 1:500. Drill hole locations are shown on Drawing DP-005 at a scale of 1:5,000. All sampled intervals and assay results are recorded in the drill logs. Assay certificates are in Appendix II.

7.0 CONCLUSIONS AND RECOMMENDATIONS

There were no significant assays from either of the 1990 holes. However, hole VA90-01 has subsequently been shown to have been drilled at an inappropriate azimuth, based on joining-up different source bodies on parallel lines, due largely to a series of relatively closely spaced faults, parallel to the grid lines which were not recognised until the hole was drilled. Whilst this hole failed to intersect any gold mineralization it did confirm that the alteration system as seen in the outcrops and stripped areas was more extensive than seen in the available exposures.

The completion of the 107+00E cross-section in 1991 has shown that the mineralization and alteration in the general area of the south shore of Vigrass Lake is associated with a major stratigraphic contact between a mixed assemblage of basalts, komatiites and graphitic sediments to the south and a thick komatiite sequence to the north.

Although no economic mineralization was intersected there is now a zone, along a strike length of 120 metres, as seen in holes VA91-03 and VI-88-8, which has appreciable widths of geochemically anomalous gold. This mineralization is hosted by silicified and pyritized basalts and altered mafic intrusives, and is associated with graphitic interflow sediments and lamprophyric dykes, as well as a significant "mud-break" structure as a probable splay fault from the Larder Lake Fault Zone, and lies along a regionally significant mafic/ultramafic volcanic contact.

Overall, this mineralization is similar in style as well as structural and stratigraphic setting to the "flow-ore" in the Kerr Addison gold mine, which is located about 36 km along strike to the east at Virginiatown, and the Lightening Zone gold deposit, in Holloway Township to the north of Kirkland Lake. As such these significant widths of anomalous assays remain of interest and potential. Further drilling at 200 metre-spaced intervals along strike of holes VA91-03 and VI-88-8, as well as at depth, is recommended.

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January 22, 1992

APPENDIX I

DIAMOND DRILL LOGS

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-01

PROPERTY	Vigrass Lake (Allsop Claims)	**DATE LOGGED**	July 6-11 1990	**EASTING**	10525.00
		LOGGED BY	K. Barron	**NORTHING**	9145.00
TOWNSHIP	Otto	**SIGNED BY**		**ELEVATION**	
CLAIM No.	L 842494 / 544546	**DRILLED BY**	Heath & Sherwood	**LENGTH**	181.66
STARTED	July 4, 1990	**SURVEYED BY**		**UNITS**	metres
COMPLETED	July 10, 1990	**CORE LOCATION**	K.L. Warehouse	**CORE SIZE**	BQ
PURPOSE	To test HEM anomaly				
COMMENTS	HEM anomaly source - graphitic argillites				

DEPTH	AZIMUTH	DIP
Collar	035	50.0
38.48		50.0
60.96		49.5
91.44		49.0
121.92		49.0

SUMMARY LOG

INTERVAL From	To	DESCRIPTION
0.00	8.84	CASING
8.84	15.85	ALTERED BASALT
		Pervasive silicification and carbonate
15.85	23.43	ALTERED BASALT / FAULT BRECCIA
		20.12 - 23.16 Lost core
23.43	64.23	ALTERED BASALT
64.23	66.87	LAMPROPHYRE DYKE
66.87	78.35	ALTERED BASALT
78.35	79.29	LAMPROPHYRE DYKE
79.29	109.94	ALTERED BASALT
		Trace to 15% pyrite
109.94	110.29	GRAYWACKE
110.29	111.07	GRAPHITIC ARGILLITE
		3 - 5% pyrite
111.07	112.84	QUARTZ VEIN
		5% pyrite
112.84	129.80	GRAPHITIC ARGILLITE
129.80	130.40	LAMPROPHYRE DYKE
130.40	136.59	GRAPHITIC ARGILLITE
136.59	138.34	QUARTZ VEIN
		1 - 2% pyrite, 1% sphalerite
138.34	139.75	SILICIFIED BASALT
139.75	140.36	GRAPHITIC ARGILLITE
		Highly silicified
140.36	141.63	QUARTZ VEIN
		Up to 10% pyrite, 1% sphalerite
141.63	147.79	LAMPROPHYRE DYKE
149.79	148.93	ALTERED BASALT
148.93	150.19	GRAPHITIC ARGILLITE
150.19	151.90	ALTERED BASALT
151.90	153.29	LAMPROPHYRE DYKE
153.29	160.84	SILICIFIED BASALT
160.84	162.04	GRAPHITIC ARGILLITE / BASALT
162.04	165.58	ALTERED BASALT
165.58	173.96	KOMATIITE SCHIST
173.96	176.94	LAMPROPHYRE DYKE
176.94	181.66	KOMATIITE / TALC - QUARTZ SCHIST
	181.66	E.O.H.

ASSAY SUMMARY

INTERVAL From	To	LENGTH in metres	AVERAGE Au ppb
53.10	54.10	1.00	323
90.34	91.34	1.00	244
139.34	139.75	0.41	140
140.96	141.63	0.77	100

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-01

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
0.00	8.84	**CASING**									
8.84	15.85	**HIGHLY ALTERED BASALT** Light-dark grey, sub-massive with pervasive silicification and carbonate; numerous 2-3 mm veinlets of white carbonate and dark grey-black quartz and graphite, trace very fine grained pyrite. 8.84 - 10.00 Relict medium-grained texture only preserved where very weakly chloritic. 8.84 - 13.12 Trace to 1% disseminated pyrite. 9.57 Foliation @ 30° tca. 11.41 Foliation @ 32° tca. 12.00 Foliation @ 20° tca. 12.75 - 13.25 Fault zone, core rounded and gougy, rest of core blocky. 13.12 - 14.50 1-2% disseminated pyrite. 14.00 Foliation @ 46° tca. 14.50 - 15.85 Trace to 1% disseminated pyrite.	6001	8.84	10.00	1.16			nil		
			6002	10.00	11.00	1.00			nil		
			6003	11.00	12.00	1.00			nil		
			6004	12.00	13.00	1.00			nil		
			6005	13.00	14.00	1.00			nil		
			6006	14.00	15.00	1.00			82	72	
			6007	15.00	15.85	0.85			10		
15.85	23.43	**HIGHLY ALTERED BASALT / FAULT BRECCIA ZONE** Non-rotated breccia of silicified and carbonatised, highly bleached basalt; relict texture obliterated; fragments 0.5-3.0 cm, cemented by black, fine-grained matrix of quartz and graphite; some fragments with lighter bleached rims; occasional crosscutting carbonate veinlets, hairline to several mm wide; euhedral 2-4 mm pyrite in matrix; fractures slickensided; core very blocky and broken. 15.85 - 16.45 Trace - 1% disseminated pyrite. 16.00 Poor foliation @ 24° tca. 16.45 - 17.28 2-3% disseminated pyrite. 17.00 Joint/fracture @ 43° tca. 17.28 - 23.43 1-2% disseminated pyrite.	6008	15.85	16.45	0.60			7		
			6009	16.45	17.25	0.80			7		
			6010	17.25	18.25	1.00			21	17	

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-01

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
		18.50 - 20.12 Rounded pebbly core.	6011	18.25	19.25	1.00			nil		
		20.12 - 23.16 Lost core.	6012	19.25	20.12	0.87			nil		
23.43	25.01	**HIGHLY ALTERED BASALT** Light grey, fine-grained, sub-massive, fractured with pervasive carbonate and silicification, very hard; occasional blocky core; numerous non-directional fractures, with quartz and fine graphite; veinlets hairline to several mm wide; very occasional, 1-2 mm carbonate veinlets; pyrite usually very fine, locally 1-2 mm blebs.									
		24.58 Carbonate veinlet @ 40° tca.	6013	23.16	24.01	0.81			nil		
			6014	24.01	25.01	1.00			nil		
25.01	27.46	**CHLORITIC BASALT** Green-grey, sub-massive, non-foliated, non-magnetic; weak to moderate silicification; weak carbonatization, mostly as very fine veinlets; moderately chloritic; occasional late barren, white carbonate ± chlorite veinlets to 1 cm; occasional slickensided slip planes.	6015	25.01	26.01	1.00			nil		
			6016	26.01	27.46	1.46			nil		
27.46	38.58	**HIGHLY ALTERED BASALT** Light grey, massive, pervasive strong silicification and carbonatization; highly bleached; cut by occasional dark grey quartz veinlets, hairline to 5 mm; local breccia veins; sporadic and weak sulphides.									
		27.46 - 32.18 Trace disseminated pyrite.	6017	27.46	28.46	1.00			nil		
		28.34 1 cm carbonate vein @ 65° tca.	6018	28.46	29.46	1.00			nil		
		29.10 Possible bleached pillow selvage.	6019	29.46	30.46	1.00			nil		
		31.36 5 mm carbonate vein @ 30° tca.	6020	30.46	31.46	1.00			nil		
		31.91 1 cm white carbonate vein @ 42° tca.	6021	31.46	32.46	1.00			nil		
		32.18 - 32.22 1-2% disseminated pyrite.	6022	32.46	33.46	1.00			nil		
		32.22 - 38.58 Trace disseminated pyrite.	6023	33.46	34.46	1.00			7		
		33.11 2 cm bull quartz vein @ 30° tca.									

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-01

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
		34.30 2 cm bull quartz vein @ 23° tca.	6024	34.46	35.46	1.00			3		
			6025	35.46	36.46	1.00			nil		
		36.95 7 mm bull quartz and calcite vein @ 21° tca.	6026	36.46	37.46	1.00			nil		
		37.55 1 cm bull quartz and calcite vein @ 30° tca.	6027	37.46	38.58	1.12			nil		
		38.12 8 mm calcite vein @ 30° tca.									
38.58	49.44	**CHLORITIC BASALT** Green-grey, sub-massive to pillowed, fine-medium grain, non-magnetic, slightly bleached; pervasive carbonate only on veinlet selvages; weakly silicified; trace to 1% pyrite blebs to 3 mm; some sections weakly veined with dark grey quartz ± graphite.									
		38.58 Pillow selvedge.	6028	38.58	39.58	1.00			7		
		39.10 Pillow selvedge.	6029	39.58	40.58	1.00			nil		
		39.58 3 cm dark quartz and carbonate vein @ 43° tca.									
		40.77 1 cm white carbonate and quartz vein @ 47° tca.	6030	40.58	42.00	1.32			nil		
		41.28 Pillow selvedge.									
			6096	42.00	43.00	1.00			nil		
		43.89 Pillow selvedge.	6097	43.00	44.00	1.00			nil		
		43.63 Foliation @ 43° tca.									
		44.40 1 cm white carbonate vein @ 43° tca.	6098	44.00	45.31	1.31			3		
		44.05 Foliation @ 50° tca.	6031	45.31	46.31	1.00			7	10	
		45.05 Foliation @ 53° tca.									
		45.43 1 cm white carbonate and quartz vein @ 35° tca.									
		45.75 1 cm white carbonate and quartz vein @ 42° tca.									
		46.36 2 cm white carbonate vein @ 67° tca.	6099	46.31	47.31	1.00			nil		
		47.63 Foliation @ 47° tca.	6100	47.31	48.31	1.00			nil		
		49.18 Foliation @ 55° tca (joint ?).	6101	48.31	49.44	1.13			nil		

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-01

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
49.44	51.19	**HIGHLY ALTERED BASALT** Light grey, bleached, sub-massive, non-foliated, medium grained, highly carbonatized and silicified; trace disseminated pyrite, very minor pyrite in quartz veinlets; abundant, non-directional, dark grey, 2-3 mm quartz veinlets.	6032 6033	49.44 50.44	50.44 51.19	1.00 0.78			24 10		
51.19	53.11	**CHLORITIC BASALT** Grey-green, weakly carbonatized and silicified; medium-grained with no discernable fabric; local and sporadic trace pyrite (especially around pillow selvedges); occasional narrow, white carbonate veinlets. 52.48 Pillow selvedge.	6095	51.19	53.10	1.91			nil		
53.11	54.80	**HIGHLY ALTERED BASALT** Light grey, highly carbonatized and silicified, sub-massive with numerous white, 2-5 mm carbonate veinlets; occasional dark grey quartz veinlets with minor pyrite. 53.11 - 54.80 Trace - 1% disseminated pyrite. 53.64 Calcite vein 1.5 cm @ 12° tca.	6034 6035	53.10 54.10	54.10 54.80	1.00 0.70			295 nil	350	
54.80	56.73	**CHLORITIC BASALT** Green-grey, weakly to moderately carbonatized, weak silicification, medium grained, non-magnetic; overallnil to trace pyrite; occasional white calcite and grey quartz veinlets. 56.29 - 56.40 1-2% disseminated pyrite on pillow selvedge. 56.73 Foliation @ 43° tca.	6102	54.80	56.27	1.47			nil		

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-01

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
56.73	64.23	**HIGHLY ALTERED BASALT** Light grey, massive silicification and carbonatization, with rare veinlets; sporadic, trace disseminated pyrite; pervasive alteration, with relict texture in places; locally slightly chloritic and green.									
		57.68 1 cm white carbonate vein @ 20° tca.	6036	56.27	57.27	1.00			7		
		58.26 0.8 cm grey quartz and carbonate veinlet @ 22° tca.	6037	57.27	58.27	1.00			7		
		58.88 3 cm grey quartz vein @ 55° tca.	6038	58.27	59.27	1.00			7		
		59.57 1 cm granular white quartz vein @ 23° tca.	6039	59.27	60.27	1.00			nil		
			6040	60.27	61.27	1.00			nil		
		61.39 1 cm grey quartz vein @ 55° tca.	6041	61.27	62.27	1.00			nil		
		63.10 3 mm quartz, pyrite stringer.	6042	62.27	63.27	1.00			nil		
		63.69 3 mm quartz, pyrite stringer.	6043	63.27	64.23	0.96			nil		
64.23	66.87	**LAMPROPHYRE DYKE** Green-grey, medium grained, chloritized and moderately sericitized; strongly foliated and lineated; 3-5 mm mica phenocrysts completely replaced by chlorite, moderate to highly carbonatized; core very blocky; upper contact marked by 1 cm carbonate vein @ 45° tca; lower contact highly pyritized and quartz-carbonate veined; lower contact ground core.									
		64.23 - 65.84 Nil to trace disseminated pyrite.	6044	64.23	65.87	1.64			nil		
		65.84 - 66.87 1-5% disseminated pyrite.	6045	65.87	66.87	1.00			21	17	
		66.00 Foliation @ 44° tca.									
		66.18 - 66.87 Multiple, grey quartz + carbonate veins.									
		66.43 1 cm white carbonate vein @ 50° tca.									

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-01

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
66.87	74.35	**HIGHLY ALTERED BASALT** Light grey to green-grey, medium grained, sub-massive, patchy carbonatization, pervasive moderate-strong silicification, especially at pillow selvedges;highly silicified and carbonatized zone.									
		66.87 - 67.97 Very broken, rounded core with poor recovery.	6046	66.87	67.97	1.00			nil		
		67.97 Pillow selvedge.	6047	67.97	68.97	1.00			nil		
		67.97 - 68.88 Blocky and rounded core.									
		68.71 Pillow selvedge.									
		68.88 - 74.35 Grey-green and chloritic in places with patchy zones of mod-strong carbonatization.	6048	68.97	69.97	1.00			nil		
		69.68 5 mm white carbonate vein @ 25° tca.	6049	69.97	70.97	1.00			nil		
		70.70 2 cm white carbonate vein @ 42° tca.	6050	70.97	71.97	1.00			nil		
		70.75 Pillow selvedge.									
		71.26 1 cm white carbonate vein @ 46° tca.	6051	71.97	72.97	1.00			7		
		71.35 Pillow selvedge.									
		72.79 1 cm white carbonate vein @ 58° tca.	6052	72.97	74.35	1.38			nil		
		73.45 1 cm white carbonate vein @ 45° tca.									
		72.60 Fracture with 2 cm offset along core axis.									
74.35	78.35	**CHLORITIC BASALT** Green-grey, very local carbonatization and bleaching; pervasive moderate to strong silicification.									
		74.35 - 76.50 Nil - trace disseminated pyrite.	6053	74.35	75.35	1.00			nil		
			6054	75.35	76.35	1.00			nil		
		76.50 - 76.81 Multiple light and dark grey quartz, carbonate veins and breccia.	6055	76.35	77.35	1.00			nil		
		76.81 - 78.35 2-3 mm pyrite stringers.	6056	77.35	78.35	1.00			7		

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-01

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
78.35	79.29	**LAMPROPHYRE DYKE** Dark green, chloritized, medium grained, very weak foliation, sub-massive; pervasive carbonate; 2-3 mm strong chloritized biotite; upper contact @ 57° tca.; lower contact @ 53° tca; dyke is later than mineralization.	6103	78.35	79.35	1.00			nil		
79.29	82.34	**CHLORITIC BASALT** Green-grey, medium grained with very local carbonatization, occasional white carbonate and dark grey quartz veinlets; sulphide very weak and local; silicification weak, locally moderate.	6104	79.35	80.35	1.00			nil		
		81.87 1 cm white carbonate veinlet @ 40° tca.	6105	80.35	81.35	1.00			nil		
		82.12 5 mm white carbonate veinlet @ 32° tca.	6106	81.35	82.34	0.99			nil		
82.34	109.94	**HIGHLY ALTERED BASALT** Very highly bleached, light-dark grey, primary texture obliterated; pervasively altered, silicified and carbonatized; locally pyritic; locally sericitized; spaced cleavage at approximately 40° to core axis.									
		83.10 2 cm quartz-carbonate vein @ 11° tca.	6057	82.34	83.34	1.00			nil		
		83.36 16 cm brecciated white carbonate vein.	6058	83.34	84.34	1.00			7		
		84.00 - 84.79 3-5% disseminated pyrite.	6059	84.34	85.34	1.00			nil		
		84.79 - 87.17 Trace - 1% disseminated pyrite.									
		85.10 1 cm dark grey quartz vein @ 42° tca.	6060	85.34	86.34	1.00			nil		
			6061	86.34	87.34	1.00			nil		
		87.17 - 88.52 5-10% disseminated and stringer pyrite.	6062	87.34	88.34	1.00			10		
		88.52 - 90.22 2-5% finely disseminated pyrite.	6063	88.34	89.34	1.00			nil		
			6064	89.34	90.34	1.00			25		
		90.22 - 91.21 1-15% very finely disseminated pyrite.	6065	90.34	91.34	1.00			240	247	
		91.15 Narrow, dark grey quartz veinlets along foliation.	6066	91.34	92.34	1.00			24		
		91.21 - 91.98 5-10% stringer and disseminated pyrite, quartz vein breccia.									

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-01

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
		91.98 - 92.92 Trace - 2% disseminated pyrite.									
		92.92 - 95.47 Nil - trace pyrite; patchy silicification and carbonatization, weakly chloritic.	6067	92.34	93.34	1.00			3		
			6068	93.34	94.34	1.00			nil		
			6069	94.34	95.34	1.00			nil		
		95.47 - 96.21 1-2% pyrite stringers, minor brecciation, discontinuous dark grey quartz veinlets.	6070	95.34	96.34	1.00			nil		
		96.21 - 97.36 Trace pyrite, strongly silicified.	6071	96.34	97.34	1.00			nil		
		97.36 - 97.52 Sericitized, carbonatized with 3% pyrite.	6072	97.34	98.34	1.00			7		
		97.52 - 98.02 Carbonatized, moderately silicified; trace - 1% pyrite.									
		98.02 - 98.17 2% pyrite, locally sericitic.	6073	98.34	99.58	1.24			nil		
		98.30 - 98.62 Trace pyrite, strongly silicified.									
		98.62 - 98.74 Moderately sericitic, 2% pyrite.									
		98.74 - 99.58 Trace pyrite, strongly carbonatized.									
		99.58 Pillow selvedge.	6074	99.58	100.58	1.00			31		
		99.58 - 105.28 Strongly sericitized and carbonatized, locally silicified, 3-5% pyrite.	6075	100.58	101.58	1.00			38	34	
		100.40 - 105.50 Very blocky and rounded.	6076	101.58	102.58	1.00			21		
			6077	102.58	103.58	1.00			nil		
			6078	103.58	104.58	1.00			7		
		105.10 Fault gouge, poor recovery.	6079	104.58	105.58	1.00			nil		
		105.28 - 108.30 Trace - 1%, locally 2%, pyrite; highly bleached, carbonatized, locally silicified.	6080	105.58	106.58	1.00			nil		
			6081	106.58	107.58	1.00			nil		
			6082	107.58	108.58	1.00			nil		
		108.30 - 109.94 1-3%, locally 5%, fine pyrite; very bleached, strongly silicified and carbonatized; many discontinuous, 2-3 mm, dark grey quartz veinlets.	6083	108.58	111.07	2.49			nil		

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-01

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
109.94	110.29	**GRAYWACKE** Medium grained, grey, with black argillite rip-up clasts and thin beds; contact at 47° tca, interbeds also at 47° tca; flame structures point way-up as down hole; strong pervasive carbonate, trace pyrite. 110.08 1 cm white carbonate vein @ 46° tca.									
110.29	111.07	**GRAPHITIC ARGILLITE** Black with lustrous graphite on fractures; 3-5% pyrite as disseminated cubes and discontinuous stringers; highly carbonatized and silicified in places with considerable bedding disruption and brecciation; highly conductive.									
111.07	112.84	**QUARTZ VEIN** Grey quartz, weak banded appearance, trace sericite, 5% disseminated pyrite blebs, trace yellow-brown sphalerite; 1 mm carbonate filled fractures; upper contact is irregular; lower contact @ 63° tca.	6084 6085	111.07 112.07	112.07 112.84	1.00 0.77			nil 21	 14	
112.84	129.80	**GRAPHITIC ARGILLITE** Black to dark grey, laminated to mostly massive; locally foliated, especially where graphite rich; locally grades into fine grained graywacke. 112.84 - 116.20 Weakly to moderately silicified, strongly carbonatized in places; 2-5% pyrite as disseminated 3-5 mm euhedra; occasional white carbonate veinlets. 113.90 Bedding @ 52° tca. 114.80 Bedding @ 42° tca. 114.90 Bedding @ 45° tca. 116.20 - 117.80 Weakly to moderately carbonatized. 116.60 Foliation @ 19° tca. 117.00 Bedding @ 45° tca.	6086 6087 6088 6089 6090	112.84 113.84 114.84 115.84 116.84	113.84 114.84 115.84 116.84 117.84	1.00 1.00 1.00 1.00 1.00			10 7 3 nil 10		

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-01

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
		117.65 - 117.80 Very broken and rounded core.									
		117.80 - 126.00 Unaltered with occasional, 2-5 mm, bull quartz veinlets. 1-2% scattered, 5-7 mm, pyrite blebs; massive but fractured with lustrous graphite on faces.	6126	117.84	118.84	1.00			7		
			6127	118.84	119.84	1.00			nil		
			6128	119.84	120.84	1.00			nil		
			6129	120.84	121.84	1.00			nil		
			6130	121.84	122.84	1.00			nil		
			6131	122.84	123.84	1.00			nil		
			6132	123.84	124.84	1.00			nil		
			6133	124.84	125.84	1.00			7		
		126.00 - 126.75 Trace to 1% pyrite stringers; mostly barren and unaltered.	6134	125.84	126.84	1.00			10		
		126.75 - 128.35 Trace pyrite; bull quartz veins.	6135	126.84	127.35	0.51			24		
			6091	127.35	128.35	1.00			nil		
		128.35 - 129.80 Unaltered; minor quartz and white carbonate veinlets; trace - 1% disseminated pyrite.	6136	128.35	129.80	1.45			10		
129.80	130.40	**LAMPROPHYRE DYKE** Buff, medium grained, highly bleached with 2-4 mm green mica phenocrysts; upper contact @ 46° tca; lower contact @ 83° tca; 3-10 mm xenoliths; moderately carbonatized with 2% disseminated pyrite.	6092	129.80	130.40	0.60			10		
130.40	136.59	**GRAPHITIC ARGILLITE** Very black, with disseminated pyrite; weakly carbonatized contact; locally well foliated; very conductive with soft flaky graphite and disseminated pyrite.									
			6137	130.40	131.40	1.00			38		
		132.77 Foliation @ 45° tca.	6138	131.40	132.52	1.12			48		
		132.77 - 134.52 Numerous 2-10 mm irregular quartz ± carbonate veinlets, trace pyrite.	6093	132.52	133.52	1.00			3		
			6094	133.52	134.52	1.00			31	34	
		134.28 Foliation @ 47° tca.									
		134.52 - 136.59 Very conductive, with coarse black graphite on fracture planes.	6139	134.52	135.52	1.00			48		
		134.70 1 cm, irregular white quartz vein with silicified selvedges.									

