

LOG NO:	MAY 2 2 1992	RD.
ACTION:		
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DRILLING REPORT

on the

BIG ONION PROPERTY

including the

LISA 1, LISA 5 and LISA 7

CLAIM GROUPS

SUB-RECORDER
RECEIVED
MAY 20 1992
R # \$
VANCOUVER, B.C.

OMINECA MINING DIVISION

NTS 93L/15W

48°48'N, 126°55'W

for

VARITECH RESOURCES LTD.

by

Ed McCrossan, F.G.A.C., P.Geo.

dated

November 29, 1991

GEOLOGICAL BRANCH
ASSESSMENT REPORT

22,306

Summary

The Big Onion property consists of the Lisa 1, Lisa 5 and Lisa 7 claim groups which are located approximately 16 km east - northeast of Smithers, B.C. and 50 km southwest of the Noranda Minerals Inc. Bell and Granisle deposits. Year round access to the property is along the well-maintained Babine Lake Road.

The Big Onion deposit, which consists of the Northeast, North and South Zones, is a calcalkaline Cu-Mo porphyry which also contains anomalous quantities of gold and silver. Potential reserves for the deposit, calculated by Canadian Superior Exploration Ltd. in the 1970's, are 80 to 100 million tons grading 0.42% copper and 0.020% molybdenite.

On the property, Hazelton volcanics and sediments of Jurassic age have been intruded by quartz feldspar and quartz diorite porphyries of late Cretaceous to early Tertiary age. Hypogene mineralization, consisting predominantly of chalcopyrite, is associated with the intrusions that were localized by northeast trending structures. Intense phyllic and propylitic alteration assemblages surround the deposit which has also undergone supergene (chalcocite) enrichment.

The 1991 diamond drilling program carried out on the Big Onion property by Varitech Resources Ltd. consisted of eight vertical holes of HQ diameter core totalling 5,562 ft. (1,696 m). It was successful in outlining supergene development in the North and South Zones, as well as, testing the depth of hypogene mineralization.

Supergene intersections were as much as 360 ft. grading 0.55% Cu and 0.02% MoS₂. Other notable intersections included 310 ft. of 0.63% Cu and 120 ft. of 0.69% Cu. The highest supergene assay was 1.57% Cu over 10 ft. and a total of twelve samples (10ft in length) taken from the supergene zone contained greater than 0.9% Cu. Precious metal results for the supergene material averaged 0.064 g/t Au and 1.0 g/t Ag. The best assay for gold was 0.305 g/t and for silver was 2.9 g/t over 10 ft. sample intervals.

Hypogene intersections were up to 480 ft. grading 0.27% Cu. Other notable intersections included 350 ft. of 0.27% Cu and 443 ft. of 0.23% Cu. Two holes were terminated within hypogene mineralization at depths of 733 and 750 ft.

Reserves of approximately 2 million tons grading 0.32% Cu and 0.013% MoS₂ (0.25% Cu cut-off grade) were added to the known reserves of the Big Onion deposit by the 1991 drilling program. A supergene reserve estimate of 35 million tons grading 0.34% Cu was also made using both historical and current drill log data.

Further exploration work, including diamond drilling, is recommended for the Big Onion property to:

- i) assess the SX-EW potential of the Big Onion supergene mineralization,
- ii) increase the ore reserves of the known mineralized zones,
- iii) test for a fault displaced southern continuation of the deposit, and
- iv) explore for other mineralized zones in the southwestern portion of the claims.

There are three excellent targets adjacent to the main orebody, indicated by rock geochemistry and alteration anomalies, which should be drilled. These include the Northeast Zone, the area between the North and South Zones, and the Southwest target.

Another three areas of interest associated with significant structures and indicated by IP, aeromagnetic, rock geochemistry and/or rock alteration anomalies are located south of the main deposit in the southern half of the claim group. These anomalies should also be drill tested.

Finally, the entire southwestern portion of the claim block requires further exploration for the southern continuation of the orebody and other mineralized zones.

Preliminary metallurgical testing of the Big Onion supergene copper mineralization indicates that bacterial oxidation coupled with weak sulfuric acid leaching returns significant copper recoveries.

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Introduction

The Big Onion property consists of the Lisa 1, Lisa 5 and Lisa 7 claim groups which are located approximately 16 km east-northeast of Smithers, B.C. and 50 km southwest of the Noranda Minerals Inc. Bell and Granisle deposits.

The Bell Mine is a calcalkalic porphyry deposit which has produced approximately 65 million tons since 1972 from a reserve estimated at 116 million tonnes of 0.48% Cu and 0.35 g/t Au.

The Granisle Mine, another calcalkalic deposit, had a pre-production reserve estimate of 81 million tonnes grading 0.43% Cu, 0.13 g/t Au and 1.23 g/t Ag.

The Big Onion deposit which consists of the Northeast, North, and South Zones is also a calcalkalic porphyry and contains potential reserves of 80 to 100 million tons grading 0.42% copper and 0.020% molybdenite. Supergene material within the deposit averaged 0.064 g/t Au and 1.0 g/t Ag.

During 1991, Varitech Resources Ltd. diamond drilled 5,562 ft. (1,696 m.) of HQ diameter core to:

- i) test for the possible upgrade of copper assays by using larger diameter core;
- ii) test for the possible expansion of the orebody at depth;
- iii) test for supergene copper mineralization and obtain material for metallurgical testing.

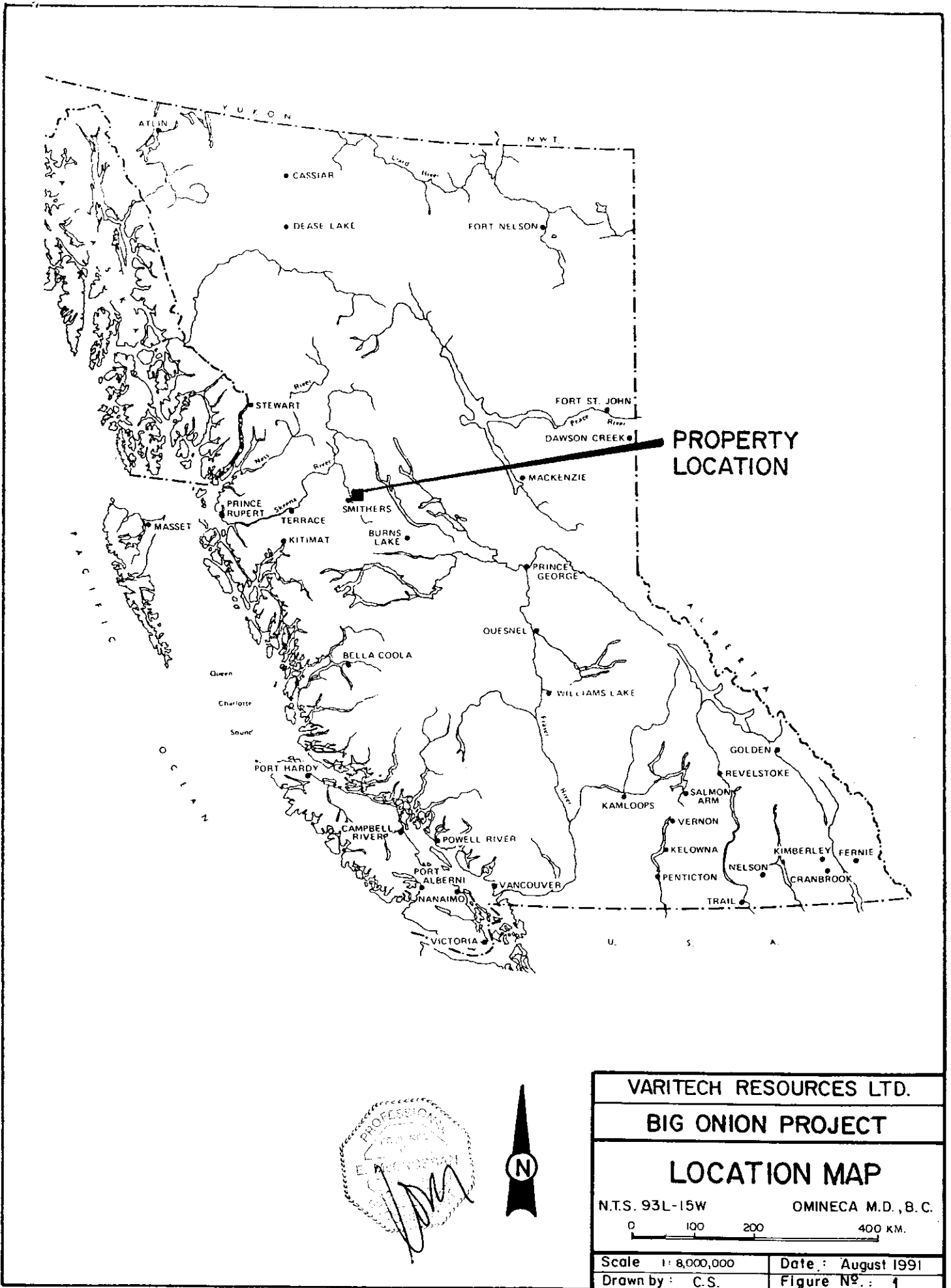
The Ministry of Energy, Mines and Petroleum Resources annual work approval number for the 1991 Big Onion Project is SMI91-0200273-288.

Location and Access

The Big Onion property is located at the southern end of the Babine Range approximately 16 km east-northeast of Smithers, B.C. (Figure 1).

Access to the property from Smithers is available along the well-maintained, all-weather Babine Lake gravel road which crosses the centre of the claims and continues northeast to Babine Lake.

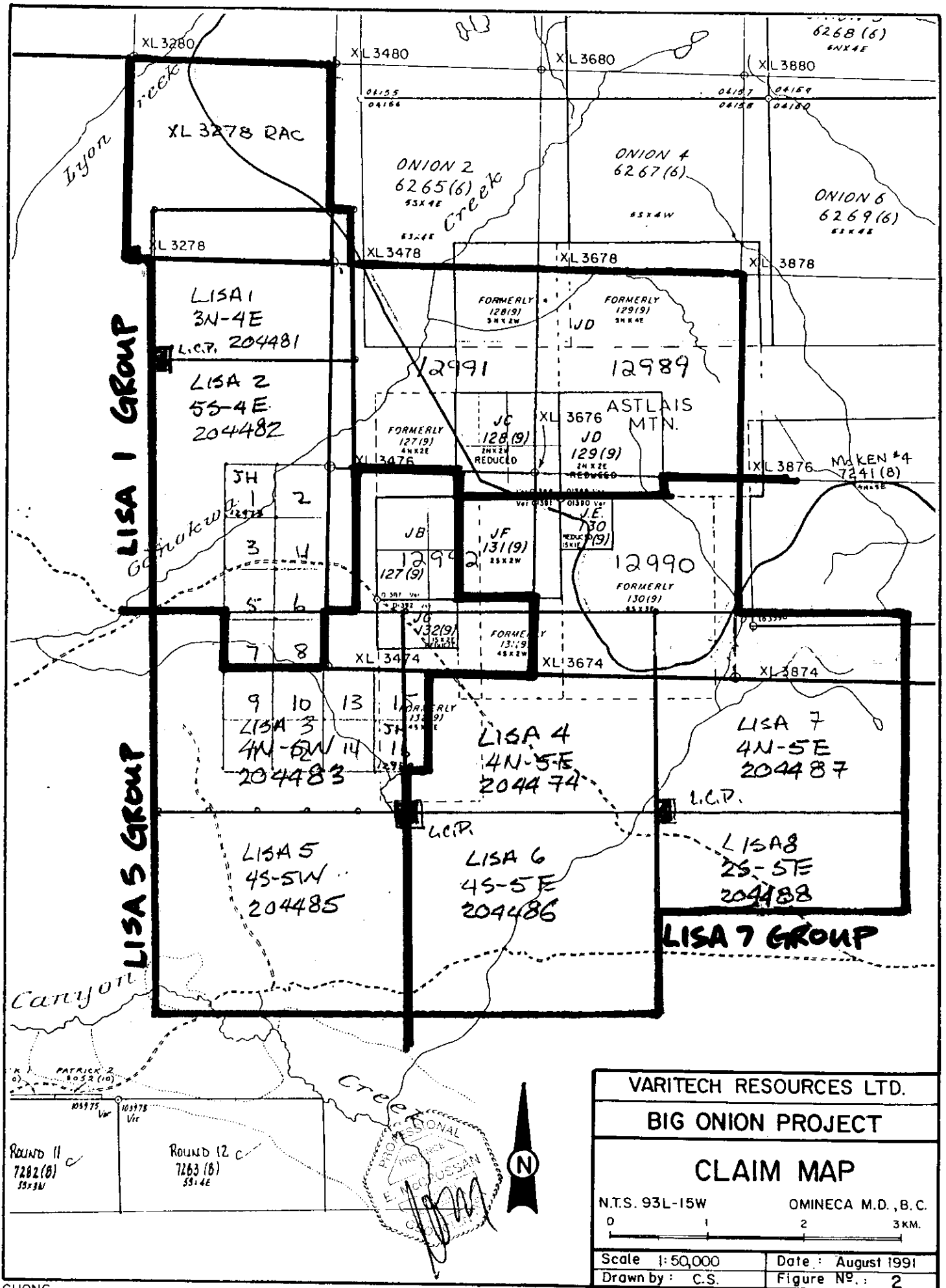
The Big Onion copper deposit is situated on the southern flank of Astlais Mountain along Astlais Creek (Figure 3). A network of four wheel drive roads, developed during previous drilling programs, traverses up the creek valley and along the mineralized zones towards the top of Astlais Mountain to the northeast.



**PROPERTY
LOCATION**



VARITECH RESOURCES LTD.	
BIG ONION PROJECT	
LOCATION MAP	
N.T.S. 93L-15W	OMINECA M.D., B.C.
Scale 1: 8,000,000	Date: August 1991
Drawn by: C.S.	Figure No.: 1



Physiography and Climate

Topography on the Big Onion property varies from flat-lying swampy areas in the Canyon Creek valley, with an approximate elevation of 2,600 ft. (793 m.), to the alpine peaks and ridges of Astlais Mountain, which has an elevation of 6,041 ft. (1,840 m.).

Vegetation consists largely of mixed evergreen forest which has been logged by clear cutting along the foot of Astlais Mountain and burned by an old forest fire part way up the southern flanks.

Climate would be classified as cool temperate, with warm, dry summers and cold, snowy winters.

The main zones of copper mineralization within Astlais Creek valley are situated between 3,000 and 5,000 ft. (900 and 1,500 m.) in elevation and the majority of the orebody is located below the treeline which is at an elevation of 4,800 ft. (1,460 m.).

Claim Information

The Big Onion property consists of the Lisa 1, Lisa 5, and Lisa 7 claim groups which are currently held by Varitech Resources Ltd. under option agreements with Mindoro Corporation and Jack Hemelspeck Jr. The claims include 257 units covering 6,425 hectares in the Omineca Mining Division (Figure 2 and Table 1).

Table 1

Omineca Mining Division

<u>Claim Name</u>	<u>Record #</u>	<u># of Units</u>	<u>Expiry Date</u>
JB	127	4	Sept. 18/94
JC	128	4	Sept. 18/94
JD	129	4	Sept. 18/94
JE	130	1	Sept. 18/94
JF	131	4	Sept. 18/94
JG	132	2	Sept. 18/94
JH 1-16	12973-12988	16	Feb. 16/94
XL3676 (RAC)	12989	16	Feb. 16/94
XL3674 (RAC)	12990	16	Feb. 16/94
XL3476 (RAC)	12991	16	Feb. 16/94

XL3474 (RAC)	12992	16	Feb. 16/94
XL3278 (RAC)	13223	16	Apr. 16/94
LISA 1	13214	12	Apr. 14/94
LISA 2	13215	20	Apr. 14/94
LISA 3	13216	20	Apr. 14/94
LISA 4	13217	20	Apr. 14/94
LISA 5	13218	20	Apr. 14/94
LISA 6	13219	20	Apr. 14/94
LISA 7	13220	20	Apr. 14/94
LISA 8	13221	10	Apr. 14/94

The Lisa 1 Group contains 96 units and includes the Lisa 1, Lisa 2, JC, JD, JH 1-8, XL3278, XL3476, and XL3676 claims.

The Lisa 5 Group contains 70 units and includes the Lisa 3, Lisa 5, JB, JG, JH 9-16, and XL3474 claims.

The Lisa 7 Group contains 91 units and includes the Lisa 4, Lisa 6, Lisa 7, Lisa 8, JE, JF, and XL3674 claims.

Exploration History

The original copper showings at the Big Onion property were discovered in 1917. In the early 1920's, two short adits were driven to test the North and South Zones.

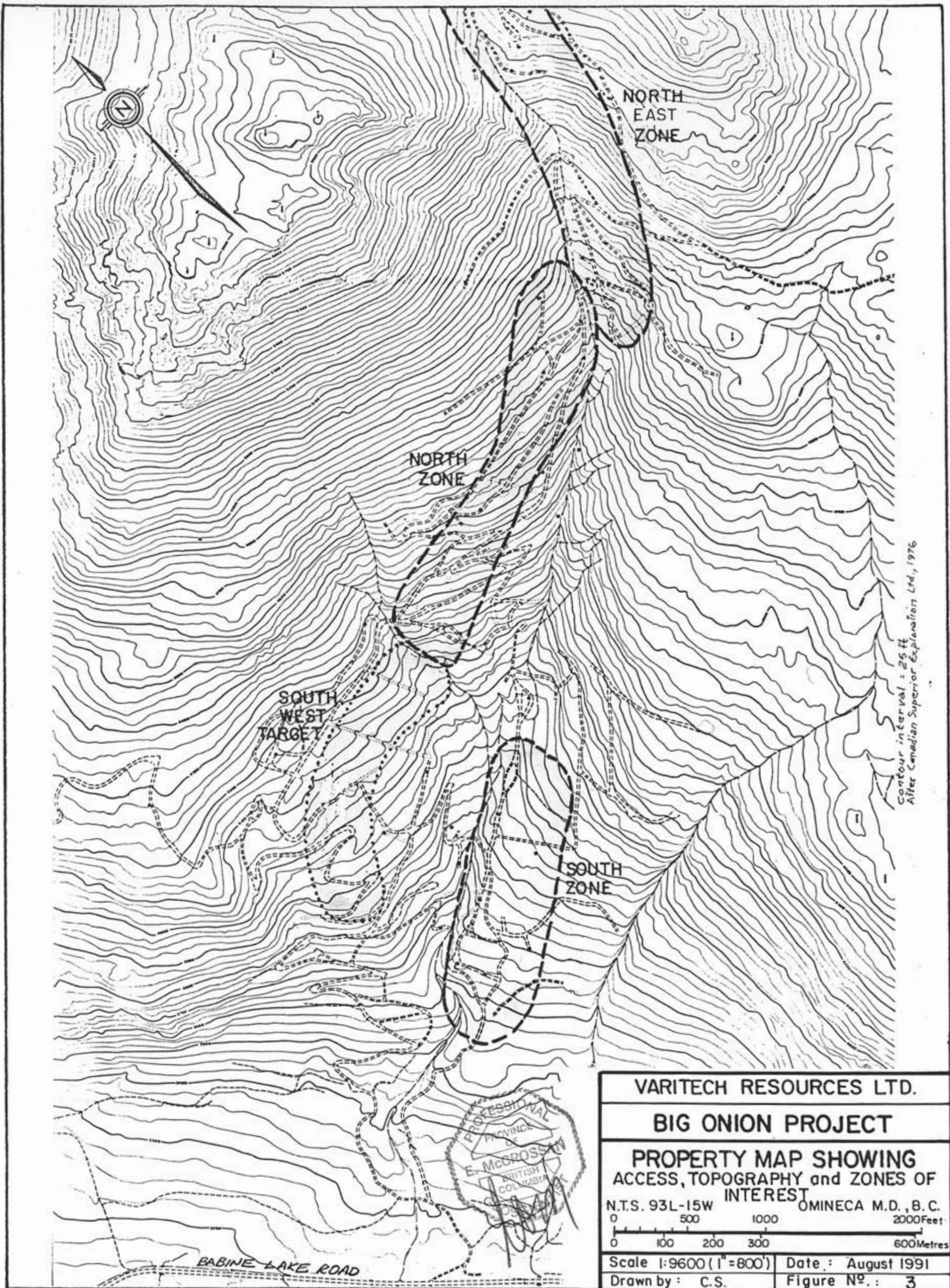
After that time, the property remained dormant until it was staked by Jack Hemelspeck Sr. in the early 1960's.

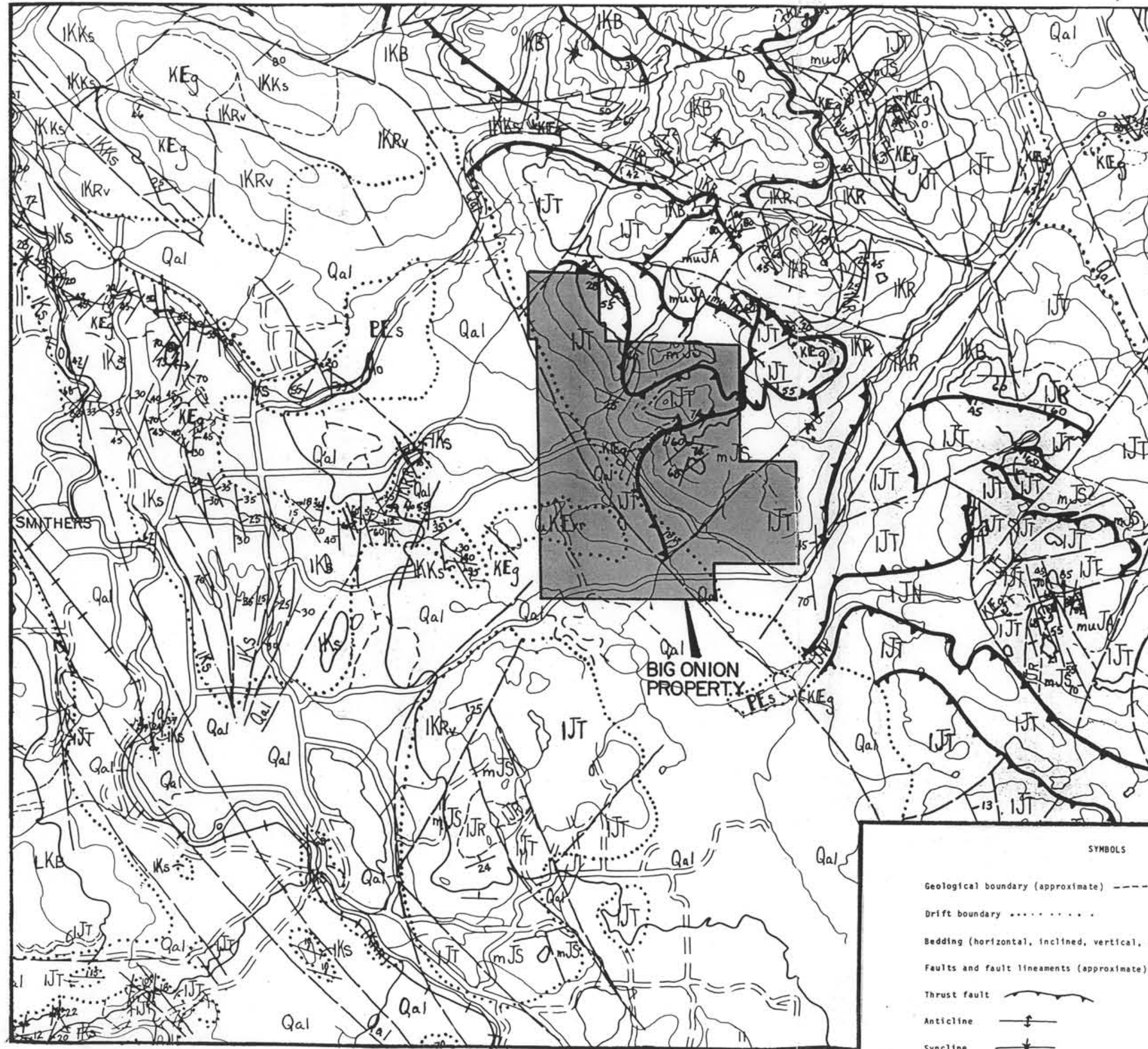
In 1964 and 1965, Noranda Exploration Co. Ltd. optioned the property and carried out mapping and sampling programs with limited geophysical surveying and 250 ft. (76 m.) of diamond drilling in two holes.

During 1966 and 1967, Texas Gulf Sulfur completed 3,993 ft. (1,217 m.) in 7 diamond drill holes as well as induced polarization and resistivity surveys.

In 1970 and 1971, Blue Rock-Cyprus Mining completed 24,134 ft. (7,358 m.) in 22 diamond drill holes.

From 1974 to 1977, Canadian Superior Exploration Ltd. extended geological and geophysical map coverage and drilled 16,410 ft. (5,003 m.) in 67 percussion holes (2" diameter) and 10,029 ft. (3,058 m.) in 21 BQ diameter diamond core holes.





- PLEISTOCENE AND RECENT**
Qal alluvium, till, gravel
- SUSTUT GROUP(?)**
- PALEOCENE AND EOCENE**
PEg shale, acid tuff; minor greywacke, coal, conglomerate
- LATE CRETACEOUS AND EOCENE**
KEg undivided: quartz diorite, quartz monzonite and granodiorite, in part porphyritic, many small felsite plutons
- SKEENA GROUP**
- ALBIAN AND/OR YOUNGER**
IKB **IKv** **IKB**: BRIAN BORU FORMATION: vari-coloured porphyritic tuff, breccia, and flows
IKv: mainly coarse breccias of andesitic to dacitic composition
- MIDDLE ALBIAN (mainly or entirely)**
IKR **IKv** **IKR**: RED ROSE FORMATION: black to dark grey shale, chert pebble conglomerate; minor micaceous greywacke.
IKs: micaceous greywacke, black to dark grey shale; minor conglomerate and coal
- HAUTERIVIAN(?) TO ALBIAN(?)**
IKRv Rocky Ridge volcanics: dark green to rusty brown augite porphyry flows and breccias, rusty red tuff, and breccia, hornblende andesite, aphanitic basic flows
- HAUTERIVIAN TO(?) ALBIAN**
IKKs Kitsun Creek sediments: coarse to fine polymictic conglomerate, greywacke, dark grey shale, coal; minor rusty red tuff related to Rocky Ridge volcanics
- UPPER BAJOCIAN TO LOWER OXFORDIAN**
muJA ASHMAN FORMATION: dark grey to black shale, quartzose sandstone, greywacke, and chert pebble conglomerate
- HAZELTON GROUP**
- LOWER BAJOCIAN TO LOWER CALLOVIAN**
mJA SMITHERS FORMATION: grey-brown greenish-grey to drab grey greywacke, lithic sandstone, siltstone, shale, tuff breccia, grit, glauconitic sandstone; minor conglomerate
- SINEHURIAN AND(?) LOWER PLIENSCHACHIAN**
IJT TELKWA FORMATION: variegated red, maroon, grey green breccia, tuff, and flows of basaltic to rhyolitic composition

SYMBOLS

- Geological boundary (approximate) - - - - -
- Drift boundary
- Bedding (horizontal, inclined, vertical, overturned) + / x x
- Faults and fault lineaments (approximate) - - - - -
- Thrust fault
- Anticline
- Syncline



AFTER GSC O.F. 351

VARITECH RESOURCES LTD.	
BIG ONION PROJECT	
REGIONAL GEOLOGY	
N.T.S. 93L-15W	OMINECA M.D., B.C.
0 1 2 3 4 5 6 KM.	
Scale 1:125,000	Date: August 1991
Drawn by: C.S.	Figure No.: 4

In 1977, Canadian Superior calculated a potential reserve estimate for the Big Onion deposit of 80 to 100 million tons of ore grading 0.42% copper and 0.020% molybdenite. All of the combined percussion and diamond drill data available from the deposit at that time (a total of 54,816 ft. (16,712 m.)) was utilized in the reserve estimate.

In late 1990, Mindoro Corporation optioned the property from Jack Hemelspeck Jr. and in early 1991, Varitech Resources Ltd. acquired an interest in the Big Onion project from Mindoro Corp.

Regional Geology

The area east of Smithers is underlain by Hazelton Group volcanic and sedimentary rocks of Jurassic age (Figure 4). In this locality, the Hazelton group consists of the Telkwa and Smithers Formations which were probably deposited in an island arc setting.

The Telkwa Formation is of Lower Jurassic age and consists of red, maroon and grey-green volcanic breccias, tuffs, and basalt to rhyolite flows.

The Smithers Formation, which was deposited unconformably upon the Telkwa Formation during the Middle Jurassic period, consists of grey-brown-green greywackes, lithic and glauconitic sandstones, siltstones, shales, tuff breccias and minor conglomerate.

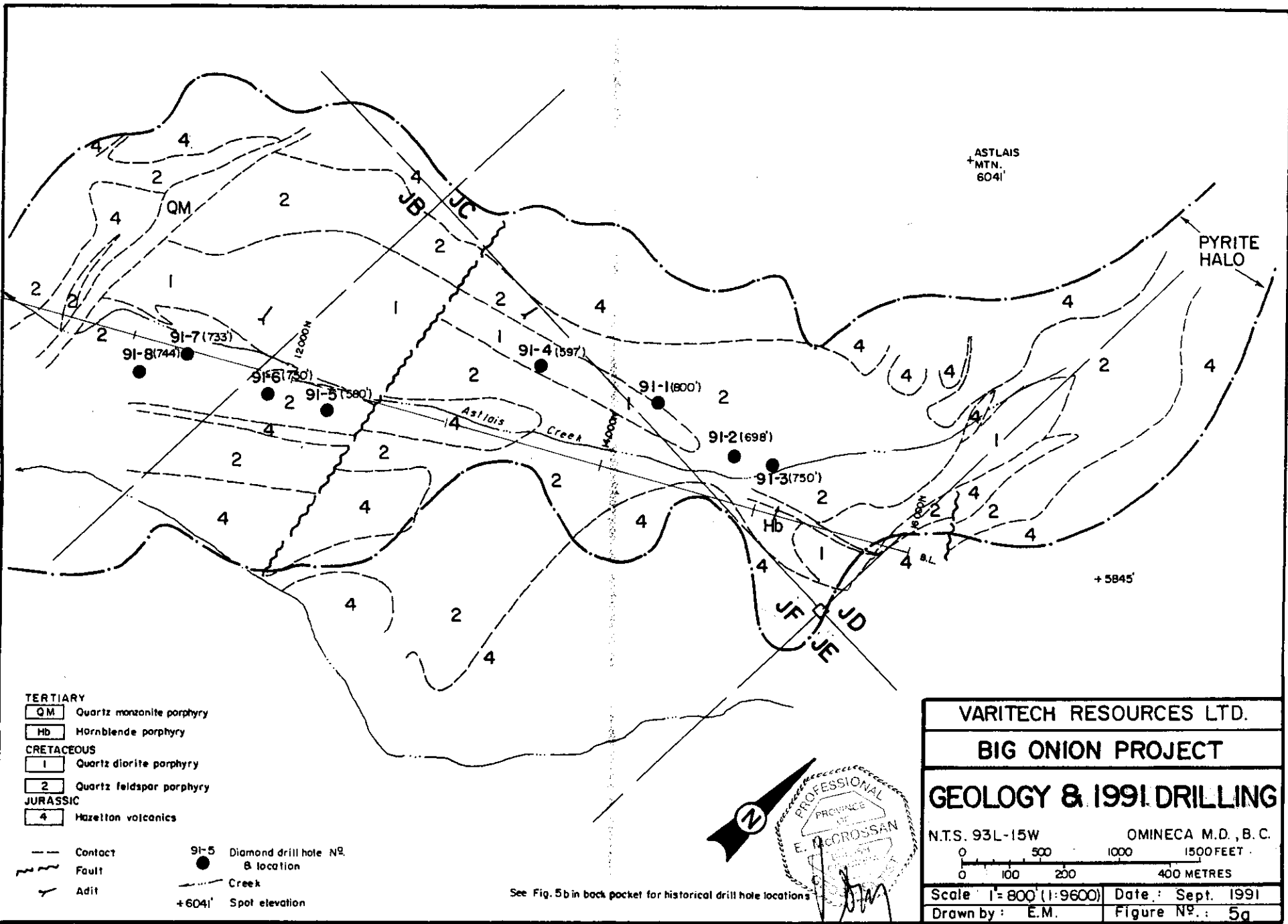
The Babine Intrusions of late Cretaceous and early Tertiary age, which include quartz diorite, quartz monzonite and felsite stocks and plugs, intruded the clastic formations along northeast trending structures that were predominant at that time.

These calcalkalic intrusions are genetically related to the Cu-Mo and Cu-Au-Ag porphyry deposits in the area such as the Noranda Minerals Inc. Bell, Granisle, and Morrison Lake deposits; and the Varitech Resources Ltd. Big Onion deposit.

Property Geology

The Big Onion property covers an area of approximately 54 km² that is centered around the main deposit. Lithological ages range from the Lower Jurassic to the lower Tertiary and include the Hazelton volcanics and sediments, as well as, several different Babine intrusions of late Cretaceous and early Tertiary age (Figure 5a & b).

The Hazelton volcanics and sediments consist of green andesitic flows and tuffs which commonly contain plagioclase or hornblende phenocrysts; hematized tuffaceous



See Fig. 5b in back pocket for historical drill hole locations



VARITECH RESOURCES LTD.	
BIG ONION PROJECT	
GEOLOGY & 1991 DRILLING	
N.T.S. 93L-15W	OMINECA M.D., B.C.
Scale 1" = 800' (1:9600)	Date: Sept. 1991
Drawn by: E.M.	Figure №.: 5g

sandstones and siltstones; and black to grey mudstones and greywackes interbedded with lesser rhyolite and andesite flows and tuffs.

The Babine intrusions include quartz feldspar porphyry, plagioclase rhyolite porphyry, quartz diorite porphyry, and diorite.

The quartz feldspar porphyry (QFP) is restricted to the deposit area around Astlais Creek and contains plagioclase and quartz phenocrysts within an aphanitic groundmass of quartz and feldspar.

The plagioclase rhyolite porphyry (PRP) occurs along the southern perimeter of the property and is the probable source of the welded ash flow unit and rhyolitic flows that are present in the Lisa 3 and Lisa 5 claims.

The quartz diorite porphyry (QDP) intrudes the QFP along Astlais Creek and contains phenocrysts of plagioclase, hornblende and biotite within a fine grained groundmass of quartz and plagioclase.

Undivided diorites are the last Cretaceous event on the property and occur as stocks and plugs on the Lisa 3, Lisa 4, XL3476 and XL3676 claims.

A quartz monzonite porphyry (QMP) dyke, of early Tertiary age, intrudes a northerly trending structure within Astlais Creek which appears to displace the mineralized zone at that locality. The QMP contains fine grained plagioclase laths, fine to medium, grained biotite, and occasional quartz crystals within an aphanitic potassium feldspar matrix.

The dominant structural trend on the Big Onion property is northeast, including major structures along Ganokwa Creek, Astlais Creek, and McKendrick Creek.

Other important structures trend northerly, as well as west-northwesterly and north-northwesterly. The northerly structures are significant at the Big Onion deposit along Astlais Creek as they divide the North and South Zones, displace the deposit at its southwestern end, and appear to control or localize mineralization in the Northeast Zone.

The major northeast trending structure within Astlais Creek probably controlled the emplacement of the QFP and QDP intrusives, the related Cu-Mo mineralization, and the associated alteration.

Hydrothermal alteration within and around the Big Onion deposit includes phyllic, propylitic, and argillic zones with local silicification.

The deposit is contained within a quartz-sericite (phyllic) alteration assemblage which is surrounded by a propylitic zone whose outer periphery is defined by the limits of the pyrite halo.

Quartz-sericite alteration is contained within the QFP unit and is characterized by ubiquitous, fine grained sericite and local quartz stockworks. Intense sericitic replacement of the rock frequently occurs leaving only quartz eyes as recognizable remnants. Pervasive silicification is also occasionally present. Minor secondary biotite alteration was observed adjacent to fractures.

Propylitic alteration is well developed in the footwall andesites and is characterized by epidote, calcite, chlorite, and the weak sericitization of plagioclase. Within the QFP, the propylitic assemblage contains calcite and saussurite, while in the QDP, hornblende is altered to chlorite and plagioclase crystals are weakly sericitized.

Argillic alteration, consisting of moderate to pervasive kaolinite development, is associated with quartz stringers and fault zones.

Copper and molybdenum, with lesser gold and silver, porphyry mineralization is localized by steep northwesterly dipping shears along Astlais Creek.

Hypogene mineralization consists of disseminated and fracture controlled chalcopyrite and molybdenite which is predominantly associated with the QFP. The margins of the QDP and the footwall andesites are also mineralized, adjacent to contacts with the QFP.

The mineralization appears to be fault controlled and Stock (1977) describes three hydrothermal mineralizing events for the deposit:

- i) quartz, sericite, pyrite \pm chalcopyrite;
- ii) quartz, sericite, chalcopyrite \pm molybdenite;
- iii) quartz, sericite, molybdenite.

Pyrite is also widespread within the deposit and locally attains concentrations of 10%. The dissolution and oxidation of pyrite by near surface groundwater produces sulphuric acid which has been essential for the development of a supergene enrichment zone.

The Big Onion deposit has undergone supergene enrichment over thicknesses of 360 ft. (110 m) in the North Zone and 250 ft. (76 m) in the South Zone.

Supergene mineralization consists of chalcocite with lesser covellite which replaces or coats chalcopyrite grains. Pyrite may also be tarnished with secondary copper mineralization.

Supergene development requires a hypogene source of copper as well as a permeable host rock that allows for the vertical percolation of acidified ground waters.

The sericitized and partly foliated QFP is both permeable and mineralized, hence the best supergene development is associated with this lithology.

The best supergene grades and thicknesses are found in the North Zone and Stock (1977) has suggested that a northerly trending fault between the North and South Zones has allowed for the relative uplift and erosion of some of the South Zones supergene mineralization.

Drill Hole Summaries

During the 1991 Big Onion diamond drilling program, eight vertical holes of HQ diameter core were drilled in the North and South Zones for a total of 5,562 ft. (1,696 m.).

The objectives of the program were to:

- i) test for the possible upgrade of copper assays by using large diameter core;
- ii) test for the possible expansion of the orebody at depth;
- iii) test for supergene copper mineralization and obtain material for metallurgical testing.

Drill results are summarized in Table 2, cross sections are included in the text (Figure 6), drill logs are enclosed in the back pocket (Appendix I), and assay results are in Appendix II.

Diamond Drill Hole 91-1

The first hole was collared on line 14,300N in the North Zone and twinned Canadian Superior percussion drill hole (pdh) 75-76 and diamond drill hole (ddh) 76-8 (Figure 6a).

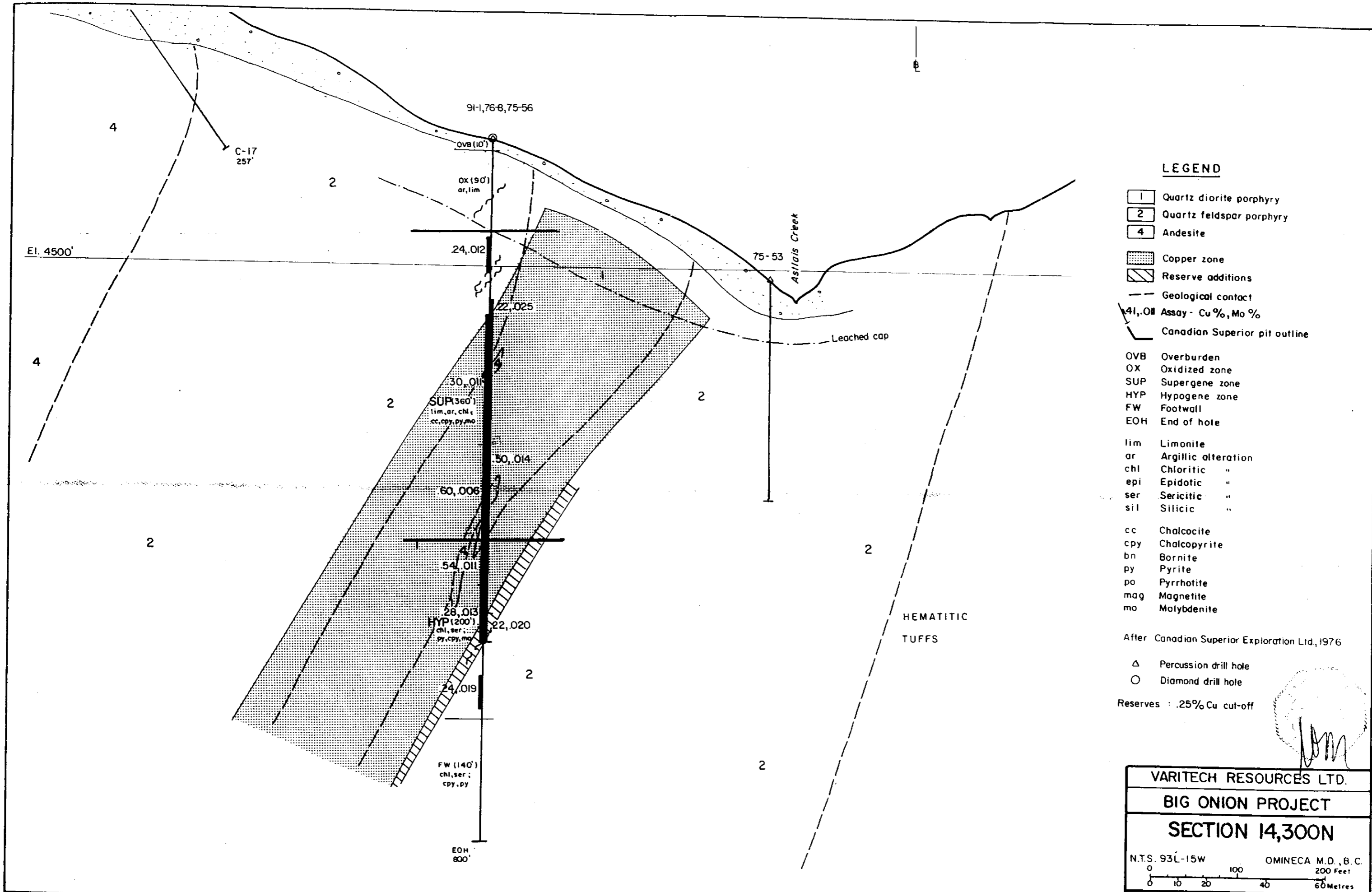
The overburden was penetrated for 10 ft. (3 m), the oxide zone or leached cap for 90 ft. (27 m), the supergene zone for 360 ft. (110 m) and the hypogene zone for 200 ft. (61 m).

The oxide zone was a shattered and friable QFP that had been oxidized (limonite coating fractures) and argillized. It contained traces of disseminated and fracture controlled pyrite and molybdenite.

Table 2

1991 Diamond Drill Summary

Hole # (HO)	Sect. (N)	PDH # (2")	DDH# (BO)	OB	Leached Cap	Supergene (% Cu, %MoS ₂)	Cu Upgrade	Hypogene (%Cu, %MoS ₂)	Footwall	EOH
91-1	14.3	75-56	76-8	10'	90'	360' (.355,.010)	-.072 (-16.9%)	200' (.292,.012)	140'	800'
91-2	14.8	-----	76-9	40'	40'	310' (.630,.020)	+.105 (+20%)	118 (.226,.007)	190'	698'
91-3	15.0	75-29	75-58	50'	70'	360' (.553,.024)	-.074 (-11.4%)	270' (.144,.007)	-----	750'
91-4	13.5	75-26	75-59	10'	10'	100' (.534,.019)	+.052 (+10.8%)	350' (.270,.014)	130'	597'
91-5	12.3	75-15	-----	60'	40'	120' (.689,.026)	+.097 (+16.5%)	310' (.210,.004)	50'	580'
91-6	11.9	75-12	75-60	30'	10'	200' (.294,.025)	+.082 (+38.4%)	100' (.113,.005)	410'	750'
91-7	11.3	75-7	-----	10'	30'	250' (.370,.020)	-.060 (-14.0%)	443' (.229,.011)	-----	733'
91-8	11.1	75-4	-----	10'	20'	150' (.296,.012)	-.099 (-25.1%)	480' (.269,.013)	84'	744'



LEGEND

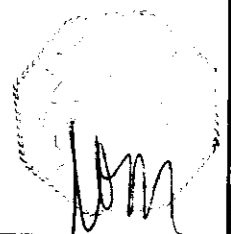
- 1 Quartz diorite porphyry
- 2 Quartz feldspar porphyry
- 4 Andesite
- Copper zone
- Reserve additions
- Geological contact
- Assay - Cu%, Mo %
- Canadian Superior pit outline

- OVB Overburden
- OX Oxidized zone
- SUP Supergene zone
- HYP Hypogene zone
- FW Footwall
- EOH End of hole
- lim Limonite
- ar Argillic alteration
- chl Chloritic "
- epi Epidotic "
- ser Sericitic "
- sil Silicic "
- cc Chalcocite
- cpy Chalcopyrite
- bn Bornite
- py Pyrite
- po Pyrrhotite
- mag Magnetite
- mo Molybdenite

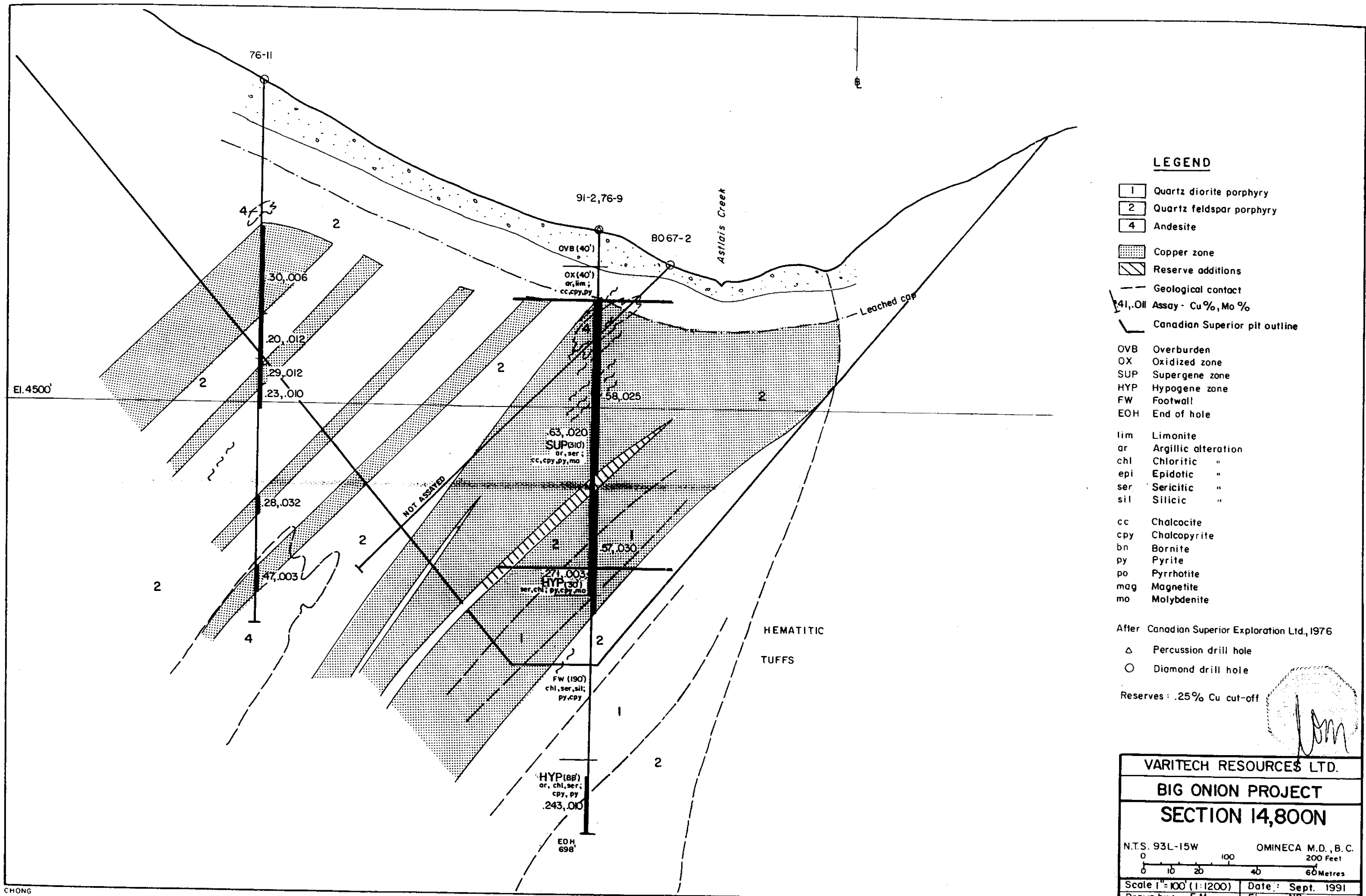
After Canadian Superior Exploration Ltd., 1976

- △ Percussion drill hole
- Diamond drill hole

Reserves : .25% Cu cut-off



VARITECH RESOURCES LTD.	
BIG ONION PROJECT	
SECTION 14,300N	
N.T.S. 93L-15W	OMINECA M.D., B.C.
Scale 1" = 100' (1:1200)	Date: Sept. 1991
Drawn by: E.M.	Figure No.: 6a



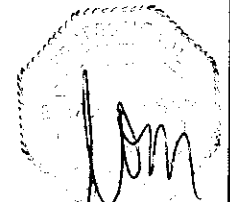
LEGEND

- 1 Quartz diorite porphyry
- 2 Quartz feldspar porphyry
- 4 Andesite
- Copper zone
- Reserve additions
- Geological contact
- Assay - Cu%, Mo%
- Canadian Superior pit outline
- OVB Overburden
- OX Oxidized zone
- SUP Supergene zone
- HYP Hypogene zone
- FW Footwall
- EOH End of hole
- lim Limonite
- ar Argillic alteration
- chl Chloritic "
- epi Epidotic "
- ser Sericitic "
- sil Silicic "
- cc Chalcocite
- cpy Chalcopyrite
- bn Bornite
- py Pyrite
- po Pyrrhotite
- mag Magnetite
- mo Molybdenite