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-01

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
		134.94 - 135.08 Very broken. 134.95 Foliation @ 63° tca. 134.97 Pyrite nodules up to 3 cm in diameter. 135.05 Pyrite nodules up to 3 cm in diameter. 135.08 - 135.15 White quartz veins and breccia to 5 mm wide. 135.15 - 136.00 Weakly to moderately silicified with vuggy dolomite (ankerite?) crystals @ 135.40. 135.81 0.8 cm sphalerite bleb in veinlet, dark brown vitreous. 136.00 Pyrite nodules up to 3 cm in diameter. 136.00 - 137.00 Extremely broken; highly fractured with platy graphite. 136.48 - 136.59 Moderately silicified with irregular quartz veinlets.	6140	135.52	136.59	1.07			58	62	
136.59	138.34	**QUARTZ VEIN** Contacts broken and ground; 1-2% pyrite and trace - 1% sphalerite.									
		136.34 - 136.40 Vuggy, drusy quartz to 1 cm crystals with crystalline sphalerite, masses to 1.5 cm; minor crystalline ankerite. 136.40 - 137.90 Dark grey, vuggy quartz with graphite inclusions; fine grained, disseminated pyrite.	6141	136.59	137.59	1.00			10		
		137.90 - 138.14 White drusy quartz with occasional crystalline sphalerite masses to 5 mm; occasional ankerite crystals. 138.14 - 138.34 Dark grey, drusy vuggy quartz with approximately 1%, 2-3 mm sphalerite blebs.	6142	137.59	138.34	0.75			7		
138.34	139.75	**HIGHLY SILICIFIED BASALT** Extremely silicified grey-beige with >80% quartz veinlets; 1-2% disseminated pyrite blebs, with trace sphalerite in 1-2 mm fine stringers; multiple breccias and vein generations.	6143	138.34	139.34	1.00			nil		

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-01

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
		139.49 - 139.75 Approximately 2% sphalerite, 5% pyrite in moderately sericitized zone.	6144	139.34	139.75	0.41			146	134	
		139.70 - 139.75 Bright green fuchsitic mica in anastomosing stringers.									
139.75	140.36	**GRAPHITIC ARGILLITE** Highly silicified and fractured, black, with anastomosing quartz veinlets and pervasive silicification; numerous sphalerite blebs and stringers; pyrite blebs and masses; graphite on fractures; occasional 1-2 mm chalcopyrite blebs; strongly banded @ 78° tca.	6145	139.75	140.36	0.61			nil		
140.36	141.63	**QUARTZ VEIN** Upper contact at approximately 75° tca, but not sharp; multiple generations of quartz veinlets; locally up to 10% pyrite as large stringers and blebs to 1 cm; approximately 1% crosscutting sphalerite stringers; minor chalcopyrite with pyrite; vaguely banded at 70° tca.	6146	140.36	140.96	0.60			62		
			6147	140.96	141.63	0.77			79	120	
141.63	147.79	**SILICIFIED LAMPROPHYRE DYKE** Highly silicified, only recognizable by rare green mica phenocrysts and pyrite replacement of mafics. Core is lineated and weakly sericitized; up to 5% disseminated pyrite.									
			6148	141.63	142.63	1.00			51		
		142.63 - 142.83 Brecciated grey and white quartz carbonate vein with pyrite blebs to 1 cm.	6149	142.63	143.63	1.00			45		
			6150	143.63	144.63	1.00			55	55	
		144.26 - 144.43 Mafic volcanic inclusion, strongly foliated, highly sericitic and fuchsitic.									
		144.56 - 144.76 Quartz + carbonate ± fuchsite zone.									
		144.87 - 144.98 Brecciated quartz + carbonate vein.									
		145.30 Strong foliation @ 45° tca.	6151	144.63	145.63	1.00			38		
		144.98 - 147.79 Highly silicified with 3-5% disseminated pyrite, occasional fuchsite with carbonate; strongly lineated.	6152	145.63	146.63	1.00			14		
			6153	146.63	147.79	1.14			10		

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-01

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
147.79	148.93	**HIGHLY ALTERED BASALT** Highly silicified, light grey, weakly to moderately carbonatized; numerous fine quartz veinlets; weakly sericitized. 147.92 - 148.00 Graphitic argillite interbed with approximately 5% pyrite; upper contact @ 70° tca. 148.72 - 148.85 Graphitic argillite interbed; highly quartz veined; 2-3% pyrite.	6154	147.79	148.93	1.14			3		
148.93	150.19	**GRAPHITIC ARGILLITE** Black, highly graphitic and conductive with coarse graphite plates on fracture planes; weakly to moderately silicified with occasional white quartz veinlets; 2-3% pyrite. 149.30 Foliation @ 53° tca. 149.52 4 mm sphalerite bleb in quartz vein. 149.76 - 150.10 Very broken and gougy. 150.10 - 150.52 Highly silicified. 150.10 Foliation @ 60° tca. 150.10 - 150.52 5% pyrite.	6155	148.93	150.19	1.26			3		
150.19	151.90	**SILICIFIED BASALT** Highly altered, light-dark grey, with numerous dark grey quartz veinlets; trace - 1% disseminated pyrite; weakly to moderately sericitic; weak local carbonatization. 151.20 Foliation @ 68° tca.	6156	150.19	151.90	1.71			7		
151.90	153.29	**LAMPROPHYRE DYKE** Completely silicified, grey, porphyritic, with deformed, 2-3 mm, mafic grains (biotite ?); chloritized; strongly lineated; upper contact ground; lower contact @ 77° tca.	6157	151.90	153.29	1.39			nil		

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-01

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
153.29	160.84	**SILICIFIED BASALT** Light grey, pervasive silicification, very weakly carbonatized and local grey quartz veinlets; nil to trace pyrite; local sericitization. 160.04 - 160.23 1-2% disseminated pyrite. 160.60 - 160.71 Grey quartz vein, minor pyrite. 160.71 - 160.84 Numerous grey quartz veinlets, 1-2% pyrite.	6158	153.29	154.79	1.50			nil		
			6159	154.79	156.29	1.50			nil		
			6160	156.29	157.79	1.50			10		
			6161	157.79	159.29	1.50			nil		
			6162	159.29	160.84	1.55			10		
160.84	160.95	**GRAPHITIC ARGILLITE** Black, highly conductive, 2-3% pyrite; upper contact @ 70° tca; moderately quartz veined and silicified.	6163	160.84	162.04	1.20			10		
160.95	161.66	**BASALT** Moderately quartz veined and silicified, grey-black, cut by numerous brecciated, quartz veins with graphite; 3-4% disseminated pyrite. 162.62 Foliation @ 35° tca.									
161.66	162.04	**GRAPHITIC ARGILLITE** Moderately silicified, numerous quartz veins along foliation; 3-4% disseminated pyrite.									
162.04	165.58	**ALTERED BASALT** Grey-brown, highly silicified, sub-massive, non-foliated; trace carbonate; 2-3% disseminated pyrite as 1-2 mm grains; numerous white and grey irregular quartz veins; occasional yellow-brown anastomosing sericite veinlets. 163.69 - 163.71 Quartz veins. 164.57 - 164.76 Quartz veins.	6164	162.04	163.54	1.50			14		
			6165	163.54	164.58	1.04			58	51	
			6169	164.58	165.58	1.00			41		

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-01

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
165.58	170.01	**KOMATIITE / FUCHSITIC SCHIST** Highly silicified, contorted schist; locally weakly talcose; locally chloritic; closely packed quartz pods and veinlets with sericite and bright green fuchsite matrix; trace pyrite.									
		166.03 - 166.29 Possible highly altered dyke; sericite and fuchsite masses considerably contorted. 165.70 Foliation @ 34° tca. 165.94 - 166.30 1-2% pyrite. 166.60 Foliation @ 80° tca. 170.00 Foliation @ 48° tca.	6166 6167 6168	165.58 167.08 168.58	167.08 168.58 170.01	1.50 1.50 1.50			31 10 nil		
170.01	170.37	**SYENITE/LAMPROPHYRE DYKE** Contacts ground; grey-brown, highly bleached, with lineated 2-3 mm feldspars and mafic grains; trace pyrite.	6170	170.01	170.37	0.36			10		
170.37	173.96	**KOMATIITE SCHIST** Strongly contorted schist, with multiple quartz veinlets, local bright green fuchsitic mica shears; locally chloritic or talcose; highly silicified throughout; trace pyrite.	6171 6172	170.37 171.87	171.87 173.96	1.50 2.09			nil nil		
173.96	176.94	**LAMPROPHYRE DYKE** Yellow-brown, completely altered, with 3-4 mm green mica phenocrysts; highly sericitized and silicified; non-foliated; upper contact @ 77° tca; crosscut by numerous chlorite + quartz pods and veins and by bright yellow sericite shears; some brecciation; trace pyrite.	6173	173.96	176.94	2.98			3		

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-01

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
176.94	181.66	KOMATIITE/TALC QUARTZ SCHIST Highly silicified, moderately to very strongly foliated with contorted quartz and chlorite veinlets; locally talcose; occasional white calcite veins with coarse carbonate; trace pyrite. 178.50 Foliation @ 39° tca. 181.66 Foliation @ 40° tca.	6174	176.94	178.94	2.00			3		
			6175	178.94	180.94	2.00			nil		
			6176	180.94	181.66	0.72			nil		
	181.66	E.O.H.									

ASSAYS FOR OTHER THAN GOLD:

Sample	From	To	Length	Cu, ppm	Zn, ppm	Ag, ppm
6084	111.07	112.07	1.00		614	0.4
6085	112.07	112.84	0.77		1180	0.4
6139	134.52	135.52	1.00		653	
6140	135.52	136.59	1.07		1530	
6141	136.59	137.59	1.00		7080	
6142	137.59	138.34	0.75		385	
6143	138.34	139.34	1.00		2720	
6144	139.34	139.75	0.41	418	2110	1.6

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-02

PROPERTY	Vigrass Lake (Allsop Claims)	**DATE LOGGED**	July 12 1990	**EASTING**	10590.00
TOWNSHIP	Otto	**LOGGED BY**	K. Barron	**NORTHING**	8725.00
CLAIM No.	L 737144	**SIGNED BY**		**ELEVATION**	
STARTED	July 8, 1990	**DRILLED BY**	Heath & Sherwood	**LENGTH**	120.70
COMPLETED	July 9, 1990	**SURVEYED BY**		**UNITS**	metres
PURPOSE	To test HEM anomaly	**CORE LOCATION**	K.L. Warehouse	**CORE SIZE**	BQ
COMMENTS	HEM anomaly - sheared komatiite / basalt contact. No anomalous assays.				

DEPTH	AZIMUTH	DIP
Collar	015	50.0
60.96		49.0
117.65		48.5

SUMMARY LOG

INTERVAL From	To	DESCRIPTION
0.00	11.28	**CASING**
11.28	17.44	**KOMATIITE** Well foliated
17.44	18.14	**LAMPROPHYRE DYKE**
18.14	57.69	**KOMATIITE** Well foliated
57.69	71.00	**LAMPROPHYRE DYKE**
71.00	110.65	**BASALT** 71.00 - 75.50 Carbonatized, bleached and silicified 88.33 - 90.25 Bleached, silicified, carbonatized, trace pyrite 94.10 - 99.50 Moderately to highly carbonatized 99.50 - 108.20 Highly altered, strongly carbonatized and bleached, variably silicified, trace pyrite
110.65	110.74	**PORPHYRITIC SYENITE** Strongly carbonatized
110.74	112.93	**LAMPROPHYRE DYKE**
112.93	113.38	**PORPHYRITIC SYENITE** 112.93 - 113.38 Quartz carbonate veining, 2 - 3% pyrite
113.38	120.70	**PILLOW BASALT**
	120.70	**E.O.H.**

ASSAY SUMMARY

INTERVAL From	To	LENGTH in metres	AVERAGE Au ppb

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-02

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
0.00	11.28	CASING									
11.28	17.44	KOMATIITE Dark green, medium grained, 2-3 mm, well-foliated; very soft, serpentine on slips, local pervasive talc, occasional white calcite ± chlorite veinlets; local spinifex texture; locally trace sulphide; variably magnetic, moderate to strong except where serpentine rich; very broken and blocky. 11.68 Foliation @ 48° tca. 12.30 5-10 mm spinifex. 12.80 - 14.02 Lost core (pulverized). 15.50 5-10 mm spinifex. 16.62 Possible polysuturing. 17.30 Foliation @ 37° tca.									
17.44	18.14	LAMPROPHYRE DYKE Black, medium grained, biotite porphyritic, very weakly foliated, moderately carbonatized; no apparent sulphides; blocky; contacts broken up.									
18.14	57.69	KOMATIITE Dark green, well foliated, very soft, locally talc and serpentine rich; occasional 2-5 mm white calcite veinlets; rare sporadic pyrite; variably moderately to strongly magnetic. 18.40 - 19.76 Very gougy, <70% recovery. 20.00 Foliation @ 47° tca. 20.46 Foliation @ 46° tca. 20.60 1 cm white calcite veins. 20.69 - 22.00 Very broken and blocky, local. 21.30 Foliation @ 45° tca.									

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-02

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
		22.40 1 cm white calcite veins. 22.57 1 cm white calcite veins. 23.16 Foliation @ 57° tca. 24.80 Foliation @ 46° tca. 24.33 - 24.74 Very serpentine rich and gougy. 25.18 Foliation @ 45° tca. 26.27 White calcite veinlet. 27.50 White calcite veinlet. 27.00 - 27.50 Broken core, gougy. 26.40 1 cm carbonate vein with minor pyrite. 28.74 Foliation @ 60° tca. 30.11 - 30.20 White calcite and serpentine veinlets. 31.50 - 32.20 Very broken and gougy. 32.20 Foliation @ 49° tca. 32.40 - 35.30 Broken and ground core. 33.06 White-green carbonate and serpentine veins. 34.55 White-green carbonate and serpentine veins. 35.90 - 36.30 Broken and ground core. 36.30 Foliation @ 50° tca. 38.00 Foliation @ 60° tca. 38.85 - 38.95 Carbonate-serpentine veins. 39.40 Foliation @ 50° tca. 40.06 Foliation @ 47° tca. 42.30 3 cm gouge. 42.85 1 cm calcite vein. 43.10 Foliation @ 45° tca. 43.85 - 44.26 Abundant white-green, carbonate and talc veinlets and pods. 44.38 - 44.65 Carbonate and talc veins. 45.50 Foliation @ 54° tca. 46.10 - 46.16 Talc and carbonate pods.									

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-02

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No. FROM TO Length % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb Au,Check Au*M
		47.52 - 47.62 Talc and carbonate pods. 47.80 Spinifex texture. 48.40 Foliation @ 45° tca. 49.19 3 cm gouge. 49.70 - 50.60 Brecciated; carbonate and serpentine veined. 50.44 - 50.55 Very broken and gougy. 51.00 - 51.20 Very broken and gougy. 51.00 - 52.00 Blocky core. 51.75 Foliation @ 47° tca. 51.80 - 52.60 Irregular carbonate and serpentine veins. 54.20 Foliation @ 50° tca. 54.17 - 54.21 White carbonate veinlets. 54.53 2 cm white carbonate vein. 55.82 Foliation @ 47° tca. 56.60 - 57.00 Numerous 2-3 mm, white carbonate ± serpentine veinlets. 57.20 - 57.40 White calcite veinlets; somewhat brecciated.			
57.69	71.00	**LAMPROPHYRE DYKE** Dark green, highly chloritized, sub-massive; mica phenocrysts up to 5 mm, (porphyritic); locally slightly pink, weakly magnetic; pervasive carbonate, occasional pods of slightly pink coarse calcite; upper contact is indistinct, lower contact @ 47° tca. 57.10 - 57.33 Komatiite wallrock inclusion. 57.33 3.5 cm calcite + chlorite vein. 58.08 - 58.16 Komatiitic inclusion. 58.45 - 58.82 White calcite breccia vein. 60.63 - 60.66 Large pink/white calcite pod. 60.86 - 61.00 Irregular, 1-1.5 cm, calcite veins. 61.57 - 61.70 Irregular pink-white carbonate pods.			

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-02

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
		62.40 - 63.79 Irregular calcite veinlets with slight brecciation, minor chlorite. 63.33 - 63.60 Slightly yellow (sericitized?). 63.60 - 64.91 Wallrock xenolith of weakly to moderately carbonatized basalt, weakly silicified. 64.91 - 71.00 Biotite porphyritic in places; very weak calcite veining. 66.41 3 cm granite xenolith (basement rock). 70.30 - 70.70 Augite porphyritic, 5 mm euhedra.									
71.00	110.65	**BASALT** Light to dark green with occasional pillow selvedges, medium-fine grained; locally weak to moderate pervasive carbonatization, weak silicification; numerous hairline calcite ± epidote veinlets; very minor pyrite; poor to moderately well foliated; weakly to non-magnetic. 71.00 - 75.50 Weakly to moderately carbonatized, locally weakly bleached and silicified. 72.26 Foliation @ 48° tca. 73.20 - 73.25 Multiple calcite veins. 73.41 - 73.43 Weak brecciation with calcite matrix. 73.52 5 mm grey quartz veinlet @ 26° tca. 74.92 Foliation @ 43° tca. 75.23 - 75.40 Moderately carbonatized, trace pyrite. 75.18 1 cm carbonate vein @ 65° tca. 75.40 - 78.49 Slightly bleached, weakly to moderately carbonatized. 77.20 Pillow selvedge. 78.50 2 cm grey-white quartz vein @ 27° tca, trace pyrite. 77.89 7 mm white quartz veinlet @ 47° tca. 77.90 - 78.20 Moderately silicified and carbonatized. 78.69 1 cm calcite + quartz vein @ 45° tca.	6107	72.83	73.83	1.00			3	

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-02

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
		80.28 - 80.55 White calcite + chlorite pod.									
		81.08 - 81.90 Moderately silicified, carbonate veined.	6108	81.08	82.08	1.00			27		
		81.73 5 cm quartz vein with 2% disseminated pyrite.									
		81.97 1.5 cm white calcite vein @ 35° tca.									
		82.30 1.0 cm white calcite vein @ 34° tca.									
		83.80 - 83.83 Moderately silicified and carbonatized.									
		84.21 - 84.28 Well silicified vein selvedge and 1 cm quartz vein.									
		84.28 - 84.90 Well silicified and carbonatized.									
		84.32 1 cm quartz + carbonate + epidote vein, @ 45° tca.									
		84.90 - 88.33 Weakly altered; a few narrow carbonate veins.									
		88.33 - 90.25 Highly bleached, numerous irregular quartz and carbonate veinlets; pervasive silicification and patchy pervasive carbonatization; trace pyrite.	6109	88.33	89.72	1.39			nil		
			6110	89.72	90.22	1.50			nil		
		90.10 Foliation @ 39° tca.									
		90.80 1 cm quartz carbonate vein @ 31° tca.									
		90.25 - 94.10 Weakly to moderately carbonatized, occasional narrow carbonate veinlets.	6111	90.22	91.72	1.50			7		
			6112	91.72	93.22	1.50			10		
		94.10 - 99.50 Moderately to highly carbonatized, very bleached, weakly silicified.	6113	93.22	94.72	1.50			3		
		94.44 1.5 cm white calcite vein @ 30° tca.	6114	94.72	96.22	1.50			31	31	
		96.80 1 cm carbonate vein @ 80° tca.	6115	96.22	97.72	1.50			14		
		97.97 1 cm carbonate vein @ 46° tca.	6116	97.72	99.22	1.50			nil		
		98.16 - 98.25 Multiple carbonate and chlorite veins.									
		99.50 - 108.20 Highly altered, strongly carbonatized and bleached, variably weakly to moderately silicified, with occasional 2-3 mm quartz + chlorite veinlets; trace pyrite.	6117	99.22	100.72	1.50			nil		
			6118	100.72	102.22	1.50			3	3	
		102.21 2 cm carbonate + quartz vein.	6119	102.22	103.72	1.50			nil		
		103.75 - 108.00 Numerous narrow quartz carbonate veinlets at low angle; locally sericitic.	6120	103.72	105.22	1.50			nil		
			6121	105.22	106.72	1.50			17		
		107.60 - 107.70 Quartz veined with 2% disseminated pyrite.	6122	106.72	108.22	1.50			nil		
		109.30 - 109.43 Multiple carbonate and quartz veinlets.	6123	108.22	109.72	1.50			nil		

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-90-02

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	SAMPLE FROM	SAMPLE TO	SAMPLE Length	SAMPLE % Rec	SAMPLE DESCRIPTION	ASSAYS Au ppb	ASSAYS Au,Check	ASSAYS Au*M
		109.60 - 109.80 Multiple carbonate and quartz veinlets. 108.20 - 110.65 Moderately carbonatized.	6124	109.72	110.65	0.93			nil		
110.65	110.74	**PORPHYRITIC SYENITE** Dark grey, slightly trachytoid, white euhedral feldspars up to 4 mm; strongly carbonatized; upper contact @ 27° tca; trace pyrite.									
110.74	112.93	**LAMPROPHYRE DYKE** Intrudes syenite; grey-green, chloritized; upper contact @ 12° tca; porphyritic with chloritized biotite phenocrysts up to 3 mm; moderately carbonatized.									
112.93	113.38	**PORPHYRITIC SYENITE** As above at 110.65 - 110.74; grey with euhedral feldspars up to 4 mm; upper contact @ 26° tca; lower contact @ 28° tca.									
		112.93 - 113.81 Strongly quartz and carbonate veined, 2-3% disseminated pyrite.	6125	112.93	113.81	0.88			51		
113.38	120.70	**PILLOW BASALT** Weakly carbonatized, trace pyrite along 1-2 cm wide pillow selvedges at 116.77, 117.28, 117.60, 118.19, 119.28, and 120.36. 118.51 6 cm quartz + carbonate vein @ 58° tca. 120.18 1 cm quartz + carbonate vein @ 82° tca.									
	120.70	E.O.H.									