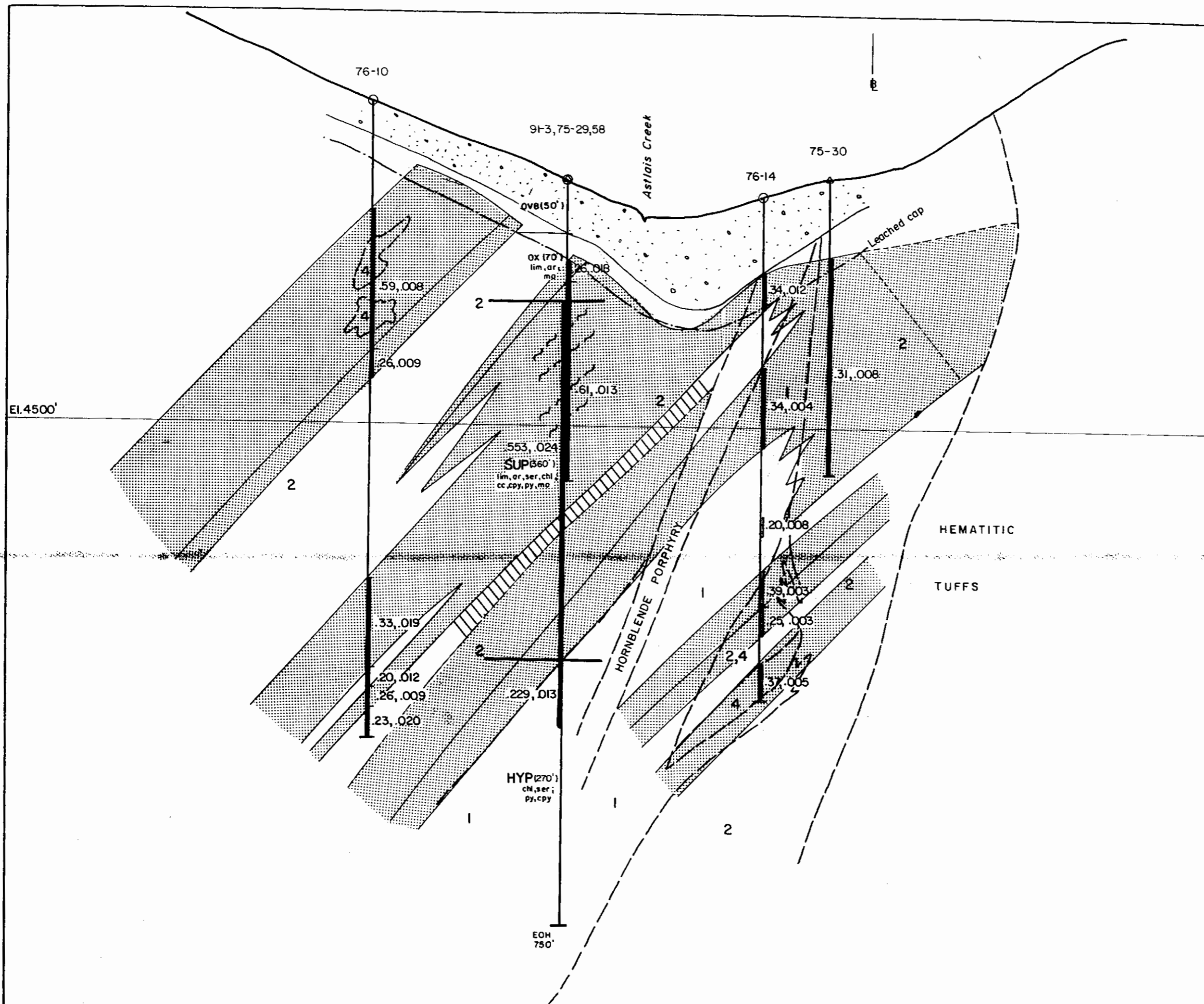
After Canadian Superior Exploration Ltd., 1976

- △ Percussion drill hole
- Diamond drill hole

Reserves: .25% Cu cut-off



VARITECH RESOURCES LTD.	
BIG ONION PROJECT	
SECTION 14,800N	
N.T.S. 93L-15W	OMINECA M.D., B.C.
Scale 1"=100' (1:1200)	Date: Sept. 1991
Drawn by: E.M.	Figure No.: 6b



LEGEND

- 1 Quartz diorite porphyry
- 2 Quartz feldspar porphyry
- 4 Andesite
- Copper zone
- Reserve additions
- Geological contact
- 41,011 Assay - Cu%, Mo%
- Canadian Superior pit outline

- OVB Overburden
- OX Oxidized zone
- SUP Supergene zone
- HYP Hypogene zone
- FW Footwall
- EOH End of hole

- lim Limonite
- ar Argillic alteration
- chl Chloritic "
- epl Epidotic "
- ser Sericitic "
- sil Silicic "

- cc Chalcocite
- cpy Chalcopyrite
- bn Bornite
- py Pyrite
- po Pyrrhotite
- mag Magnetite
- mo Molybdenite

After Canadian Superior Exploration Ltd., 1976

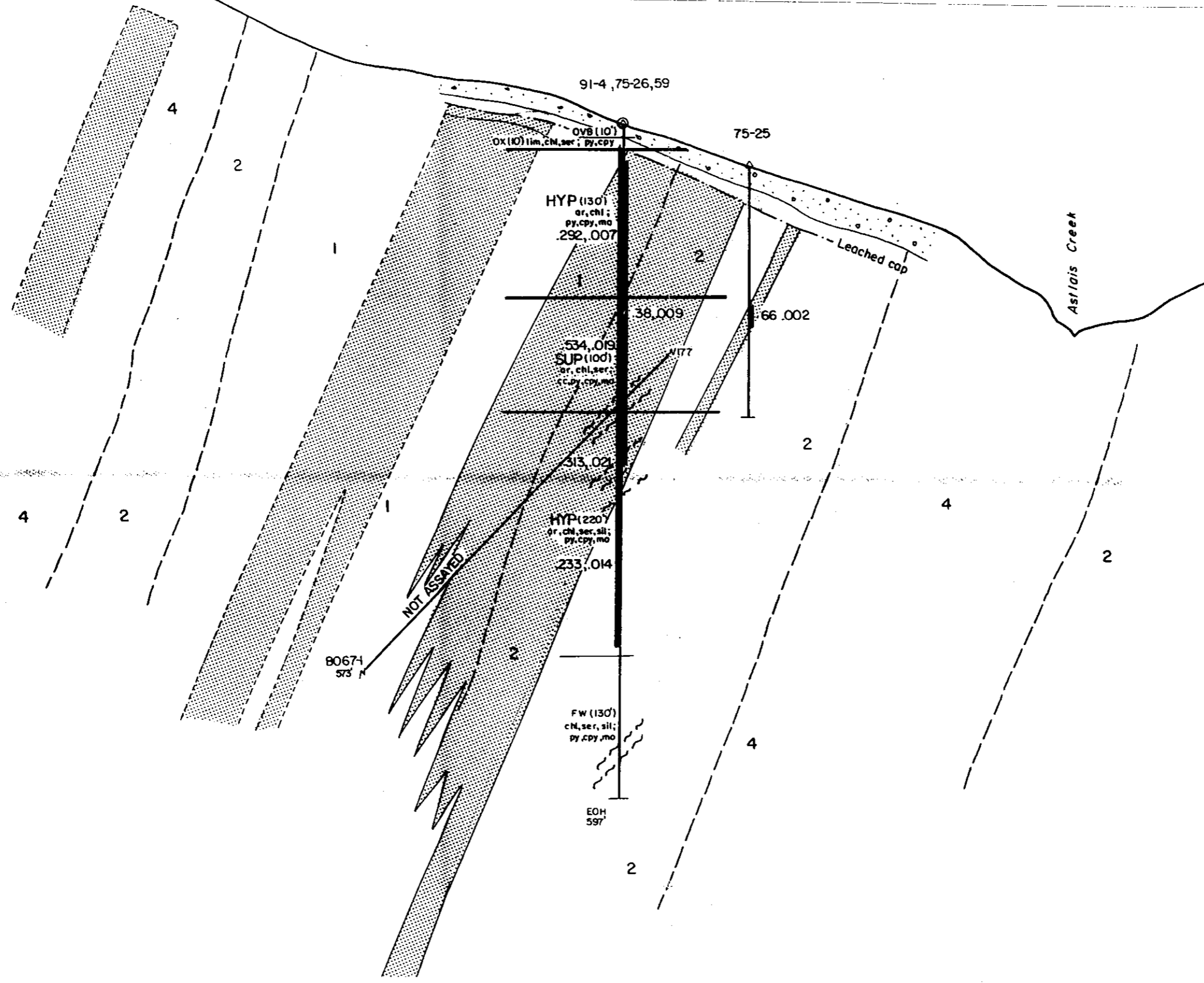
- △ Percussion drill hole
- Diamond drill hole

Reserves : .25% Cu cut-off



VARITECH RESOURCES LTD.	
BIG ONION PROJECT	
SECTION 15,000N	
N.T.S. 93L-15W	OMINECA .M.D., B. C.
Scale 1" = 100' (1:1200)	Date : Sept. 1991
Drawn by : E.M.	Figure No. : 6c

EI. 4500'



LEGEND

- 1 Quartz diorite porphyry
- 2 Quartz feldspar porphyry
- 4 Andesite
- Copper zone
- Reserve additions
- Geological contact
- 41.0% Assay - Cu %, Mo %
- Canadian Superior pit outline
- OVB Overburden
- OX Oxidized zone
- SUP Supergene zone
- HYP Hypogene zone
- FW Footwall
- EOH End of hole
- lim Limonite
- ar Argillic alteration
- chl Chloritic "
- epi Epidotic "
- ser Sericitic "
- sil Silicic "
- cc Chalcocite
- cpy Chalcopyrite
- bn Bornite
- py Pyrite
- po Pyrrhotite
- mag Magnetite
- mo Molybdenite

After Canadian Superior Exploration Ltd., 1976

- △ Percussion drill hole
- Diamond drill hole

Reserves : .25% Cu cut-off



VARITECH RESOURCES LTD.

BIG ONION PROJECT

SECTION 13,500N

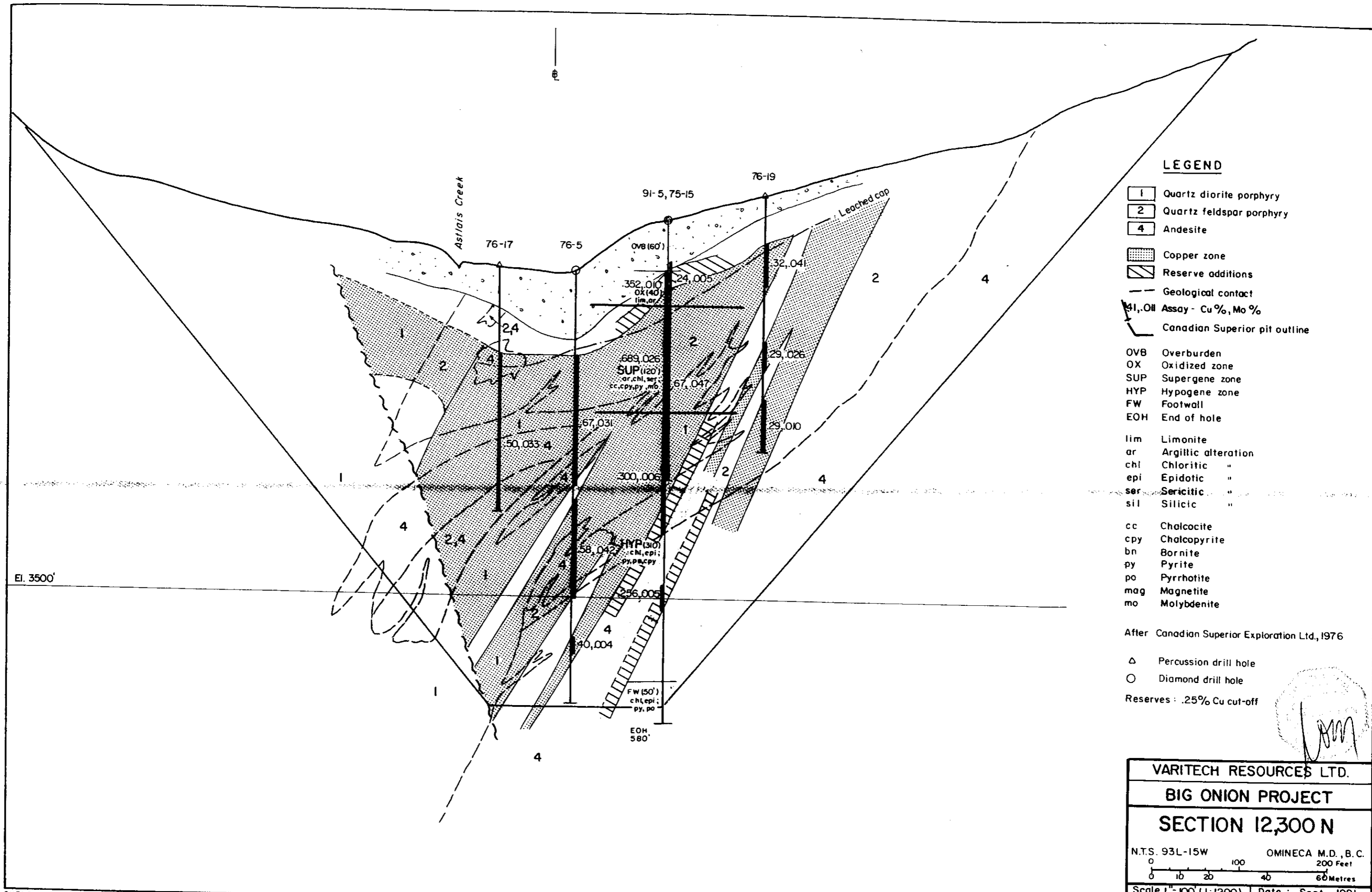
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0 100 200 Feet

0 10 20 40 60 Metres

Scale 1" = 100' (1:1200) Date: Sept. 1991

Drawn by: E.M. Figure No.: 6d



LEGEND

- 1 Quartz diorite porphyry
- 2 Quartz feldspar porphyry
- 4 Andesite
- Copper zone
- Reserve additions
- Geological contact
- Assay - Cu %, Mo %
- Canadian Superior pit outline

- OVB Overburden
- OX Oxidized zone
- SUP Supergene zone
- HYP Hypogene zone
- FW Footwall
- EOH End of hole

- lim Limonite
- ar Argillic alteration
- chl Chloritic "
- epi Epidotic "
- ser Sericitic "
- sil Silicic "

- cc Chalcocite
- cpy Chalcopyrite
- bn Bornite
- py Pyrite
- po Pyrrhotite
- mag Magnetite
- mo Molybdenite

After Canadian Superior Exploration Ltd., 1976

- △ Percussion drill hole
- Diamond drill hole

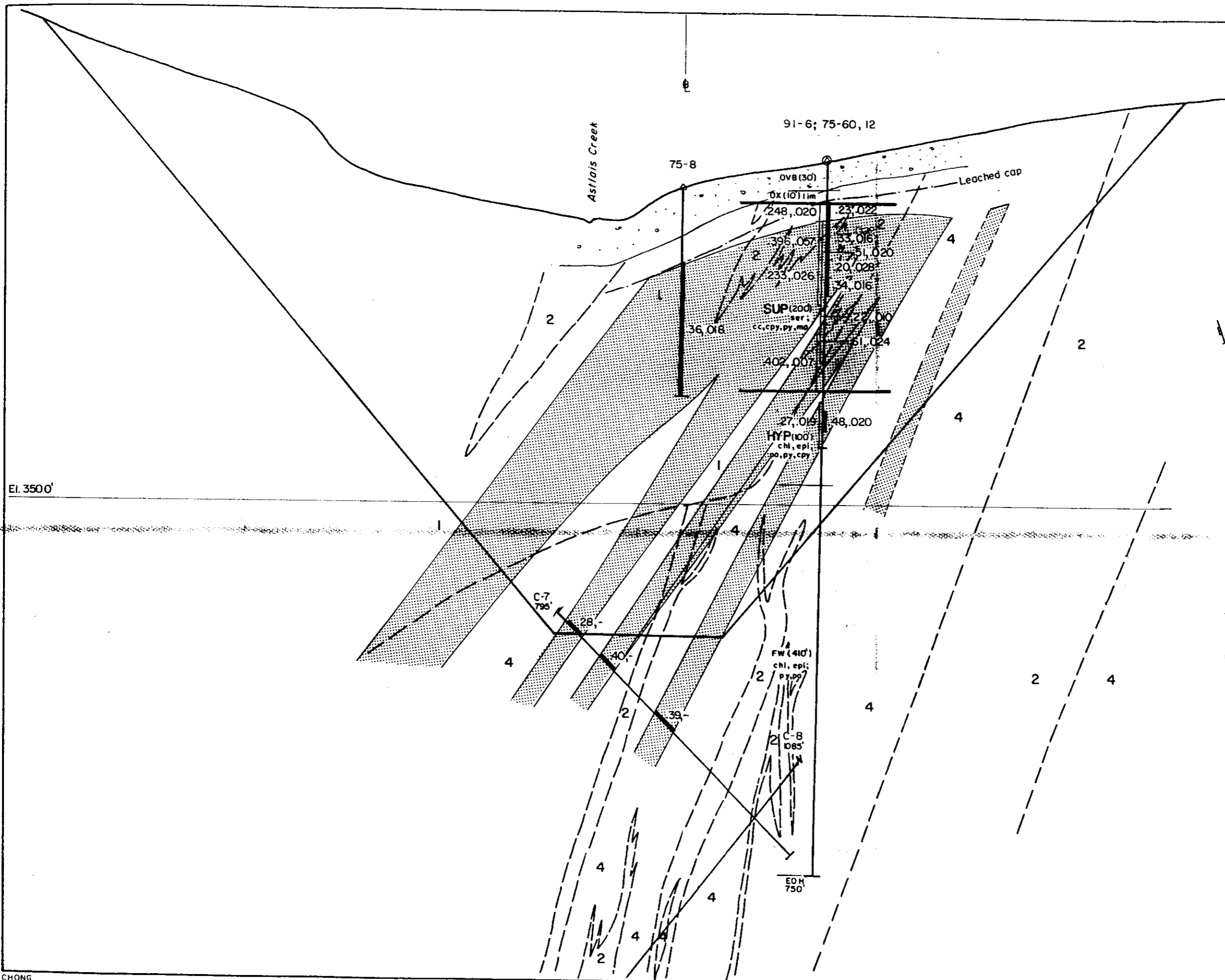
Reserves : .25% Cu cut-off

Wan

VARITECH RESOURCES LTD.
BIG ONION PROJECT
SECTION 12,300 N

N.T.S. 93L-15W OMINECA M.D., B.C.
 0 100 200 Feet
 0 10 20 40 60 Metres

Scale 1" = 100' (1:1200) Date: Sept. 1991
 Drawn by: E.M. Figure No.: 6e



LEGEND

- 1 Quartz diorite porphyry
- 2 Quartz feldspar porphyry
- 4 Andesite
- Copper zone
- Reserve additions
- Geological contact
- Assay - Cu %, Mo %
- Canadian Superior pit outline
- OVB Overburden
- OX Oxidized zone
- SUP Supergene zone
- HYP Hypogene zone
- FW Footwall
- EOH End of hole
- lim Limonite
- ar Argillic alteration
- chl Chloritic "
- epi Epidotic "
- ser Sericitic "
- sil Silicic "
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- cpy Chalcopyrite
- bn Bornite
- py Pyrite
- po Pyrrhotite
- mag Magnetite
- mo Molybdenite

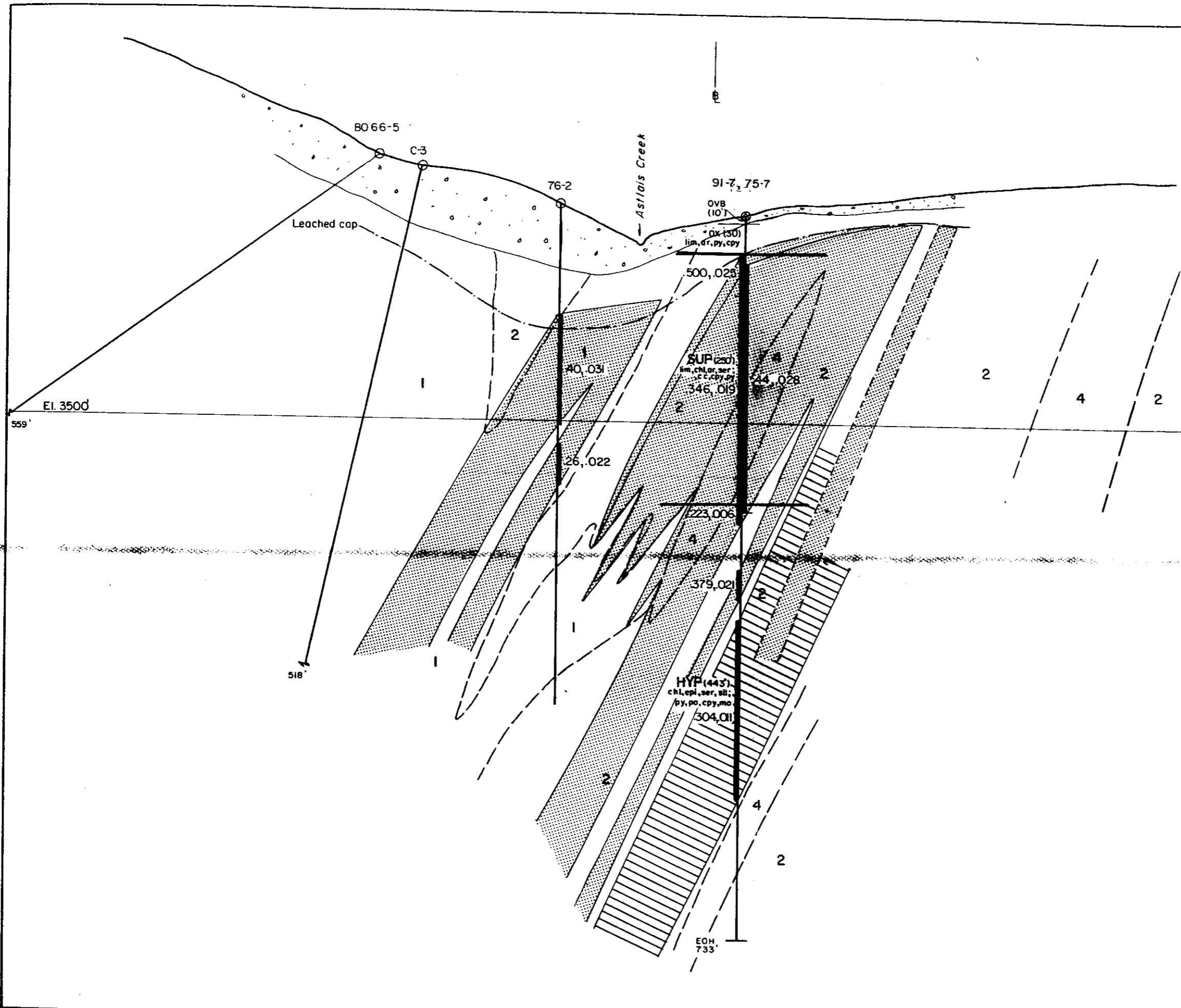
After Canadian Superior Exploration Ltd., 1976

- △ Percussion drill hole
- Diamond drill hole

Reserves : .25% Cu cut-off

EM

VARITECH RESOURCES LTD.	
BIG ONION PROJECT	
SECTION II,900N	
N.T.S. 93L-15W	OMINECA M.D., B.C.
Scale 1"=100' (1:1200)	Date : Sept. 1991
Drawn by : E.M.	Figure No. : 6f

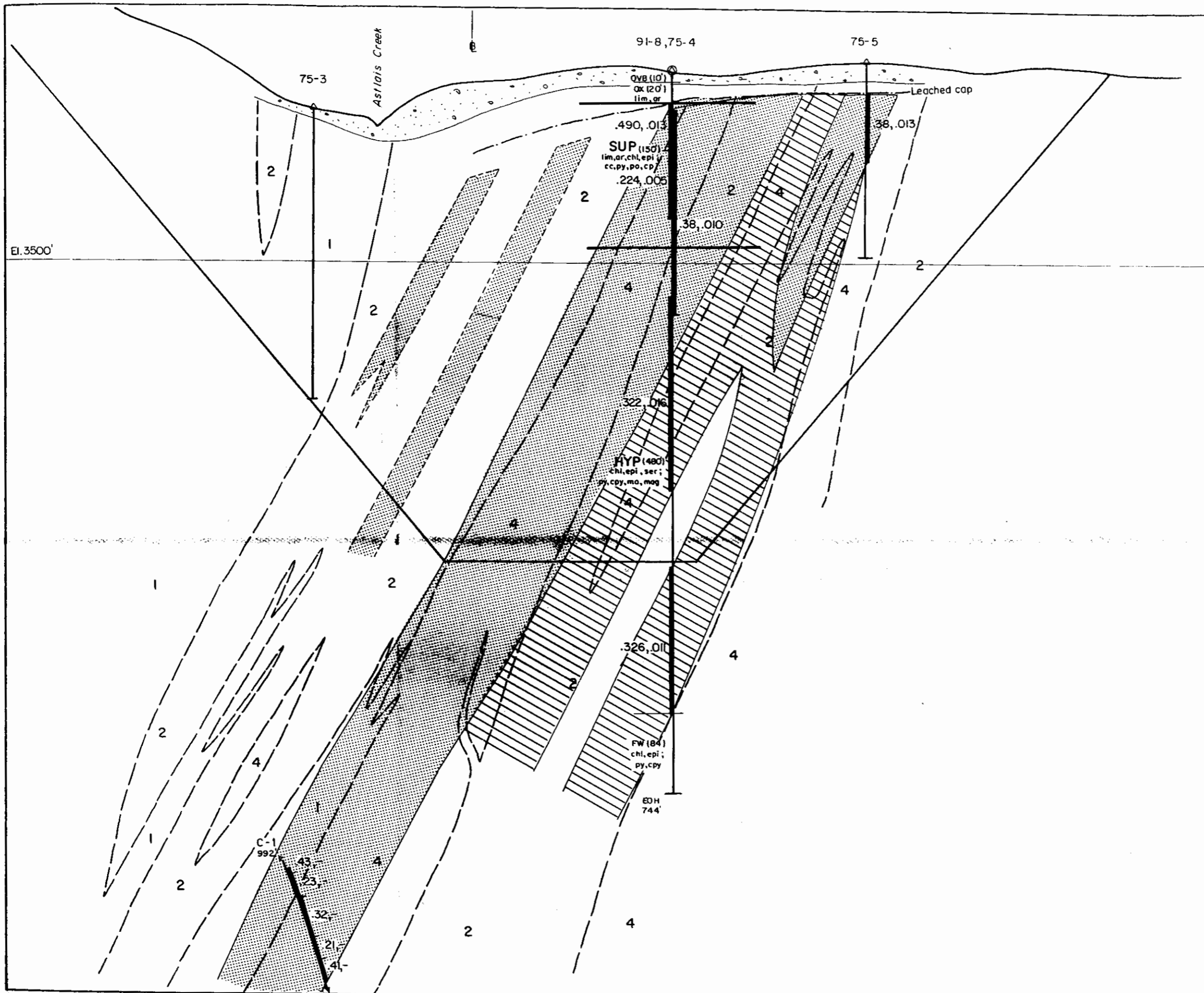


LEGEND

- 1 Quartz diorite porphyry
 - 2 Quartz feldspar porphyry
 - 4 Andesite
 - Copper zone
 - Reserve additions
 - Geological contact
 - 41,011 Assay - Cu%, Mo%
 - Canadian Superior pit outline
 - OVB Overburden
 - OX Oxidized zone
 - SUP Supergene zone
 - HYP Hypogene zone
 - FW Footwall
 - EOH End of hole
 - lim Limonite
 - ar Argillic alteration
 - chl Chloritic "
 - epi Epidotic "
 - ser Sericitic "
 - sil Silicic "
 - cc Chalcocite
 - cpy Chalcopyrite
 - bn Bornite
 - py Pyrite
 - po Pyrrhotite
 - mag Magnetite
 - mo Molybdenite
- After Canadian Superior Exploration Ltd., 1976
- △ Percussion drill hole
 - Diamond drill hole
- Reserves: .25% Cu cut-off

lom

VARITECH RESOURCES LTD.	
BIG ONION PROJECT	
SECTION II,300N	
N.T.S. 93L-15W	OMINECA M.D., B.C.
Scale 1" = 100' (1:1200)	Date: Sept. 1991
Drawn by: E.M.	Figure No.: 6g



LEGEND

- 1 Quartz diorite porphyry
- 2 Quartz feldspar porphyry
- 4 Andesite
- [Stippled pattern] Copper zone
- [Diagonal lines] Reserve additions
- - - Geological contact
- ▲ Assay - Cu %, Mo %
- - - Canadian Superior pit outline

- OVB Overburden
- OX Oxidized zone
- SUP Supergene zone
- HYP Hypogene zone
- FW Footwall
- EOH End of hole

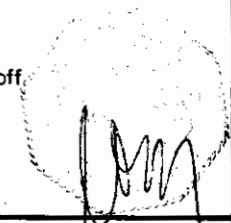
- lim Limonite
- ar Argillic alteration
- chl Chloritic "
- epl Epidotic "
- ser Sericitic "
- sil Silicic "

- cc Chalcocite
- cpy Chalcopyrite
- bn Bornite
- py Pyrite
- po Pyrrhotite
- mag Magnetite
- mo Molybdenite

After Canadian Superior Exploration Ltd., 1976

- △ Percussion drill hole
- Diamond drill hole

Reserves : 25% Cu cut-off.



VARITECH RESOURCES LTD.	
BIG ONION PROJECT	
SECTION 11,100 N	
N.T.S. 93L-15W	OMINECA M.D., B.C.
Scale 1" = 100' (1:1200)	Date: Sept. 1991
Drawn by: E.M.	Figure No.: 6h

The supergene zone included argillized and sericitized QFP & QDP, and chloritized andesitic volcanics. Pyrite, chalcopyrite, and molybdenite occurred as fine grained disseminations, fracture controlled concentrations, and in quartz veinlets. Chalcocite was the predominant secondary copper mineral replacing and/or coating disseminated and fracture controlled chalcopyrite grains. Sulphide volume attained 5% in some places. Limonitic vugs and fracture coatings were noted to depths of 300 ft. The average grades for the supergene zone were 0.355% Cu and 0.010% MoS₂.

The hypogene zone consisted of sericitized QFP which contained pyrite, chalcopyrite, and molybdenite as disseminations, fracture related concentrations and in quartz veinlets. Sulphide volume ranged between 1 and 5%. Thin, irregular gypsum veinlets were also noted in this zone. The average grades for the hypogene zone were 0.292% Cu and 0.012% MoS₂.

Fault zones were intersected between 65 and 85 ft., 134 and 138 ft., 150 and 153 ft., 210 and 215 ft., and 570 and 576 ft. These zones were strongly argillized and contained disseminated sulphides. Slip surfaces throughout the hole were smeared with sulphides, chlorite or sericite.

Assays from hole 91-1 were excellent with several 10 ft. intersections assaying greater than 0.6% Cu. Previous drill hole results, however, were not upgraded at this location with the HQ diameter core.

Diamond Drill Hole 91-2

The second hole was collared on line 14,800N in the North Zone and twinned Canadian Superior ddh 76-9 (Figure 6b).

The overburden was penetrated for 40 ft. (12 m), the leached cap for 40 ft. (12 m), the supergene zone for 310 ft. (95 m) and the hypogene zone for 118 ft. (36 m).

The leached cap consisted of a highly shattered and friable QFP containing argillic and limonitic alteration products. It contained disseminated pyrite and chalcopyrite; and some chalcocite at the bottom of the zone. Relict gypsum and quartz veinlets were also present.

The supergene zone included a thin panel of altered andesite but was predominantly argillized and/or sericitized QFP containing irregular quartz veinlets, pyritic fracture fillings and clay (and/or sulphide) slip surfaces and shears. Mineralization consisted of pervasive, disseminated chalcocite (up to 5%) and lesser pyrite and relict chalcopyrite as fine grained disseminations and vein selvage. The average supergene grades were 0.630% Cu and 0.020% MoS₂.

Hypogene mineralization occurred in two separate zones in this hole. The upper zone extended for 30 ft. below the supergene zone and the lower zone was encountered at the bottom of the hole for 88 ft. Hypogene lithologies included chloritized and sericitized QDP and QFP which contained 1-2% of very fine grained pyrite and chalcopyrite as disseminations and fracture fillings. Gypsum and quartz veinlets were also present, as well as, occasional chlorite and/or sericite coated slip surfaces. The average grades for the upper hypogene zone were 0.271% Cu and 0.003% MoS₂ and for the lower zone were 0.211% Cu and 0.007% MoS₂.

Faulting was ubiquitous at the top of the hole and eleven separate fault zones were noted between 45 and 287 ft.

Assays for the supergene zone in hole 91-2 were excellent with several 10 ft. intersections containing greater than 1% total Cu. The previous Canadian Superior analyses for ddh 76-9 were upgraded by 20% with these results.

Diamond Drill Hole 91-3

The third hole was collared on line 15,000N in the North Zone and twinned Canadian Superior pdh 75-29 and ddh 75-58 (Figure 6c).

The overburden was intersected for 50 ft. (15 m), the leached cap for 70 ft. (21 m), the supergene zone for 360 ft. (110 m), and the hypogene zone for 270 ft. (82 m).

The leached cap or oxide zone was a strongly argillized and limonitic QFP containing relict quartz veinlets. Molybdenite mineralization occurred as fine grained disseminations and in the quartz veinlets.

The supergene zone was entirely within an argillized and sericitized QFP that was locally silicified. Chalcocite, chalcopyrite, and molybdenite occurred as very fine grained disseminations and the primary sulphides were also associated with quartz veinlets. Chalcocite was often present as a tarnish on chalcopyrite grains as replacement was not always complete. Fault zones with associated gouge and chalcocite (and/or chlorite and/or sericite) coated slip surfaces were numerous in the upper half of the zone. Total sulphide content ranged between 1 and 5% and the average grades for the supergene zone were 0.553% Cu and 0.024% MoS₂.

The hypogene zone was in a chloritized and sericitized QDP containing irregular quartz-carbonate and gypsum veinlets. Mineralization consisted of chalcopyrite and pyrite as fine grained disseminations, stringers, and fracture fillings. Sulphide volume ranged between 0.5 and 1.5% and the average grades for the hypogene zone were 0.144% Cu and 0.007% MoS₂.

Assays from hole 91-3 were also excellent with several 10 ft. intersections assaying greater than 0.6% Cu. Although this included 30 ft. of material over 1% Cu, overall results did not indicate an appreciable upgrade of previous Canadian Superior results.

Diamond Drill Hole 91-4

The fourth hole was collared on line 13,500N in the North Zone and twinned Canadian Superior pdh 75-26 and ddh 75-59 (Figure 6d).

The overburden was drilled for 10 ft. (3 m), the leached cap for 10 ft. (3 m), the supergene zone for 100 ft. (30 m), and the hypogene zone for 350 ft. (107 m).

The leached cap developed within an intensely fractured QDP containing limonitic, hematitic, chloritic, and sericitic alteration products. A trace of very fine grained chalcocite and pyrite occurred as disseminations and in quartz veinlets.

The supergene zone occurs below an upper hypogene zone and appears to be fault controlled. The fault bounded and sericitized QFP that comprises the zone contains 1-2% of very fine grained chalcocite, chalcopyrite, pyrite and molybdenite as fracture fillings, disseminations, coatings on slip surfaces, and in quartz veinlets. The chalcocite usually occurs as a tarnish on chalcopyrite grains. The average grades for the supergene zone were 0.534% Cu and 0.019% MoS₂.

Two separate hypogene zones were intersected at this location. The upper zone persisted for 130 ft. at the top of the hole and the lower zone was encountered for 220 ft. below the supergene zone.

The upper hypogene zone was a chloritized and sericitized QDP which contained approximately 1% pyrite, chalcopyrite and molybdenite as very fine grained disseminations, thin fracture fillings, and in quartz veinlets. The average grades for the upper hypogene zone were 0.292% Cu and 0.007% MoS₂.

The lower hypogene zone was a sericitized and locally silicified QFP that contained 1-4% sulphides as in the upper zone. Numerous faults and shears were noted in the upper portion of this zone. The average grades for the lower hypogene zone were 0.257% Cu and 0.017% MoS₂.

Assays for hole 91-4 were excellent with hypogene values as high as 0.594% Cu and supergene results up to 0.701% Cu over 10 ft. sample intervals. The previous Canadian Superior results from ddh 75-59 were upgraded by 11% in the supergene zone of this hole.

Diamond Drill Hole 91-5

The fifth hole was collared on line 12,300N in the South Zone and twinned Canadian Superior pdh 75-15 (Figure 6e).

The overburden was penetrated for 60 ft. (18 m), the leached cap for 40 ft. (12 m), the supergene zone for 120 ft. (37 m) and the hypogene zone for 310 ft. (95 m).

The oxide zone (leached cap) was a shattered, argillized, and limonite stained QFP.

The supergene zone consisted of a fractured and shattered QFP containing argillic and sericitic alteration products. Mineralization included chalcocite, chalcopyrite, pyrite, and molybdenite as very fine grained disseminations, fracture fillings, and associated with quartz veinlets. Chalcocite development varied between a tarnish on and total replacement of chalcopyrite grains. Sulphide volumes were as high as 10% at the top of this zone. The average grades for the supergene zone were 0.689% Cu and 0.026% MoS₂.

The hypogene zone included chloritized and sericitized QDP and QFP, as well as, a thick section of propylitically altered volcanics and fine grained sediments. Hypogene sulphide volume ranged between 1 and 6% and consisted of fine grained disseminations and fracture fillings of pyrite, pyrrhotite, chalcopyrite, and molybdenite. Within the volcanics, most of the mineralization was restricted to quartz-carbonate veins and fractures containing chlorite and epidote. The average grades for the hypogene zone were 0.210% Cu and 0.004% MoS₂.

Assays from hole 91-5 were excellent with 30 feet of supergene material carrying greater than 0.9% Cu and hypogene results as high as 0.696% Cu over 10 ft. Previous drill results were upgraded by 16.5% in the supergene zone at this location.

Diamond Drill Hole 91-6

The sixth hole was collared on line 11,900 N in the South Zone and twinned Canadian Superior pdh 75-12 and ddh 75-60 (Figure 6f).

The overburden was drilled for 30 ft. (9 m), the leached cap for 10 ft. (3 m), the supergene zone for 200 ft. (61 m) and the hypogene zone for 100 ft. (30 m).

The oxide zone or leached cap was an argillized QFP containing limonite fracture coatings and vugs.

The supergene zone included moderately altered, but locally silicified, QFP and QDP. The QFP had sericite & molybdenite coatings on fracture and slip surfaces. The QDP had similar occurrences of chlorite and sericite, as well as, quartz-carbonate veinlets.

Mineralization consisted of fine grained disseminations and thin, irregular fracture fillings of chalcocite, pyrite, and chalcopyrite. Sulphide content was as high as 7% and the average grades for the supergene zone were 0.294% Cu and 0.025% MoS₂.

The hypogene zone occurred within a propylitically altered andesitic tuff containing thin epidote fractures, drusy quartz veinlets, and later stage carbonate veinlets. Mineralization of pyrite, pyrrhotite, and chalcopyrite as fracture fillings and disseminations was relatively low grade.

Several minor faults were recorded in the supergene and hypogene zones with two notable structures occurring at 160 and 190 feet.

Due to local silicification and the associated reduction of permeability, the supergene assay results were not exceptional. However, forty feet of material contained more than 0.4% Cu and supergene grades were increased 38% above the Canadian Superior ddh 75-60 results.

Diamond Drill Hole 91-7

The seventh hole was collared on line 11,300N in the South Zone and twinned Canadian Superior pdh 75-7 (Figure 6g).

The overburden was penetrated for 10 ft. (3m), the leached cap for 30 ft. (9 m), the supergene zone for 250 ft. (76 m), and the hypogene zone for 440 ft. (134 m).

The leached cap was a shattered and argillized QFP with limonite coatings on fracture surfaces and drusy quartz veinlets. Very fine grained disseminations of relict sulphide grains were also present.

The supergene zone included argillized and sericitized QFP, as well as, propylitically altered Hazelton volcanics. Chalcocite occurred as very fine grained replacements at the top of the zone but decreased in volume with depth. The primary sulphides, including molybdenite, were present in concentrations of up to 5% as fine grained disseminations, fracture fillings, and in quartz \pm carbonate \pm chlorite \pm epidote veinlets. Chlorite, epidote, sericite and molybdenite also occurred as smears on slip surfaces. The average grades for the supergene zone were 0.370% Cu and 0.020% MoS₂.

The hypogene zone contained sericitized and locally silicified QFP, as well as, propylitically altered volcanics. Pyrite, chalcopyrite and molybdenite mineralization was present as in the supergene zone. Gypsum veinlets were also noted. The average grades for the hypogene zone were 0.229% Cu and 0.011% MoS₂.

Three faults were intersected at the top of the hole with the most notable structure occurring between 180 and 184 feet.

Assays from 91-7 were excellent with 100 ft. of supergene material containing greater than 0.4% Cu and 100 ft. of the hypogene zone assaying over 0.3% Cu. Previous drill hole results, however, were not upgraded at this location.

Diamond Drill Hole 91-8

The eighth hole was collared on line 11,100N in the South Zone and twinned Canadian Superior pdh 75-4.

The overburden was intersected for 10 ft. (3m), the leached cap for 20 ft. (6 m), the supergene zone for 150 ft. (46 m) and the hypogene zone for 480 ft. (146 m).

The leached cap was an argillically altered QFP containing limonitic fracture coatings, quartz veinlets, and relict sulphides as disseminations and fracture fillings.

The supergene zone consisted predominantly of a shattered and propylitically altered volcanics cut by drusy quartz veinlets and narrow felsite dykelets. Chalcocite was present along fracture and slip surfaces and the primary sulphides occurred as fracture fillings, in quartz veinlets, and as minor disseminations. Sulphide content ranged between a trace and 4% and the average grades for the supergene zone were 0.296% Cu and 0.012% MoS₂.

The hypogene zone contained a sericitized and locally silicified QFP, as well as, a propylitically altered volcanic tuff or flow. Pyrite and chalcopyrite mineralization occurred as fine grained disseminations, fracture fillings, and in quartz veinlets. Molybdenite was present as coatings on slip and fracture surfaces along with chlorite and sericite. Sulphide content was as high as 4% and the average grades for the hypogene zone were 0.269% Cu and 0.013% MoS₂.

Assays from hole 91-8 were excellent with supergene results as high as 1.016% Cu and hypogene results up to 0.813 and 0.872% Cu for 10 ft. intervals. Previous drill results, however, were not upgraded at this location.

Ore Reserve Estimates

Reserves of approximately 2 million tons at 0.32% Cu and 0.013% MoS₂ were added to the known reserves of the Big Onion deposit by the Varitech Resources 1991 diamond drilling program.

Sectional reserve estimates (with a cut-off grade of 0.25% Cu) were made using the Canadian Superior method of determining the product of cross sectional area x the horizontal distance between sections which was then divided by a tonnage factor of 10. Most of the reserve additions were within hypogene mineralization in the deeper portions of the orebody.

A supergene reserve estimate of 35 million tons at 0.34% Cu was made using a method analogous to that used in the ore reserve additions with the exception that simple rectangular volumes (200' x 200' x vertical) were calculated for each drill hole instead of sectional volumes. All historical and current drill logs were studied to determine chalcocite content (ie. supergene development) and a stripping ratio of approximately 0.5 / 1 was used. A lower cut-off grade of 0.15% total Cu was also used due to the relative ease of mining and heap leaching a supergene deposit.

Precious metal results for the supergene zone averaged 0.064 g/t Au and 1.0 g/t Ag. The best assay for gold was 0.305 g/t and for silver was 2.9 g/t over 10 ft. sample intervals.

Exploration Drill Targets

1. The Northeast Zone

The reserve of 12 million tons grading 0.42% Cu computed for the Northeast Zone is based upon 13 widely spaced drill holes, therefore infill drilling is warranted to better define this zone. The zone is also open to the north and east where the presence of altered QFP and molybdenum rock anomalies suggest that tonnage for the Northeast Zone could be significantly increased.

2. The Area between the North and South Zones

The area between lines 12,700N and 12,900N requires more drilling to test the mineralization indicated by pdh 75-45. Copper and molybdenum rock geochemical anomalies and sericitically altered QFP on surface also make this area a good target. Pdh 75-47 should be redrilled as it did not penetrate the leached cap.

3. The Southwest Target

Another area of favourably altered QFP with supergene development weakly indicated by previous percussion drilling lies between lines 12,000N and 13,000N just northwest of the main QDP intrusion. This area is also overlain by a molybdenum rock geochemical anomaly that is of equal magnitude to the molybdenum rock anomalies that overlie the North and South ore zones. Stock (1977) anticipated that diamond drilling would outline a zone containing approximately 0.35% Cu with associated molybdenite.

4. The Fault Displaced Southern Continuation of the South Zone

A Texas Gulf IP Survey (1966) revealed an anomaly located south of the South Zone which may represent the fault displaced southern continuation of the Big Onion deposit or another mineralized zone. The anomaly, which is located in the northwest corner of the Lisa 4 claim, was previously tested along its western margin by the Blue Rock Mining Corp. in 1970-71 with two diamond drill holes.

5. The Southwestern Portion of the Claim Block

The entire southwestern portion of the claim block (Lisa 1-8 claims) requires further exploration for the southern continuation of the orebody and other mineralized zones. Two IP anomalies traversing the boundary between the Lisa 3 and 5 claims were recommended for drill testing, with eight percussion drill hole locations, by Canadian Superior in 1977. The combined anomalies cover an approximate area of 2.5 km² over the southwestern extension of the Astlais Creek fault and are associated with peripheral aeromagnetic and rock alteration anomalies. Another interesting combination of anomalies occurs in the Lisa 7 claim where rock geochemical, alteration and aeromagnetic anomalies overlie a major structure and cover an approximate area of 2 to 3 km².

Conclusions and Recommendations

The Big Onion property consists of the Lisa 1, Lisa 5 and Lisa 7 claim groups which are located approximately 16 km east - northeast of Smithers, B.C. and 50 km southwest of the Noranda Minerals Inc. Bell and Granisle deposits. Year round access to the property is along the well-maintained Babine Lake Road.

The Big Onion deposit, which consists of the Northeast, North and South Zones, is a calcalkaline Cu-Mo porphyry which also contains anomalous quantities of gold and silver. Potential reserves for the deposit, calculated by Canadian Superior Exploration Ltd. in the 1970's, are 80 to 100 million tons grading 0.42% copper and 0.020% molybdenite.

The 1991 diamond drilling program carried out on the Big Onion property by Varitech Resources Ltd. consisted of eight vertical holes of HQ diameter core totalling 5,562 ft. (1,696 m). It was successful in outlining supergene development in the North and South Zones, as well as, testing the depth of hypogene mineralization.

Supergene intersections were as much as 360 ft. grading 0.55% Cu and 0.02% MoS₂. Other notable intersections included 310 ft. of 0.63% Cu and 120 ft. of 0.69% Cu. The highest supergene assay was 1.57% Cu over 10 ft. and a total of twelve samples (10ft in length) taken from the supergene zone contained greater than 0.9% Cu. Precious metal results for the supergene material averaged 0.064 g/t Au and 1.0 g/t Ag. The best assay for gold was 0.305 g/t and for silver was 2.9 g/t over 10 ft. sample intervals.

Hypogene intersections were up to 480 ft. grading 0.27% Cu. Other notable intersections included 350 ft. of 0.27% Cu and 443 ft. of 0.23% Cu. Two holes were terminated within hypogene mineralization at depths of 733 and 750 ft.

Reserves of approximately 2 million tons grading 0.32% Cu and 0.013% MoS₂ (0.25% Cu cut-off grade) were added to the known reserves of the Big Onion deposit by the 1991 drilling program. A supergene reserve estimate of 35 million tons grading 0.34% Cu was also made using both historical and current drill log data.

Further drilling and exploration is highly recommended for the Big Onion property to:

- i) increase the tonnage of known reserves,
- ii) test for the fault displaced southern continuation of the deposit, and
- iii) explore for other mineralized zones in the southwestern portion of the claim block.

There are three excellent targets adjacent to the main orebody, indicated by rock geochemistry and alteration anomalies, which should be drilled. These include the Northeast Zone, the area between the North and South Zones, and the Southwest target.

Another three areas of interest associated with significant structures and indicated by IP, aeromagnetic, rock geochemistry and/or rock alteration anomalies are located south of the main deposit in the southern half of the claim group. These anomalies should also be drill tested.

Finally, the entire southwestern portion of the claim block requires further exploration for the southern continuation of the orebody and other mineralized zones.

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- Stock, G.C., Big Onion Project, Summary of Exploration to 1977 for Canadian Superior Exploration.
- Sutherland Brown, A., Porphyry Deposits of the Canadian Cordillera, CIMM Special Volume 15 (1976).
- Tipper, H.W. and Richards, T.A., Jurassic Stratigraphy and History of North Central British Columbia, Geological Survey Bulletin 270-1976. Geological Survey of Canada Open File 351 "Smithers".