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-03

PROPERTY	Vigrass Lake	**DATE LOGGED**	October 17, 1991 - October 23, 1991	**EASTING**	10700
TOWNSHIP	Otto	**LOGGED BY**	Mark Masson	**NORTHING**	9150
CLAIM No.	L 842494, L 544546	**DRILLED BY**	Heath & Sherwood	**ELEVATION**	
STARTED	October 16, 1991	**CORE LOCATION**	Kirkland Lake Warehouse	**COLLAR SURVEY**	
COMPLETED	October 22, 1991	**DOWNHOLE SURVEYOR**	B.M.C.I.		
		SURVEY INSTRUMENT		**LENGTH**	309.10
				UNITS	metres
				CORE SIZE	NQ

PURPOSE To test at depth the gold zone which was intersected by hole 88-8

COMMENTS Geochemically anomalous gold mineralization was intersected over significant widths in altered basalts and mafic intrusives

SIGNED BY (W. Benham)

Depth	Method	Azimuth	Dip
Collar	Compass	360	63
60.0			63
120.0			62
180.0			62
240.0			62

SUMMARY LOG

INTERVAL From	To	DESCRIPTION
0.00	7.10	**OVERBURDEN**
7.10	25.00	**PILLOWED BASALT**
25.00	61.60	**ALTERED BASALT** Silicified, fractured, brecciated. Locally 2-5% pyrite, (avg. 1%). 1-7% quartz veins, (avg. 2%).
61.60	65.80	**GRAPHITE SCHIST/ARGILLITE** Foliated @ 60° tca.
65.80	83.40	**ARGILLITE** 1-2% pyrite.
83.40	109.25	**MAFIC INTRUSIVE** Carbonated (calcite).
109.25	111.80	**ARGILLITE**
111.80	114.60	**MAFIC INTRUSIVE/BASALT**
114.60	115.65	**ARGILLITE**
115.65	117.45	**PORPHYRY DYKE** Altered pyroxene/amphibole phenocrysts.
117.45	144.60	**BASALT** 120.35 - 120.85 Bleached silicified, 3-4% pyrite.
144.60	163.70	**GRAPHITE SCHIST/ARGILLITE**
163.70	194.60	**ALTERED MAFIC INTRUSIVE** Hematitic, silicified. Trace 5% pyrite, avg. 1%. 1-50% quartz veins, avg. 5%.
194.60	200.40	**LAMPROPHYRE** 199.35 - 200.40 Bleached, silicified.
200.40	209.00	**ALTERED BASALT** Silicified, bleached, buff to yellow-brown. 5-10% white to blue-grey quartz veins. 1-7% pyrite, (avg. 5%).
209.00	213.80	**KOMATIITE** Serpentinized 209.00 - 209.70 Foliated @ 55-60° tca.
213.80	218.35	**LAMPROPHYRE**
218.35	309.10	**KOMATIITE** 308.00 - 309.10 Fault zone.
	309.10	**E. O. H.**

ASSAY SUMMARY

INTERVAL From	To	LENGTH in metres	AVERAGE Au g/t
24.50	26.00	1.5	0.15
28.00	30.00	2.0	0.12
31.50	32.00	0.5	0.10
33.50	40.60	7.1	0.16
44.00	58.00	14.0	0.36
including			
47.60	50.00	2.40	0.92
47.60	48.50	0.9	1.30
87.70	88.50	0.8	0.18
127.00	129.20	2.2	0.17
167.80	180.40	12.6	0.22
190.30	191.00	0.7	0.16
193.00	195.80	2.8	0.10
200.40	209.00	8.6	0.14

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-03

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	From	To	Length	%Rec	%Py	%QV	%Ser	ASSAYS Au, g/t	Au,Check
0.00	7.10	**OVERBURDEN**										
7.10	25.00	**PILLOWED BASALT** Massive, very fine grained to aphanitic light grey-green with dark green pillow selvages which are relatively scarce. In places a relatively well developed polygonal "crack and seal" texture is evident. Unit is typically medium hard but displays patchy zones of strong pervasive silicification. These silicified sections are light grey in colour. Unit has 1% white-buff barren quartz veinlets up to 1 cm wide and very minor white calcite veining. Non-magnetic. Progressively, increasingly silicified to 25.0 m.	9656	7.10	8.00	0.90					0.01	
			9657	8.00	9.00	1.00					NIL	
			9658	9.00	10.00	1.00					NIL	
		10.05 1 cm buff-grey quartz vein on a sharp irregular chlorite slip @ 45° tca.	9659	10.00	10.70	0.70		1	5	Sil.	0.07	
		10.05 - 10.65 Silicified basalt with 5% blue-grey to white quartz veining, 1 cm wide, and quartz infilling of fine hairline cracks. 1 cm wide quartz vein @ 10° tca carries 1-2% fine disseminated pyrite on vein boundary and minor coarse blebby pyrite within vein.										
		10.65 Fault @ 45° tca. 1 cm wide chlorite shear with minor podiform boudinaged quartz.	9660	10.70	11.30	0.60					NIL	
			9661	11.30	12.00	0.70					NIL	
			9662	12.00	13.00	1.00					NIL	
			9663	13.00	14.00	1.00		Tr.	2		NIL	
			9664	14.00	14.90	0.90					0.01	
			9665	14.90	15.60	0.70					NIL	
			9666	15.60	16.10	0.50		Tr.	1		NIL	
			9667	16.10	17.00	0.90					NIL	
			9668	17.00	18.00	1.00					NIL	
			9669	18.00	18.50	0.50		Tr.	2-3	Sil.	0.01	
			9670	18.50	19.00	0.50				Sil.	0.01	
			9671	19.00	20.00	1.00				Sil.	NIL	
			9672	20.00	21.00	1.00				Sil.	0.03	
			9673	21.00	21.50	0.50		Tr.	2	Sil.	0.03	
		21.40 - 21.50 Quartz + pyrite vein @ 45° tca. Milk white to buff quartz vein with weak, discontinuous internal laminations and trace patchy pyrite.	9674	21.50	22.00	0.50				Sil.	0.04	
			9675	22.00	23.00	1.00				Sil.	0.03	
			9676	23.00	24.00	1.00				Sil.	0.01	
			9677	24.00	24.50	0.50		Tr.	2	Sil.	0.04	
			9678	24.50	25.00	0.50		Tr.	3-4	Sil.	0.21	
25.00	61.60	**ALTERED BASALT** Very fine grained to aphanitic, steel grey to grey-brown pervasively silicified bleached basalt. Quite massive, undeformed, non-magnetic. Unit										

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-03

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	From	To	Length	%Rec	%Py	%QV	%Ser		ASSAYS Au, g/t	Au,Check
		typically contains 0.5-1% milk white to grey quartz-veining. Pyritization occurs as: 1) patchy zones of fine grained pervasively disseminated pyrite. 2) Fine grained sub-euhedral pyrite on small hairline fracturing. 3) Fine grained pyrite occasionally on quartz vein boundaries. In places local pyrite concentrations reach up to 2-3% but overall unit has 1% total pyrite.											
		25.00 - 26.00 Foliated @ 35° tca and displays a well developed polysuturing (polygonal jointing) which appears to be pulled apart giving section a pseudo-brecciated texture.	9679	25.00	25.50	0.50		Tr.			Sil.	0.12	
			9680	25.50	26.00	0.50		Tr.			Sil.	0.13	
			9681	26.00	26.50	0.50		0.5			Sil.	0.04	
			9682	26.50	27.00	0.50		1	1		Sil.	0.04	
			9683	27.00	28.00	1.00		Tr.			Sil.	0.02	
		28.00 - 28.40 5-7% white quartz and quartz breccia veinlets with small, ≤ 0.5 cm, wall rock fragments. Veining is irregular, fracture-filling and carries 2-3% fine grained disseminated pyrite within 1-3 mm wide alteration halos proximal to veining.	9684	28.00	28.50	0.50		1-2	5-7		Sil.	0.10	
			9685	28.50	29.00	0.50		Tr.			Sil.	0.04	
			9686	29.00	29.50	0.50		1	1-2		Sil.	0.15	
			9687	29.50	30.00	0.50		1	1-2		Sil.	0.19	
			9688	30.00	30.50	0.50		1	1-2		Sil.	0.05	
			9689	30.50	31.00	0.50		Tr.			Sil.	0.04	
			9690	31.00	31.50	0.50		1			Sil.	0.09	
			9691	31.50	32.00	0.50		1	1-2		Sil.	0.10	
			9692	32.00	32.50	0.50		1	2-3		Sil.	0.08	
			9693	32.50	33.00	0.50		Tr.	1		Sil.	0.05	
			9694	33.00	33.50	0.50		1	1		Sil.	0.04	
			9695	33.50	34.00	0.50		1	1-2		Sil.	0.20	
			9696	34.00	34.50	0.50		1	2-3		Sil.	0.13	
			9697	34.50	35.00	0.50		2	3-4		Sil.	0.30	
			9698	35.00	35.50	0.50		1	Tr.		Sil.	0.14	
			9699	35.50	36.00	0.50		1-2	3		Sil.	0.09	
			9700	36.00	36.50	0.50		2-3	2-3		Sil.	0.23	
			9701	36.50	37.00	0.50		2	2-3		Sil.	0.44	
			9702	37.00	37.50	0.50		1-2	2		Sil.	0.09	
			9703	37.50	38.00	0.50		Tr.	Tr.		Sil.	0.04	
		38.00 - 38.30 Quartz stockworking. 5% grey-white to translucent irregular quartz veining, ≤ 1 cm, (stockworking) with in-situ brecciation or fragmentation of host lithology. Veins have 1-2% very finely disseminated pyrite on margins.	9704	38.00	38.50	0.50		1-2	3-4		Sil.	0.12	
			9705	38.50	39.00	0.50		Tr.	Tr.		Sil.	0.12	
			9706	39.00	39.50	0.50		0.5	1		Sil.	0.02	
			9707	39.50	40.00	0.50		1	2		Sil.	0.10	
		40.10 - 41.30 Shear zone @ 65° tca. Sericite + quartz ± chlorite ± pyrite. Strongly foliated, deformed, bleached volcanic with strong sharp sericite ± chlorite mud slips. Interstitial to slips, which are spaced from 5-25 cm apart, unit is deformed crenulated and brecciated (silicic to sericitic)	9708	40.00	40.60	0.60		2-3	2-3	10	Sil.	0.22	
			9709	40.60	41.30	0.70		3-45	5-7	10	Sil.	0.06	
			9710	41.30	42.00	0.70		1	2		Sil.	0.05	
			9711	42.00	43.00	1.00		Tr.	Tr.		Sil.	0.04	
			9712	43.00	44.00	1.00		Tr.	Tr.		Sil.	0.03	

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-03

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	From	To	Length	%Rec	%Py	%QV	%Ser		ASSAYS Au, g/t	Au,Check
		and is intruded by 10% white quartz which is also fractured and deformed. Zone carries 2-3% scattered pyrite on sericitic sutures; proximal to veinlets; and as fine patchy disseminations.											
	44.20 - 46.00	Quartz stockworking. 5-10% white to blue-grey quartz and quartz breccia veining stockworking in silicified volcanics. Veins are quite irregular and show internal fracturing frequently filled with secondary calcite. Zone contains 2-5% patchy scattered pyrite as fine disseminations in host rock and occasionally as small pyrite clusters within vein.	9713	44.00	44.50	0.50		3	5-7		Sil.	0.24	
			9714	44.50	45.00	0.50		3-4	5-7		Sil.	0.36	
			9715	45.00	45.50	0.50		3-5	5		Sil.	0.67	
			9716	45.50	46.00	0.50		2-3	5-7		Sil.	0.25	
			9717	46.00	46.50	0.50		Tr.	1		Sil.	0.14	
			9718	46.50	47.00	0.50		Tr.	Tr.		Sil.	0.05	
			9719	47.00	47.60	0.60		2	2-3		Sil.	0.26	
			9720	47.60	48.50	0.90		1	1		Sil.	1.33	1.28
			9721	48.50	49.00	0.50		1	1-2		Sil.	0.49	
			9722	49.00	49.50	0.50		Tr.	1		Sil.	0.62	
			9723	49.50	50.00	0.50		2	2		Sil.	0.95	
			9724	50.00	50.50	0.50		Tr.	Tr.		Sil.	0.35	
			9725	50.50	51.00	0.50		Tr.	Tr.		Sil.	0.22	
			9726	51.00	51.50	0.50		Tr.	Tr.		Sil.	0.11	
	51.50 - 52.00	Quartz breccia vein with angular wall rock fragments up to 2 cm. Vein follows an irregular chlorite + calcite fracture slip which is sub-parallel tca. Trace finely disseminated pyrite.	9727	51.50	52.00	0.50		1	2-3		Sil.	0.11	
			9728	52.00	52.50	0.50		Tr.	1-2		Sil.	0.22	
			9729	52.50	53.00	0.50		Tr.	Tr.		Sil.	0.11	
			9730	53.00	53.50	0.50		Tr.	Tr.		Sil.	0.08	
			9731	53.50	54.00	0.50		1-2	Tr.		Sil.	0.13	
			9732	54.00	54.50	0.50		Tr.	Tr.		Sil.	0.51	
			9733	54.50	55.00	0.50		Tr.	Tr.		Sil.	0.31	
			9734	55.00	55.50	0.50		Tr.	1-2		Sil.	0.19	
			9735	55.50	56.00	0.50		1	2		Sil.	0.31	
			9736	56.00	56.50	0.50		Tr.	Tr.		Sil.	0.46	
	56.50 - 61.60	Unit becomes increasingly deformed and somewhat sericitic with patchy zones of grey-brown altered volcanics which alternately are very hard silicic or very soft and sericitic. Moderately well developed foliation and sericitic slips @ 40-50° tca. Also contains abundant braided hairline fractures typically infilled with pyrite ± quartz.	9737	56.50	57.00	0.50		1	2-3	5	Sil.	0.10	
			9738	57.00	57.50	0.50		1	2		Sil.	0.16	
	57.60 - 57.90	Fault @ 50° tca. Quartz + chlorite + sericite + pyrite. Grey-brown to yellow-brown, sericitic to silicic, deformed and altered volcanic with sharp strong chlorite + sericite slip planes. Interstitial to slips volcanics are massive to fractured and brecciated with 5% quartz veining. 1-2% fine grained subhedral pyrite on irregular fractures.	9739	57.50	58.00	0.50		1-2	5	10	Sil.	0.19	
			9740	58.00	58.50	0.50		Tr.	1-2	10-15	Sil. Cal.	0.01	
			9741	58.50	59.00	0.50		1	1-2	10	Sil.	0.05	

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-03

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	From	To	Length	%Rec	%Py	%QV	%Ser		ASSAYS Au, g/t	Au,Check
		59.00 Fault breccia @ 40° tca. 3 cm wide sericitic fault with 5% small (≤ 0.5 cm) wall rock clasts in an aphanitic grey-brown sericitic groundmass with late calcite on hairline fractures. Contacts are sharp, strong sericite + calcite slip planes.	9742	59.00	59.50	0.50		Tr.	1	5-10	Sil.	0.02	
		59.50 - 60.00 Grey dyke, massive, very fine grained, light grey dyke with strong fault contacts. Very hard silicified with fine hairline fracturing. 1-2% very fine grained disseminated pyrite. Upper contact is a sharp sericite + quartz + calcite slip @ 30° tca. Lower contact is same with weak talc development and smeared calcite @ 55° tca.	9743	59.50	60.00	0.50		1-2	1	Tr.	Sil.	0.01	
			9744	60.00	60.50	0.50		Tr.	2	3-5	Sil.	0.01	
			9745	60.50	61.00	0.50		Tr.	1-2	Tr.	Sil.	0.01	
			9746	61.00	61.60	0.60		Tr.	1-2	5	Sil. Graph	0.02	
61.60	65.80	**GRAPHITE SCHIST/ARGILLITE**											
		61.60 - 62.35 Well foliated to schistose black argillaceous sediment with sharp graphitic slips (amorphous) @ 60° tca. Contains 3-5% fine calcite-filled fracturing and irregular pods which frequently contain fractured pyrite clusters up to 5 cm long. 1-2% white quartz veinlets subparallel and at right angles to foliation.	9747	61.60	62.40	0.80		1	1-2		Graph	0.02	
		62.35 - 65.10 Very fine grained to aphanitic to schistose black argillaceous sediment with strong amorphous graphitic slips and shearing @ 30° tca. Contains very minor white quartz ± calcite veinlets. 1% scattered pyrite blebs and small subhedral pyrite crystals and masses on hairline quartz veinlets parallel to shearing. Quite rubbly in places. Hard silicified.	9748	62.40	63.15	0.75		1	1-2		Sil.	0.01	
			9749	63.15	64.00	0.85	85	Tr.	Tr.			0.02	
			9750	64.00	64.60	0.60	75	Tr.	Tr.		Graph Rble	0.02	
			9751	64.60	65.10	0.50						0.02	
		65.10 - 65.80 Dyke(?) Massive, very fine grained light grey-green unit(?). Very irregular sharp contacts with graphitic argillite . Strong pervasive hydrochloric acid reaction in matrix and also as 1-2% irregular calcite fracture filling. Quite hard, possibly silicified. Carries 1-2% fine grained disseminated pyrite.	9752	65.10	65.80	0.70		1-2	Tr.		Cal.	NIL	
65.80	83.40	**ARGILLITE**											
		65.80 - 66.30 Black, aphanitic, graphitic argillite. Massive to weakly foliated, hard and pervasively silicified. 2% irregular calcite fracture-fillings. 1% medium grained, sub-euhedral	9753	65.80	66.30	0.50						NIL	

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-03

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	From	To	Length	%Rec	%Py	%QV	%Ser	ASSAYS Au, g/t	Au,Check
		pyrite crystals and crystal clusters evident on hairline calcite ± quartz fracture veining.										
		66.30 - 67.60 Argillaceous grit characterized by 3% scattered angular chips, 1 mm to 1.5 cm, of black aphanitic argillite in a dark grey very fine grained clastic matrix. Strong pervasive hydrochloric acid reaction. Contains 1-2% small pyrite spots (≤ 2 mm) and small pyrite clusters on hairline calcite fractures. Upper contact is a sharp graphitic slip @ 65° tca. Lower contact is marked by a graphitic slip @ 15° tca.	9754	66.30	67.00	0.70		1		Cal.	0.01	
			9755	67.00	67.60	0.60		1-2		Cal.	NIL	
		67.60 - 83.40 Quite massive, black aphanitic argillite with a moderate amount of well spaced graphitic slips at various core angles. Moderately hard with 1-2% calcite veining on hairline fracturing. Frequently these veinlets, ≤ 2-3 mm wide, have fine grained euhedral pyrite cubes. Unit also contains 1-2% ubiquitous, sub-euhedral pyrite spots, ≤ 2 mm, scattered throughout. Some have a well developed "snowflake" appearance.	9756	67.60	68.50	0.90		1-2	Tr.	Cal.	0.02	
			9757	68.50	69.00	0.50		1-2	Tr.	Cal.	0.01	
			9758	69.00	69.50	0.50		1-2	Tr.	Cal.	0.01	
			9759	69.50	70.00	0.50		1-2	Tr.	Cal.	0.01	
			9760	70.00	71.00	1.00		1-2		Cal.	0.02	
			9761	71.00	72.00	1.00		1-2		Cal.	0.02	
			9762	72.00	73.00	1.00		1-2		Cal.	0.02	
			9763	73.00	74.00	1.00		1-2		Cal.	0.04	
			9764	74.00	75.00	1.00		1-2		Cal.	0.01	
			9765	75.00	76.00	1.00		1-2		Cal.	0.02	
			9766	76.00	77.00	1.00		1		Cal.	0.01	
			9767	77.00	78.00	1.00		1		Cal.	0.01	
		78.00 - 79.00 Well foliated with zones of strong graphitic shearing @ 60° tca.	9768	78.00	79.00	1.00		1		Cal.	0.02	
			9769	79.00	79.50	0.50		1		Cal.	0.03	
		79.50 - 80.20 Argillaceous gritty horizon with 2% fine angular argillite chips in a very fine grained grey-green grit graywacke matrix. Sharp bedding contacts @ 35° tca.	9770	79.50	80.20	0.70		1		Cal.	0.01	
			9771	80.20	81.00	0.80		Tr.		Cal.	0.06	
			9772	81.00	82.00	1.00		Tr.		Cal.	0.02	
			9773	82.00	83.00	1.00		Tr.		Cal.	0.02	
		83.30 - 83.40 Silicified dark grey contact zone with 2% very finely disseminated pyrite and small pyrite crystals on hairline calcitic fractures.	9774	83.00	83.40	0.40		1		Sil.	0.14	
83.40	109.25	**MAFIC INTRUSIVE**										
		Massive, medium green to green-white chloritic mafic intrusive. Fine to medium grained, predominantly green mafic matrix with a light grey (sometimes pink) feldspar groundmass which is pervasively carbonatized (calcite). Non-magnetic. Trace 1% light brown irregular leucoxene(?) spotting and small clusters up to 2 mm. Lower contact of unit is a sharp graphite ± chlorite ± quartz + calcite clip @ 45° tca.	9775	83.40	84.10	0.70		Tr.		Cal.	NIL	
			9776	84.10	85.00	0.90				Cal.	NIL	
			9777	85.00	85.50	0.50				Cal.	0.01	

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-03

INTERVAL		DESCRIPTION	SAMPLE									ASSAYS	
FROM	TO		No.	From	To	Length	%Rec	%Py	%QV	%Ser		Au, g/t	Au,Check
		85.50 - 86.00 Calcite + pyrite veining @ 10-15° tca. Series of 0.5-1 cm wide calcite ± quartz veining. Interstitial to veins unit carries 2% medium euhedral disseminated pyrite.	9778	85.50	86.00	0.50		2-3	Tr.	Cal.		0.05	
			9779	86.00	87.00	1.00		Tr.	Tr.	Cal.		0.03	
			9780	87.00	87.70	0.70				Cal.		NIL	
			9781	87.70	88.50	0.80		1	Tr.	Cal.		0.18	
			9782	88.50	89.00	0.50		Tr.	Tr.	Cal.		0.01	
			9783	89.00	90.00	1.00			Tr.	Cal.		NIL	
			9784	90.00	91.00	1.00			Tr.	Cal.		NIL	
			9785	91.00	92.00	1.00			Tr.	Cal.		NIL	
			9786	92.00	92.50	0.50		1-2	Tr.	Cal.		0.01	
			9787	92.50	93.00	0.50			Tr.	Cal.		NIL	
			9788	93.00	94.00	1.00			1-2	Cal.		NIL	
			9789	94.00	95.00	1.00			1	Cal.		NIL	
			9790	95.00	96.00	1.00			Tr.	Cal.		0.02	
			9791	96.00	97.00	1.00			1	Cal.		0.03	
			9792	97.00	98.00	1.00				Cal.		0.06	
			9793	98.00	99.00	1.00			1	Cal.		0.02	
			9794	99.00	100.00	1.00			Tr.	Cal.		NIL	
			9795	100.00	101.00	1.00			Tr.	Cal.		NIL	
			9796	101.00	102.00	1.00			Tr.	Cal.		0.02	
			9797	102.00	103.00	1.00			Tr.	Cal.		NIL	
			9798	103.00	103.60	0.60		Tr.	1	Cal.		0.01	
		103.50 - 109.25 Unit becomes quite fine grained massive and "basaltic". Possibly due to chilling at contact. In places light green subhedral pyroxene (?) crystals up to 0.5 cm are evident in a dark aphanitic groundmass (i.e. 107.0 m).	9799	103.60	104.30	0.70			Tr.	Cal.		0.01	
			9800	104.30	105.00	0.70						NIL	
			9801	105.00	106.00	1.00						NIL	
			9802	106.00	107.00	1.00		Tr.	Tr.	Cal.		NIL	
			9803	107.00	108.00	1.00		Tr.	1-2	Cal.		NIL	
			9804	108.00	108.50	0.50		Tr.	Tr.	Cal.		0.02	
			9805	108.50	109.25	0.75		Tr.	Tr.	Cal.		NIL	
109.25	111.80	**GRAPHITIC ARGILLITE** Massive to finely laminated, dark grey to black, aphanitic argillite. Fine laminations are moderately well developed, range from 1 mm to 0.5 cm wide, but are quite irregular and discontinuous and swing rapidly from 10-45° tca. Unit contains a moderate amount of amorphous graphitic slips @ 20-40° tca. Lower contact of unit is rubbly, broken core with graphitic shears evident.											
		109.25 - 110.30 Unit contains 2% medium grained, sub-euhedral pyrite and pyrite clusters located on and proximal to small calcite stringers.	9806	109.25	109.75	0.50		1	2-3	Cal.		0.03	
			9807	109.75	110.30	0.55		2	1	Cal.		0.09	