Big Onion Cost Statement

Professional Fees:

Ed McCrossan 18 days @ \$350/day	\$ 6,300.00
Chris Sampson 7 days @ \$350/day	2,450.00

Field Personnel Fees:

Peter Peto 40 days @ \$300/day	12,000.00
Todd Armstrong 40 days @ \$250/day	10,000.00

Diamond Drilling	127,370.00
Field Equipment & Rental	2,460.00
Truck Rental 40 days @ \$80/day	3,200.00
Hotel & Meals 40 days @ \$110/day	4,400.00

Scheduled Flights	4,600.00
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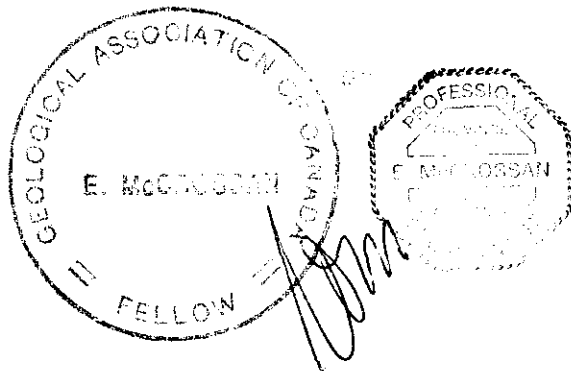
Travel Expenses & Fuel	870.00
Expediting	180.00
Freight	540.00

Analyses - 540 core @ 24.75	13,360.00
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Report & Drafting	2,450.00
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Management, Office Costs, & Miscellaneous @ 5%	<u>10,000.00</u>
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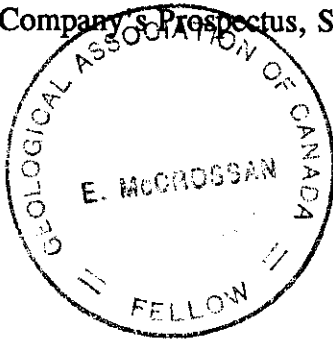
TOTAL	<u>\$200,180.00</u>
-------	---------------------



STATEMENT OF QUALIFICATIONS

I, Ed McCrossan, of 3328 W. 2nd Avenue, Vancouver, British Columbia hereby certify:

1. I am a graduate of the University of British Columbia (1984) and hold a B.Sc. degree in geology.
2. I am presently employed as a consulting geologist with the ARC Resource Group of 401, 325 Howe Street, Vancouver, British Columbia.
3. I have been employed in my profession by various mining companies since graduation and have worked on projects in Canada, Hungary, Thailand, China, Australia, and Chile.
4. I am a member of the Canadian Institute of Mining and Metallurgy, a Fellow of the Geological Association of Canada, and a registered member in good standing of the Association of Professional Engineers and Geoscientists of B.C.
5. The recent data described in this report was collected by Varitech Resources Ltd. during August, 1991.
6. I do not own or expect to receive any interest (direct, indirect, or contingent) in the properties described herein nor in the securities of Varitech Resources Ltd. or Major General Resources Ltd., in respect of services rendered in the preparation of this report.
7. I consent to and authorize the use of the attached report and my name in the Company's Prospectus, Statement of Material Facts or other public documents.



Ed McCrossan
Geologist, F.G.A.C., P. Geo.

A handwritten signature in black ink, appearing to read "Ed McCrossan", written over the typed name and title.

DATED at Vancouver, British Columbia, this 18 day of December, 1991.

APPENDIX I

Diamond Drill Hole Logs

(enclosed in the back pocket)

APPENDIX II
Analytical Results



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91-1

SPECIALISTS IN MINERAL ENVIRONMENTS
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VANCOUVER OFFICE:
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NORTH VANCOUVER, B.C. CANADA V7M 1T2
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FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0365-RA1

Company: **VARITECH RESOURCES**
Project:
Attn: **ED MCCROSSAN/P.PETO**

Date: **AUG-14-91**

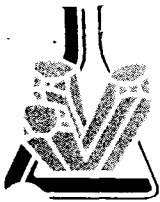
- Copy 1. VARITECH RESOURCES, VANCOUVER, B.C.
2. VARITECH RESOURCES, SMITHERS, B.C.
3. VARITECH RESOURCES, C/O MIN-EN LABS.

We hereby certify the following Assay of 30 ROCK samples
submitted AUG-07-91 by P.PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
20801	.013	.011
0802	.011	.019
20803	.015	.016
20804	.006	.020
0805	.004	.015
20806	.011	.012
20807	.234	.014
0808	.088	.013
20809	.067	.011
20810	.110	.017
0811	.219	.016
20812	.256	.015
20813	.203	.011
0814	.262	.006
20815	.130	.016
0816	.135	.013
20817	.121	.012
20818	.123	.019
0819	.169	.018
0820	.314	.007
20821	.172	.022
0822	.387	.012
20823	.228	.024
20824	.389	.023
0825	.372	.021
20826	.337	.013
20827	.251	.003
0828	.364	.002
20829	.305	.002
20830	.342	.004

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SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0365-RA2

Company: **VARITECH RESOURCES**
Project:
Attn: **ED MCCROSSAN/P.PETO**

Date: **AUG-14-91**
Copy 1. VARITECH RESOURCES, VANCOUVER, B.C.
2. VARITECH RESOURCES, SMITHERS, B.C.
3. VARITECH RESOURCES, C/O MIN-EN LABS.

We hereby certify the following Assay of 8 ROCK samples
submitted AUG-07-91 by P.PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
20831	.260	.013
20832	.214	.011
20833	.319	.005
20834	.231	.008
20835	.740	.005
20836	.638	.006
20837	.660	.006
20838	.722	.007

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FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0396-RA1

Company: **VARITECH**
Project: **BIG ONION**
Contact: **ED MCCROSSAN/PETER PETO**

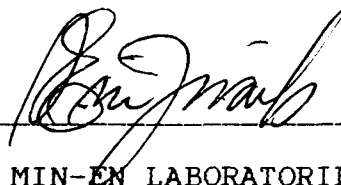
Date: **AUG-14-91**

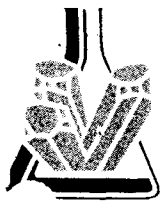
Copy 1. VARITECH, VANCOUVER, B.C.
2. VARITECH SMITHERS, C/O J.T. THOMAS DRILLG

I hereby certify the following Assay of 30 CORE samples
submitted AUG-09-91 by PETER PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
20839	.582	.006
0840	.440	.002
0841	.359	.007
20842	.677	.011
0843	.837	.005
20844	.521	.001
0845	.394	.005
0846	.562	.011
0847	.570	.009
20848	.571	.014
0849	.500	.010
20850	.472	.012
0851	.310	.019
0852	.311	.012
20853	.298	.009
0854	.330	.009
0855	.254	.013
20856	.199	.013
0857	.250	.010
0858	.060	.004
0859	.003	.003
0860	.138	.011
20861	.257	.033
20862	.291	.016
0863	.233	.009
20864	.191	.016
0865	.043	.010
0866	.004	.007
20867	.004	.001
0868	.007	.003

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FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0396-RA2

Company: **VARITECH**
Project: **BIG ONION**
attn: **ED MCCROSSAN/PETER PETO**

Date: **AUG-14-91**
Copy 1. VARITECH, VANCOUVER, B.C.
2. VARITECH SMITHERS, C/O J.T. THOMAS DRILLG

We hereby certify the following Assay of 11 CORE samples
submitted AUG-09-91 by PETER PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
20869	.009	.001
20870	.005	.001
20871	.004	.001
20872	.001	.001
20873	.002	.001
20874	.002	.001
20875	.001	.001
20876	.001	.001
20877	.002	.001
20878	.001	.001
20879	.001	.001

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FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0414-RA1

Company: VARITECH RESOURCES

Date: AUG-19-91

Object:

Copy 1. VARITECH RESOURCES, VANCOUVER, B.C.

Attn: ED. MCCROSSAN/P.PETO

2. VARITECH RESOURCES, C/O MIN-EN LABS.

We hereby certify the following Assay of 30 CORE samples submitted AUG-12-91 by PETER PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
7501	.027	.041
7502	.012	.031
59503	.011	.055
59504	.012	.031
7505	.278	.022
59506	.605	.026
7507	.080	.023
7508	.324	.021
59509	.634	.016
7510	.588	.023
7511	1.015	.016
59512	.623	.015
7513	1.001	.018
7514	1.201	.024
59515	.848	.015
7516	1.029	.021
59517	1.038	.033
59518	.946	.026
7519	.525	.015
7520	.940	.018
7521	1.177	.012
7522	1.337	.013
59523	.658	.026
59524	.272	.020
7525	.225	.028
59526	.561	.019
7527	.459	.017
7528	.350	.024
59529	.499	.027
7530	.325	.021

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SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0414-RA2

Company: VARITECH RESOURCES
Project:
Attn: ED. MCCROSSAN/P.PETO

Date: AUG-19-91
Copy 1. VARITECH RESOURCES, VANCOUVER, B.C.
2. VARITECH RESOURCES, C/O MIN-EN LABS.

We hereby certify the following Assay of 20 samples
submitted AUG-12-91 by PETER PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
59531	.368	.025
9532	.432	.020
59533	.291	.025
59534	.351	.006
9535	.538	.006
59536	.243	.003
9537	.422	.003
9538	.147	.004
59539	.077	.006
59540	.076	.004
59541	.086	.006
59542	.034	.003
9543	.047	.006
9544	.056	.005
59545	.033	.005
9546	.064	.006
59547	.047	.005
59548	.055	.006
9549	.038	.004
59550	.036	.004

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NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0428-RA1

Company: **VARITECH RESOURCES**
Project:
Attn: **E. MCROSSAN/P. PETO**

Date: **AUG-19-91**
Copy 1. VARITECH RESOURCES, VANCOUVER, B.C.
2. VARITECH RESOURCES, C/O MIN-EN LABS.

I hereby certify the following Assay of 16 CORE samples submitted AUG-12-91 by PETER PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
7551	.046	.003
7552	.051	.004
59553	.060	.004
59554	.049	.006
7555	.077	.003
59556	.082	.004
7557	.063	.005
7558	.121	.002
59559	.081	.004
59560	.141	.005
59561	.206	.009
59562	.142	.011
7563	.181	.009
7564	.324	.012
59565	.370	.009
7566	.339	.013

Certified by

MIN-EN LABORATORIES

COMP: VARITECH RESOURCES
 PROJ:
 ATTN: ED. MCCROSSAN/P.PETO

MIN-EN LABS — ICP REPORT
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
 (604)980-5814 OR (604)988-4524

FILE NO: 1S-0414-RJ1+2
 DATE: 91/08/19
 * ROCK * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BI PPM	CO PPM	K PPM	MN PPM	NI PPM	PB PPM	SB PPM	TI PPM	ZN PPM	SN PPM	W PPM	AU-FIRE PPB
59501	.1	3	1	3	760	36	1	9	1	14	10	1	3	61
59502	.1	7	1	1	1230	29	1	8	1	3	8	1	3	31
59503	.1	6	1	2	1020	20	1	5	1	2	5	1	3	37
59504	.2	16	1	2	470	64	1	8	1	2	8	1	4	41
59505	2.5	22	6	5	1600	50	13	14	9	18	3	1	5	115
59506	1.0	13	1	15	790	163	46	10	4	163	19	1	9	156
59507	.6	3	2	10	700	174	46	1	1	173	19	1	9	168
59508	.7	1	1	19	870	218	63	1	1	419	26	1	10	176
59509	1.1	1	1	18	900	230	69	1	1	427	21	2	10	143
59510	.8	13	1	10	790	121	28	12	5	44	8	1	6	83
59511	1.2	7	1	13	730	156	49	19	7	132	14	1	8	142
59512	.9	15	1	10	1490	143	25	15	5	85	9	1	5	142
59513	1.4	1	1	21	1050	320	52	9	7	490	22	1	9	131
59514	1.2	1	1	22	780	324	65	7	6	474	23	1	9	152
59515	.9	12	1	9	470	61	18	14	8	14	5	1	4	118
59516	1.1	12	1	15	800	269	50	15	8	88	20	1	8	142
59517	1.1	1	1	18	750	525	52	3	7	320	30	1	10	141
59518	.9	12	1	14	780	264	47	20	7	102	19	1	9	121
59519	.7	16	1	12	630	109	16	12	6	19	9	1	5	63
59520	1.1	21	1	11	530	64	22	16	10	5	3	1	5	107
59521	1.3	16	1	12	200	62	31	14	11	2	3	1	5	141
59522	1.4	9	1	20	530	381	50	14	11	58	19	1	8	181
59523	.8	16	2	11	640	155	27	14	7	30	10	1	5	67
59524	.5	10	2	3	970	22	3	7	4	1	3	1	4	31
59525	.5	13	1	3	1030	22	5	6	4	2	3	1	4	32
59526	1.3	1	1	26	1360	355	82	1	1	320	35	2	14	63
59527	1.1	22	2	8	1600	80	11	13	7	9	8	1	4	67
59528	1.0	22	2	6	1730	77	11	14	6	10	6	1	6	53
59529	.8	15	3	8	980	89	17	13	6	8	7	1	5	51
59530	.9	23	2	6	1140	63	10	9	5	9	6	1	4	6
59531	.6	14	1	6	1550	65	9	14	3	12	10	1	3	61
59532	1.0	15	1	8	1610	76	9	15	6	12	12	1	4	53
59533	.7	15	1	10	2200	90	12	11	4	115	15	1	5	60
59534	.6	12	1	17	2470	219	30	8	3	468	38	1	7	64
59535	.9	14	1	17	2750	170	23	11	6	284	28	1	6	90
59536	.4	16	1	37	2470	415	18	13	2	252	29	1	5	40
59537	.6	14	1	25	2000	248	12	15	4	219	32	1	4	40
59538	.5	14	1	14	2160	113	11	8	2	234	32	1	4	31
59539	1.1	13	1	12	2760	483	9	11	3	21	34	1	3	33
59540	1.2	14	1	14	2220	958	7	13	2	23	27	1	3	49
59541	1.4	15	1	10	1940	483	7	10	6	9	19	1	2	20
59542	.8	16	1	12	2020	349	6	12	1	64	28	1	3	7
59543	.6	10	1	15	1930	376	8	9	1	65	28	1	3	17
59544	1.0	14	1	17	2220	371	7	12	1	121	23	1	4	3
59545	.6	10	1	13	1790	363	5	9	1	216	23	1	4	10
59546	.7	10	3	13	2420	386	8	14	1	139	26	1	4	21
59547	.8	12	1	13	1790	398	7	11	1	124	23	1	4	17
59548	1.0	15	1	33	2660	477	8	12	1	121	27	1	4	43
59549	.6	12	1	13	2850	461	7	8	1	228	26	1	5	3
59550	.7	13	1	15	9310	394	7	13	1	206	28	1	4	10



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91-3

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NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0460-RA1

Company: **VARITECH**
Project: **BIG ONION**
Attn: **ED MCCROSSAN/PETER PETO**

Date: **AUG-23-91**

- Copy 1. VARITECH, VANCOUVER, B.C.
2. VARITECH, SMITHERS, B.C.
3. VARITECH, C/O MIN-EN LABS.

We hereby certify the following Assay of 30 CORE samples
submitted AUG-16-91 by P. PETO/E. MCCROSSAN.

Sample Number	CU %	TOTAL MO AS MOS2%
59101	.024	.026
59102	.175	.028
59103	.022	.033
59104	.022	.024
59105	.018	.019
59106	.010	.018
59107	.029	.043
59108	.394	.031
59109	.158	.028
59110	.212	.026
59111	.167	.027
59112	.054	.028
59113	.263	.018
59114	.403	.020
59115	.442	.028
59116	.498	.013
59117	.579	.029
59118	.960	.011
59119	1.224	.015
59120	1.271	.013
59121	.557	.013
59122	.802	.020
59123	.873	.018
59124	.695	.019
59125	.782	.017
59126	1.101	.022
59127	.563	.021
59128	.440	.028
59129	.392	.023
59130	.514	.034

Certified by _____



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TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0460-RA2

Company: **VARITECH**
Project: **BIG ONION**
Attn: **ED MCCROSSAN/PETER PETO**

Date: **AUG-23-91**

Copy 1. VARITECH, VANCOUVER, B.C.
2. VARITECH, SMITHERS, B.C.
3. VARITECH, C/O MIN-EN LABS.

We hereby certify the following Assay of 10 CORE samples
submitted AUG-16-91 by P. PETO/E. MCCROSSAN.

Sample Number	CU %	TOTAL MO AS MOS2%
59131	.433	.021
59132	.531	.032
59133	.452	.021
59134	.652	.035
59135	.651	.022
59136	.353	.032
59137	.432	.029
59138	.344	.031
59139	.408	.030
59140	.570	.032

Certified by _____



MIN-EN LABORATORIES
 (DIVISION OF ASSAYERS CORP.)

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VANCOUVER OFFICE:
 705 WEST 15TH STREET
 NORTH VANCOUVER, B.C. CANADA V7M 1T2
 TELEPHONE (604) 980-5814 OR (604) 988-4524
 FAX (604) 980-9621

SMITHERS LAB.:
 3176 TATLOW ROAD
 SMITHERS, B.C. CANADA V0J 2N0
 TELEPHONE (604) 847-3004
 FAX (604) 847-3005

Assay Certificate

1S-0479-RA1

Company: VARITECH
 Project:
 Attn: E. MCCROSSAN/P. PETO

Date: AUG-23-91
 Copy 1. VARITECH, VANCOUVER, B.C.
 2. VARITECH, SMITHERS, B.C.
 3. VARITECH, C/O MIN-EN LABS.

We hereby certify the following Assay of 30 CORE samples
 submitted AUG-17-91 by E. MCCROSSAN/P. PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
59141	.746	.038
59142	.658	.024
59143	.360	.028
59144	.212	.013
59145	.251	.013
59146	.244	.025
59147	.206	.012
59148	.243	.008
59149	.227	.014
59150	.217	.009
59151	.148	.011
59152	.056	.006
59153	.124	.009
59154	.136	.007
59155	.173	.006
59156	.159	.005
59157	.128	.005
59158	.135	.003
59159	.099	.002
59160	.124	.001
59161	.071	.002
59162	.054	.001
59163	.118	.003
59164	.145	.003
59165	.095	.004
59166	.098	.002
59167	.134	.002
59168	.101	.003
59169	.081	.004
59170	.115	.003

Certified by



MIN-EN LABORATORIES
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31-4

SPECIALISTS IN MINERAL ENVIRONMENTS
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 NORTH VANCOUVER, B.C. CANADA V7M 1T2
 TELEPHONE (604) 980-5814 OR (604) 988-4524
 FAX (604) 980-9621

SMITHERS LAB.:
 3176 TATLOW ROAD
 SMITHERS, B.C. CANADA V0J 2N0
 TELEPHONE (604) 847-3004
 FAX (604) 847-3005

Assay Certificate

1S-0495-RA1

Company: **VARITECH**
 Project:
 Attention: **ED MCCROSSAN/P.PETO**

Date: **AUG-26-91**

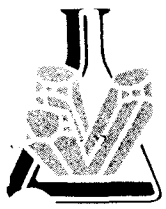
- Copy 1. VARITECH, VANCOUVER, B.C.
 2. VARITECH, C/O SMITHERS EXP.
 3. VARITECH, C/O MIN-EN LABS.

We hereby certify the following Assay of 30 CORE samples submitted AUG-19-91 by PETER PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
59601	.061	.016
9602	.151	.014
59603	.259	.014
59604	.290	.008
9605	.278	.006
59606	.281	.006
59607	.318	.007
9608	.341	.004
59609	.307	.005
59610	.266	.004
59611	.311	.008
59612	.348	.009
9613	.284	.006
9614	.361	.006
59615	.537	.006
9616	.701	.005
59617	.499	.016
59618	.618	.012
9619	.595	.015
9620	.569	.014
59621	.476	.018
9622	.540	.029
59623	.397	.019
59624	.404	.060
9625	.339	.034
59626	.327	.023
9627	.267	.021
9628	.299	.014
59629	.323	.022
79630	.371	.014

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FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0495-RA2

Company: **VARITECH**
Project:
Attn: **ED MCCROSSAN/P. PETO**

Date: **AUG-26-91**

- Copy 1. VARITECH, VANCOUVER, B.C.
2. VARITECH, C/O SMITHERS EXP.
3. VARITECH, C/O MIN-EN LABS.

We hereby certify the following Assay of 29 CORE samples
submitted AUG-19-91 by PETER PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
59631	.302	.023
59632	.278	.018
59633	.234	.009
59634	.269	.007
59635	.192	.010
59636	.202	.019
59637	.220	.014
59638	.225	.015
59639	.146	.013
59640	.118	.015
59641	.145	.021
59642	.162	.013
59643	.157	.012
59644	.594	.021
59645	.367	.016
59646	.132	.042
59647	.072	.023
59648	.058	.023
59649	.061	.012
59650	.059	.023
59651	.090	.004
59652	.030	.002
59653	.005	.001
59654	.007	.001
59655	.003	.001
59656	.009	.002
59657	.012	.001
59658	.008	.001
59659	.005	.001

Certified by _____

MIN-EN LABORATORIES

COMP: VARITECH

PROJ:

ATTN: ED MCCROSSAN/P.PETO

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

(604)980-5814 OR (604)988-4524

FILE NO: 1S-0495-RJ1+2

DATE: 91/08/26

* CORE * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BI PPM	CO PPM	K PPM	MN PPM	NI PPM	PB PPM	SB PPM	TI PPM	ZN PPM	SN PPM	W PPM	AU-FIRE PPB
59601	1.2	9	5	9	1620	237	9	9	1	767	23	1	4	65
59602	1.2	10	4	11	1520	289	9	9	1	605	24	1	4	78
59603	1.2	5	4	15	1270	251	11	6	1	979	22	1	4	62
59604	1.2	10	5	13	1010	237	9	8	1	865	25	1	4	62
59605	1.2	5	8	13	1250	326	8	10	1	574	21	1	3	62
59606	1.2	7	4	14	1150	384	10	13	1	504	21	1	4	68
59607	1.1	10	4	14	1010	386	12	9	1	496	19	1	3	110
59608	.8	11	3	17	740	305	13	6	2	508	26	1	4	80
59609	1.1	11	3	13	1010	328	13	11	2	378	18	1	4	75
59610	.8	10	1	10	1010	254	11	8	1	259	17	1	4	60
59611	1.3	13	1	11	1220	434	13	9	2	239	22	1	4	57
59612	1.4	9	2	11	1190	425	13	7	2	523	19	1	4	81
59613	1.1	8	1	11	1000	292	12	9	1	257	19	1	3	77
59614	1.4	12	3	14	860	339	11	9	2	538	17	1	3	118
59615	1.3	12	1	11	830	269	15	11	4	76	16	1	4	152
59616	1.5	15	1	18	1220	268	16	16	6	12	20	1	5	172
59617	1.7	19	1	16	1200	354	11	11	5	7	18	1	4	128
59618	1.9	14	1	11	1220	277	11	11	6	9	10	1	4	305
59619	1.5	15	2	19	1140	340	15	11	5	10	19	1	4	159
59620	1.4	10	2	13	1080	181	6	9	6	3	11	1	4	118
59621	1.9	8	1	12	1100	73	6	5	5	2	6	1	4	83
59622	1.7	11	1	15	1490	76	8	8	6	3	6	1	5	60
59623	1.7	12	1	16	1170	193	8	9	4	5	13	1	3	61
59624	1.1	8	1	17	1220	73	8	6	5	2	4	1	3	68
59625	.9	10	1	14	1300	73	6	4	4	3	3	1	3	39
59626	1.0	11	1	17	1640	63	8	7	4	3	5	1	5	24
59627	1.0	12	1	14	2040	192	7	7	3	4	6	1	5	27
59628	.9	17	1	20	2090	131	7	7	5	5	7	1	5	21
59629	.9	11	1	19	1690	52	6	5	4	4	4	1	4	35
59630	.9	15	1	38	1600	49	7	5	4	4	4	1	4	40
59631	.8	3	1	23	2130	54	5	10	2	10	6	1	3	50
59632	1.0	6	1	19	2880	254	6	7	1	21	10	1	3	42
59633	1.1	5	1	15	2660	162	5	6	2	17	6	1	3	22
59634	1.0	7	1	15	2810	178	7	8	2	15	4	1	3	26
59635	1.0	5	1	18	2530	136	3	7	2	13	6	1	2	21
59636	1.0	10	1	20	1820	80	5	8	2	8	4	1	2	17
59637	.7	1	1	23	1850	20	3	4	1	8	2	1	2	8
59638	1.2	2	1	27	1820	35	4	7	2	6	3	1	2	7
59639	.9	3	1	23	1610	57	2	5	1	5	1	1	1	5
59640	1.2	3	1	14	1500	68	2	5	1	5	1	1	2	7
59641	.8	2	1	15	1940	18	2	5	1	7	1	1	2	4
59642	1.2	4	1	23	2480	52	2	7	1	11	1	1	2	2
59643	1.3	3	2	23	2820	100	3	6	1	14	2	1	2	3
59644	1.9	6	1	33	4110	356	30	14	3	87	19	1	7	90
59645	1.3	11	1	25	2860	356	26	10	2	117	15	1	6	37
59646	1.1	6	1	23	2920	90	3	9	1	16	2	1	3	6
59647	.7	8	1	11	2560	70	1	8	1	17	2	1	2	1
59648	.2	2	1	14	2430	47	3	6	2	15	3	1	3	2
59649	.3	4	1	14	2650	36	2	5	1	15	3	1	2	1
59650	.3	5	1	14	2640	41	2	5	1	18	3	1	2	1
59651	.1	1	2	23	2400	316	28	8	1	159	14	1	8	2
59652	.1	5	1	8	2130	158	6	6	1	55	6	1	4	1
59653	.3	5	1	3	2270	100	1	5	1	15	4	1	1	1
59654	.4	4	1	2	2360	123	1	6	1	16	5	1	2	1
59655	.1	1	1	4	2090	92	1	6	1	13	2	1	1	2
59656	.1	21	1	5	2320	85	1	10	6	20	9	1	2	3
59657	.4	10	2	4	2170	212	1	9	1	22	17	1	3	16
59658	.6	13	2	3	1990	339	1	12	2	20	37	1	3	3
59659	.4	9	2	3	1930	229	1	9	1	21	15	1	3	1



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NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0535-RA1

Company: **VARITECH**
Project:
Attn: ED MCCROSSAN/PETER PETO

Date: **AUG-29-91**

- Copy 1. VARITECH, VANCOUVER, B.C.
2. VARITECH, SMITHERS, B.C.
3. VARITECH, C/O MIN-EN LABS.