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-03

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	From	To	Length	%Rec	%Py	%QV	%Ser	ASSAYS Au, g/t	Au,Check
		110.30 - 111.70 Tight, irregular fault slip sub-parallel tca. Displays moderate slickenside development on chlorite + calcite ± graphite slip (up to 1 cm displacement).	9808	110.30	111.00	0.70		Tr.	2-3	Cal.	NIL	
			9809	111.00	111.80	0.80		Tr.	2	Cal.	NIL	
111.80	114.60	**MAFIC INTRUSIVE/BASALT(?)** Massive to moderately well foliated @ 50° tca very fine grained, light grey-green mafic intrusive or basalt. Medium hard, i.e. not silicified. 1-2% ubiquitous, fine to medium grained sub-euhedral pyrite on small hairline calcite veinlets and as finely disseminated pyrite in matrix. Lower contact is very sharp @ 55° tca.										
			9810	111.80	112.65	0.85		1	1	Cal.	0.03	
		112.60 - 114.60 Light grey-brown very fine grained and contains irregular inclusions (possibly interbeds) of black argillite up to 20 cm wide. May actually be a sediment.	9811	112.65	113.40	0.75		2	1-2	Cal.	NIL	
			9812	113.40	114.00	0.60		2	2	Cal.	0.02	
			9813	114.00	114.60	0.60		2	2	Cal.	0.03	
114.60	115.65	**ARGILLITE** Massive, aphanitic black argillite with 2% irregular white calcite and stringers up to 1 cm wide. 1% fine grained spotty pervasive euhedral pyrite in groundmass and minor euhedral pyrite on calcite veinlets. Lower contact is a sharp graphitic shear slip @ 60° tca.										
			9814	114.60	115.05	0.45		Tr.	1	Cal.	0.02	
		115.50 - 115.65 Moderately sheared and graphitic with white barren quartz veins up to 3 cm wide parallel to foliation @ 50-60° tca.	9815	115.05	115.65	0.60		Tr.	2	Cal.	0.02	
115.65	117.45	**PORPHYRY DYKE** Massive spotted light buff-brown porphyry dyke comprised of 5-7% light green chloritized phenocrysts which are typically subrounded to pseudo lath-shaped with hazy altered borders (altered pyroxene or amphibole). Phenocrysts average 1-3 mm in size. Groundmass is very hard, very fine grained, light grey-green. Contacts appear to be chilled with no phenocrysts evident for 10-15 cm from contact. Lower contact is sharp @ 45° tca with underlying volcanics notably sheared. Contains trace pyrite on hairline chloritic fractures.	9816	115.65	116.55	0.90		Tr.	Tr.		0.03	
			9817	116.55	117.45	0.90		Tr.	Tr.		0.05	
117.45	144.60	**BASALT** Massive, very fine grained, medium green chloritic basalt. Non-magnetic, non-deformed basalt with 1-2% ubiquitous calcite stringers. Lower contact is a sharp chlorite ± graphite + quartz slip @ 70° tca.										

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-03

INTERVAL		DESCRIPTION	SAMPLE							ASSAYS	
FROM	TO		No.	From	To	Length	%Rec	%Py	%QV %Ser	Au, g/t	Au,Check
		117.45 - 117.80 Well foliated to sheared @ 60° tca with minor quartz + calcite veinlets, ≤ 0.5 cm and trace fine grained pyrite on hairline chloritic sutures.	9818	117.45	118.00	0.55		Tr.	Tr.	0.03	
			9819	118.00	119.00	1.00				0.01	
			9820	119.00	119.80	0.80				NIL	
			9821	119.80	120.30	0.50				NIL	
		120.35 - 120.85 Bleached, silicified pyritized zone.	9822	120.30	120.90	0.60		3-4	1 Sil.	0.02	
		120.65 Chlorite + calcite + quartz + 3% pyrite. Fault @ 20° tca.									
		120.35 - 120.85 Basalt is bleached and silicified and carries 3-4% finely disseminated pyrite.	9823	120.90	121.50	0.60				NIL	
			9824	121.50	122.00	0.50				0.01	
			9825	122.00	123.00	1.00		1	25 Cal.	NIL	
			9826	123.00	123.60	0.60				NIL	
		123.60 - 125.00 1-2 cm wide quartz + calcite vein subparallel tca on sharp chlorite slip fracture. Minor spotty euhedral pyrite in adjacent wall rock.	9827	123.60	124.20	0.60		Tr.	3 Cal.	0.04	
			9828	124.20	125.00	0.80		Tr.	2 Cal.	0.09	
			9829	125.00	126.00	1.00				0.02	
			9830	126.00	127.00	1.00		Tr.	Tr. Cal.	0.01	
		127.20 - 127.80 Series of irregular crosscutting calcite ± quartz veinlets and pods which have 2-3% subhedral pyrite and pyrite clusters within and on vein margins.	9831	127.00	127.80	0.80		1	2-3 Cal.	0.17	
			9832	127.80	128.30	0.50		Tr.	1-2 Cal.	0.25	
		128.10 - 129.20 1-2 cm wide grey-white calcite + quartz vein @ 10-15° tca with small veins, ≤ 1 cm wide, shooting-off into wall rock. Veins carry 2% sub-euhedral pyrite and pyrite clusters within and adjacent to veins.	9833	128.30	129.20	0.90		1-2	3 Cal.	0.13	
			9834	129.20	129.70	0.50		Tr.	Tr. Cal.	0.02	
			9835	129.70	130.20	0.50		Tr.	Tr. Cal.	NIL	
			9836	130.20	131.00	0.80		Tr.	Tr. Cal.	NIL	
			9837	131.00	132.00	1.00		Tr.	Tr. Cal.	NIL	
			9838	132.00	133.00	1.00				NIL	
			9839	141.00	142.00	1.00			Tr.	NIL	
			9840	142.00	143.00	1.00				NIL	
			9841	143.00	143.50	0.50				NIL	
		143.00 - 144.00 Bleached buff-grey, moderate pervasive carbonate (calcite) in groundmass and 1% veinlets.	9842	143.50	144.00	0.50		Tr.	Tr.	NIL	
		144.00 - 144.60 Bleached, silicified volcanic with 3% blue-grey quartz veining minor calcite stringers and 3-4% finely disseminated pyrite and euhedral pyritic clusters.	9843	144.00	144.60	0.60		3	3 Sil.	0.02	
144.60	163.70	**GRAPHITE SCHIST (ARGILLITE)**									
		144.60 - 145.00 Massive, aphanitic black graphitic argillite with 3% white quartz + calcite veining (extension type, pseudo-sigmoidal in places). Veins are barren, bull white.	9844	144.60	145.00	0.40				NIL	

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-03

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	From	To	Length	%Rec	%Py	%QV	%Ser	ASSAYS Au, g/t	Au,Check
		145.00 - 145.60 Semi-massive, grey-white bull quartz vein with very minor blebby pyrite on internal chloritic sutures. Lower contact is irregular stockwork with angular included argillite fragments.	9845	145.00	145.70	0.70		Tr.	80		NIL	
			9846	145.70	146.50	0.80		Tr.	3		NIL	
			9847	146.50	147.00	0.50		Tr.	2	Cal.	0.03	
			9848	147.00	147.50	0.50		Tr.	2	Cal.	0.03	
			9849	147.50	148.00	0.50		Tr.	2	Cal.	0.01	
			9850	148.00	148.50	0.50		Tr.	2	Cal.	0.01	
			9851	148.50	149.30	0.80		Tr.	1-2	Cal.	NIL	
		149.30 - 150.00 Fault zone @ 25° tca. Strong graphitic mud gouge shears @ 149.30 and 149.60 m. Interstitial to fault gouge, unit is strongly foliated to schistose and cut by 15% white calcite ± quartz veins which contain trace spotty subhedral pyrite.	9852	149.30	150.00	0.70		Tr.	10	Cal.	0.02	
			9853	150.00	150.50	0.50		0.5	Tr.	Cal.	0.03	
			9854	150.50	151.00	0.50					NIL	
			9855	151.00	152.00	1.00		Tr.			NIL	
			9856	152.00	153.00	1.00		Tr.			NIL	
			9857	153.00	153.50	0.50		Tr.			NIL	
		153.55 - 155.05 Coarser grained arenaceous, massive sediment with 1% ubiquitous disseminated pyrite . Contacts are sharp, regular sedimentary type @ 45° tca. 1% hairline calcite fracture filling.	9858	153.50	154.25	0.75		1		Cal.	NIL	
			9859	154.25	155.05	0.80		1		Cal.	NIL	
		155.05 Less sheared and more massive, black argillite with 1% ubiquitous fine grained euhedral pyrite.	9860	155.05	156.00	0.95		Tr.	Tr.	Cal.	NIL	
			9861	156.00	157.00	1.00		Tr.			NIL	
			9862	157.00	158.00	1.00		Tr.			NIL	
			9863	158.00	159.00	1.00					NIL	
			9864	159.00	160.00	1.00					NIL	
			9865	160.00	161.00	1.00					NIL	
			9866	161.00	161.80	0.80		1-2	3	Sil.	0.02	
		161.30 - 161.70 Buff-brown bleached silicified zone with 1-2% very fine disseminated pyrite. Bleaching is very irregular and appears to be associated with a braided stockwork of calcite ± quartz veins. Lower contact is quite sharp, graphitic slip @ 55° tca.	9867	161.80	162.50	0.70		Tr.	Tr.	Sil.	NIL	
			9868	162.50	163.00	0.50		Tr.	Tr.	Sil.	NIL	
			9869	163.00	163.70	0.70		Tr.	Tr.	Sil.	NIL	
163.70	167.80	**BASALT** Massive, very fine grained medium green basalt. Medium hard, slightly baked, nondescript. Non-magnetic. 1% hairline calcite veinlets.										
		163.70 - 164.15 Moderately well foliated weakly bleached (buff-green). Trace subhedral pyrite.	9870	163.70	164.20	0.50		Tr.	Tr.	Cal.	NIL	
			9871	164.20	165.00	0.80					NIL	
			9872	165.00	166.00	1.00					NIL	
		166.60 - 167.80 Contact zone is deformed weakly bleached and intruded by irregular grey-white quartz ± albite + calcite veinlets. Trace pyrite.	9873	166.00	166.50	0.50					0.01	
			9874	166.50	167.00	0.50		Tr.	5-7		0.02	
			9875	167.00	167.40	0.40		Tr.	5-7		0.02	

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-03

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	From	To	Length	%Rec	%Py	%QV	%Ser	ASSAYS Au, g/t	Au,Check
			9876	167.40	167.80	0.40		Tr.			NIL	
167.80	194.60	**ALTERED MAFIC INTRUSIVE(?)** Very irregular, variably altered lithologies ranging from very fine grained dark green chloritic to purple (hematized) to red-brown and almost granitic in appearance. Some sections are strongly magnetic dropping off sharply to non-magnetic sections. All sections are moderately to strongly silicified. Lower contact is very sharp and irregular.										
		167.80 2 cm wide, open vuggy quartz + calcite + 1-2% pyrite vein @ 30° tca which marks the beginning of the altered intrusive.	9877	167.80	168.30	0.50		3-5	5-10	Sil. Hem.	0.45	
		167.80 - 169.00 Quite massive, dark purple, pervasively hematized with patchy strong magnetics. Secondary alteration consists of very irregular anastomosing white-grey quartz veinlets (≤ 1 cm) which have strong yellow-brown to buff alteration halos which coalesce into highly irregular masses. These alteration halos contain 3-5% fine grained subhedral disseminated pyrite and are very hard and silicified. Gives core a strongly mottled appearance.	9878	168.30	169.00	0.70		5	5-10	Sil. Hem.	0.44	
		169.00 - 169.70 Massive light pink-brown to buff with 3% medium grained euhedral pyrite disseminated throughout. Also contains 3-5% milk-white albite + quartz veining and irregular pods with minor coarse blebby pyrite. Entire section is very hard silicic with patchy magnetics.	9879	169.00	169.70	0.70		3	5-10	Sil.	0.18	
		169.70 - 172.20 Massive fine grained pervasively hematized unit with patchy strong magnetics. Contains 2-3% scattered quartz veins with yellow-brown to buff alteration halos which carry 2-3% fine grained subhedral disseminated pyrite. Patchy mottled texture due to scattered weak veining and alteration.	9880	169.70	170.20	0.50		2-3	3	Hem.	0.14	
			9881	170.20	171.00	0.80		1	1-2	Hem.	0.11	
			9882	171.00	171.60	0.60		1	1-2	Hem.	0.04	
			9883	171.60	172.20	0.60		Tr.	1	Hem.	NIL	
		172.20 - 172.80 Massive fine grained dark green chloritic basalt with 2% leucoxene spotting. Non-magnetic.	9884	172.20	172.80	0.60			Tr.	Cal.	0.19	
		172.80 - 176.00 Fine to medium grained massive red-purple hematized section with strongly mottled appearance due to patchwork alteration. Alteration is comprised of yellow-brown to buff silicic, pyritized halos adjacent to quartz stringers and veinlets. Very irregular anastomosing system of veining and bleaching (20-30% of total).	9885	172.80	173.50	0.70		1	2	Hem.	0.08	

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-03

INTERVAL		DESCRIPTION	SAMPLE							ASSAYS	
FROM	TO		No.	From	To	Length	%Rec	%Py	%QV	%Ser	Au, g/t	Au,Check
		173.60 - 175.40 Section has 25% milk white barren quartz veining and breccia veins with included wall rack fragments. Veins reach up to 20 cm wide.	9886	173.50	174.00	0.50		3-5	5-7	Hem.	0.19	
			9887	174.00	174.50	0.50		3-5	7-10	Hem.	0.22	
			9888	174.50	175.00	0.50		3-5	20	Hem.	0.24	
			9889	175.00	175.50	0.50		2-35	10	Hem.	0.13	
			9890	175.50	176.00	0.50		1	2	Hem.	0.17	
		176.00 - 176.75 Highly silicified altered section with 65% milk white, massive quartz (barren) intruding a massive buff-brown altered unit with 1% patchy euhedral pyrite. Also contains a patchy secondary (?) albite and 1% black acicular needles (possibly tourmaline).	9891	176.00	176.75	0.75		Tr.	65	Hem.	0.04	
		176.75 - 179.20 Massive, fine to medium grained (basalt-diorite?). Light grey-green to mauve, moderately hematized. Non-magnetic. 2-3% fine (≤ 0.5 cm) calcite ± quartz stringers. Very minor trace pyrite. Medium hard, moderately silicified.	9892	176.75	177.50	0.75		Tr.	Tr.		0.03	
			9893	177.50	178.00	0.50		Tr.	2-3		0.12	
			9894	178.00	178.60	0.60		1	2	Hem.	0.12	
			9895	178.60	179.20	0.60					0.18	
		179.20 - 181.50 Hematitic altered section with 30% massive white quartz veining and breccia veining with angular included wall rock fragments to 6 cm. In places this massive white bull quartz contains inclusions of buff altered wall rock with 3-5% finely disseminated pyrite. Also contains 1-2% pink-white calcite+ quartz veinlets up to 2 cm wide.	9896	179.20	179.90	0.70		1-2	40	Hem.	0.10	
			9897	179.90	180.40	0.50		1	70	Hem.	0.46	
			9898	180.40	181.00	0.60		1	10	Hem.	0.09	
			9899	181.00	181.50	0.50		1-2	10	Hem.	0.07	
		181.50 - 189.30 Unit grades from pervasively hematized to non-hematized chloritic mafic volcanic @ 183.0 m. Massive, medium green, chloritic, non-magnetic. Fine to medium grained (basaltic) with 60-70% non-crystalline chloritic mafic matrix in a grey-white plagioclase groundmass. Trace disseminated pyrite.	9900	181.50	182.00	0.50		Tr.	2-3	Hem.	0.02	
			9901	182.00	182.50	0.50		Tr.	1-2		NIL	
			9902	182.50	183.00	0.50		Tr.	1-2		0.05	
			9903	183.00	183.50	0.50		1	2-3		0.04	
		183.50 - 184.30 Light buff-brown hazy alteration which is patchy mottled with 0.5-1% finely disseminated pyrite. Very minor quartz ± calcite veining.	9904	183.50	184.30	0.80		1	Tr.		0.02	
		184.70 - 185.80 Patchy, mottled buff-brown alteration with 0.5% disseminated pyrite. Apparently associated with a series of 1-3 mm wide quartz veinlets.	9905	184.30	185.00	0.70		1	2-3		NIL	
		185.05 - 185.80 Semi-massive quartz stockworking and quartz breccia veins (75% quartz). Quartz is barren milk white.	9906	185.00	185.80	0.80		1-2	70		NIL	
			9907	185.80	186.50	0.70		Tr.	Tr.		NIL	
			9908	186.50	187.00	0.50		Tr.	Tr.		NIL	
			9909	187.00	187.50	0.50		Tr.	2	Cal.	NIL	
			9910	187.50	188.00	0.50		Tr.	Tr.	Cal.	NIL	
			9911	188.00	188.70	0.70		Tr.	Tr.	Cal.	NIL	
			9912	188.70	189.30	0.60		Tr.	1		NIL	

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-03

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	From	To	Length	%Rec	%Py	%QV	%Ser	ASSAYS Au, g/t	Au,Check
		189.30 - 189.70 Bleached, silicified pyritized zone. Light grey to brown, pervasively silicified section with 2-3% finely disseminated pyrite. Cut by 2-3% milk white quartz + albite veins up to 2 cm wide.	9913	189.30	189.80	0.50		2	2-3	Sil.	0.07	
		189.70 - 190.30 Very fine grained, medium green chloritic basalt. Moderately hard with 1-2% quartz ± calcite veinlets (≤ 3 mm) with dark chlorite boundaries. Trace spotty subhedral pyrite on veinlets.	9914	189.80	190.30	0.50		Tr.	1-2	Cal.	NIL	
		190.30 - 194.60 Pervasively hematized, very fine grained basalts with patchy zones of yellow-brown to buff (silicic) alteration with 2-4% finely disseminated pyrite. Alteration is very irregular, mottled and patchy with some sections of non-bleached hematitic basalt evident within alteration halo. These altered sections also contain milk white barren quartz veins and pods.	9915	190.30	191.00	0.70		3-5	5	Sil.	0.16	
			9916	191.00	191.50	0.50		1	2-3	Sil. Hem.	0.03	
			9917	191.50	192.00	0.50		Tr.	Tr.	Hem.	0.04	
			9918	192.00	192.50	0.50		Tr.	Tr.	Hem.	0.06	
			9919	192.50	193.00	0.50		Tr.	Tr.	Hem.	NIL	
			9920	193.00	193.60	0.60		1	2	Hem. Sil.	0.18	
			9921	193.60	194.10	0.50		1	10-15	Hem. Sil.	0.06	
			9922	194.10	194.60	0.50		1-2	25	Hem. Sil.	0.10	
194.60	200.40	**LAMPROPHYRE** Massive, medium grained. Dirty grey-brown with black spotting due to 5-7% small (≤ 2 mm) often acicular biotite crystals in an aphanitic grey-brown groundmass. Non-magnetic, trace disseminated pyrite. Lower contact sharp @ 55° tca.	9923	194.60	195.10	0.50		Tr.	Tr.		NIL	
		195.10 - 195.75 Patchy silicification and pyritization with alteration haloes proximal to irregular quartz ± albite veining (≤ 1 cm). Alteration halos are light green to buff silicified and carry 2-3% fine grained, subhedral disseminated pyrite. Also 1% disseminated fine grained euhedral pyrite in wall rock up to 10 cm from veining.	9924	195.10	195.80	0.70		1-2	10		0.14	
			9925	195.80	196.50	0.70		Tr.			NIL	
			9926	196.50	197.00	0.50		Tr.			NIL	
			9927	197.00	198.00	1.00		1	1		NIL	
			9928	198.00	198.80	0.80		Tr.			NIL	
			9929	198.80	199.35	0.55		Tr.	Tr.		NIL	
		199.35 - 200.40 Bleached, buff-brown, highly silicified (pervasive) with fuchsite alteration of biotite evident giving section a green spotted appearance. Trace disseminated pyrite.	9930	199.35	199.95	0.60		Tr.		Sil.	NIL	
			9931	199.95	200.40	0.45		Tr.		Sil.	NIL	
200.40	209.00	**ALTERED BASALT** Light grey-brown to buff to yellow-brown, pervasively silicified aphanitic basalt. Contains 5-10% quartz veining from hairline fracture-fillings to 3-4 cm wide quartz and quartz breccia veinlets. Pyrite ranges from 1-7% occurring as: 1) fine to medium grained subhedral pyrite on vein boundaries. 2) Dark grey, very fine grained pyrite associated with blue-grey quartz veining. Lower contact is a sharp chlorite ± serpentine slip @ 70° tca.	9932	200.40	201.00	0.60		2-3	3	Sil.	0.26	
			9933	201.00	201.50	0.50		3-5	5	Sil.	0.20	