We hereby certify the following Assay of 30 CORE samples submitted AUG-22-91 by PETER PETO.

Sample Number	TOTAL CU %	TOTAL MO AS MOS2%
59701	1.570	.024
59702	1.349	.036
59703	.955	.069
59704	.457	.020
59705	.459	.018
59706	.453	.014
59707	.430	.017
59708	.541	.043
59709	.401	.018
59710	.450	.025
59711	.289	.012
59712	.242	.001
59713	.156	.003
59714	.110	.018
59715	.155	.004
59716	.131	.003
59717	.299	.002
59718	.696	.005
59719	.643	.007
59720	.550	.019
59721	.158	.004
59722	.358	.004
59723	.148	.004
59724	.261	.003
59725	.123	.001
59726	.104	.001
59727	.074	.001
59728	.166	.001
59729	.092	.002
59730	.085	.004

Certified by _____



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SMITHERS LAB.:
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SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0535-RA2

Company: **VARITECH**
Project:
Attn: ED MCCROSSAN/PETER PETO

Date: **AUG-29-91**

- Copy 1. VARITECH, VANCOUVER, B.C.
2. VARITECH, SMITHERS, B.C.
3. VARITECH, C/O MIN-EN LABS.

We hereby certify the following Assay of 16 CORE samples
submitted AUG-22-91 by PETER PETO.

Sample Number	TOTAL CU %	TOTAL MO AS MOS2%
59731	.294	.002
59732	.207	.003
59733	.268	.011
59734	.098	.001
59735	.073	.001
59736	.128	.001
59737	.060	.003
59738	.069	.002
59739	.156	.003
59740	.194	.002
59741	.127	.001
59742	.075	.002
59743	.063	.002
59744	.148	.002
59745	.064	.002
59746	.104	.001

Certified by _____



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31-4

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FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0556-RA1

Company: **VARITECH**
Project:
Attn: ED MCCROSSAN/PETER PETO

Date: **AUG-31-91**
Copy 1. VARITECH, VANCOUVER, B.C.
2. VARITECH, SMITHERS, B.C.

We hereby certify the following Assay of 30 CORE samples
submitted AUG-24-91 by PETER PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
59251	.082	.011
59252	.287	.014
59253	.209	.025
59254	.310	.029
59255	.371	.023
59256	.420	.024
59257	.484	.152
59258	.203	.046
59259	.164	.025
59260	.273	.019
59261	.230	.017
59262	.296	.022
59263	.070	.016
59264	.078	.014
59265	.079	.025
59266	.387	.007
59267	.670	.010
59268	.732	.005
59269	.241	.005
59270	.154	.010
59271	.230	.007
59272	.064	.003
59273	.239	.008
59274	.085	.005
59275	.086	.009
59276	.084	.003
59277	.171	.008
59278	.191	.004
59279	.041	.002
59280	.043	.003

Certified by _____

[Handwritten Signature]



**MINERAL
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(DIVISION OF ASSAYERS CORP.)

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SMITHERS LAB.:
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SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0556-RA2

Company: **VARITECH**
Project:
Attn: ED MCCROSSAN/PETER PETO

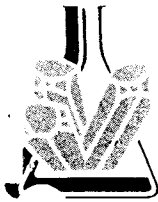
Date: **AUG-31-91**
Copy 1. VARITECH, VANCOUVER, B.C.
2. VARITECH, SMITHERS, B.C.

We hereby certify the following Assay of 13 CORE samples
submitted AUG-24-91 by PETER PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
59281	.125	.007
59282	.062	.005
59283	.040	.004
59284	.091	.003
59285	.039	.003
59286	.036	.002
59201	.333	.004
59202	.310	.004
59203	.376	.008
59204	.388	.023
59205	.624	.017
59206	.584	.006
59207	.752	.008

91-56

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MIN-EN LABORATORIES
(DIVISION OF ASSAYERS CORP.)

91-6

SPECIALISTS IN MINERAL ENVIRONMENTS
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NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0577-RA1

Company: **VARITECH**
Subject:
Attn: **E.MCCROSSAN/P.PETO**

Date: **SEP-05-91**

Copy 1. VARITECH, VANCOUVER, B.C.
2. VARITECH, C/O SMITHERS EXP.

I hereby certify the following Assay of 30 CORE samples
submitted AUG-26-91 by P.PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
59287	.060	.007
7288	.067	.005
59289	.045	.008
59290	.037	.007
7291	.043	.005
59292	.030	.006
7293	.031	.006
7294	.062	.005
59295	.081	.004
59296	.052	.005
7297	.039	.004
59298	.035	.005
7299	.052	.007
7300	.027	.006
59301	.115	.003
7302	.091	.005
59303	.027	.010
59304	.021	.008
7305	.052	.006
7306	.036	.007
7307	.067	.004
7308	.278	.011
59309	.128	.017
59310	.069	.006
7311	.169	.013
59312	.121	.009
9313	.156	.012
9314	.046	.006
59315	.024	.006
9316	.040	.006

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SMITHERS LAB.:
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SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0577-RA2

Company: VARITECH
Project:
Attn: E.MCCROSSAN/P.PETO

Date: SEP-05-91

Copy 1. VARITECH, VANCOUVER, B.C.
2. VARITECH, C/O SMITHERS EXP.

I hereby certify the following Assay of 6 CORE samples
submitted AUG-26-91 by P.PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
59317	.051	.008
9318	.045	.007
59319	.046	.008
59320	.050	.008
9321	.048	.004
59322	.099	.007

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TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0577-RA3

Company: **VARITECH**
Project:
Attn: **ED MCCROSSAN/P.PETO**

Date: **SEP-05-91**
Copy 1. VARITECH, VANCOUVER, B.C.
2. VARITECH, C/O SMITHERS EXP.

*I hereby certify the following Assay of 1 ROCK samples
submitted AUG-26-91 by P.PETO.*

Sample Number	CU %	TOTAL MO AS MOS2%
7560	.038	.004

Certified by _____

MIN-EN LABORATORIES

COMP: VARITECH

PROJ:

ATTN: ED MCCROSSAN/PETER PETO

MIN-EN LABS — ICP REPORT
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
 (604)980-5814 OR (604)988-4524

FILE NO: 1S-0556-RJ1+2

DATE: 91/09/02

* CORE * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BI PPM	CO PPM	CU PPM	K PPM	MN PPM	MO PPM	NI PPM	PB PPM	TI PPM	ZN PPM	SN PPM	W PPM	AU-FIRE PPB
59251	.5	23	1	4	463	1380	37	38	5	8	10	8	1	4	2
59252	.3	9	1	6	2606	1740	33	72	6	6	17	14	1	4	4
59253	.2	9	1	19	2066	2520	34	145	6	8	19	16	1	4	8
59254	.4	7	2	12	3027	2270	46	149	7	9	17	14	1	3	7
59255	.4	11	2	14	3449	3160	47	117	10	8	27	15	1	7	26
59256	.6	8	2	13	4075	1450	35	151	6	9	15	15	1	2	22
59257	.6	14	2	14	4493	2700	52	913	9	12	21	14	1	5	2
59258	.3	7	2	11	1846	2290	118	231	7	10	17	13	1	5	7
59259	.4	9	2	18	1688	2620	208	130	7	15	20	28	1	4	19
59260	.6	28	3	66	2766	2070	176	111	11	17	19	43	2	3	14
59261	.4	7	2	32	2460	2700	268	90	7	9	18	22	1	5	10
59262	.7	12	2	24	2436	1990	299	84	15	11	39	27	1	4	25
59263	.3	3	2	18	734	2250	103	80	5	6	14	5	1	3	2
59264	.3	4	2	18	772	2960	142	78	6	4	16	5	1	4	1
59265	.4	5	2	12	725	1900	155	114	5	5	15	6	1	2	1
59266	.9	14	2	29	3882	2680	462	45	42	12	123	35	1	7	42
59267	1.6	2	4	50	6147	3050	477	32	76	17	475	30	1	8	55
59268	2.3	1	7	61	6826	1670	364	8	52	13	1599	35	1	6	101
59269	.5	1	6	36	2358	3040	383	15	11	9	1237	29	1	6	18
59270	.7	5	5	26	1488	1710	207	45	9	7	838	19	1	4	10
59271	.8	1	6	39	2095	2120	397	23	15	9	1187	29	1	8	2
59272	.6	1	10	26	606	2160	651	1	13	7	2437	35	1	7	1
59273	.9	1	6	51	2361	2820	327	37	10	9	1327	28	1	5	40
59274	.6	5	2	21	814	2090	304	21	4	8	227	19	1	5	3
59275	.4	15	1	31	847	2340	85	46	6	6	64	11	1	6	1
59276	.9	1	8	30	750	2060	345	6	13	8	1723	19	1	6	3
59277	.9	4	6	31	1641	2260	340	34	13	8	991	21	1	6	33
59278	.5	1	5	54	1738	1830	525	12	16	9	668	31	1	7	2
59279	.1	1	11	21	364	1690	593	1	1	4	2288	28	1	7	1
59280	.1	1	4	19	403	2350	780	1	2	7	316	30	1	5	2
59281	.3	1	6	36	1129	1310	613	14	1	5	1592	27	1	7	3
59282	.1	1	6	24	598	2120	631	2	1	2	1420	30	1	6	4
59283	.5	1	9	21	377	2200	822	1	1	1	1981	34	2	6	2
59284	.5	1	8	28	806	1360	591	1	7	16	1934	43	2	8	1
59285	.5	1	12	26	384	1360	531	1	1	1	2840	25	2	6	1
59286	.8	1	9	26	350	3520	280	7	1	2	2011	30	1	4	3
59201	1.1	10	1	12	2995	3110	129	16	9	12	96	18	1	5	18
59202	.7	13	1	11	3101	3320	40	18	6	9	25	7	1	5	17
59203	1.1	9	1	15	3847	2910	44	44	7	10	19	12	1	3	39
59204	.8	11	1	10	3895	3000	28	124	7	10	17	12	1	4	22
59205	1.3	4	1	27	6259	2680	448	93	55	10	203	38	1	8	75
59206	1.0	1	1	27	5614	2480	664	32	76	1	383	40	1	9	72
59207	.9	1	1	28	7754	2920	436	52	86	8	243	38	1	10	41



MIN-EN LABORATORIES
 (DIVISION OF ASSAYERS CORP.)

91-7

SPECIALISTS IN MINERAL ENVIRONMENTS
 CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
 705 WEST 15TH STREET
 NORTH VANCOUVER, B.C. CANADA V7M 1T2
 TELEPHONE (604) 980-5814 OR (604) 988-4524
 FAX (604) 980-9621

SMITHERS LAB.:
 3176 TATLOW ROAD
 SMITHERS, B.C. CANADA V0J 2N0
 TELEPHONE (604) 847-3004
 FAX (604) 847-3005

Assay Certificate

1S-0603-RA1

Company: **VARITECH**
 Project: **BIG ONION**
 Attn: **E.MCCROSSAN/P.PETO**

Date: **SEP-05-91**

Copy 1. VARITECH, VANCOUVER, B.C.
 2. VARITECH, C/O SMITHERS EXP.

I hereby certify the following Assay of 30 CORE samples submitted AUG-28-91 by P.PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
59801	.039	.017
7802	.046	.029
59803	.077	.021
59804	.444	.041
7805	.550	.022
59806	.525	.022
7807	.480	.016
7808	.214	.017
59809	.397	.027
59810	.322	.018
7811	.302	.022
59812	.248	.035
7813	.253	.032
7814	.346	.022
59815	.319	.038
7816	.302	.016
59817	.426	.004
59818	.104	.012
7819	.426	.042
7820	.431	.016
7821	.615	.012
7822	.533	.014
59823	.171	.014
59824	.425	.016
7825	.328	.005
59826	.359	.015
7827	.387	.007
7828	.348	.011
59829	.231	.011
7830	.215	.001

Certified by _____

MIN-EN LABORATORIES



MIN-EN LABORATORIES
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 NORTH VANCOUVER, B.C. CANADA V7M 1T2
 TELEPHONE (604) 980-5814 OR (604) 988-4524
 FAX (604) 980-9621

SMITHERS LAB.:
 3176 TATLOW ROAD
 SMITHERS, B.C. CANADA V0J 2N0
 TELEPHONE (604) 847-3004
 FAX (604) 847-3005

Assay Certificate

1S-0603-RA2

Company: **VARITECH**
 Project: **BIG ONION**
 Attn: **E.MCCROSSAN/P.PETO**

Date: **SEP-05-91**

Copy 1. VARITECH, VANCOUVER, B.C.
 2. VARITECH, C/O SMITHERS EXP.

We hereby certify the following Assay of 14 CORE samples
 submitted AUG-28-91 by P.PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
59831	.130	.015
59832	.065	.010
59833	.065	.014
59834	.100	.018
59835	.151	.017
59836	.353	.019
59837	.296	.019
59838	.489	.025
59839	.147	.014
59840	.127	.012
59841	.286	.011
59842	.594	.030
59843	.436	.009
59844	.104	.010

Certified by _____

MIN-EN LABORATORIES



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(DIVISION OF ASSAYERS CORP.)

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VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0639-RA1

Company: **VARITECH**
Project:
Client: **ED MCCROSSAN/P.PETO**

Date: **SEP-11-91**

- Copy 1. VARITECH, VANCOUVER, B.C.
2. VARITECH, C/O SMITHERS EXP.
3. VARITECH, C/O MIN-EN LABS.

I hereby certify the following Assay of 28 CORE samples
submitted AUG-31-91 by P.PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
59845	.239	.006
7846	.429	.012
59847	.453	.023
59848	.216	.007
7849	.179	.015
59850	.220	.009
59851	.260	.007
7852	.526	.012
59853	.309	.009
59854	.146	.008
59855	.165	.011
59856	.352	.006
7857	.327	.005
7858	.233	.010
59859	.163	.004
7860	.196	.005
59861	.218	.015
59862	.190	.008
7863	.127	.005
7864	.158	.005
7865	.099	.010
7866	.280	.015
59867	.200	.015
59868	.138	.012
7869	.078	.007
59870	.201	.005
7871	.114	.005
7872	.086	.004

Certified by

MIN-EN LABORATORIES

COMP: VARITECH
 PROJ: BIG ONION
 ATTN: E.MCROSSAN/P.PETO

MIN-EN LABS — ICP REPORT
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
 (604)980-5814 OR (604)988-4524

FILE NO: 1S-0603-RJ1+2
 DATE: 9/09/02
 * CORE * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BI PPM	CO PPM	CU PPM	K PPM	MN PPM	MO PPM	NI PPM	PB PPM	TI PPM	ZN PPM	SN PPM	W PPM	AU-FIRE PPB
59801	.5	20	1	4	403	2840	37	104	1	23	19	80	1	3	31
59802	.7	18	1	5	468	2550	15	234	1	32	11	13	1	2	23
59803	.7	32	1	7	845	3110	13	150	2	33	16	25	1	2	20
59804	1.3	86	1	24	4732	3000	28	268	4	30	13	64	1	3	27
59805	.9	13	1	15	5591	3590	12	153	5	25	16	14	1	3	35
59806	1.0	9	1	13	5370	4060	12	369	8	20	17	11	1	4	23
59807	1.0	6	1	11	5099	3590	11	100	6	18	17	9	1	4	20
59808	.7	7	1	37	2215	2310	104	81	3	12	25	7	1	3	28
59809	1.0	5	1	12	4029	3670	27	157	4	23	17	10	1	3	30
59810	.8	7	1	12	3247	4120	88	109	5	19	21	12	1	3	27
59811	1.1	8	1	8	3172	3870	26	137	5	29	23	12	1	4	18
59812	.8	8	1	10	2663	3840	20	261	3	19	22	9	1	3	20
59813	1.0	6	1	14	2672	4020	195	201	4	16	23	17	1	3	23
59814	1.5	8	1	16	3494	3870	248	122	4	21	24	22	1	3	39
59815	1.4	9	1	30	3288	4070	744	232	7	20	28	40	1	3	37
59816	.5	1	1	35	2944	3050	837	67	13	12	135	56	1	4	51
59817	.8	1	1	56	4630	4080	702	2	13	1	1364	43	2	8	20
59818	.9	1	5	24	1106	2750	729	35	1	5	1730	67	2	6	18
59819	1.2	1	1	57	4472	1980	683	197	22	1	1552	44	2	6	51
59820	.8	1	1	77	4372	3600	556	50	49	9	808	65	2	5	75
59821	1.3	1	1	64	5953	5130	534	38	38	7	766	52	1	7	81
59822	2.3	1	1	47	5405	3560	445	34	37	1	2990	34	3	7	67
59823	1.4	1	6	23	1743	3220	662	53	7	13	1959	61	2	6	38
59824	1.5	1	1	42	4403	2840	591	63	18	5	545	49	1	5	21
59825	1.8	1	2	30	3364	2480	603	2	13	1	2115	27	2	6	40
59826	1.9	1	3	37	3630	2580	457	45	6	1	2689	24	3	7	37
59827	1.5	1	2	47	3950	3900	255	13	7	13	1782	22	2	3	21
59828	1.8	1	6	29	3405	2850	233	23	1	12	2302	18	2	2	40
59829	1.0	3	2	25	2290	3070	235	44	1	11	711	20	1	3	20
59830	.9	11	1	24	2017	3070	229	43	6	16	59	22	1	2	27
59831	1.0	25	1	18	1366	2520	175	52	5	20	18	11	1	3	22
59832	.8	58	1	23	679	2090	133	32	1	16	19	6	1	2	21
59833	.5	5	1	22	674	2080	124	61	1	17	8	30	1	2	1
59834	.8	5	1	18	1053	2490	136	77	4	14	19	9	1	2	1
59835	1.4	3	1	21	1578	3150	262	65	5	15	72	21	1	3	3
59836	2.1	7	1	43	3482	3410	267	57	5	19	43	17	1	3	37
59837	1.3	5	1	39	2745	2970	226	71	4	19	33	16	1	3	21
59838	2.1	10	1	12	5408	3580	12	156	8	29	14	18	1	4	27
59839	1.1	6	1	22	1661	3190	244	64	8	17	30	15	1	3	7
59840	1.7	1	7	25	1405	4520	372	33	36	3	1707	23	3	6	23
59841	1.9	1	1	26	2666	3500	418	18	60	1	957	33	2	7	30
59842	2.2	1	2	35	4234	3500	616	6	70	1	2943	35	4	9	63
59843	1.7	1	1	46	5810	2800	379	86	67	10	313	31	2	6	60
59844	1.8	1	1	46	5743	2750	379	76	65	13	301	30	2	5	37



**MIN
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LABORATORIES**
(DIVISION OF ASSAYERS CORP.)

51-8.

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0644-RA1

Company: VARITECH
Project:
Attn: ED MCCROSSAN/PETER PETO

Date: SEP-11-91
Copy 1. VARITECH, VANCOUVER, B.C.
2. VARITECH, SMITHERS, B.C.

We hereby certify the following Assay of 30 CORE samples submitted SEP-01-91 by PETER PETO.

Sample Number	CU %	TOTAL MD AS MOS2%
59401	.018	.011
59402	.020	.012
59403	.159	.019
59404	.424	.014
59405	1.016	.018
59406	.337	.004
59407	.513	.008
59408	.305	.007
59409	.131	.004
59410	.153	.004
59411	.194	.005
59412	.381	.006
59413	.203	.009
59414	.204	.003
59415	.124	.029
59416	.133	.042
59417	.168	.005
59418	.124	.003
59419	.131	.009
59420	.108	.012
59421	.080	.010
59422	.035	.009
59423	.311	.015
59424	.505	.005
59425	.241	.007
59426	.209	.009
59427	.334	.006
59428	.345	.017
59429	.235	.017
59430	.299	.009

Certified by



MIN-EN LABORATORIES
(DIVISION OF ASSAYERS CORP.)

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0644-RA2

Company: **VARITECH**
Project:
Attn: ED MCCROSSAN/PETER PETO

Date: **SEP-11-91**
Copy 1. VARITECH, VANCOUVER, B.C.
2. VARITECH, SMITHERS, B.C.

We hereby certify the following Assay of 23 CORE samples
submitted SEP-01-91 by PETER PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
59431	.231	.007
59432	.872	.014
59433	.266	.014
59434	.221	.013
59435	.274	.009
59436	.369	.013
59437	.734	.026
59438	.121	.027
59439	.224	.023
59440	.296	.033
59441	.145	.025
59442	.213	.030
59443	.154	.017
59444	.108	.036
59445	.116	.006
59446	.164	.007
59447	.161	.007
59448	.152	.007
59449	.143	.004
59450	.096	.003
59451	.205	.004
59452	.517	.017
59453	.436	.017

Certified by _____



MIN-EN LABORATORIES
(DIVISION OF ASSAYERS CORP.)

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

1S-0663-RA1

Company: **VARITECH**
Project:
Attn: **ED MCCROSSAN/PETER PETO**

Date: **SEP-11-91**
Copy 1. VARITECH, VANCOUVER, B.C.
2. VARITECH, SMITHERS, B.C.

We hereby certify the following Assay of 21 CORE samples submitted SEP-03-91 by PETER PETO.