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-03

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	From	To	Length	%Rec	%Py	%QV	%Ser	ASSAYS Au, g/t	Au,Check
		201.50 - 202.00 10-15% irregular blue-grey to white quartz veining with the blue-grey quartz having strongest pyrite concentration adjacent to veins.	9934	201.50	202.00	0.50		3-5	10-15	Sil.	0.39	
			9935	202.00	202.50	0.50		2	2	Sil.	0.29	
			9936	202.50	203.00	0.50		2-3	2-3	Sil.	0.16	
			9937	203.00	203.50	0.50		1	1-2	Sil.	0.01	
			9938	203.50	204.00	0.50		2	3	Sil.	0.07	
			9939	204.00	204.50	0.50		2-3	3-5	Sil.	0.15	
			9940	204.50	205.00	0.50		3-5	5	Sil.	0.10	
			9941	205.00	205.50	0.50		3-5	3-5	Sil.	0.07	
			9942	205.50	206.00	0.50		5-7	2-3	Sil.	0.06	
		206.00 - 209.00 Unit is notably yellow-brown with strong silicification and carries up to 5-7% fine grained sub-euhedral pyrite in matrix and strong white quartz veining. Note: probable sphalerite concentration associated with this yellow-brown alteration?	9943	206.00	206.50	0.50		5-7	2-3	Sil.	0.07	
			9944	206.50	207.00	0.50		5	5-7	Sil.	0.07	
			9945	207.00	207.50	0.50		3-5	5-10	Sil.	0.12	
			9946	207.50	208.00	0.50		3-5	2-3	Sil.	0.13	
			9947	208.00	208.50	0.50		2-3	2-3	Sil.	0.08	
			9948	208.50	209.00	0.50		3-5	5	Sil.	0.16	
209.00	213.80	**KOMATIITE/ULTRA-MAFIC VOLCANIC** Massive, very fine grained dark green-black. Very soft pervasively talcose (serpentinized). Contains 5-10% ubiquitous white light green quartz ± talc (serpentine) veinlets, stringers and pods. Lower contact very sharp @ 50° tca.										
		209.00 - 209.70 Well foliated to schistose @ 50-60° tca with prominent laminated structure due to presence of alternating bands of dark ultramafic and grey-white quartz + talc veinlets (≤ 0.5 cm wide).	9949	209.00	209.70	0.70					0.01	
			9950	209.70	210.50	0.80					NIL	
			9951	210.50	211.00	0.50					NIL	
			9952	211.00	212.00	1.00					NIL	
			9953	212.00	213.00	1.00					NIL	
			9954	213.00	213.80	0.80					NIL	
213.80	218.35	**LAMPROPHYRE** Massive, fine grained, dirty grey-brown with 5% black biotite specks (≤ 2 mm) frequently acicular in an aphanitic grey-brown groundmass. Trace disseminated pyrite. Lower contact very sharp @ 50° tca.										
		213.80 - 214.10 Well foliated, @ 50-60° tca, weakly silicified, 1% finely disseminated subhedral pyrite.	9955	213.80	214.20	0.40		1	Tr.		0.03	
			9956	214.20	215.00	0.80		Tr.	Tr.		0.01	
			9957	215.00	216.00	1.00		Tr.	1		NIL	
		216.10 - 217.20 Silicified micro-fractured to pseudo-brecciated "crack and seal" by fine quartz ± chlorite veinlets stringers. Contains < 1% patchy pyrite blebs on narrow quartz + chlorite veinlets.	9958	216.00	216.50	0.50		0.5	3	Sil.	0.03	
			9959	216.50	217.20	0.70		0.5	3	Sil.	0.08	
			9960	217.20	217.80	0.60		Tr.	Tr.		NIL	
			9961	217.80	218.35	0.55		Tr.			NIL	

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-03

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	From	To	Length	%Rec	%Py	%QV	%Ser	ASSAYS Au, g/t	Au,Check
218.35	309.10	**KOMATIITE/ULTRAMAFIC VOLCANICS** Massive, dark green-black with 5-7% ubiquitous white quartz + talc (serpentine) veinlets, pods and stringers (≤ 0.5 cm). Pervasively talcose, serpentinized, very soft. 2-3% ubiquitous quartz + talcose (serpentine) veinlets. Unit is quite homogeneous, very fine grained to aphanitic. Non-magnetic. Numerous sharp talcose slips throughout.	9962	218.35	219.00	0.65					NIL	
			9963	219.00	220.00	1.00					0.01	
		225.60 - 225.90 Fault @ 60° tca. Talc + serpentine + chlorite + calcite. Strong talcose fault gouge with minor calcite veining at upper contact. Ultramafics are strongly schistose with sharp talc + serpentine slips.										
		255.40 Fault @ 65° tca. 2 cm wide strong talcose mud break with 10% fine calcite veinlets.										
		259.00 Well developed spinifex texture evident.										
		270.85 - 271.05 Fault @ 25° tca. Strong muddy, brecciated, talcose fault with calcite smearing.										
		295.10 Fault @ 20° tca. 2 cm wide strong talcose mud break with strong calcite in mud.										
		304.00 - 304.10 Fault @ 20° tca. Strong deformed schistose ultramafic with 0.5 cm wide talcose mud breaks.										
		308.00 10 cm wide section of pure clay mud gouge.										
		308.00 - 309.10 Fault zone, 20% recovery. Serpentinized komatiite rubble.										
		309.10 Rods stuck in fault and broken but they were recovered with difficulty. Hole abandoned.										
	309.10	**END OF HOLE** Casing pulled.										

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-04

PROPERTY	Vigrass Lake	**DATE LOGGED**	October 23, 1991 - October 28, 1991	**EASTING**	10700
TOWNSHIP	Otto	**LOGGED BY**	Mark Masson.	**NORTHING**	9375
CLAIM No.	L 544546	**DRILLED BY**	Heath & Sherwood	**ELEVATION**	
STARTED	October 22, 1991	**CORE LOCATION**	Kirkland Lake Warehouse	**COLLAR SURVEY**	
COMPLETED	October 27, 1991	**DOWNHOLE SURVEYOR**	B.M.C.I.		
		SURVEY INSTRUMENT		**LENGTH**	315.05
				UNITS	metres
				CORE SIZE	NQ

PURPOSE To test green carbonate zone and geophysically interpreted structures beneath Vigrass Lake.

COMMENTS No significant mineralization.

SIGNED BY (W. Benham)

Depth	Method	Azimuth	Dip
Collar	Compass	360	55
60.0			55
120.0			52
180.0			52
240.0			54
300.0			53

SUMMARY LOG

INTERVAL From	To	DESCRIPTION	INTERVAL From	To	DESCRIPTION
0.00	3.00	**OVERBURDEN**			
3.00	26.45	**BASALT**			
26.45	31.50	**LAMPROPHYRE/PYROXENITE DYKE**			
31.50	270.80	**KOMATIITE**			
		63.10 - 80.00 Well foliated @ 50-60° tca. Weak quartz + fuchsite veining, 1% pyrite.			
		90.90 - 91.80 Quartz + pyrite veins @ 50-60° tca. 5-10% quartz veins, 2-3% pyrite.			
		94.65 - 94.85 Brown siliceous, felsic dyke, 3-5% pyrite.			
		95.55 - 96.20 Brown siliceous, felsic dyke, 3-5% pyrite.			
		107.10 - 107.80 Weakly foliated, 1-2% pyrite.			
		147.40 - 150.70 Lamprophyre dyke.			
		204.70 - 238.80 Non-magnetic.			
		238.80 - 270.80 Strongly magnetic.			
270.80	301.50	**VARIOLITIC BASALT/BASALTIC KOMATIITE** Non-magnetic, trace pyrite.			
301.50	315.05	**KOMATIITE**			
	315.05	**E. O. H.**			

ASSAY SUMMARY

INTERVAL From	To	LENGTH in metres	AVERAGE Au g/t
96.20	96.70	0.50	0.11
106.00	107.00	1.00	0.12

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-04

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	From	To	Length	%Rec	%Py	%QV	%Ser	ASSAYS Au, g/t	Au,Check
0.00	3.00	**OVERBURDEN**										
3.00	26.45	**BASALT** Massive, very fine grained to aphanitic, dark medium green to buff-grey. May be in part poorly pillowed. Prominent joint fracture set @ 10-15° tca which frequently carries 0.5-2 cm wide, barren quartz + calcite veining. Proximal to these fracture fillings, unit is typically buff-grey, bleached and moderately hard with hairline chloritic fracturing. Non-magnetic. Lower contact is a 1 cm wide, strong chloritic mud slip @ 45° tca.										
26.45	31.50	**LAMPROPHYRE/PYROXENITE DYKE** Massive, fine to medium grained dark grey-brown. Comprised of 10-15% dark green subhedral pyroxene crystals up to 0.5 cm in a fine grained, grey-white groundmass (equivalent to mafic boulder dyke on surface). Non-magnetic, weak moderate pervasive carbonate. Lower contact sharp, tight chlorite + talc slip @ 45° tca.										
31.50	270.80	**KOMATIITE/ULTRAMAFIC VOLCANIC** Massive to moderately well foliated, dark blue-green aphanitic ultra mafic volcanic. Locally moderately to strongly magnetic. Very soft, pervasively talcose (serpentinized). Contains 2-3% ubiquitous irregular green-white calcite ± serpentine veinlets (≤ 2 cm wide) and numerous talcose slips. Lower contact is sharp chlorite ± talc + calcite slip @ 30° tca.										
		34.30 Fault @ 50° tca. 5 cm wide, strong shearing with chlorite + talc mud gouge developed on slip planes.										
		50.95 - 51.10 Fault gouge, semi-coherent, massive mud gouge (clay) with very sharp contacts and 1% fine rock fragments.										
			9964	62.00	63.00	1.00					NIL	
		63.10 Fault @ 70° tca. 2 cm wide, strong chlorite + talc shear with moderate mud gouge development.	9965	63.00	63.50	0.50		Tr.	3-5		NIL	
			9966	63.50	64.00	0.50		Tr.	3-5		NIL	
		63.10 - 80.00 Volcanics are well foliated @ 50-60° tca deformed with abundant talc-serpentine slips and up to 10-15% irregular, often tightly folded, quartz ± serpentine (talc) ± fuchsite veining (i.e. very similar to green carbonate fuchsite) but not as highly altered. Also contains up to 1% fine to medium grained sub-euhedral disseminated pyrite.	9967	64.00	65.00	1.00		Tr.	3-5		NIL	
			9968	65.00	66.00	1.00		Tr.	2-3		NIL	
			9969	66.00	67.00	1.00		1	10-15		0.04	
			9970	67.00	68.00	1.00		1	5-7		NIL	
			9971	68.00	69.00	1.00		Tr.	5		NIL	
		69.40 - 69.50 Fault @ 35° tca strong chlorite + serpentine (talc) shear with calcite smearing on slip planes.	9972	69.00	69.50	0.50		1	5		NIL	
			9973	69.50	70.00	0.50		Tr.	1-2		NIL	
			9974	70.00	71.00	1.00		Tr.	2-3		NIL	

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-04

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	From	To	Length	%Rec	%Py	%QV	%Ser	ASSAYS Au, g/t	Au,Check
			9975	71.00	72.00	1.00		Tr.	2-3		0.01	
			9976	72.00	73.00	1.00		Tr.	1-2		NIL	
			9977	73.00	74.00	1.00		Tr.	1-2		NIL	
			9978	74.00	75.00	1.00		Tr.	2-3		NIL	
			9979	75.00	76.00	1.00		Tr.	1-2		NIL	
			9980	76.00	77.00	1.00		Tr.	2-3		NIL	
			9981	77.00	78.00	1.00		Tr.	2-3		NIL	
			9982	78.00	79.00	1.00		Tr.	3-5		NIL	
			9983	79.00	80.00	1.00		1	5-1		NIL	
			9984	80.00	80.50	0.50		Tr.	2-3		NIL	
			9985	80.50	81.00	0.50			1-2		NIL	
			9986	81.00	82.00	1.00			3-4		0.01	
			9987	82.00	83.00	1.00			3-4		0.02	
			9988	83.00	84.00	1.00			2-3		NIL	
			9989	84.00	85.00	1.00			1-2		NIL	
			9990	85.00	86.00	1.00			2-3		NIL	
			9991	86.00	87.00	1.00			3-4		NIL	
			9992	87.00	88.00	1.00			2-3		NIL	
			9993	88.00	89.00	1.00			1-2		0.04	
			9994	89.00	90.00	1.00			1-2		NIL	
			9995	90.00	90.80	0.80			1-2		0.02	
		90.90 - 91.80 Quartz + pyrite veining @ 50-60° tca. A series of semi-massive to banded silicified zones comprised of alternating bands of grey-white, buff-green and purple (hematitic) quartz laminations from 2 mm to 1 cm wide. Purple bands are magnetic with moderately hematized magnetite grains evident. These veins range from 10-25 cm wide and carry 2-3% finely disseminated to weakly laminated pyrite. Interstitial to vein, komatiites are moderately foliated with trace disseminated fine grained euhedral pyrite.	9996	90.80	91.30	0.50		2-3	10-15		0.02	
			9997	91.30	91.80	0.50		2	5-7		NIL	
			9998	91.80	92.30	0.50		Tr.-1	2-3		0.03	
			9999	92.30	93.00	0.70		Tr.-1	2-3		0.04	
			10000	93.00	94.00	1.00		1	2-3		NIL	
			2001	94.00	94.50	0.50		Tr.	3-4		0.02	
		94.50 - 94.60 Semi-massive, fractured, multi-generational buff-grey to grey-green, quartz ± talc /serpentine veins with trace disseminated pyrite.	2002	94.50	95.00	0.50		2-3	5-7		0.03	
			2003	95.00	95.50	0.50		Tr.-1	1-2		0.02	
		94.65 - 94.85 Brown dyke. Light yellow-brown aphanitic silicified dyke with 3-5% very finely disseminated pyrite. 2-3% milk white to blue-grey barren quartz veinlets (≤ 1 cm). Contacts of dyke are sharp, irregular to tight talc + chlorite slips @ 50° tca.										

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-04

INTERVAL		DESCRIPTION	SAMPLE							ASSAYS	
FROM	TO		No.	From	To	Length	%Rec	%Py	%QV· %Ser	Au, g/t·	Au,Check
		95.55 - 96.20 Brown dyke (felsite?). Massive, very fine grained to aphanitic light brown dyke. Very hard siliceous with 3-5% very finely disseminated pyrite. Upper contact is sharp talc + chlorite slip @ 60°. Lower contact is sharp and irregular.	2004	95.50	96.20	0.70		3-5	1-2	0.07	
		96.20 - 96.50 Komatiites are highly fractured and brecciated with 15% white fragmented quartz and 0.5% fine grained euhedral pyrite on chlorite sutures.	2005	96.20	96.70	0.50		Tr.-1	10	0.11	
		96.80 - 97.10 Fault @ 70° tca. Strong chlorite + talc serpentine shear zone. Non-mineralized, rubbly core.	2006	96.70	97.20	0.50	90			NIL	
		97.10 - 204.60 Komatiites are predominately quite massive and monotonous with ubiquitous pervasive talc ± serpentine alteration. Moderately well developed spinifex @ 102.0, 186.0 and 200.0 m.	2007	97.20	98.00	0.80		Tr.	1-2	NIL	
			2008	98.00	99.00	1.00				0.01	
			2009	99.00	100.00	1.00				NIL	
			2010	100.00	101.00	1.00				NIL	
			2011	104.00	105.00	1.00				NIL	
			2012	105.00	106.00	1.00				0.04	
			2013	106.00	107.00	1.00				0.12	
		107.10 - 107.80 Weakly foliated with wispy irregular hairline chloritic fractures containing 1-2% fine subhedral pyrite.	2014	107.00	107.80	0.80		1-2	Tr.	NIL	
			2015	107.80	108.50	0.70		Tr.		0.01	
			2016	108.50	109.00	0.50		Tr.		NIL	
		109.30 Fault @ 50° tca. 2 cm wide talc + chlorite schist.	2017	109.00	110.00	1.00				NIL	
		113.60 Fault @ 55° tca. 1 cm wide fault mud gouge chlorite + talc.									
		114.00 Fault @ 80° tca. 2 cm wide chlorite + talc ± gouge schist.									
		147.40 - 150.70 Lamprophyre dyke. Massive dark grey-brown, fine to medium grained mafic dyke. Appears to be comprised of 5-10% coarse subhedral pale green pyroxene (≤ 4 mm) in a fine grained to aphanitic groundmass. Non-magnetic, undeformed. Contacts are sharp and irregular.									
		164.60 - 164.90 Fault breccia @ 60° tca. Contacts are 1-2 cm wide strong talc + chlorite schist ± gouge. Interstitial to slips, unit is pseudo-brecciated to brecciated with a strong "crack and seal" type texture.									
		168.60 - 169.00 Fault @ 60° tca. Strong in situ brecciation of komatiite with talc + chlorite gouge development interstitial to in place fragmentation.									
		194.00 - 195.50 Strongly foliated to schistose talc (serpentine) + chlorite schist @ 50° tca.									

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-04

INTERVAL FROM	INTERVAL TO	DESCRIPTION	SAMPLE No.	From	To	Length	%Rec	%Py	%QV	%Ser	ASSAYS Au, g/t	Au,Check
		204.60 Fault @ 50° tca. 2 cm wide talc + chlorite shear with moderate gouge development.										
		204.60 - 236.00 Non-magnetic, olive green, weaker serpentinization.										
		236.00 - 238.80 Well developed "crack and seal" texture or pseudo-brecciation by hairline to 2 mm wide, talc + chlorite sutures. Marks contact from non-magnetic to magnetic komatiites. Flow top breccia(?).										
		263.30 Fault @ 50° tca. 5 cm wide talc + chlorite fault gouge with late calcite smearing on mad slips.										
		238.80 - 270.80 Highly magnetic, dark green to black aphanitic komatiite. Moderately well developed spinifex @ 243.0 m.	2018	269.00	270.00	1.00					0.01	
			2019	270.00	270.80	0.80					NIL	
270.80	301.50	**VARIOLITIC BASALT/BASALTIC KOMATIITE**										
		Massive, medium green to dark green-black, fine to very fine grained. Readily distinguishable mottled texture, possibly polysuturing due to light green chloritic cores comprised of devitrified variolites and semi-massive variolitic masses (devitrification produces a green-white snowflake appearance) separated by pseudo-polygonal dark green-black talcose sutures up to 1 cm wide. Other sections are quite massive, generally chloritic to weakly talcose. Unit is non-magnetic and carries scattered traces of smeared pyrite (marcasite) on occasional chloritic slips. Unit is very massive non-deformed and carries only trace late quartz ± calcite veinlets with no visible faulting evident. Lower contact is very sharp and non-deformed @ 45° tca.	2020	270.80	271.50	0.70					NIL	
			2021	271.50	272.00	0.50					NIL	
			2022	272.00	273.00	1.00					NIL	
			2023	273.00	274.00	1.00					NIL	
			2024	274.00	275.00	1.00					NIL	
			2025	275.00	276.00	1.00					NIL	
			2026	276.00	277.00	1.00					NIL	
			2027	277.00	278.00	1.00					NIL	
			2028	278.00	279.00	1.00					0.01	
			2029	279.00	280.00	1.00					NIL	
			2030	280.00	281.00	1.00					NIL	
			2031	281.00	282.00	1.00					NIL	
			2032	282.00	283.00	1.00					NIL	
			2033	283.00	284.00	1.00					NIL	
			2034	284.00	285.00	1.00					NIL	
			2035	285.00	286.00	1.00					NIL	
			2036	286.00	287.00	1.00					NIL	
			2037	287.00	288.00	1.00					NIL	
			2038	288.00	289.00	1.00					NIL	
			2039	289.00	290.00	1.00		Tr.			NIL	
			2040	290.00	291.00	1.00		Tr.	2		NIL	
			2041	291.00	292.00	1.00		Tr.			NIL	
			2042	292.00	293.00	1.00		Tr.			NIL	
			2043	293.00	294.00	1.00		Tr.			NIL	
			2044	294.00	295.00	1.00					NIL	
			2045	295.00	296.00	1.00		Tr.			NIL	
			2046	296.00	297.00	1.00					0.01	

BATTLE MOUNTAIN (CANADA) INC.
DIAMOND DRILL LOG

HOLE: VA-91-04

INTERVAL		DESCRIPTION	SAMPLE						ASSAYS	
FROM	TO		No.	From	To	Length	%Rec	%Py %QV %Ser	Au, g/t	Au,Check
			2047	297.00	298.00	1.00			NIL	
			2048	298.00	299.00	1.00			NIL	
			2049	299.00	300.00	1.00			NIL	
			2050	300.00	301.00	1.00			NIL	
			2051	301.00	301.50	0.50			NIL	
301.50	315.05	**KOMATIITE** Massive, very fine grained to aphanitic. Dark green-black soft pervasively talcose (serpentinized) with abundant talc + chlorite slips and joints. Patchy strongly magnetic. Well developed spinifex textures @ 301.5, 304.0 and 304.9 m, indicate tops to the south, i.e. in the up-hole direction.	2052	301.50	302.00	0.50			NIL	
			2053	302.00	303.00	1.00			NIL	
			2054	303.00	304.00	1.00			NIL	
	315.05	**END OF HOLE** Casing pulled.								

APPENDIX II

ASSAY CERTIFICATES

Swastika Laboratories

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Assaying - Consulting - Representation

Established 1928

Geochemical Analysis Certificate

0W-0964-RG1

Company: BATTLE MOUNTAIN CANADA INC.
Project: 75-JV-28
Attn: WAYNE BENHAM

Date: JUL-13-90
Copy 1. HOLD COPY 567-4840

We hereby certify the following Geochemical Analysis of 34 SAWN CORE samples submitted JUL-11-90 by ROBERT PEEVER.

Sample Number	Au ppb
6001	Nil
6002	Nil
6003	Nil
6004	Nil
6005	Nil
6006	82/72
6007	10
6008	7
6009	7
6010	21/17
6011	Nil
6012	Nil
6013	Nil
6014	Nil
6015	Nil
6016	Nil
6017	Nil
6018	Nil
6019	Nil
6020	Nil
6021	Nil
6022	Nil
6023	7
6024	3
6025	Nil
6026	Nil
6027	Nil
6028	7
6029	Nil
6030	Nil

Certified by G. Lebel

G. Lebel / Manager

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Geochemical Analysis Certificate

0W-0964-RG1

Company: BATTLE MOUNTAIN CANADA INC.
Project: 75-JV-28
Attn: WAYNE BENHAM

Date: JUL-13-90
Copy 1. HOLD COPY 567-4840

We hereby certify the following Geochemical Analysis of 34 SAWN CORE samples submitted JUL-11-90 by ROBERT PEEVER.

Sample Number	Au ppb
6031	7/10
6096	Nil
6097	Nil
6098	3

Certified by G. Lebel

G. Lebel / Manager

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

Virginia Drilling

Swastika Laboratories

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Geochemical Analysis Certificate

0W-0955-RG1

Company: **BATTLE MOUNTAIN CANADA INC.** Date: JUL-12-90

Project: 75-JV-28 DDH VA 90-1 Copy 1. HOLD COPY 567-4840

Attn: W. BENHAM

We hereby certify the following Geochemical Analysis of 17 CORE samples submitted JUL-10-90 by Keith Barran.

Sample Number	Au ppb	Ag ppm	Zn ppm
6074	31		
6075	38/34		
6076	21		
6077	Nil		
6078	7		
6079	Nil		
6080	Nil		
6081	Nil		
6082	Nil		
6083	Nil		
6084	Nil	0.4	614
6085	21/14	0.4	1180
6086	10		
6087	7		
6088	3		
6089	Nil		
6090	10		

Certified by G. Lebel

G. Lebel / Manager

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Geochemical Analysis Certificate

0W-0970-RG1

Company: **BATTLE MOUNTAIN CANADA INC.**
Project: 75-JV-28
Attn: WAYNE BENHAM

Date: JUL-13-90
Copy 1. HOLD COPY 567-4840

We hereby certify the following Geochemical Analysis of 28 DRILL CORE samples submitted JUL-11-90 by KEITH BARRON.

Sample Number	Au ppb
6032	24
6033	10
6034	295/350
6035	Nil
6036	7
6037	7
6038	7
6039	Nil
6040	Nil
6041	Nil
6042	Nil
6043	Nil
6044	Nil
6045	21/17
6046	Nil
6047	Nil
6048	Nil
6049	Nil
6050	Nil
6051	7
6052	Nil
6053	Nil
6054	Nil
6095	Nil
6099	Nil/Nil
6100	Nil
6101	Nil
6102	Nil

Certified by G. Lebel

G. Lebel / Manager

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Geochemical Analysis Certificate

0W-0976-RG2

Company: BATTLE MOUNTAIN CANADA INC Date: JUL-16-90
Project: 75-JV-28 Copy 1. HOLD 567-4840
Attn: W. BENHAM

We hereby certify the following Geochemical Analysis of 4 DRILL CORE samples submitted JUL-12-90 by K. BARRON.

Sample Number	Au ppb
6103	Nil
6104	Nil
6105	Nil
6106	Nil

Certified by _____

G. Lebel / Manager

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Geochemical Analysis Certificate

0W-0976-RG1

Company: **BATTLE MOUNTAIN CANADA INC** Date: JUL-16-90

Project: 75-JV-28 Copy 1. HOLD 567-4840

Attn: W. BENHAM

We hereby certify the following Geochemical Analysis of 30 DRILL CORE samples submitted JUL-12-90 by K. BARRON.

Sample Number	Au ppb	Au check ppb	Ag ppm	Cu ppm	Zn ppm
6139	48				653
6140	58	62			1530
6141	10				7080
6142	7				385
6143	Nil				2720
6144	146	134	1.6	418	2110
6126	7				
6127	Nil				
6128	Nil				
6129	Nil				
6130	Nil				
6055	Nil				
6056	7				
6057	Nil				
6058	7				
6059	Nil				
6060	Nil				
6061	Nil				
6062	10				
6063	Nil				
6064	25				
6065	240	247			
6066	24				
6067	3				
6068	Nil				
6069	Nil				
6070	Nil				
6071	Nil				
6072	7				
6073	Nil				

Certified by G. Lebel

G. Lebel / Manager

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Geochemical Analysis Certificate

0W-0985-RG1

Company: BATTLE MOUNTAIN CANADA INC.
Project: 75-JV-28
Attn: W. BENHAM

Date: JUL-17-90
Copy 1. HOLD COPY 567-4840

We hereby certify the following Geochemical Analysis of 44 SPLIT CORE samples submitted JUL-13-90 by Jeff St.Jean.

Sample Number	Au ppb
6091	Nil
6092	10
6093	3
6094	31/34
6131	Nil
6132	Nil
6133	7
6134	10
6135	24
6136	10
6137	38
6138	48
6145	Nil
6146	62
6147	79/120
6148	51
6149	45
6150	55/55
6151	38
6152	14
6153	10
6154	3
6155	3
6156	7
6157	Nil
6158	Nil
6159	Nil
6160	10
6161	Nil
6162	10

Certified by G. Lebel

G. Lebel / Manager

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Geochemical Analysis Certificate

0W-0985-RG1

Company: BATTLE MOUNTAIN CANADA INC.
Project: 75-JV-28
Attn: W. BENHAM

Date: JUL-17-90

Copy 1. HOLD COPY 567-4840

We hereby certify the following Geochemical Analysis of 44 SPLIT CORE samples submitted JUL-13-90 by Jeff St.Jean.

Sample Number	Au ppb
6163	10
6164	14
6165	58/51
6166	31
6167	10
6168	Nil
6169	41
6170	10
6171	Nil
6172	Nil
6173	3
6174	3
6175	Nil
6176	Nil

Certified by G. Lebel

G. Lebel / Manager

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Assay Certificate

1W-4204-RA1

Company: BATTLE MOUNTAIN (CANADA) INC.
Project: 75-JV-28
Attn: W. BENHAM

Date: OCT-22-91
Copy 1. BOX 635, KIRKLAND LAKE P2N 3K1
2. FAX TO 567-6448

We hereby certify the following Assay of 47 CORE samples submitted OCT-18-91 by .

Sample Number	Au g/tonne	Au check g/tonne
9656	0.01	
9657	Nil	
9658	Nil	Nil
9659	0.07	0.06
9660	Nil	
9661	Nil	
9662	Nil	
9663	Nil	
9664	0.01	
9665	Nil	
9666	Nil	
9667	Nil	
9668	Nil	
9669	0.01	
9670	0.01	
9671	Nil	
9672	0.03	
9673	0.03	
9674	0.04	
9675	0.03	
9676	0.01	
9677	0.04	
9678	0.20	0.22
9679	0.12	
9680	0.13	
9681	0.04	
9682	0.04	
9683	0.02	
9684	0.10	
9685	0.04	

Au was determined using 1 AT fusions

Certified by Donna Gardner

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1W-4204-RA1

Company: BATTLE MOUNTAIN (CANADA) INC.
Project: 75-JV-28
Attn: W. BENHAM

Date: OCT-22-91
Copy 1. BOX 635, KIRKLAND LAKE P2N 3K1
2. FAX TO 567-6448

We hereby certify the following Assay of 47 CORE samples submitted OCT-18-91 by .

Sample Number	Au g/tonne	Au check g/tonne
9686	0.15	
9687	0.20	0.17
9688	0.05	
9689	0.04	
9690	0.09	
9691	0.10	
9692	0.08	
9693	0.05	
9694	0.04	
9695	0.20	
9696	0.13	
9697	0.30	0.30
9698	0.14	
9699	0.09	
9700	0.23	
9701	0.44	0.43
9702	0.09	

Au was determined using 1 AT fusions

Certified by Donna Gardner

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1W-4211-RA1

Company: BATTLE MOUNTAIN (CANADA) INC.
Project: 75-JV-28
Attn: W. BENHAM

Date: OCT-23-91
Copy 1. BOX 635, KIRKLAND LAKE P2N 3K1
2. FAX TO 567-6448

We hereby certify the following Assay of 66 CORE samples submitted OCT-18-91 by R. PEEVER.

Sample Number	Au g/tonne	Au check g/tonne	Au 2nd g/tonne
9703	0.04		
9704	0.12		
9705	0.12		
9706	0.02		
9707	0.10		
9708	0.23	0.21	
9709	0.06		
9710	0.05		
9711	0.04		
9712	0.03		
9713	0.24		
9714	0.36		
9715	0.65	0.69	
9716	0.25		
9717	0.14		
9718	0.05		
9719	0.26		
9720	1.30	1.35	1.28
9721	0.49		
9722	0.62		
9723	0.93	0.97	
9724	0.35		
9725	0.22		
9726	0.11		
9727	0.11		
9728	0.22		
9729	0.11		
9730	0.08		
9731	0.13		
9732	0.51		

Au was determined using 1 AT fusions

Certified by Donna Gardner

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Attn: W. BENHAM

Date: OCT-23-91
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2. FAX TO 567-6448

We hereby certify the following Assay of 66 CORE samples submitted OCT-18-91 by R. PEEVER.

Sample Number	Au g/tonne	Au check g/tonne	Au 2nd g/tonne
9733	0.31		
9734	0.19		
9735	0.31		
9736	0.46	0.45	
9737	0.10		
9738	0.16		
9739	0.19		
9740	0.01		
9741	0.05		
9742	0.02		
9743	0.01		
9744	0.01		
9745	0.01		
9746	0.02		
9747	0.02		
9748	0.01		
9749	0.02		
9750	0.02		
9751	0.02		
9752	Nil		
9753	Nil	Nil	
9754	0.01		
9755	Nil		
9756	0.02		
9757	0.01		
9758	0.01		
9759	0.01		
9760	0.02		
9761	0.02		
9762	0.02		

Au was determined using 1 AT fusions

Certified by Donna Gardner

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Attn: W. BENHAM

Date: OCT-23-91
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2. FAX TO 567-6448

We hereby certify the following Assay of 66 CORE samples submitted OCT-18-91 by R. PEEVER.

Sample Number	Au g/tonne	Au check g/tonne	Au 2nd g/tonne
9763	0.03	0.04	
9764	0.01		
9765	0.02		
9766	0.01		
9767	0.01		
9768	0.02		

Au was determined using 1 AT fusions

Certified by Donna Gardner

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1W-4210-RA1

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Project: 75-JV-28
Attn: W. BENHAM

Date: OCT-23-91
Copy 1. BOX 635, KIRKLAND LAKE P2N 3K1
2. FAX TO 567-6448

We hereby certify the following Assay of 101 CORE samples submitted OCT-21-91 by R. PEEVER.

Sample Number	Au g/tonne	Au check g/tonne
9769	0.03	
9770	0.01	
9771	0.06	
9772	0.02	
9773	0.02	
9774	0.13	0.15
9775	Nil	
9776	Nil	
9777	0.01	
9778	0.05	
9779	0.03	
9780	Nil	
9781	0.15	0.21
9782	0.01	
9783	Nil	
9784	Nil	
9785	Nil	
9786	0.01	
9787	Nil	
9788	Nil	
9789	Nil	
9790	0.02	
9791	0.03	
9792	0.06	0.05
9793	0.02	
9794	Nil	
9795	Nil	
9796	0.02	
9797	Nil	
9798	0.01	

Au was determined using 1 AT fusions

Certified by Donna Gardner

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Attn: W. BENHAM

Date: OCT-23-91
Copy 1. BOX 635, KIRKLAND LAKE P2N 3K1
2. FAX TO 567-6448

We hereby certify the following Assay of 101 CORE samples submitted OCT-21-91 by R. PEEVER.

Sample Number	Au g/tonne	Au check g/tonne
9799	0.01	
9800	Nil	
9801	Nil	
9802	Nil	
9803	Nil	
9804	0.02	
9805	Nil	
9806	0.03	
9807	0.09	0.09
9808	Nil	
9809	Nil	
9810	0.03	
9811	Nil	
9812	0.02	
9813	0.03	
9814	0.02	
9815	0.02	
9816	0.03	
9817	0.05	0.04
9818	0.03	
9819	0.01	
9820	Nil	
9821	Nil	
9822	0.02	
9823	Nil	
9824	0.01	
9825	Nil	
9826	Nil	
9827	0.04	
9828	0.09	

Au was determined using 1 AT fusions

Certified by Donna Gardner

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1W-4210-RA1

Company: BATTLE MOUNTAIN (CANADA) INC.
Project: 75-JV-28
Attn: W. BENHAM

Date: OCT-23-91
Copy 1. BOX 635, KIRKLAND LAKE P2N 3K1
2. FAX TO 567-6448

We hereby certify the following Assay of 101 CORE samples submitted OCT-21-91 by R. PEEVER.

Sample Number	Au g/tonne	Au check g/tonne
9829	0.02	
9830	0.01	
9831	0.17	
9832	0.23	0.27
9833	0.13	
9834	0.02	
9835	Nil	
9836	Nil	
9837	Nil	
9838	Nil	
9839	Nil	
9840	Nil	
9841	Nil	
9842	Nil	
9843	0.02	
9844	Nil	
9845	Nil	
9846	Nil	
9847	0.03	
9848	0.03	
9849	0.01	
9850	0.01	
9851	Nil	Nil
9852	0.02	
9853	0.03	
9854	Nil	
9855	Nil	
9856	Nil	
9857	Nil	
9858	Nil	

Au was determined using 1 AT fusions

Certified by Donna Gardner

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1W-4210-RA1

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Project: 75-JV-28
Attn: W. BENHAM

Date: OCT-23-91
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2. FAX TO 567-6448

We hereby certify the following Assay of 101 CORE samples submitted OCT-21-91 by R. PEEVER.

Sample Number	Au g/tonne	Au check g/tonne
9859	Nil	
9860	Nil	
9861	Nil	
9862	Nil	
9863	Nil	
9864	Nil	
9865	Nil	Nil
9866	0.02	
9867	Nil	
9868	Nil	
9869	Nil	

Au was determined using 1 AT fusions

Certified by Donna Gardner

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1W-4220-RA1

Assay Certificate

Company: BATTLE MOUNTAIN (CANADA) INC.
Project: 75-JV-28
Attn: W. BENHAM

Date: OCT-24-91
Copy 1. BOX 635, KIRKLAND LAKE P2N 3K1
2. FAX TO 567-6448

We hereby certify the following Assay of 94 CORE samples submitted OCT-21-91 by R. PEEVER.

Sample Number	Au g/tonne	Au check g/tonne
9870	Nil	
9871	Nil	
9872	Nil	
9873	0.01	
9874	0.02	
9875	0.02	
9876	Nil	
9877	0.44	0.45
9878	0.44	
9879	0.18	
9880	0.14	
9881	0.11	
9882	0.04	
9883	Nil	
9884	0.19	
9885	0.08	
9886	0.19	
9887	0.20	0.24
9888	0.24	
9889	0.13	
9890	0.17	
9891	0.04	
9892	0.03	
9893	0.12	
9894	0.12	
9895	0.18	
9896	0.10	
9897	0.44	0.47
9898	0.09	
9899	0.07	

Au was determined using 1 AT fusions

Certified by Donna Gardner

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Assay Certificate

1W-4220-RA1

Company: BATTLE MOUNTAIN (CANADA) INC.
Project: 75-JV-28
Attn: W. BENHAM

Date: OCT-24-91
Copy 1. BOX 635, KIRKLAND LAKE P2N 3K1
2. FAX TO 567-6448

We hereby certify the following Assay of 94 CORE samples submitted OCT-21-91 by R. PEEVER.

Sample Number	Au g/tonne	Au check g/tonne
9900	0.02	
9901	Nil	
9902	0.06	0.04
9903	0.04	
9904	0.02	
9905	Nil	
9906	Nil	
9907	Nil	
9908	Nil	
9909	Nil	
9910	Nil	
9911	Nil	
9912	Nil	
9913	0.07	
9914	Nil	
9915	0.16	0.15
9916	0.03	
9917	0.04	
9918	0.06	
9919	Nil	
9920	0.20	0.15
9921	0.06	
9922	0.10	
9923	Nil	
9924	0.14	
9925	Nil	
9926	Nil	
9927	Nil	
9928	Nil	
9929	Nil	

Au was determined using 1 AT fusions

Certified by Donna Gardner

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

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Assay Certificate

1W-4220-RA1

Company: BATTLE MOUNTAIN (CANADA) INC.
Project: 75-JV-28
Attn: W. BENHAM

Date: OCT-24-91
Copy 1. BOX 635, KIRKLAND LAKE P2N 3K1
2. FAX TO 567-6448

We hereby certify the following Assay of 94 CORE samples submitted OCT-21-91 by R. PEEVER.

Sample Number	Au g/tonne	Au check g/tonne
9930	Nil	
9931	Nil	
9932	0.26	
9933	0.20	
9934	0.37	0.40
9935	0.29	
9936	0.16	
9937	0.01	
9938	0.07	
9939	0.15	
9940	0.10	0.09
9941	0.07	
9942	0.06	
9943	0.07	
9944	0.07	
9945	0.12	
9946	0.13	
9947	0.08	
9948	0.17	0.15
9949	0.01	
9950	Nil	
9951	Nil	
9952	Nil	
9953	Nil	
9954	Nil	
9955	0.03	
9956	0.01	
9957	Nil	
9958	0.03	
9959	0.08	

Au was determined using 1 AT fusions

Certified by Donna Gardner

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

Established 1928

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Assay Certificate

1W-4220-RA1

Company: BATTLE MOUNTAIN (CANADA) INC.
Project: 75-JV-28
Attn: W. BENHAM

Date: OCT-24-91
Copy 1. BOX 635, KIRKLAND LAKE P2N 3K1
2. FAX TO 567-6448

We hereby certify the following Assay of 94 CORE samples submitted OCT-21-91 by R. PEEVER.

Sample Number	Au g/tonne	Au check g/tonne
9960	Nil	
9961	Nil	
9962	Nil	
9963	0.01	

Au was determined using 1 AT fusions

Certified by Donna Gardner

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

Swastika Laboratories

Established 1928

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Assay Certificate

1W-4261-RA1

Company: BATTLE MOUNTAIN (CANADA) INC.
Project: 75-JV-28
Attn: W. BENHAM

Date: OCT-28-91
Copy 1. BOX 635, KIRKLAND LAKE P2N 3K1
2. FAX TO 567-6448

We hereby certify the following Assay of 22 CORE samples submitted OCT-24-91 by .

RECEIVED NOV - 4 1991

Sample Number	Au g/tonne	Au check g/tonne
9964	Nil	Nil
9965	Nil	
9966	Nil	
9967	Nil	
9968	Nil	
9969	0.04	
9970	Nil	
9971	Nil	
9972	Nil	
9973	Nil	
9974	Nil	
9975	0.01	
9976	Nil	Nil
9977	Nil	
9978	Nil	
9979	Nil	
9980	Nil	
9981	Nil	
9982	Nil	
9983	Nil	
9984	Nil	
9985	Nil	

Au was determined using 1 AT fusions

Certified by Donna Gardner

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

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

Assay Certificate

1W-4275-RA1

Company: BATTLE MOUNTAIN INC.
Project: 75-JV-28
Attn: W. BENHAM

Date: OCT-29-91

Copy 1. BOX 635, KIRKLAND LAKE P2N 3K1
2. FAX TO 567-6448

We hereby certify the following Assay of 32 CORE samples submitted OCT-25-91 by M. MASSON.

Sample Number	Au g/tonne	Au check g/tonne
2001	0.02	
2002	0.03	
2003	0.02	
2004	0.07	0.07
2005	0.11	
2006	Nil	
2007	Nil	
2008	0.01	
2009	Nil	
2010	Nil	
2011	Nil	
2012	0.04	
2013	0.14	0.09
2014	Nil	
2015	0.01	
2016	Nil	
2017	Nil	
9986	0.01	
9987	0.02	
9988	Nil	
9989	Nil	
9990	Nil	
9991	Nil	
9992	Nil	
9993	0.04	
9994	Nil	
9995	0.02	
9996	0.01	0.02
9997	Nil	
9998	0.03	

Au was determined using 1 AT fusions

Certified by Donna Gardner

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

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

Assay Certificate

1W-4275-RA1

Company: BATTLE MOUNTAIN INC.
Project: 75-JV-28
Attn: W. BENHAM

Date: OCT-29-91
Copy 1. BOX 635, KIRKLAND LAKE P2N 3K1
2. FAX TO 567-6448

We hereby certify the following Assay of 32 CORE samples submitted OCT-25-91 by M. MASSON.

Sample Number	Au g/tonne	Au check g/tonne
9999	0.04	
10000	Nil	

Au was determined using 1 AT fusions

Certified by Donna Gardner

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

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

H.L. (DRILLING ASSAYS

Assay Certificate

1W-4288-RA1

Company: **BATTLE MOUNTAIN CANADA INC.**
Project: 75-JV-28
Attn: W.BENHAM

Date: OCT-31-91
Copy 1. P.O.Box 635,Kirkland Lake,Ont. P2N 3K1
2. Fax to 567-6448

We hereby certify the following Assay of 37 core samples submitted OCT-28-91 by M. MASSON.

Sample Number	Au g/tonne	Au check g/tonne
2018	0.01	Nil
2019	Nil	
2020	Nil	
2021	Nil	
2022	Nil	
2023	Nil	
2024	Nil	
2025	Nil	
2026	Nil	
2027	Nil	
2028	0.01	
2029	Nil	
2030	Nil	
2031	Nil	
2032	Nil	
2033	Nil	
2034	Nil	
2035	Nil	
2036	Nil	
2037	Nil	
2038	Nil	
2039	Nil	
2040	Nil	
2041	Nil	
2042	Nil	
2043	Nil	Nil
2044	Nil	
2045	Nil	
2046	0.01	
2047	Nil	

Au was determined using 1 AT fusions

Certified by Donna Gardner

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

Established 1928

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Assay Certificate

1W-4288-RA1

Company: **BATTLE MOUNTAIN CANADA INC.**
Project: 75-JV-28
Attn: W.BENHAM

Date: OCT-31-91
Copy 1. P.O.Box 635,Kirkland Lake,Ont. P2N 3K1
2. Fax to 567-6448

We hereby certify the following Assay of 37 core samples submitted OCT-28-91 by M. MASSON.

Sample Number	Au g/tonne	Au check g/tonne
2048	Nil	
2049	Nil	
2050	Nil	
2051	Nil	
2052	Nil	
2053	Nil	
2054	Nil	Nil

Au was determined using 1 AT fusions

Certified by Donna Gardner

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

Established 1928

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Geochemical Analysis Certificate

0W-0997-RG1

Company: **BATTLE MOUNTAIN CANADA INC.** Date: JUL-18-90
Project: 75-JV-28 Copy 1. HOLD COPY 567-4840
Attn: W. BENHAM

We hereby certify the following Geochemical Analysis of 19 DRILL CORE samples submitted JUL-16-90 by JEFF ST.JEAN.

Sample Number	Au ppb
6107	3
6108	27
6109	Nil
6110	Nil
6111	7
6112	10
6113	3
6114	31/31
6115	14
6116	Nil
6117	Nil
6118	3/3
6119	Nil
6120	Nil
6121	17
6122	Nil
6123	Nil
6124	Nil
6125	51

Certified by G. Lebel

G. Lebel / Manager

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

APPENDIX III

CERTIFICATE OF QUALIFICATIONS

CERTIFICATE OF QUALIFICATIONS

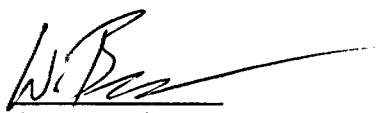
I, Wayne Benham of 921 Willowdale Ave. in the City of Toronto in the Province of Ontario.

DO HEREBY CERTIFY:

1. That I am a graduate of Queen's University, Kingston, Ontario with a Bachelor of Science (B.Sc.), Geological Science, 1970.

2. That I have been practising my profession as an exploration geologist since 1970.

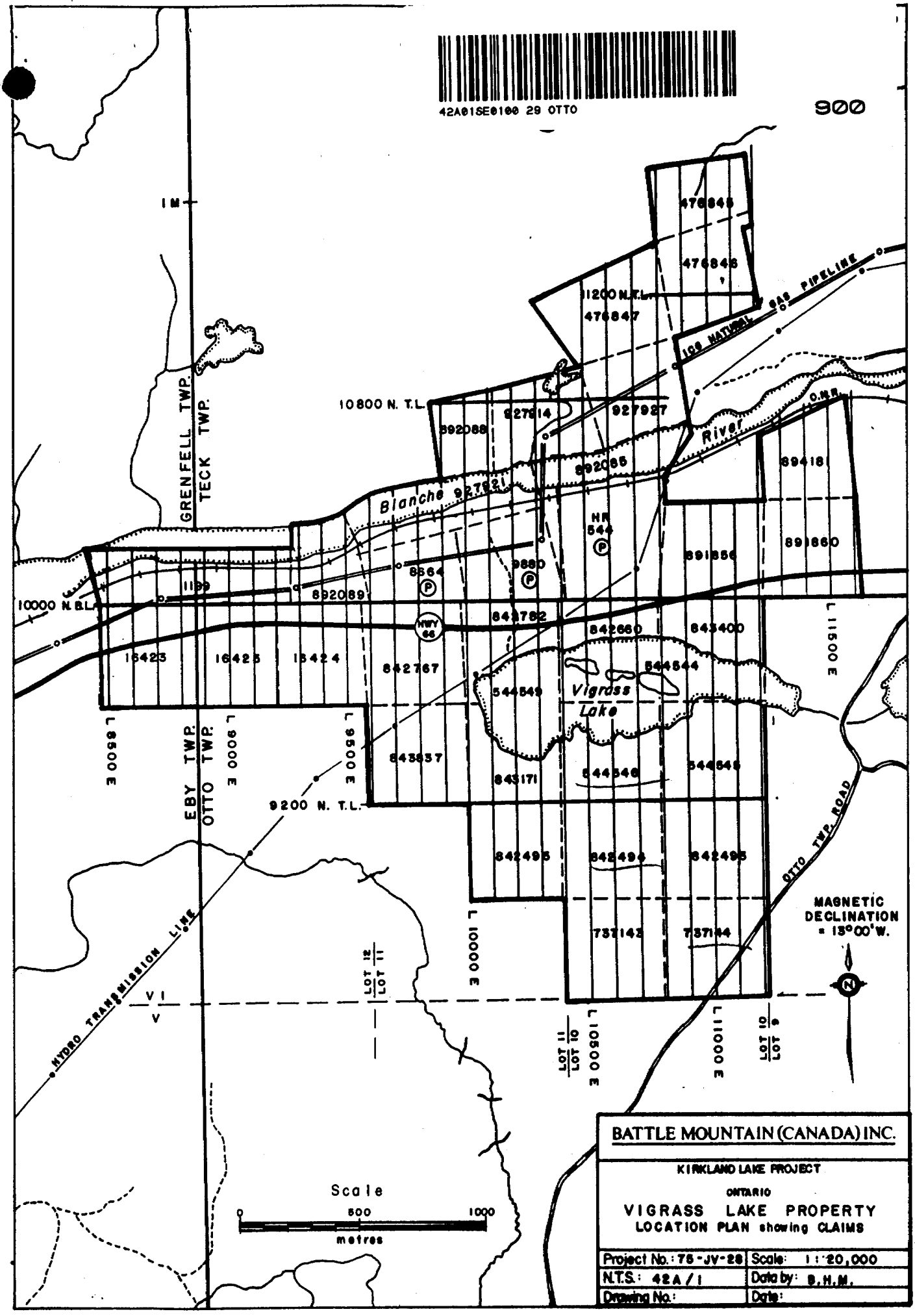
3. That I have personally supervised the work described in this report.