Sample Number	CU %	TOTAL MO AS MOS2%
59454	.196	.006
59455	.327	.019
59456	.199	.008
59457	.813	.007
59458	.407	.013
59459	.398	.015
59460	.161	.033
59461	.136	.010
59462	.355	.004
59463	.218	.004
59464	.322	.008
59465	.197	.006
59466	.072	.003
59467	.095	.004
59468	.076	.005
59469	.122	.007
59470	.097	.005
59471	.092	.003
59472	.101	.003
59473	.136	.004
59474	.121	.002

Certified by _____

COMP: VARITECH

MIN-EN LABS — ICP REPORT

FILE NO: 1S-0644-RJ1+2

PROJ:

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

DATE: 91/09/11

ATTN: ED MCCROSSAN/PETER PETO

(604)980-5814 OR (604)988-4524

* CORE * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BI PPM	CO PPM	K PPM	MN PPM	NI PPM	PB PPM	TI PPM	ZN PPM	SN PPM	W PPM	AU-FIRE PPB
59401	1.0	62	11	4	2280	154	6	13	184	11	1	4	4
59402	.9	42	6	4	2370	18	1	11	18	5	1	3	2
59403	.9	36	6	13	3800	26	3	11	25	12	1	5	3
59404	.9	26	9	16	3490	24	7	11	35	16	1	4	5
59405	1.4	26	19	19	4550	165	11	24	734	21	2	7	23
59406	1.3	24	14	21	2460	549	17	16	2139	48	4	9	16
59407	1.3	20	12	17	2660	307	15	15	1569	25	2	7	5
59408	1.0	20	11	20	2750	438	22	16	1604	40	3	8	2
59409	1.2	17	13	15	3070	435	8	12	2173	27	3	7	1
59410	.1	9	8	27	2510	599	11	13	1203	58	2	8	3
59411	.8	7	17	28	2020	651	10	14	2774	42	4	10	4
59412	1.1	4	18	51	2140	662	32	15	2766	54	3	9	15
59413	1.2	9	13	24	2030	558	10	9	2244	33	3	8	6
59414	1.3	7	12	39	2060	424	22	9	2003	28	2	6	17
59415	1.3	15	12	25	1790	478	19	11	2040	30	3	8	2
59416	1.1	12	9	24	1530	644	16	9	1777	27	3	8	4
59417	.5	16	4	28	1690	604	17	14	521	42	1	6	1
59418	.2	9	1	34	2610	456	55	11	280	20	1	7	1
59419	.3	12	3	44	3110	390	20	12	51	18	1	4	2
59420	.9	10	2	37	3060	222	9	11	30	10	1	4	22
59421	1.0	9	2	11	3410	249	4	4	23	4	1	4	3
59422	.7	7	1	8	3790	247	2	4	15	2	1	4	4
59423	1.8	18	4	23	3590	289	12	13	19	29	1	4	5
59424	1.2	15	6	29	5190	390	18	16	72	16	1	4	30
59425	1.1	18	2	19	4430	211	7	13	62	11	1	4	32
59426	1.0	10	1	18	3420	168	4	9	36	17	1	4	2
59427	1.3	17	9	20	4030	265	7	12	264	30	1	4	42
59428	1.4	12	4	22	3870	316	6	13	63	22	1	4	12
59429	1.6	4	4	20	2210	151	6	5	16	10	1	3	4
59430	1.3	14	7	34	1920	238	25	13	558	19	1	5	3
59431	1.5	89	16	37	1880	367	54	13	2380	26	4	9	8
59432	1.0	26	17	56	2210	255	172	20	1518	24	2	12	42
59433	.1	12	9	61	2780	387	69	12	622	30	1	10	21
59434	.8	14	11	45	2770	527	53	15	1358	26	2	9	2
59435	1.3	27	11	32	3300	332	52	22	1168	23	1	8	1
59436	1.1	3	18	64	2680	328	82	9	2970	25	2	9	5
59437	1.2	1	19	86	2880	376	98	13	2695	28	2	11	40
59438	1.3	8	14	21	3140	287	26	10	2504	16	2	7	6
59439	.9	14	7	18	3210	219	6	15	445	13	1	3	3
59440	1.6	13	6	17	3930	266	2	17	81	26	1	3	7
59441	.6	15	5	21	2710	201	3	17	90	13	1	3	4
59442	.7	13	6	32	3030	210	3	17	60	14	1	3	2
59443	.5	13	5	45	2320	159	2	17	42	13	1	2	4
59444	.4	8	4	38	2280	182	1	11	43	14	1	2	2
59445	.3	7	5	29	2720	320	1	11	64	18	1	2	6
59446	1.0	8	14	26	2540	246	1	12	1973	26	1	3	7
59447	1.3	6	16	37	2270	227	1	10	2707	26	2	4	4
59448	1.2	2	20	33	2330	274	1	14	2513	14	2	3	5
59449	1.0	1	17	36	1810	176	1	12	2769	12	2	4	2
59450	1.2	3	17	37	2490	175	6	11	2965	12	2	3	1
59451	2.0	2	21	27	2630	320	47	7	3605	25	3	10	37
59452	1.2	3	17	65	1910	116	39	13	2289	12	2	5	20
59453	2.2	1	24	51	3060	237	24	6	4002	19	3	7	30

DIAMOND DRILL LOG

hole number DDH 91-5
page number 1-7

exploration company/owner/optionee VARITECH	map ref # 934/15W	claim # JF (31)	bearing from true north 0	dip of hole at collar: -90°	logged by P. Peto & T. Armstrong	other information HQ CORE See PDH 75-15
property name BIG ONION	location (twp, lot, con, lat, long) 34N 2+00 E	collar elevation 3850'	at 580' az: 86° dip:	at	date logged 20 Aug 91	
drilling company J. T. THOMAS	date hole started 19 August 1991	date hole completed 21 Aug 91	depth of hole 580'	at	date logged 22 Aug 91	% Recovery 98.1%

interval from	to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from	to	sample length	assays					
											%Cu	%H ₂ S	Ag ppm	Au ppb		
0	120				<i>felsite</i> CASING (overburden & regolith) - probably missing 40 feet of supergene zone & 80 ft of oxide zone			-	-	-						
120	130	QP	Ar	?	Speckled grey, f.s.; Qtz, py, porphyry; highly fractured/shattered → core like gravel; fault @ 123' & 129'; green-grey volcanic (6") near top of interval; CC dominant sulphide (>8% of rock), diss.; cp & py, diss. & frac fill; abundant cp & tarnished cpy infilling lenticular pores (dissolved fractures?) in volcanic. 60% recovery	>10	59701	120	130	10	1.57	0.024	2.6	157		
130	140	QP	Ar	50	Speckled blue grey QP, as above, (specks of cc.); highly fractured/shattered; fault @ 138, 2 qtz vltz; CC diss & frac fill, cpy & py diss frac fill, vltz; tr. moly. 60% recovery	>10	59702	130	140	10	1.35	0.036	2.9	85		
140	150	QP	Ar	50	Grey, less speckled QP as above; fracturing decreases through interval, increased f ₀ /i → sericite abundant locally; several qtz veins; some fractures limonitic; CC diss & vltz; cp & py diss, frac fill; vltz; moly, ↑ increased abundance on slips ± tr disseminations. 90% recovery	>8	59703	140	150	10	0.96	0.069	2.4	47		
150	160	QP	Ar	50	Grey QP as above; fractured/foliated; abundant sericite & qtz veins; limonitic fractures; fault @ 169; CC locally abundant → diss, vltz; cp & py & moly, as above. 95% recovery.	5	59704	150	160	10	0.46	0.02	1.1	23		

Core submitted 22 Aug 91 Min - EN

DIAMOND DRILL LOG

Hole number 91-5 Page number 2-7

exploration company/owner/optioneer VARITECH	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%H ₂ O ₂		Ag ppm	Au ppb		
160 170	QP	PH	70	Pale beige-grey w/ dk grey patches & stockwork fracture systems; → silicification; v little clay alteration; abundant limonitic fractures, fault @ 164; QP as above; CC diss. & vlt's → less abundant, cp & py diss; vlt's, frac. fill; → also final infilling in some stockwork silicification vlt's; qtz veins not associated w/ silicification event; K ₂ moly.	1-3	59705	160	170	10	0.46	0.018	1.1	4
170 180	QP	PH	20-70	green fn gr shattered, feldspar & limonite fracture debats, v thin qtz vlt's, chlorite + (qtz) eyes, sericite frac's, ep splashes + iron & py on frac faces, v thin moly slips, chalcocite tarnish, v. fine gr. disseminated py, cps moly.	2	59706	170	180	10	0.45	0.014	2.1	15
180 190	QP	PH	VAR	as above, shattered, dk grey siliceous envelopes on sericite + chlorite + py frac's weak limonite coats, chalcocite grains, sooty cr? slips, diss py, ep cc & moly.	2-3	59707	180	190	10	0.43	0.017	1.6	24
190 200	QP	PH AV	VAR	green fn gr shattered feldspar, moderate phyllic to argillic alt'n drusey qtz vlt's & thin moly selvages sooty & dissim chalcocite, stringer pyrite + sp. brads & v. fine gr. diss pyrite	2-3	59708	190	200	10	0.54	0.043	1.8	16
200 210	QP	PH	50-70	green, shattered, fine gr. qtz vlt's feldspar ent by dk grey siliceous envelopes, chlorite + pyrite, sooty chalcocite, ep fine gr. cps & pyrite disseminated.	2	59709	200	210	10	0.40	0.018	1.5	10

DIAMOND DRILL LOG

Hole number 91-5 Page number 3-7

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:		
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:	date logged	
				at az: dip:		

interval from to	rock type	alteration	foliation core axis to	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%H ₂ O ₂		Ag ppm	Au ppb		
210 220	QP	PH CHR	VAR	grey beige, fngr, shattered felsite limonite fracture coats chalcocite supergene ends hereabouts fract's, softy cc? slips & moly smears drusy Qtz + Sulph vHS, sulphide frac's 218-220' grey limonitic volcanic green	2 cc	59710	210	220	10	0.45	0.025	1.3	21
220 230	Volc	CHL PR	VAR	220-222.8' 225-230' dk grey v. fine gr. shattered, limonitic volcanic septum (Argillite) cut by pyrite frac's, felsite veins thin Qtz + sulph vHS. propylitic	1-2	59711	220	230	10	0.29	0.012	1.4	24
230 240	Volc	CHL PR	VAR	black, v. fine gr, volcanic argillite. limonite frac coats, pyrite fractures dissm py cubes, chalcocite seams	3-4	59712	230	240	10	0.24	0.001	1.0	25
240 250	Volc	PR	VAR	Blk argillite, irregular fractures with limonite or pyrite coats + very fine chalcopyrite, cut by sulphide stringers to 2mm. No visible chalcocite hereabouts. propylitic altn ≡ PR	3-4	29713	240	250	10	0.16	0.003	0.9	12
250 260	Volc QP	PR PH	VAR	light grey fngr, shattered, Qtz eye felsite cut by silicate slips & moly smears, pyrite slip smears, diss py possibly some v. fine gr. chalcocite locally	1-2 cc	29714	250	260	10	0.11	0.018	0.5	2
260 270	QP Volc	PH PR	70 VAR	260-261.5' as above 261.5-270' dk grey green argillite, highly fractured, cut by irregular epidote vHS, bliss & fracture pyrite less abundant than above.	1	29715	260	270	10	0.16	0.004	1.7	4

DIAMOND DRILL LOG

note number 91-5
 page number 5-7

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:		
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:	date logged	

interval from	interval to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from	sample interval to	sample length	assays			
											%Cu	%H ₂ S	Ag ppm	Au ppb
340	350	Volc	Prop	/	340'-341': Pale Grey, v.f.g. → aphanitic felsic dyke, fractured; py vlt's; py → abundant in vlt's; 341'-350': Dark Green-Grey aphanitic Andesite; <1mm relic plag. laths as phenos; moderate to highly fractured; abundant calcite & epidote vlt's; Sulphide → py ± pyh, → whole rk unmagnetic → possibly v.f.g. mag. sulphides in vlt's & diss.; tr. cpy.	5	59723	340	350	10	0.15	0.004	0.4	8
350	360	Volc	Prop	/	DK. Green-Grey Andesite as above; increased fracturing → shattered; ep. & cal. vlt's as above; magnetic; py ± pyh (?) fracs. kill vlt's.	2-5	59724	350	360	10	0.26	0.003	0.1	21
360	370	Volc	Prop	/	DK Green Grey Andesite as above; fractured/shattered; minor chloritic slips; ep. & cal. vlt's; pyrrhotite ± py as v.f.g. diss. & vlt's → actual magnetic xtals; tr. cpy.	2-4	59725	360	370	10	0.12	0.001	0.1	8
370	380	Volc	Prop	/	DK Green-Grey Andesite as above; fractured/shattered; minor chl. slips; ep. & cal. vlt's; pyh & py v.f.g. diss.; vlt's; tr. cpy.	3-5	59726	370	380	10	0.10	0.001	0.1	7
380	390	Volc	Prop	/	DK Grey to Black Andesite as above; fractured/shattered; ep & cal. vlt's; minor chl. slips; weak silicification; pyh & py, diss. & vlt's.		59727	380	390	10	0.07	0.001	0.1	2
390	400	Volc	Prop	/	DK Green-Grey And. as above; fractured/shattered; ep & cal; weak silicification; tr. chl. pyh & py vlt's & diss.; decreasing towards bottom of interval.	2-4	59728	390	400	10	0.17	0.001	0.7	4

DIAMOND DRILL LOG

Hole number **91-5** Page number **6-7**

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		%Cu	%MoS ₂	Ag ppm	Pb ppb
400	410	Volc.	Prop.	/	DK. Green-Grey ANDESITE, as above; moderately fractured/shattered, non-magmatic; ep & cal.; py ± no pyh, diss & vltz.	1-2	59729	400	410	10	0.09	0.002	0.8	1
410	420	Volc	Prop	/	DK Grey And., as above; moderately fractured; ep & cal. as above w/ cal. veins introduced (several); py. diss vltz; tr moly along qtz vltz.	2-3	59730	410	420	10	0.09	0.004	0.8	4
420	430	Volc	Pr	30-80	420-424' grey, fractured, compact siliceous felsitic & pyrite frag's & dissem., cut by qtz + carb. vltz to 2cm	3-4	59731	420	430	10	0.29	0.002	0.4	43
	324-3	QP	Pr		dark green to black, fr. fr. fractured & shattered argillite cut by irregular qtz + carb vltz, sulphide (ep) frags, some ep? Displaces									
430	440	Volc	Pr	VAR	dark, black, shattered pyritic argillite cut by py + pyrrhotite fides to 10mm, siliceous - Hz + epidote + carb frags. dissem pyrite. propylitic alteration minor ep.	5	59732	430	440	10	0.21	0.003	0.3	10
440	450	Volc	Pr	VAR	as above, cut by qtz + epidote + carb vltz & sulphide pyrite + pyrrhotite ± ep fractures	4	59733	440	450	10	0.27	0.011	1.1	15
450	460	Volc	Pr	VAR	Black, shattered propylitic argillite cut by pyrite ± pyrrhotite fractured & py disseminations; epidote + qtz + carb frags	4	59734	450	460	10	0.10	0.001	1.2	15
460	470	Volc	Pr	50-90	as above, shattered propylitic argillite, more epidote development hereabouts, sulph frags	4	59735	460	470	10	0.07	0.001	0.8	2
470	480	Volc	Pr	50-90	propylitic argillite, 14cm epidote seam & 476' sulph frags & epidote selvages. no ep.	3	59736	470	480	10	0.13	0.001	0.4	4

DIAMOND DRILL LOG

note number 91-5 page number 7-7

exploration company/owner/optionee VARITECH	map ref *	claim #	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
							from	to		%Cu	%H ₂ S	Ag ppm	Au ppb
480	490	Volc Prop	✓	Dark Greenish-Grey, v.f.g. to aphanitic, intermediate volcanic; v.f.g. relic plag. laths → locally abundant; has appearance of a tuff; cal. & ep. vlt's → pervasive; non-foliated moderately fractured; py & pyh vlt's to cm wide & disseminations; tr. cpy	1-2	59731	580	490	10	0.06	0.003	0.7	1
490	500	Volc Prop	✓	Dk Greenish-Grey andesitic volcanic as above; alteration & mineralization as above;	1-2	59732	490	500	10	0.07	0.002	1.0	2
500	510	Volc Prop	✓	Dk Greenish-Grey volcanic as above; altn & mineralization as above.	1-2	59733	500	510	10	0.16	0.003	0.6	1
510	520	Volc Prop	✓	Dk Greenish-Grey volcanic as above; altn & mineralization as above;	1-2	59734	510	520	10	0.19	0.002	0.6	1
520	530	Volc Prop	✓	Fault @ 518', 1' cm wide w/ qtz inside. Dk Greenish-Grey volcanic as above; altn as above; py as above → no pyh.	1-2	59735	520	530	10	0.13	0.001	1.2	2
530	540	Volc Prop	✓	As Above; introduction of tr qtz w/ cal. veins; py & pyh as above.	1	59736	530	540	10	0.075	0.002	1.2	1
540	550	Volc Prop	✓	As Above; increased qtz w/ cal veins; vlt's less fractured; py & pyh as above.	1	59737	540	550	10	0.06	0.002	1.7	3
550	560	Volc Prop	✓	As Above; further increase in qtz content to 50% in qtz/carb veins; altn as above; py as above; no pyh; 6" wide shear @ 560 → qtz/carb; 40' to C.A.	1	59738	550	560	10	0.15	0.002	0.9	2
560	570	Volc Prop	✓	As Above; ep & qtz/carb veining as above → zone vein to 3cm wide; py as above.	<1	59739	560	570	10	0.06	0.002	1.2	1
570	580	Volc Prop	✓	As Above; qtz/carb veining to 3cm (3); py as above.	<1	59740	570	580	10	0.10	0.001	1.3	18

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DIAMOND DRILL LOG

Hole number 91-4 Page number 1-9

exploration company/owner/optionee VARITECH	map ref # 93L/15W	claim # JF (131)	bearing from true north 0	dip of hole at collar: -90	logged by P. Peto & T. Armstrong	other information HQ CORE collared near DDH 75-59 & PDH 75-26 Core recovery=98% 3%
property name BIG ONION	location (twp, lot, con, lat, long) 46+00N 6+00W		collar elevation 4400'	at az: dip:	date logged 17 Aug 91	
drilling company J. T. THOMAS	date hole started 16 Aug 91	date hole completed 18 Aug 91	depth of hole 597'	at az: dip:		

interval from	interval to	rock type	alteration	foliation core axis	description	sulphides %	sample number	sample interval from	sample interval to	sample length	assays			
					(colour, grain size, texture, minerals, alteration)						%Cu	%H ₂ S	Ag ppm	Au ppb
10	20	QD	chl.	-	* CASING 0-10 ft (Regolith-QD) Grey w/ rusty orange-red fractures; med. gr; Qtz Diorite; 10% mafics → chl.; oxidized fractures & qb vlt; v. weak foliation, mod. fracturing; vuggy porosity; sulphides Fr. blebs cp; v.f.g. diss. py; One ls. bleb pyrox	<1	59601	10	20	10	0.061	0.016	1.2	65
20	30	QD	chl	45 (?)	Grey QD as above; oxidized fractures; vuggy; Qtz vlt → drusy, rusty; slight increase in sulphides → along drusy vlt; ± v.f.g. diss. py. Fr. anhydrite blebs to 4 mm; fault @ 27'	<1	59602	20	30	10	0.151	0.014	1.2	78
30	40	QD	chl	40-70	speckled green, waxy, lime, medium gr. inequidimensional Qtz diorite, limonitic fracture coats, drusy, Qtz + sulphide vlt. disseminated, frag. cp & py; chlorite + sericite alt. of mafics	1-2	59603	30	40	10	0.259	0.014	1.2	62
40	50	QD	CHL	40-70	as above, drusy, irregular Qtz vlt, limonite clay seams to 10 mm, dissem frag. py cp? shattered interval as above	1	59604	40	50	10	0.29	0.008	1.2	62
50	60	QD	CHL	60-80	dark grey/green, med gr, diorite, limonite coats drusy Qtz + py + cp vlt to 5 mm chlorite slips, chloritic mafics, dissem frag cp? & v. thin sulphide stringers	1	59605	50	60	10	0.278	0.006	1.2	62
60	70	QD	CHL	40-70	blk green, shattered, chloritic Qtz diorite outly drusy, irregular Qtz vlt, v. frag. moly smears, chlorite slips, v. frag. dissem cp & py, weak limonite coats	<1	59606	60	70	10	0.281	0.006	1.2	68

DIAMOND DRILL LOG

note number 91-4
number 2-9

exploration company/owner/optionee	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		%Cu	MoS ₂	Ag ppm	Au ppb
70	80	QD	CHL	0-90	shattered dk green / green speckled Qz Diorite drusy stz + sulph vlt, chlorite slips, v. hard v. thin stz + sulphide frac's, minor diss. v. fr. sulphides	<1	59607	70	80	10	0.318	0.007	1.1	110
80	90	QD	CHL	VAR	shattered, druse / green, med gr. Qz Diorite rusty fractures, clay partings, drusy stz + sulphide vlt, chlorite slips	<1	59608	80	90	10	0.341	0.004	0.8	80
90	100	QD	CHL AV	70-80	dk green, med gr chloritic stz diorite, patchy limonite fractures, chlorite slips rare (stz vlt, epidote? + stz slips, dissem v. fr. pyrite & sp.	1	59609	90	100	10	0.307	0.005	1.1	75
100	110	QD	CHL AV	60-80	grey, more compact, med gr. stz diorite drusy stz vlt, dissem Mn ²⁺ cp. grains v. thin sulphide frac's, dissep 110'	1-2	59610	100	110	10	0.266	0.004	.8	60
110	120	QD	AV CHL	60	grey / green, chloritic, med gr. Qz Diorite stz vlt, chlorite slips, v. fr. gr dissem Mn ²⁺ cp.	<1	59611	110	120	10	0.311	0.008	1.3	57
120	130	QD	AR CHL	45-80	compact, grey / green speckled med gr. Qz Diorite chlorite slips few drusy stz vlt clay rich feldspar alt, intercl. cp seams	1	59612	120	130	10	0.348	0.009	1.4	81
130	140	QD	AR CHL	30-70	gray / green, bleached, med gr. Qz Diorite chlorite / sericite slips, stz + sulph vlt 80° NCA, v. irregular sulphide seams v. thin irregular sulphide fractures	<1	59613	130	140	10	0.284	0.003	1.1	77
140	150	QD	CHL AR	50-70	dark green, bleached stz diorite, plag. porphyry 153-155', moderate argillic alt, dissem Mn & cp, sulph seam to 5mm	1	59614	140	150	10	0.361	0.006	1.4	118

DIAMOND DRILL LOG

hole number 91-4 page number 3-9

exploration company/owner/optionee VARITECH	map ref *	claim #	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%H ₂ S		Ag ppm	Pb ppm		
150 160	QP	Ar	70	160-162' as above 150-160'	1	59615	150	160	10	0.537	0.006	1.3	152
150 160	GP	Ar	60	162-163' clay fault gouge, minor sulphide 163'-168' stz chlorophane porphyry (QP) clay 168-170' felsite dissem ep+py alt	<1			160					
160 170	QP	Ph	20-80	grey, fractured, drusy, fr gr felsite sericite alt, stz vlt, sulphide (pycp?) seams to 5mm, moly vein selvages, disseminated cp	1-2	59616	160	170	10	0.701	0.005	1.5	172
170 180	QP	Ph	50-70	med. gr, fr gr, compact drusy, phyllic felsite, chalcopyrite splashes 182' in stz fr gr dissem cap grains, drusy stz sulphide vlt.	1-2	59617	170	180	10	0.499	0.016	1.7	128
180 190	QP	Ph	10-80	as above clay gouge @ 193' stz sulphide sericite slips, fr gr dissem ep+py	1-2	59618	180	190	10	0.168	0.012	1.9	305
190 200	QP	Ph	35-75	grey, fr gr, drusy felsite, authy stz+py moly top, whole slips, thin sulphide frac's dissem py & cp. & moly?	1-2	59619	190	200	10	0.595	0.015	1.5	159
200 210	QP	Ph	VAR	grey, fractured, fr gr drusy felsite ent fr gr stz + sulphide vlt, limonite sponge chalc on cp in vlt, stz + moly vlt sericite slips, dissem v fr gr moly & p.	1-2	59620	200	210	10	0.569	0.014	1.4	118
210 220	QP	Ph	VAR	grey, fr gr, shattered, drusy felsite limonite coats, chlorite ± moly? slip drusy stz + sulphide vlt, hard, silicified dissem v. fr gr. ep blebs.	1-2	59621	210	220	10	0.476	0.018	1.9	83
220 230	QP	Ph	VAR	as above	1-2	59622	220	230	10	0.540	0.029	1.7	60

DIAMOND DRILL LOG

Hole number 91-4 Page number 4-9

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:		
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:	date logged	
				at az: dip:		

interval from	to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	suphides %	sample number	sample interval from	to	sample length	assays			
											%Cu	%H ₂ O ₂	Ag ppm	Au ppb
230	240	QP	Ph	30	Grey, v.f.g to f.g. felsite, no phenocrysts; numerous qtz vlt's; several anhydrite vlt's; well fractured from 230 to 232; fault @ 237; vuggy porosity; larger qtz vlt's to 2cm wide & drusy; 239-240' - Apatite dyke; cp; frac. fill; lobes, drusy qtz vlt's; py; diss., vlt's; frac. fill. tr. diss. Moly.	>1	59623	230	240	10	0.397	0.019	1.7	61
240	250	QP	Ph	70	Grey felsite as above; qtz & anhydrite ± gyp. vlt's. as above; moderately silicified & sericitized; fault @ 243; py & cp, diss.; vlt's; blebs (cp), fracture fill; tr. diss. mol. & vlt's; Pale limp-green mineral alteration in HCl	>1	59624	240	250	10	0.404	0.06	1.1	68
250	260	QP	Ph	70	Grey felsite porphyry; 1-2mm Qtz eye phenocrysts; foliated & silicified as above; fault @ 252, 258' (sub lithified cataclastic, ~30' to C.A.); qtz, anh., gyp vlt's. as above; sulphides as above.	1	59625	250	260	10	0.339	0.034	1.9	39
270	280	QP	Ph	50	Grey felsite, as above; → introduction of wht. feldspar phenocrysts; sharp decline in # of qtz, anh., gyp, vlt's; less fractured; cp & py diss, frac. fill; blebs (cp.); vlt's; mol. tr. diss & slip plane	1	59627	260	270	10	0.327	0.024	1.0	24
260	270													
260	270	QP	Ph	70	Grey felsite w/ qtz. phenos; qtz, anh., gyp vlt's as above; cp & py; diss, frac. fill; vlt's; mol. diss; slips.		59626	260	270	10	0.267	0.023	1.0	27

invert

Inverted Intervals

DIAMOND DRILL LOG

hole number 91-4
page number 5-9

exploration company/owner/optionee VARITECH	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%H ₂ S		Ag ppm	Au ppb		
280 290	QP	Ph	70	Grey felsite as above; minor qtz vlt's, no gyp. vlt's; minor rusty sections; fault @ 288; cp & py as above; mol. as above.	1	59628	280	290	10	0.299	0.017	0.9	21
290 300	QP	Ph	70	Grey felsite as above; vlt's as above; cp & py as above; mol. increased in v. thin string vlt's & slips; fault @ 295	1	59629	290	300	10	0.323	0.027	0.9	35
300 310	QP	Ph	70	Grey felsite as above; qtz vlt's more prominent; anhydrite occurs as blocky fragments; fault @ 306, 310; cp & py as above; mol. less abundant, tr stringes.	2	59630	300	310	10	0.371	0.014	0.9	40
310 320	QP	Ph	60	Grey felsite as above; qtz vlt's & anhydrite as before; fault @ 314; cp & py as above w/ increased blebs (cp) & veins/frac. fill (cp & py) mol. as above.	2	59631	310	320	10	0.302	0.023	0.8	50
320 330	QP	Ph	60-70	Grey felsite as above; fault @ 329-330; mineralization as above.	2	59632	320	330	10	0.278	0.018	1.0	42
330 340	QP	Ph	60	Grey felsite as above; fault @ 332, 337; sulphides; most py w/ cp ± mol.	2	59633	330	340	10	0.234	0.009	1.1	22
340 350	QP	Ph	45	Grey felsite as above; several drusy qtz veins; 347-350 white cataclasite → less py & cp → more moly; mineralization in felsite as above.	1	59634	340	350	10	0.269	0.007	1.0	26
350 360	QP	Ph	75	Grey felsite as above; drusy qtz veins; sulphides as above;	1	59635	350	360	10	0.192	0.010	1.0	21
360 370	QP	Ph	70	Grey felsite as above; drusy qtz veins; fault @ 361, 362-366, 369-370; cp & py diss. frac fill, blebs (cp); moly on slips & blebs in cataclasites.	2	59636	360	370	10	0.202	0.019	1.0	17