Signed 

Wayne Benham
Kirkland Lake, Ontario

Dated this November 29, 1991.

42A01SE0100 29 OTTO



BATTLE MOUNTAIN (CANADA) INC.

KIRKLAND LAKE PROJECT

ONTARIO

VIGRASS LAKE PROPERTY

LOCATION PLAN showing CLAIMS

Project No.: 75-JV-28	Scale: 1:20,000
N.T.S.: 42A/1	Data by: B.H.M.
Drawing No.:	Date:

AFRO

Ministry of Northern Development and Mines

Ontario

Report of Work Conducted After Recording Claim

Mining Act

Transaction Number: W 9280 • 00043 DOCUMENT No.

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

Instructions:
- Please type or print and submit in duplicate.
- Refer to the Mining Act and Regulations for requirements of filing assessment work or consult the Mining Recorder.
- A separate copy of this form must be completed for each Work Group.
- Technical reports and maps must accompany this form in duplicate.
- A sketch, showing the claims the work is assigned to, must accompany this form.

Recorded Holder(s): BATTLE MOUNTAIN (CANADA) INC. T-5179		Client No.: 105640
Address: Suite 2910, 390 Bay Street, Toronto, Ontario M5H 2Y2		Telephone No.: (416) 867-9815
Mining Division: Larder Lake	Township/Area: Otto Twp.	M or G Plan No.: M 379
Dates Work Performed — From: June 19, 1990	To: November 29, 1991	

Work Performed (Check One Work Group Only)

	Work Group	Type
	Geotechnical Survey	
X	Physical Work, Including Drilling	Drilling
	Rehabilitation	
	Other Authorized Work	
	Assays	
	Assignment from Reserve	

ONTARIO GEOLOGICAL SURVEY
GIS - ASSESSMENT FILES
JUN 16 1992
RECEIVED

Total Assessment Work Claimed on the Attached Statement of Costs $ 64,628.43

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
W. Benham (Author)	P. O. Box 635, Kirkland Lake, Ontario P2N 3K1
Heath & Sherwood Drilling Inc.	P. O. Box 998, Kirkland Lake, Ont. P2N 3L3
Swastika Laboraatories	P. O. Box 10, Swastika, Ontario P0K 1T0
M. Masson (Geologist)	P. O. Box 1343, Kirkland Lake, Ont. P2N 3P2

(attach a schedule if necessary)

Certification of Beneficial Interest * See Note No. 1 on reverse side

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Date: Jan 27/92	Recorded Holder or Agent (Signature): O. E. Leigh

Certification of Work Report

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying: Wayne Benham, P. O. Box 635, Kirkland Lake, Ontario P2N 3K1		
Telepone No.: (705) 567-4840	Date: Jan 22/92	Certified By (Signature): W. Benham

For Office Use Only

Total Value Cr. Recorded: Reserve $64,627.	Date Recorded: January 29/92	Mining Recorder:	Received Stamp: LARDER LAKE MINING DIVISION 92 JAN 29 PM 2 2
	Deemed Approval Date: April 28, 1992	Date Approved:	
	Date Notice for Amendments Sent:		

0241 (03/91)

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units	Value of Assessment Work Done on this Claim	Value Applied to this Claim	Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
	L544546	1	42,928.91	0	0	42,928.91
	L842494	1	13,997.61	0	0	13,997.61
	L736143	1	7,699.91	0	0	7,699.91
	3		64,626.43	0	0	64,626.43
	Total Number of Claims		Total Value Work Done	Total Value Work Applied	Total Assigned From	Total Reserve

0241 (03/91)

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to priorize the deletion of credits. Please mark (✓) one of the following:

1. ☑ Credits are to be cut back starting with the claim listed last, working backwards.
2. ☐ Credits are to be cut back equally over all claims contained in this report of work.
3. ☐ Credits are to be cut back as priorized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.	Signature	Date

Development
nes

du
pement du Nord
des mines

Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction
W [illegible] 00043

onal information collected on this form is obtained under the authority the **Mining Act**. This information will be used to maintain a record and going status of the mining claim(s). Questions about this collection should directed to the Provincial Manager, Minings Lands, Ministry of Northern velopment and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la **Loi sur les mines** et serviront à tenir à jour un registre des concessions minières. Adresser toute quesiton sur la collece de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
/ages alaires	Labour Main-d'oeuvre	10,455.29	
	Field Supervision Supervision sur le terrain		10,455.29
:ontractor's nd Consultant's ees roits de entrepreneur t de l'expert-:onseil	Type DRILLING	44,325.66	
	ASSAYING	6,437.91	
			50,763.57
Supplies Used Fournitures utilisées	Type FIELD	534.88	
	CORE RACKS	495.00	
			1,029.88
Equipment Rental Location de matériel	Type		
			[illegible]
	Total Direct Costs Total des coûts directs		62,618.74

2. Indirect Costs/Coûts indirects

** **Note:** When claiming Rehabilitation work Indirect costs are not allowable as assessment work.
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type TRUCK RENTAL	522.72	
	FUEL	157.00	
	COURIER & SHIPPING	20.23	
			699.95
Food and Lodging Nourriture et hébergement			1,280.04
Mobilization and Demobilization Mobilisation et démobilisation			32.70
	Sub Total of Indirect Costs Total partiel des coûts indirects		2,012.69
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)			[illegible]
Total Value of Assessment Credit (Total of Direct and Allowable indirect costs) / **Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles**			[illegible]

lote: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.

2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
× 0.50 =	

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.

2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Évaluation totale demandée
× 0,50 =	

Certification Verifying Statement of Costs

I hereby certify:
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as VICE PRESIDENT AND MANAGER OF EXPLORATION (Recorded Holder, Agent, Position in Company) I am authorized

to make this certification

Attestation de l'état des coûts

J'atteste par la présente :
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de _____ (titulaire enregistré, représentant, poste occupé dans la compagnie) je suis autorisé

à faire cette attestation.

Signature	Date
D. E. LEIGH	Jan 22/92

0212 (04/91)

Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre.

565000 E

565500 E

566000 E

VIGRASS LAKE

OTTO LAKE

843171

544546

544545

842495

842494

842493

737143

737144

309.10 m

315.05 m.

181.66 m

120.70 m.

VA91-04 (-55°)

VA91-03 (-63°)

VA90-01 (-50°)

VA90-02 (-50°)

9600 N.

9400 N.

9000 N.

8800 N.

8600 N.

D.D.H. ROAD

92 N. TIE LINE

OTTO TOWNSHIP ROAD

LOT 10

LOT 9

LOT 11

LOT 10

10200 E

10300 E

L 10900 E

L 11000 E

L 11100 E

L 11200 E

5327000 N.

5326500 N.

565500E

566000E

MAGNETIC DECLINATION
= 13°00' W.

LEGEND

309.10 m. (Length of hole)

VA91-04 (Hole No.)
(-55°) (Dip of hole)

Scale:
0 50 100 200
metres

BATTLE MOUNTAIN (CANADA) INC.

KIRKLAND LAKE PROJECT
Queenston Mining Inc.
ONTARIO

VIGRASS LAKE PROPERTY

DRILL PLAN

Project No.: 75-JV-28	Scale: 1 : 5000
N.T.S.: 42 A / 1	Data by:
Drawing No.: DP-005	Date: Nov., 1991

42A01SE0100 29 OTTO

200

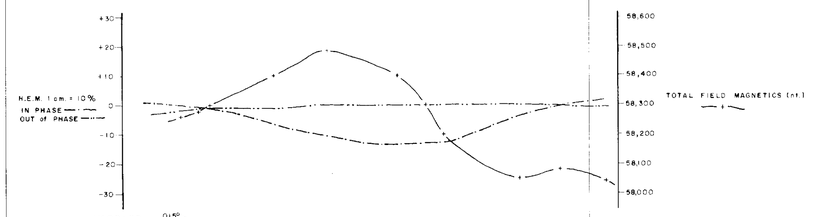
8600 N

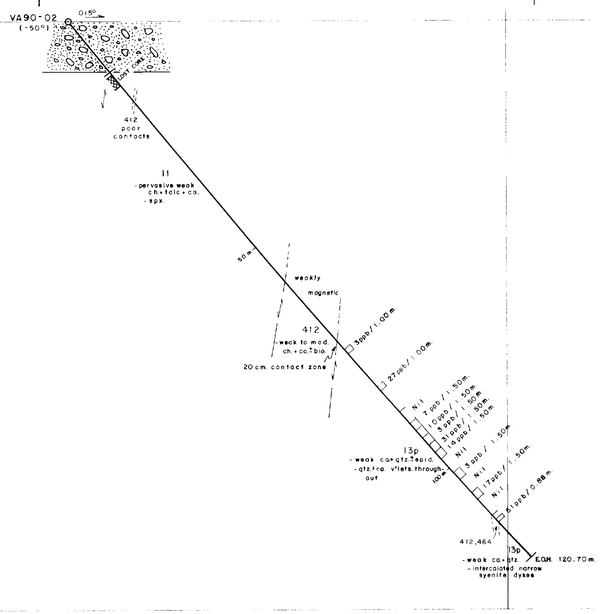
8700 N

8800 N

8900 N

00 DATUM





00 DATUM

100 m

100 m

200 m

LEGEND

60 ALTERATION

- 61 Chlorite ± Talc ± Carbonate ± Quartz
  - 612 Weak
  - 613 Moderate
  - 614 Strong
- 62 Sericite ± Carbonate ± Chlorite ± Quartz
  - 622 Weak
  - 623 Moderate
  - 624 Strong
- 65 Carbonate ± Chlorite ± Fuchsite ± Quartz
  - 652 Weak
  - 653 Moderate
  - 654 Strong
- 69 Carbonatized Syenite

40 INTRUSIVES

- 41 Diabase
  - 412 Lamprophyre
- 42 Peridotite
- 43 Pyroxenite
- 44 Gabbro
- 45 Diorite
- 46 Syenite
  - 461 Augite Syenite
  - 462 Mela Syenite
  - 463 Mesc Syenite
  - 464 Leuco Syenite

20 SEDIMENTS

- 21 Conglomerate
- 22 Graywacke
- 23 Arenite
- 25 Siltstone
- 26 Mudstone
- 27 Iron Formation

10 VOLCANICS

- 11 Komatiites
- 13 Basalts
- 18 Trachytes
  - 181 Flows
  - 180 Tuffs

SYMBOLS

- Bedding, dipping, vertical (facing unknown)
- Bedding, dipping, vertical, overturned (facing known)
- Pillow facing direction, dipping, vertical, overturned
- Foliation (S1a), dipping, vertical, dip unknown
- Foliation (S2 or S1b), dipping, vertical, dip unknown
- Joint, dipping, vertical
- Fault, dipping, vertical
- Shear zone, defined, inferred
- Mineral elongation strike and plunge
- Minor fold showing plunge
- Geological contact, known, inferred
- Diamond Drill Hole
- Outcrop Area
- Limit of deep subcrop
- Historic trench
- Pit or trench outline
- Shaft

GRAIN/CLAST SIZE

SEDIMENTARY ROCKS

- a - fine grained
- b - medium grained
- c - coarse grained
- p - pebble
- d - cobble
- e - boulder
- g - grit

VOLCANIC ROCKS

- a - ash tuff
- b - lapilli tuff
- c - block tuff
- f - flow
- fbx - flow breccia

IGNEOUS ROCKS

- a - fine grained
- b - medium grained
- c - coarse grained
- p - pegmatitic

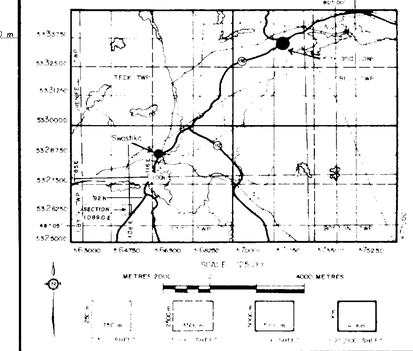
SAMPLE NO. 8501 — 1600 ← PPB Au; 1.6 ↘ g/t Au

LOCATION

ABBREVIATIONS

agp. - augite porphyritic	fp. - feldspar porphyritic	q.v. - quartz vein
amg. - amygdaloidal	fsp. - feldspathic	ser. - sericitic
amp. - amphibolite	gf. - graphitic	sil. - siliceous
ank. - ankerite	hem. - hematite	sp. - spherulite
bx. - breccia	lam. - laminated	spx. - spinifex
cg. - calcite	m. - massive	sh. - sheared
cb. - carbonate	mag. - magnetite	trc. - trachoidal
ch. - chlorite	p. - pillowed	var. - variolitic
cp. - chalcopyrite	pb. - galena	ves. - vesicular
f.c. - fractured	py. - pyrite	

Magnetic Declination = 13° 00' West



BATTLE MOUNTAIN (CANADA) INC.

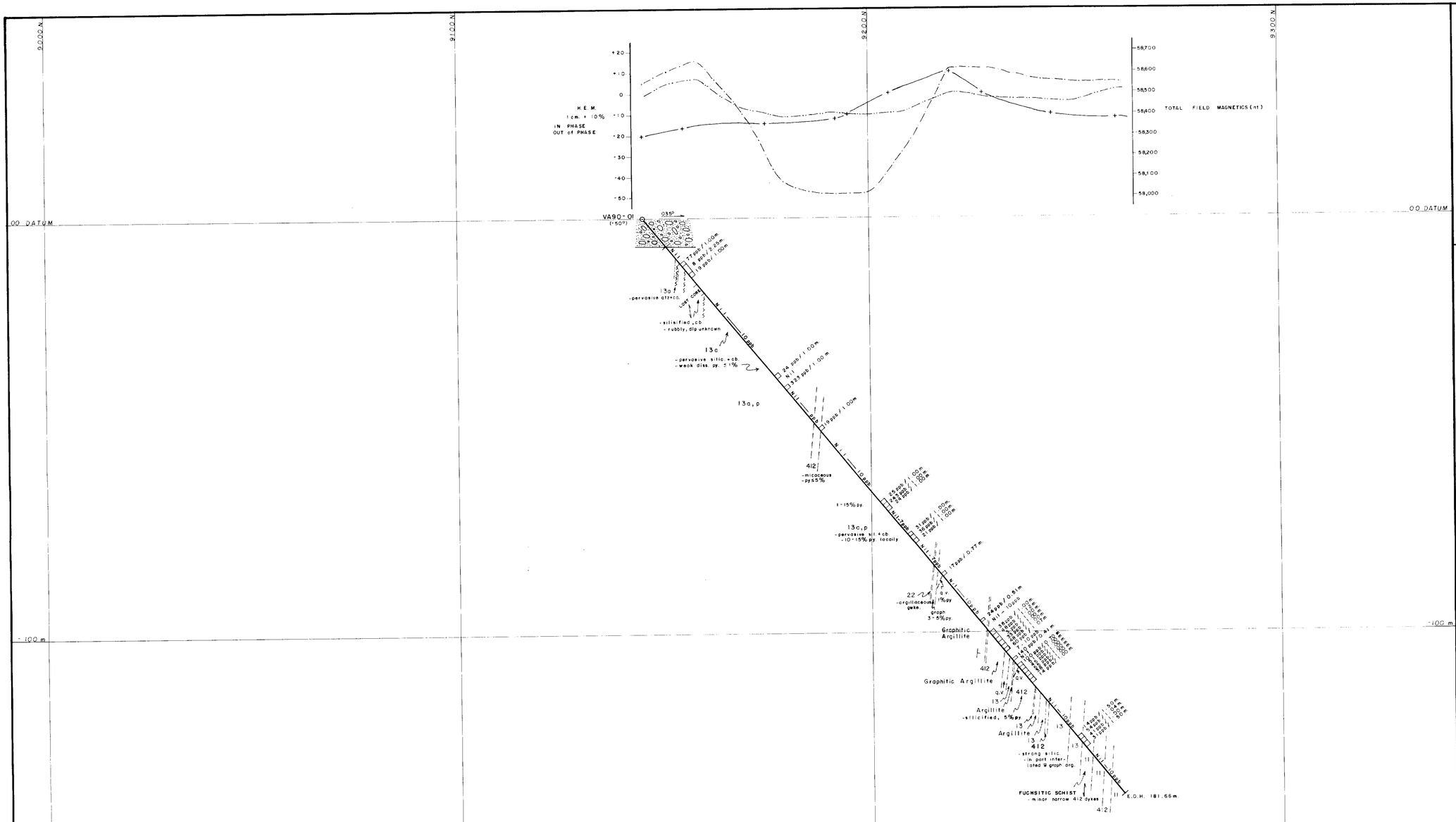
KIRKLAND LAKE PROJECT
Queenston Mining Inc.
ONTARIO
VIGRASS LAKE PROPERTY
(SECTION 10890E)
LOOKING 285°

PROJECT No. 'A' JV 28	DATA BY
N.T.S. 42A/13 & 12D/4	DRAWN BY B.H. Madill, Tech
DRAWING No. DC - 002	DATE November 1990

SCALE 1:500

0 5 10 15 20 40
metres

42A01SE0100 29 OTTO



LEGEND

60 ALTERATION

- 61 Chlorite ± Talc ± Carbonate ± Quartz
  - 612 Weak
  - 613 Moderate
  - 614 Strong
- 62 Sericite ± Carbonate ± Chlorite ± Quartz
  - 622 Weak
  - 623 Moderate
  - 624 Strong
- 65 Carbonate ± Chlorite ± Fuchsite ± Quartz
  - 652 Weak
  - 653 Moderate
  - 654 Strong
- 69 Carbonatized Syenite

40 INTRUSIVES

- 41 Diabase
  - 412 Lamprophyre
- 42 Peridotite
- 43 Pyroxenite
- 44 Gabbro
- 45 Diorite
- 46 Syenite
  - 461 Augite Syenite
  - 462 Mela Syenite
  - 463 Meso Syenite
  - 464 Leuco Syenite

20 SEDIMENTS

- 21 Conglomerate
- 22 Graywacke
- 23 Arenite
- 25 Siltstone
- 26 Mudstone
- 27 Iron Formation

10 VOLCANICS

- 11 Komatiites
- 13 Basalts
- 18 Trachytes
  - 181 Flows
  - 18a Tuffs

SYMBOLS

- Bedding, dipping, vertical (facing unknown)
- Bedding, dipping, vertical, overturned (facing known)
- Pillow facing direction, dipping, vertical, overturned
- Foliation (S2a), dipping, vertical dip unknown
- Foliation (S2 or S1b), dipping, vertical, dip unknown.
- Joint, dipping, vertical
- Fault, dipping, vertical
- Shear zone, defined, inferred
- Mineral elongation strike and plunge
- Minor fold showing plunge
- Geological contact, known, inferred
- Diamond Drill Hole
- Outcrop Area
- Limit of deep subcrop
- Historic trench
- Pit or trench outline
- Shaft

GRAIN/CLAST SIZE

SEDIMENTARY ROCKS
- a - fine grained
- b - medium grained
- c - coarse grained
- p - pebble
- d - cobble
- e - boulder
- g - grit

VOLCANIC ROCKS
- a - ash tuff
- b - lapilli tuff
- c - block tuff
- f - flow
- flx - flow breccia

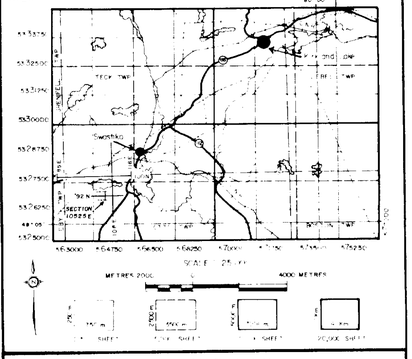
IGNEOUS ROCKS
- a - fine grained
- b - medium grained
- c - coarse grained
- p - pegmatitic

SAMPLE NO. 850! — LOCATION — 1600 ← PPB AU — 1.6 → g/t. AU

ABBREVIATIONS

agp. - augite porphyritic	fp. - feldspar porphyritic	q.v. - quartz vein
amg. - amygdaloidal	fsp. - feldspathic	ser. - sericitic
amp. - amphibolite	gf. - graphitic	sil. - silicic
ank. - ankerite	hem. - hematite	sp. - aphanite
bx. - breccia	lam. - laminated	spx. - spinifex
ca. - calcite	m. - massive	sh. - sheared
cb. - carbonate	mag. - magnetite	trc. - trachoidal
ch. - chlorite	p. - pillowed	var. - variolitic
cp. - chalcopyrite	pb. - galena	ves. - vesicular
f.c. - fractured	py. - pyrite	

Magnetic Declination = 13° 00' West



BATTLE MOUNTAIN (CANADA) INC.

KIRKLAND LAKE PROJECT
Queenston Mining Inc.
ONTARIO
VIGRASS LAKE PROPERTY
(SECTION 10525E)
LOOKING 305°

PROJECT No. 75 UV 28	DATA BY
N.T.S. 42A/1 & 32D/4	DRAWN BY B.H. Madill, Tech
DRAWING No. DC-001	DATE November 1990

SCALE 1:500
0 5 10 15 20 40
metres

42A81SE0100 29 OTTO

180°

360°

59,600

59,200

58,800

58,400

TOTAL FIELD MAGNETICS (nT.)

00 DATUM

00 DATUM

H.E.M.

H.E.M.

T.P. Anomaly

VA 91-03 (-65°)

13p

13, sil., bl. fc., py., qv.

26, gf., sch., qv., co.

26, gf., co., qv., py.

0.14/0.40

0.19/0.80

100 m

45, ch., luc., co.

26, gf., py.

45, fol., ca., py.

26, py., co

45, pyx., por., ch.

0.12/0.80 0.15/0.80 0.17/2.20

13, ch., ca ± qv. ± py. ± py, ± sil., ± bl.

26, gf., sch., ca, qv., py

0.22/0.80

13, ca.

45, ± ch, ± hem., sil., ± mag., ca, qv., py

0.10/0.80

0.14/0.80

412, brown sil., fch.

13, sil., qv., py, sp

11, serp., fol.

412, bio., py

11, serp., qv

-50 m

-100 m

-150 m

-200 m

9050 N

9100 N

9150 N

9200 N

9300 N

LEGEND

60 ALTERATION

61 Chlorite ± Talc ± Carbonate ± Quartz
- 612 Weak
- 613 Moderate
- 614 Strong

62 Sericite ± Carbonate ± Chlorite ± Quartz
- 622 Weak
- 623 Moderate
- 624 Strong

65 Carbonate ± Chlorite Fuchsite ± Quartz
- 652 Weak
- 653 Moderate
- 654 Strong

69 Carbonatized Syenite

40 INTRUSIVES

41 Diabase

412 Lamprophyre

42 Peridotite

43 Pyroxenite

44 Gabbro

45 Diorite

46 Syenite
- 461 Augite Syenite
- 462 Melo Syenite
- 463 Meso Syenite
- 464 Leuco Syenite

47 Felsite

20 SEDIMENTS

21 Conglomerate

22 Graywacke

23 Arenite

25 Siltstone

26 Mudstone, argillite

27 Iron Formation

10 VOLCANICS

11 Komatiites

13 Basalts

18 Trachytes
- 18a Ash Tuff
- 18b Lapilli Tuff

SYMBOLS

- Bedding, Contacts
- Breccia
- Facing direction
- Foliation
- Fault, Fault Zone
- Drag folding
- Pyrite Mineralization

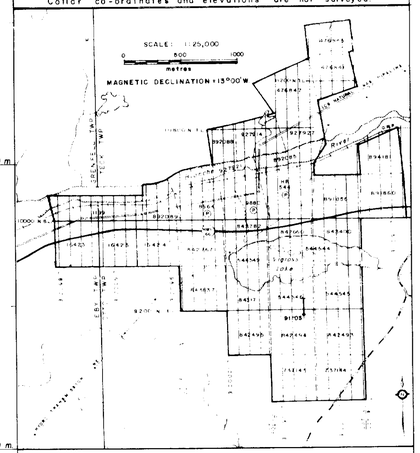
3/1.5m 11.45/4.60 metres

234.00
217.00
198.80
183.60
170.00
150.10
50.10

ABBREVIATIONS

agp.	- augite porphyritic	fp.	- feldspar porphyritic	qtz.	- quartz
amg.	- amygdaloidal	fsp.	- feldspathic	qv.	- quartz vein
amp.	- amphibole	fz.	- fault zone	sch.	- schist
ank.	- ankerite	gf.	- graphitic	ser.	- sericitic
bl.	- bleached	hem.	hematite	sil.	- siliceic
bld.	- boulder	jsp.	jasper	sp.	- sphalerite
bx.	- breccia	lam.	- laminated	spa.	- spinifex
ca.	- calcite	m.	- massive	sh.	- sheared
cb.	- carbonate	mag.	magnetite	trc.	- trachytoidal
cp.	- chalcopyrite	p.	- pervasive	var.	- variolitic
fc.	- fractured	pb.	galena	ves.	- vesicular
fch.	- fuchsite	py.	pyrite	v.g.	- visible gold
chl.	- chloritic	qtb.	- clasts	spc.	specularite
fol.	- foliated	qpx.	- porphyritic	luc.	- leucoxene
dio.	- dioritic	pyx.	- pyroxene	serp.	- serpentinized
mo.	- molybdenite	tal.	- talc		

Collar co-ordinates and elevations are not surveyed.



BATTLE MOUNTAIN (CANADA) INC.

BATTLE MOUNTAIN GOLD COMPANY

KIRKLAND LAKE PROJECT
Queenston Mining Inc.
ONTARIO
VIGRASS LAKE PROPERTY

SECTION 10700E

HOLE VA91-03

PROJECT No.: 75-JV-28	DATA BY: M. Masson, W. Benham
NTS: 42A/1	DRAWN BY: B.H. Madill, Tech.
DRAWING No: DC-043-1 (SHEET 1 of 2)	DATE: November 1991
SCALE: 1:500	0 5 10 20 30 40 metres

SW. ALIGNMENT POINT +

SHEET ALIGNMENT POINT +

SHEET ALIGNMENT POINT +

SHEET ALIGNMENT POINT +

180°

360°

-250 m.

-300 m.

-350 m.

-400 m.

-250 m

-300 m

-350 m

-400 m

-450 m

9050 N.

9100 N.

9150 N.

9200 N.

9250 N.

9300 N.

VA91-03

11, serp., q.v.

spx.

11, serp., q.v.

300°

Fault zone

E.O.H. 309.1m.

LEGEND

60 ALTERATION

61 Chlorite ± Talc ± Carbonate ± Quartz
- 612 Weak
- 613 Moderate
- 614 Strong

62 Sericite ± Carbonate ± Chlorite ± Quartz
- 622 Weak
- 623 Moderate
- 624 Strong

65 Carbonate ± Chlorite Fuchsite ± Quartz
- 652 Weak
- 653 Moderate
- 654 Strong

69 Carbonatized Syenite

40 INTRUSIVES

41 Diabase
- 412 Lamprophyre

42 Peridotite

43 Pyroxenite

44 Gabbro

45 Diorite

46 Syenite
- 461 Augite Syenite
- 462 Melo Syenite
- 463 Meso Syenite
- 464 Leuco Syenite

47 Felsite

20 SEDIMENTS

21 Conglomerate

22 Graywacke

23 Arenite

25 Siltstone

26 Mudstone, argillite

27 Iron Formation

10 VOLCANICS

11 Komatiites

13 Basalts

18 Trachytes
- 186 Ash Tuff
- 185 Lapilli Tuff

SYMBOLS

Bedding, Contacts

Breccia

Facing direction

Foliation

Fault, Fault Zone

Drag folding

Pyrite Mineralization

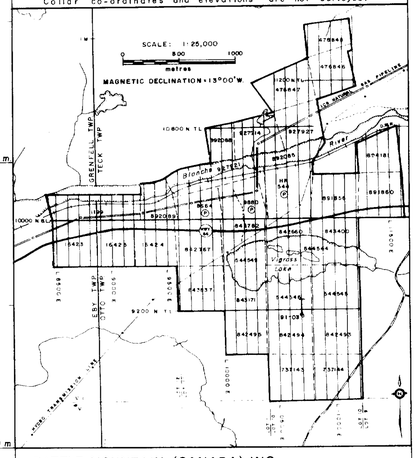
S/L 80° metres L1-42 4.80

234.00
217.00
208.50
214.50
211.00
200.10
50.10

ABBREVIATIONS

aggp.	- aggite porphyritic	fp.	- feldspar porphyritic	qtz.	- quartz
amg	- amygdaloidal	fsp	- feldspathic	q.v.	- quartz vein
amp	- amphibole	fz	- fault zone	sch	- schist
ank	- ankerite	gt	- graphitic	ser	- sericitic
bl	- bleached	hem	- hematite	sil.	- silicic
bld	- boulder	jsp	- jasper	sp	- spherlerite
bx	- breccia	lam	- laminated	spx	- spinifex
co	- calcite	m.	massive	sh	- sheared
cb	- carbonate	mag	magnetite	trc	- trachytoidal
cp	- chalcopyrite	p	- pillowed	var	- variolitic
fc	- fractures	pb	- galena	ves	vesicular
fch	- fuchsite	py	- pyrite	v.g.	- visible gold
chl.	- chloritic	plb	- albite	spc	- specularite
fol	- foliated	por	- porphyritic	luc	- leucoxene
dio.	- dioritic	pyx	- pyroxene	serp.	- serpentinized
mo	- molybdenite	tal	- talc		

Collar co-ordinates and elevations are not surveyed.



BATTLE MOUNTAIN (CANADA) INC.

BATTLE MOUNTAIN GOLD COMPANY

KIRKLAND LAKE PROJECT
Queenston Mining Inc.
ONTARIO
VIGRASS LAKE PROPERTY

SECTION 10700E

HOLE VA91-03

PROJECT No.: 75-JV-28	DATA BY: M. Masson, W. Benham
NTS: 42A/1	DRAWN BY: B.H. Madill, Tech
DRAWING No: DC-043-2 (SHEET 2 of 2)	DATE: November 1991

SCALE: 1:500
0 5 10 20 30 40
metres

42A01SE0188 25 OTTO

180°

360°

59,600

59,200

58,800

58,400

TOTAL FIELD MAGNETICS (nT.)

VLF-EM

Magnetic Low

00 DATUM

VA91-04 (-55°)

13 | 412 | 11 | 65

boulder in dyke

q.v., py.

11,65

VIGRASS LAKE

RBS-01

00 DATUM

13,var.,ch., fc.,py.

spx.

11,ch.,spx.,± mag.

-50 m.

11,mag.

11,serp.,fc.

13p,q.v.,ca.

412,pyx.

11,serp.,± mag.

fault gouge

11,fol.,serp., fch.,q.v.,py.

11,serp.,± mag., ± hem.,± py.

11,q.v.,47,brown.,py

11,fc.,bx.,q.v.,py.

84/85

100 m

72/65

py

-100 m

11,fol.,serp.,spx.,± mag.

412,pyx.

11,fol.,serp.,spx.,mag.,± mag

bx

-150 m

200 m

11,ch.,serp.,sch.

11,non-magnetic,± serp.

11,bx.,fol.,ch., flow top breccia

11,serp.,mag.,spx.

-200 m

9400 N

9450 N

9500 N

9550 N

9600 N

9650 N

LEGEND

60 ALTERATION

61 Chlorite ± Talc ± Carbonate ± Quartz
- 612 Weak
- 613 Moderate
- 614 Strong

62 Sericite ± Carbonate ± Chlorite ± Quartz
- 622 Weak
- 623 Moderate
- 624 Strong

65 Carbonate ± Chlorite Fuchsite ± Quartz
- 652 Weak
- 653 Moderate
- 654 Strong

69 Carbonatized Syenite

40 INTRUSIVES

41 Diabase

412 Lamprophyre

42 Peridotite

43 Pyroxenite

44 Gabbro

45 Diorite

46 Syenite
- 461 Augite Syenite
- 462 Melo Syenite
- 463 Meso Syenite
- 464 Leuco Syenite

47 Felsite

20 SEDIMENTS

21 Conglomerate

22 Graywacke

23 Arenite

25 Siltstone

26 Muastone, argillite

27 Iron Formation

10 VOLCANICS

11 Komatiites

13 Basalts

18 Trachytes

18a Ash Tuff

18b Lapilli Tuff

SYMBOLS

Bedding, Contacts

Breccia

Facing direction

Foliation

Fault, Fault Zone

Drag folding

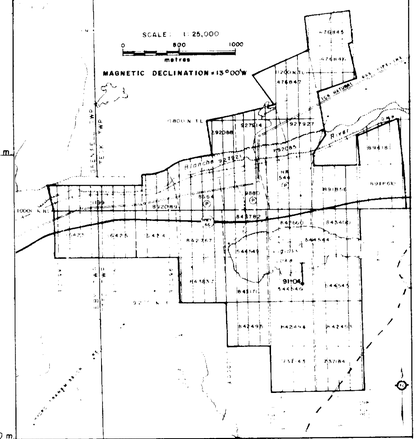
Pyrite Mineralization

S/A at 11.45 metres
- 34.00
- 17.00
- 8.50
- 3.50
- 1.00
- 0.10
- 0.01

ABBREVIATIONS

aggp.	- augite porphyritic	fp.	- feldspar porphyritic	qtz.	- quartz
amg.	- amygdaloidal	fsp.	- feldspathic	q.v.	- quartz vein
amp.	- amphibole	fz.	- fault zone	sch.	- schist
ank.	- ankerite	gf.	- graphitic	ser.	- sericitic
bl.	- bleached	hem.	- hematite	sil.	- silicic
bld.	- boulder	jsp.	- jasper	sp.	- spherulite
bx.	- breccia	lam.	- laminated	spx.	- spinifex
ca.	- calcite	m.	- massive	sh.	- sheared
cb.	- carbonate	mag.	- magnetite	tra.	- trachytoidal
cp.	- chalcopyrite	p.	- pervaded	var.	- variolitic
f.c.	- fractured	pb.	- galena	ves.	- vesicular
fch.	- fuchsite	py.	- pyrite	v.g.	- visible gold
chl.	- chloritic	plb.	- albite	spc.	- specularite
fol.	- foliated	por.	- porphyritic	luc.	- leucoxene
dio.	- dioritic	pyx.	- pyroxene	serp.	- serpentinized
mo.	- molybdenite				

Collar co-ordinates and elevations are not surveyed.



BATTLE MOUNTAIN (CANADA) INC.

BATTLE MOUNTAIN GOLD COMPANY

KIRKLAND LAKE PROJECT
Queenston Mining Inc.
ONTARIO

VIGRASS LAKE PROPERTY

SECTION 10700E

HOLE VA91-04

PROJECT No.: 75-JV-28	DATA BY: M. Masson, W. Benham
NTS: 42A/1	DRAWN BY: B.H. Madill, Tech.
DRAWING No: DC-044-1 (SHEET 1 of 2)	DATE: November 1991

SCALE: 1:500

0 5 10 20 30 40

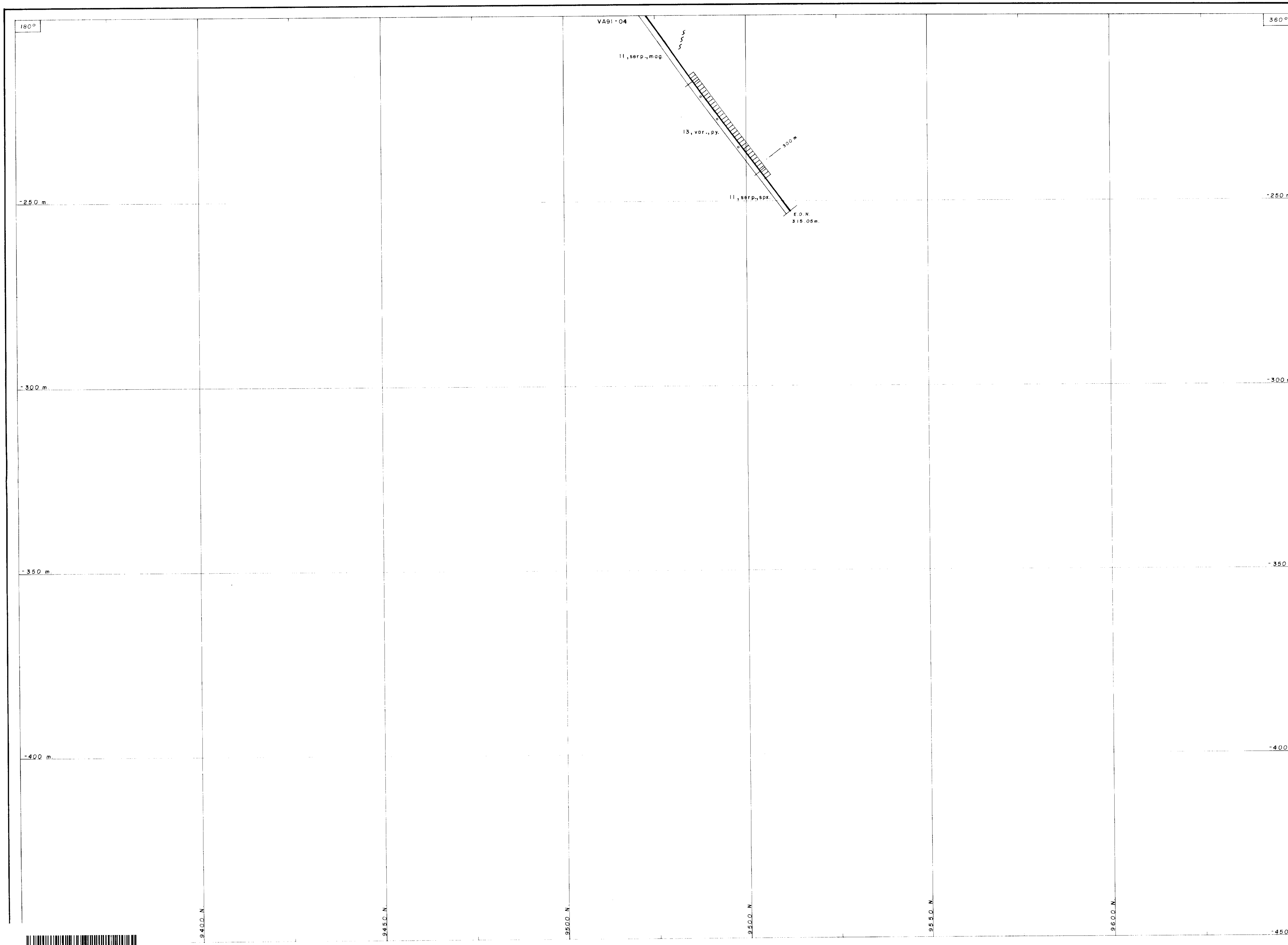
metres

42A01SE0100 29 OTTO

250

SHEET ALIGNMENT POINT

SHEET ALIGNMENT POINT



SHEET ALIGNMENT POINT

LEGEND

60 ALTERATION

- 61 Chlorite ± Talc ± Carbonate ± Quartz
  - 612 Weak
  - 613 Moderate
  - 614 Strong
- 62 Sericite ± Carbonate ± Chlorite ± Quartz
  - 622 Weak
  - 623 Moderate
  - 624 Strong
- 65 Carbonate ± Chlorite Fuchsite ± Quartz
  - 652 Weak
  - 653 Moderate
  - 654 Strong
- 69 Carbonatized Syenite

40 INTRUSIVES

- 41 Diabase
  - 412 Lamprophyre
- 42 Peridotite
- 43 Pyroxenite
- 44 Gabbro
- 45 Diorite
- 46 Syenite
  - 461 Augite Syenite
  - 462 Mela Syenite
  - 463 Meso Syenite
  - 464 Leuco Syenite
- 47 Felsite

20 SEDIMENTS

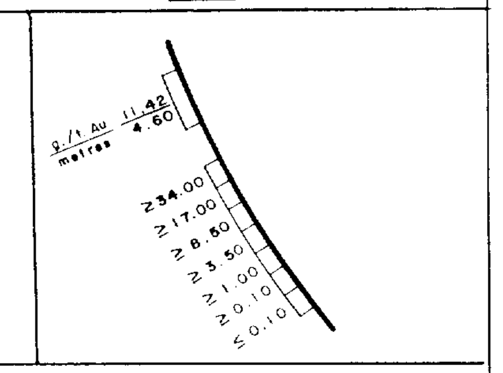
- 21 Conglomerate
- 22 Graywacke
- 23 Arenite
- 25 Siltstone
- 26 Mudstone, argillite
- 27 Iron Formation

10 VOLCANICS

- 11 Komatiites
- 13 Basalts
- 18 Trachytes
  - 18a Ash Tuff
  - 18b Lapilli Tuff

SYMBOLS

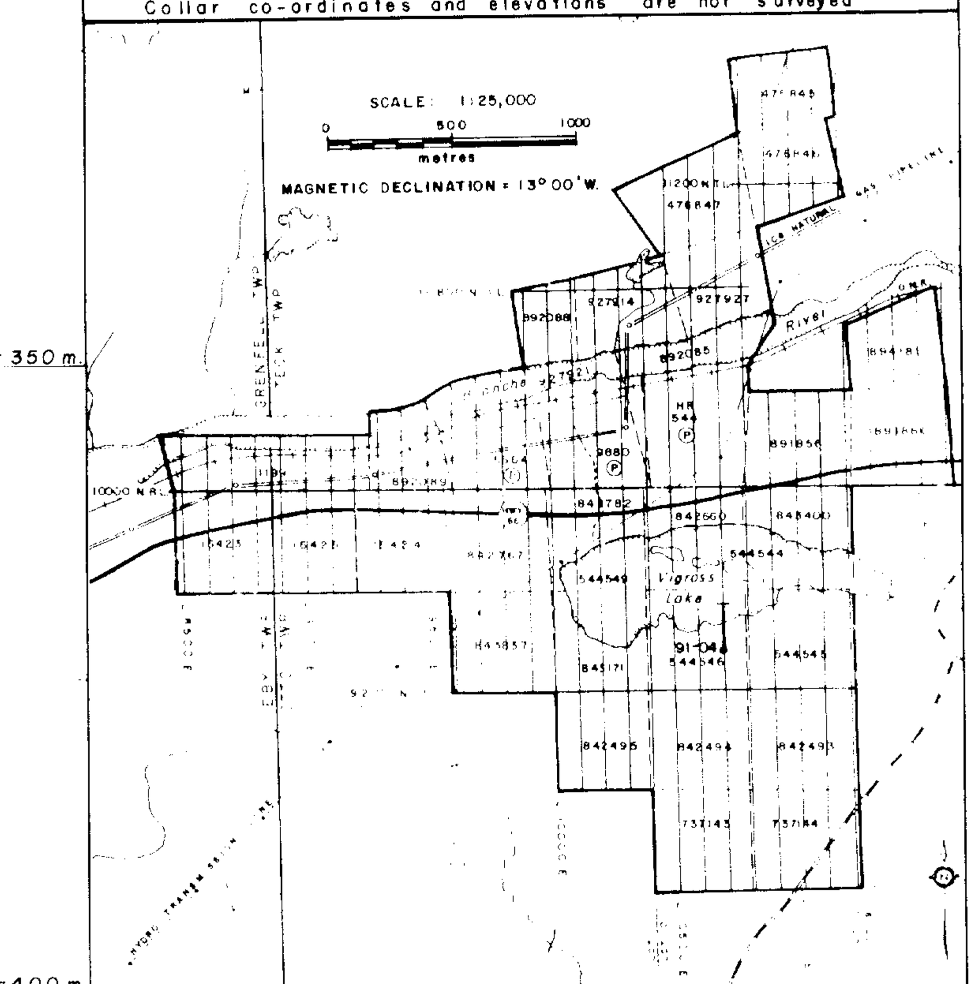
- Bedding, Contacts
- Breccia
- Facing direction
- Foliation
- Fault, Fault Zone
- Drag folding
- Pyrite Mineralization



ABBREVIATIONS

agp.	augite porphyritic	fp.	feldspar porphyritic	qtz.	quartz
amg	amygdaloidal	fsp	feldspathic	q.v.	quartz vein
amp	amphibole	fz	fault zone	sch	schist
ank	ankerite	gt.	graphitic	ser	sericitic
bl	bleached	hem	hematite	sil	silicic
bld	boulder	jsp	jasper	sp	sphalerite
bx.	breccia	lam	laminated	spx	spinifex
ca	calcite	m.	massive	sh	sheared
cb	carbonate	mag	magnetite	trc	trachytoidal
cp	chalcopyrite	p	pillowed	var	variolitic
fc.	fractured	pb	galena	ves	vesicular
fch	fuchsite	py	pyrite	v.g.	visible gold
chl.	chloritic	alb	albite	spc	specularite
fol	foliated	por	porphyritic	luc	leucoxene
dio	dioritic	pyx	pyroxene	serp.	serpentinized
mo.	molybdenite	tal	talc		

Collar co-ordinates and elevations are not surveyed



BATTLE MOUNTAIN (CANADA) INC.

BATTLE MOUNTAIN GOLD COMPANY

KIRKLAND LAKE PROJECT

Queenston Mining Inc.

ONTARIO

VIGRASS LAKE PROPERTY

SECTION 10700E

HOLE VA91-04

PROJECT No.:	75 - JV - 28	DATA BY:	M. Masson, W. Benham
NTS:	42A/1	DRAWN BY:	B.H. Madill, Tech.
DRAWING No:	DC-044-2 (SHEET 2 of 2)	DATE:	November 1991

SCALE: 1:500

0 5 10 20 30 40 metres

42A01SE0100 29 0TT0