DIAMOND DRILL LOG

Hole number 91-4 Page number 7-9

exploration company/owner/optionee VARITECH	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged 19 Aug	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%H ₂ S		Ag ppm	Pb ppm		
450	460	Volc CHC	50	450-456' dark green, fine gr, sheared, chloritic volcanic, drusy, cavys, dissem. pyrite thin stz vlt.	4-5	59645	450	460	10	0.367	0.016	1.3	37
		QP Ph	50	456'-460' grey fine gr, sheared, felsite fol ~50° NCA, sericite slips, diss pyrite cp.	3								
460	470	QP Ph	40-90	grey fine gr, fractured, sericitic felsite, moly slips on chlorite fractures dissem. pyrite & trace moly.	1-2	59646	460	470	10	0.132	0.042	1.1	6
470	480	QP Ph	VAR	green fine gr, shattered, fractured felsite & chlorite + pyrite slips, moly coats on slips, hard, diss pyrite	1	59647	470	480	10	0.072	0.023	0.7	1
480	490	QP Ph	VAR	green fine gr, shattered (fractured) sh. like bed, felsite, moly slips & moly frac's, a fine gr. diss. pyrite	1-2	59648	480	490	10	0.058	0.023	0.2	2
490	500	QP Ph	VAR	dark to light green, fine gr, v. hard, fractured felsite, druse in part thin pyritic frac's, chlorite & sericite slips, moly in frac's, diss pyrite	1-2	59649	490	500	10	0.061	0.012	0.3	1
500	510	QP Ph	VAR	light grey, fine gr, v. hard, fractured (shattered) felsite, chlorite slips, with moly coats & smears, sericite slips, v. thin pyrite fractures & pyrosmear, dissem pyrite enclaves	1-2	59650	500	510	10	0.059	0.023	0.3	1

DIAMOND DRILL LOG

Hole number 91-4 Page number 8-9

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:		
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:	date logged 19 Aug	

interval from to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%H ₂ O ₂		Ag ppm	Au ppb		
510 520	Qp No	Ph	-	510'-516' Pale grey, aphanitic, siliceous r.k. → silicified felsite as above; abundant py ± cp stringers & disseminations; highly fractured; no foliation 516'-520' Black, aphanitic r.k.; argillaceous; abundant calcite & py stringers; highly fractured. No cpy	2-4	59651	510	520	10	0.090	0.004	0.1	2
520 530	Vd Qp	Ph	-	520'-523' Black argillite as above; 523'-528' Pale grey aphanitic felsite, silicified; py ± cp stringers; moly, vltz; 528'-530' Grey, f.g., porphyritic felsite; highly fractured; weak foln; gradational contact btw. silicified unit; increased sericite; 1-2mm blocky anhydrite locally; py ± cp v.f.g. diss, frac. fill pads; mol. vltz & slips	1-3	59652	520	530	10	0.030	0.002	0.1	1
530 540	Qp	Ph	70	Grey, f.g., qtz porph. as above; pervasive qtz & calcite vltz; py diss & frac. fill; cpy vltz. blebs; mol. vltz & slips	1-2	59653	530	540	10	0.005	0.001	0.3	1
540 550	Qp	Ph	70	Greenish-grey f.g. felsite as above; qtz & cal. vltz; very sericitic; sulphides as a bowl; tr moly	2	59654	540	550	10	0.007	0.001	0.4	1
550 560	Qp	Ph	70	550'-554' - Grey-Green felsite as above; mineralization as above 551'-552' fault zone. 554'-560' Grey f.g. felsite w/ plag. laths; less sericitic than above, fractured/foliated; siliceous; cpy & py diss; frac. fill (mostly py); vltz;	2-3	59655	550	560	10	0.003	0.001	0.1	2

DIAMOND DRILL LOG

note number DDH91-4 PAGE
number
9-9

exploration company/owner/optioneer VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (tpw, lot, con, lat, long)		collar elevation	at az: dip:	date logged 19 Aug	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		%Cu	%H ₂ S	Ag ppm	Au ppb
560	570	QP	Ph	60	560-567' - Grey, f.g. felsite porph; as above, mineralization as above;	71	59656	560	570	10	0.009	0.002	0.4	3
					567'-570', Greenish-Grey sericitized felsite; v.f.g.; highly fractured; py ± cp diss.; fault @ 561, 565, 567.									
570	580	QP	Ph	60	Greenish-Grey f.g. felsite; relic qtz, plg, phenocrysts; sericitic & v. siliceous; micro-fracturing; v. competent; several qtz vltz.; diss. py ± cp, 2 x 20cm long py ± cp vltz., subparallel to C.A.	1	59657	570	580	10	0.012	0.001	0.4	16
580	590	QP	Ph	60	Greenish-Grey; f.g. felsite as above; 3 qtz veins; py ± cp diss., tr. blebs; NO long vltz.	1	59658	580	590	10	0.008	0.001	0.6	3
590	597	QP	Ph	60	Greenish-Grey; f.g. felsite as above; 3 qtz vltz.; py ± cp diss., tr. blebs, one 2.5cm long x 1mm vltz. of py ± cp, sub-parallel to C.A.	1	59659	590	597	7	0.005	0.001	0.4	1

EQH

DIAMOND DRILL LOG

Hole number 91-6 Page number 1-11

exploration company/owner/optionee VARITECH	map ref # 94h/15w	claim # JE (131)	bearing from true north 0	dip of hole at collar: -90°	logged by P. Peto & T. Armstrong	other information HQ CORE See PDH 75-60 PDH 75-12
property name BIG ONION	location (twp, lot, con, lat, long) 30N 2+00E		collar elevation 3800ft	at 750' az: 83° dip:	date logged 23 Aug - 26 Aug 91	
drilling company J. T. THOMAS	date hole started 22 Aug 91	date hole completed 26 Aug 1991	depth of hole 750 ft	at az: dip:		

% Core Recovery = 95.8

interval from	to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from	to	sample length	assays						
											%Cu	%H ₂ S	Ag ppm	Au ppb			
0	30				Casing (overburden & regolith)												
30	40	QP	Ar	50	Pale Blue-Grey, fine to med. gr. Porphyry; Qtz ag & Feldspar phenocrysts altered; porphyry clay alt; moderately fractured & shattered locally; weak foliation sericitic; minor limonitic staining; py, cpy, mol. diss, vltz; cc. diss & vltz → not very much; fault @ 38'	2-3	59251	30	40	10	0.082	0.011	0.5	2	70% Recovery		
40	50	QP	Ar	50	Pale blue-grey QP as above; fractured/shattered; fault zone @ 46'-47.5' & @ 44'; tr limonite stains; py, cpy, mol, cc. → diss; vltz. increased cc.	2-3	59252	40	50	10	0.287	0.014	0.3	4	100% Recovery		
50	60	QP	Ar	50	Pale Blue-grey QP as above; fractured/shattered; several drusy qtz vltz; moderate foliation; py, cpy, mol cc; as above.	2-3	59253	50	60	10	0.209	0.025	0.2	8	100% Recovery		
60	70	QP	Ar	60	Pale blue-grey QP, as above; fractured/shattered; several qtz vltz; sulphides as above fault @ 69'	2-3	59254	60	70	10	0.30	0.029	0.4	7	88% recovery		
70	80	QP	Ar	60	Pale blue-grey QP as above; fractured/shattered; qtz vltz; tr limonitic staining; cpy, py, cc as above; increased md. slips.	2-3	59255	70	80	10	0.371	0.023	0.4	26	70% recovery		
80	90	QP	Ar	60	Pale blue-grey QP as above; fractured/shattered; qtz vltz; tr gyp; tr limonite; py, cpy, mol cc → diss, vltz, frac fill; moly slips; py most abundant	2-3	59256	80	90	10	0.420	0.024	0.6	22	65% recovery		
90	100	QP	Ar	60	Pale blue-grey QP as above; fractured/shattered; qtz vltz; tr limonite; sulphides as above w/ increasing cc toward bottom of interval	2-3	59257	90	100	10	0.484	0.152	0.6	2	73% recovery		
100	110	QP	Ar	60	Pale blue-grey QP as above; less fractured/shattered; qtz vltz; sulphides as above w/ further increased cc.	2-3	59258	100	110	10	0.203	0.046	0.3	7	32. PL 100% recovery		

DIAMOND DRILL LOG

note number 91-6
 page number 2-11

exploration company/owner/optionee VARITECH	map ref *	claim #	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	interval to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from	sample interval to	sample length	assays			
											%Cu	%H ₂ S	Ag ppm	Flu ppb
110	120	QP	Ph	60	Pale Blue-Grey QP as above; fractured/shattered; increased sericitic folia; fr. gtz vltz; cc dominant sulphides; cpy, py, mol as above	2-3	59259	110	120	10	0.164	0.025	0.4	19
120	130	QP	Ph	60	Blue-Grey QP as above; fractured/shattered; sericitic; minor gtz vltz; sulphides as above w/ one 1cm wide pod of massive cc & py	cc	59260	120	130	10	0.273	0.019	0.6	14
130	140	QP	Ph	60	Blue-Grey QP as above; fractured/shattered; several gtz vein & vltz; sulphides as above with numerous pods of py & cc & abundant py in several drusy gtz veins.	>3	59261	130	140	10	0.230	0.017	0.4	10
130	140	QP	Ph	30, 50, 80	grey, fine gr. shattered sericitic felsite fault zone 146-158 core loss 50% chlorite + sericite slips ± moly smears gtz eye porphy, diss pyrite	2	59267	130	140	10	0.230	0.017	0.4	10
140	150	QP	Ph	50-80	light green, fractured fine gr. siliceous felsite, light grey gtz vltz, dissem py + cpy, moly smears on frac's	2	59262	140	150	10	0.296	0.022	0.7	25
150	160	QP	Ph	50-80	as above moly smears on sericite slips, occasional sulphide frac fills, diss py + cp & moly; v. fine gr. a few thin sulphide frac's	2	59263	150	160	10	0.070	0.014	0.3	2
160	170	QP	Ph	50-80	light green, fractured, siliceous, fine gr. pyrite, pyrite, moly smears, diss py + cp	2	59264	160	170	10	0.078	0.014	0.3	1
170	180	QP	Ph	50	light grey, fractured, siliceous, gtz eye felsite, moly slips & smears, pyritic frac's, vltz drusy gtz: lts, diss pyrite & cpy?	1	59265	170	180	10	0.079	0.025	0.4	1

} double entry

DIAMOND DRILL LOG

Hole number 91-6 Page number 3-11

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (tpw, lot, con, lat, long)		collar elevation	at az: dip:		
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:	date logged	
				at az: dip:		

interval		rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
from	to							from	to		%Cu	%H ₂ O ₂	Ag ppm	Pb ppm
180	190	QP Volc	Ph Ar	30-70	dark grey, fine gr. sericitic fractured felsite 180-184' pyrite frac's & disseminations 184-190' dark grey green strong fractured, argillic volcanic argillite? weak limonite coats, pyrite frac's, moly slips cut by felsite 188'	2	59266 66	180	190	10	0.387	0.007	0.9	42
190	200	QP Volc	Ph Pr	30-70	193-200 dk grey, drusy, argillic felsite 190-1930 dk green fine gr. volc argillite 197'-198' fault gouge. Argillite cut by white carbonate vlt, pyrite frac's, chlorite slips, diss py. Felsite rich in pyrite frac's & dissemin. possibly epy	4	59267 67	190	200	10	0.670	0.01	1.6	55
200	210	QP + Volc	Ph Pr	30-50 -80	Mixed felsite with argillite screens dk green, fine gr. shattered, strongly pyritic chlorite slips, thin irreg carbonate vlt, epy + pyrite frac's & dissemin. v. low epy.	5	59268 68	200	210	10	0.732	0.005	2.3	101
210	220	QP Volc	Pr	0-80	dk green, green, frag, shattered, highly pyritic felsite with volcanic argillite and clastic? chlorite slips & pyrite + epy irregular white carbonate vein fills, pyrite fracture fills to 5m. gliss on	7	59269 69	210	220	10	0.241	0.005	0.5	18
220	230	QP Volc	Pr VAR	VAR	dk grey green aphanitic matrix, small xtals of quartz (felsite porph), cut by chlorite + pyrite, quartz + carbonate + sulphide (pyrite + epy) vlt, diss pyrite. (possibly siliceous volcanic)	4	59270 70	220	230	10	0.154	0.01	0.7	10

DIAMOND DRILL LOG

Hole number 91-6 Page number 4-11

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	interval to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from	sample interval to	sample length	%Cu	%H ₂ S	Ag ppm	Au ppb
230	240	QP? Pr volc	Pr	VAR	dk grey green, v. fine-gr. - aphanitic felsite? chlorite + py frags, Qtz + carb vlt's to 2mm, pyrite frac 40% 2mm, pyrite frac 40% dk grey, aphanitic matrix, stz? phos? felsite? or siliceous volcanic, cut by bluish gtz vlt's, irregular earthy pyrite frags, chlorite + py slips, diss. pyrite	5	59272 71	230	240	10	0.230	0.007	0.8	2
240	250	QP? Pr volc	Pr	40-80	dk green, aphanitic matrix, stz? phos? felsite? or siliceous volcanic, cut by bluish gtz vlt's, irregular earthy pyrite frags, chlorite + py slips, diss. pyrite	4	59272 72	240	250	10	0.064	0.003	0.6	1
250	260	Volc Pr	Pr	20-70	dark green/grey, aphanitic, v. hard volcanic (greenstone?) cut by gtz + carb vlt's, pyrite frags, diss. pyrite	3	59273 73	250	260	10	0.239	0.008	0.9	40
260	270	Volc Pr QP Ph	Pr	40-70	dk green/grey aphanitic fractured volcanic, gtz + py vlt's, chlorite frags, diss. py. 210' - 200' felsite dyke, v. hard (silicified) earthy gtz vlt's ± ep & py, py disseminations? 268" v. fine-gr. stz vein 20° N.C.A., py frags, diss. moly salvage.	3	59274 74	260	270	10	0.085	0.003	0.6	3
270	280	QP Ph	Ph		light green, v. fine-gr. siliceous felsite pyrite frags & disseminations, few sericite slips, shattered interval	2	59275 75	270	280	10	0.086	0.009	0.4	1
280	290	Volc Pr	Pr	VAR	dk green, aphanitic, compact volcanic disseminated py, & py frags, white carb vlt's, chlorite + pyrite slips	2	59276 76	280	290	10	0.084	0.003	0.9	3
290	300	Volc Pr	Pr	VAR	dark green, fine-gr. - aphanitic, chloritic volcanic, cut by pyrite fractures, thin epidote frags, drusy, thin gtz vlt's, dissem. pyrite	2	59277 77	290	300	10	0.171	0.008	0.9	33

DIAMOND DRILL LOG

Hole number 91-6 Page number 5-11

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	interval to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from	sample interval to	sample length	assays							
											%Cu	%H ₂ S	Ag ppm	Pb ppm				
290																		
300	310	Volc	Prop.	✓	Dark Greenish-Grey, v.f.g.; volcanic tuff; semi-hard; f.g. to v.f.g. fragments & plag. laths → locally abundant; fractured/shattered; pervasive epidote & calcite vlt's & frac. fill; several qtz-carb vlt's; non-foliated; abundant py & pyh. vlt's w/ minor disseminated py & pyh; 2" section of green volcanic w/ similar texture → no ep; trace sulphides; Hematite stains	2-5	59278 78	300	310	10	0.191	0.004	0.5	2				
310	320	Volc	Prop.	✓	Dark Greenish-Grey volc. as above; w/ ep & cal; fractured/shattered; minor qtz-carb vlt's; py & pyh. as above; Hematite stains	2-4	59279 79	310	320	10	0.041	0.002	0.1	1				
320	330	Volc	Prop.	✓	320'-323' Dark Greenish-Grey Volc. as above; sulphides as above 323'-327.5' Green Volc.; several qtz-carb vlt's; tr. ep; tr. py & pyh. 327.5' → Fault. core loss 20%	2-4	59280 80	320	330	10	0.043	0.003	0.1	2				
330	340	Volc	Prop.	✓	327.5'-330' DK Green-Grey Volc. as above. DK Green-Grey Volc. as above; ep & cal; sulphides as above; tr. qtz-carb vlt's; tr. Hem	2-4	59281 81	330	340	10	0.125	0.007	0.3	3				
340	350	Volc	Prop.	✓	DK Green-Grey Volc. as above; ep & cal; tr. qtz-carb; sulphides as above; tr. Hem	2-4	59282 82	340	350	10	0.062	0.005	0.1	4				
350	360	Volc	Prop.	✓	DK Green-Grey Volc. as above; ep & cal; tr. qtz-carb vlt's; sulphides as above; tr. Hem 357'-360' f.g. felsite dyke; qtz-carb veins; No epidote; fractured/shattered; py & pyh. vlt's; frac. fill & pods.	2-4	59283 83	350	360	10	0.040	0.004	0.5	2				

DIAMOND DRILL LOG

Hole number 91-6 Page number 6-11

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from	to	sample length	assays			
											%Cu	%H ₂ S	Ag ppm	Au ppb
360	370	Volc	Prop.		360'-361' Felsite Dyke as above.	3-4	59284	360	370	10	0.091	0.003	0.5	1
					361'-370' Dk. Green-Grey Volc. as above; ep & cal; fractured/shattered; fr. gts carb vltz; py & pyb vltz & diss.		84							
370	380	Volc	Prop.		370'-377' DK Grn-Gr Volc. as above.	2-4	59285	370	380	10	0.039	0.003	0.5	1
				50'	377'-380' Grey Volc, same texture as above; ep & cal; silicified; weak folia, py & plh. -> decreasing pyh.; core loss 20%		85							
380	390	Volc	Prop.	45'	380'-384' Grey Volc as above; pyh. diminished;	1-2	59286	380	390	10	0.036	0.002	0.8	3
					384'-387' Felsite Dyke w/ f.g. gts eyes; foliated/fractured/shattered; cal. vltz; py in fractures		86							
					387'-390' Grey Volcanic as above; sheared & highly silicified; -> 45 to C.H.; gts carb veins, no ep; Hematite vltz; py vltz.									
380	400	Volc	Pr	40-70	390-394' grey, fine, felsite dyke cut by sulphide (pyrite) frac's, chlorite slips, gts & ash vltz.	4	59287	390	400	10	0.060	0.007	0.8	1
		QP			394-400' black, shattered pyritic argillite cut by carbonate vltz, epidote replacement, chlorite slips. pyrite frac's & dissem.		87					0.3		
400	410	Volc	Pr	20-60	Black, shattered/argillitic argillite epidote frac's, chlorite slips, pyrite frac's, Acams to 10mm & disseminations	3	59288	400	410	10	0.067	0.005	0.4	2
							88					0.4		

DIAMOND DRILL LOG

Hole number 91-6 Page number 7-11

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	to	rock type	alteration	foliation core axis to	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from	to	sample length	assays			
											%Cu	%H ₂ S	Ag ppm	Au ppb
410	420	Volc	Pr	0-70	black, compact, porphyritic volcanic tuff (argillite) cut by Qtz vlt's, epidote/fracs chlorite slips, carbonaceous fracs coats, pyrite fracs & dissem.	3	59289	410	420	10	0.045	0.008	0.7	1
420	430	Volc	Pr	30-60	grey green, compact, porphyritic argillite with chlorite clasts, sheared 45° NCA & 424' epidote replacements, chlorite slips & pyritic seams to 10mm.	2	59290	420	430	10	0.037	0.007	0.6	2
430	440	Volc	Pr	30-70	dark green, mottled, compact volcanic tuff. cut by epidote fracs & drusy replacements minor pyrite dissem & most on epidote fracs	1-2	59291	430	440	10	0.043	0.005	0.6	4
440	450	Volc	Pr	40-60	Dark green, frag., fractured, volcanic tuff cut by epidote + pyrite fracs, early vlt's, chlorite slips; few Qtz vlt's, pyrite seams & dissem.	2	59292	440	450	10	0.030	0.006	0.7	5
450	460	Volc	Pr	50-80	as above, drusy epidote + pyrite seams drusy Qtz vlt's carbonate fracture coats	1	59293	450	460	10	0.031	0.006	0.8	10
460	470	Volc	Pr	0-80	dark green, fractured volc tuff, drusy pyrite + pyrrhotite seams, chlorite slips epidote + py fracs, drusy Qtz vlt's	3-4	59294	460	470	10	0.062	0.005	0.8	2
470	480	Volc	Pr	VAR	shattered, volc tuff, as above carb coats	4	59295	470	480	10	0.081	0.004	0.4	1
480	490	Volc	Pr	VAR	dk green, shattered volc tuff, cut by pyritic Qtz vlt's, pyrite + pyrrhotite fracs	4	59296	480	490	10	0.052	0.005	0.1	4
490	500	Volc	Pr	VAR	as above, drusy py along fracs	3	59297	490	500	10	0.039	0.004	0.5	3
500	510	Volc	Pr	VAR	as above, pyrite + pyrrhotite fracs	4	59298	500	510	10	0.035	0.005	0.4	10
510	520	Volc	Pr	VAR	as above, 20% core loss, py + PO	4	59300	510	520	10	0.052	0.007	0.1	6
520	530	Volc	Pr	VAR	as above, chlorite + pyrite fracs epidote + py fracs, epidote replacements	4	59300	520	530	10	0.027	0.006	0.5	4

DIAMOND DRILL LOG

Hole number 91-6 Page number 8-N

exploration company/owner/optioneer VARITECH	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%H ₂ O ₂		Ag ppm	Au ppb		
530 540	Volc Prop			Very Dark Green-Grey, v.f.g. Volcanic → Tuff; v.f.g. fragments & on plug. Paths found locally; fractured/shattered; pervasive epidote altn & calcite in vltz & along fracture planes; tr. qtz-carb. vltz; py & po veins & frac. fill.	2-4	59301	530	540	10	0.115	0.003	0.3	2
540 550	Volc Prop			V. Dk Green-Grey Volc. as above; fractured/shattered; ep & cal; several qtz-carb. veins; several chloritic slips → 50' to C.H.; minor hematitic staining; py & po as above.	2-4	59302	540 540	540 550	10	0.091	0.005	0.5	7
550 560	Volc Prop			V. Dk Green-Grey Volc. as above; fractured/shattered; ep & cal; qtz-carb. veins; hematite; chl. slips as above; py & po as above.	2-4	59303	550	560	10	0.027	0.010	0.6	2
560 570	Volc Pr		25-80	black to dk green, aphanitic, fractured tuff, epidote frac's & replacements; pyrite frac's, propylitic altn., vltz, qtz vltz	2	59304	560	570	10	0.021	0.008	0.5	3
570 580	Volc Pr		50-80	dk green, aphanitic, epidote frac's & seams, chlorite + pyrite slips, pyrite + pyrrhotite seams to 10mm; 572' mass ep & py	3	59305	570	580	10	0.052	0.006	0.3	1
580 590	Volc Pr		30-80	as above py + pyrrhotite fracs, epidote fracs, chlorite slips, shattered	3	59306	580	590	10	0.036	0.007	0.4	2
590 600	Volc Pr QP			590-605' dark green, aphanitic volc tuff, epidote fracs, pyrite + pyrrhotite	3	59307	590	600	10	0.067	0.004	0.6	3
600 610	QP	--	VAR	605-618' light grey, porcellanous felsite thin pyrite frac's, dissemin pyrite porcellanous, pyritic felsite 605-618' dyke; shattered core	4	59308	600	610	10	0.278	0.011	2.0	4

DIAMOND DRILL LOG

Hole number 91-6 Page number 9-11

exploration company/owner/optionee VARITECH	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to	sample length	assays			
									%Cu	%H ₂ S	Ag ppm	Flu ppb
610 620	QP	-	50-60	610-618' light grey, pyritic, porcelaneous felsite dyke, v. thin py fractures	5	59309	610 620	10	0.128	0.017	1.0	2
620 630	Volc Pr	VAR		618-620' dk green, aphanitic tuff, v. thin epidote fracs, irregular pyrite seams to km	4	59310	620 630	10	0.069	0.006	0.9	1
630 640	Volc Pr		0-70	dk green, v. fine gr. volcanic tuff, cut by chlorite + py, epidote & pyrite fracs, occasional thin stz vlt	4	59311	630 640	10	0.169	0.013	1.3	1
640 650	Volc Pr		70	dark green volc tuff, cut by milky stz vlt to 10mm, epidote fracs & seams	2	59312	640 650	10	0.121	0.009	1.0	2
650 660	Volc Pr		40-70	pyritic fracs & replacements (clots)	2	59313	650 660	10	0.156	0.012	1.7	2
660 670	Volc Pr		70	dark green volc tuff, chlorite + py fracs, epidote seams, pyrrhotite + py fracs	2	59314	660 670	10	0.046	0.006	0.8	1
670 680	Volc Pr			Green, v. f. g. to aphanitic groundmass; intermediate volcanic; >10% relic plag. laths 0.5mm abundant; fragments (?) to 2mm (rare) are common; alteration of laths & fragments to ep.; laths anhedral to euhedral; ~7% mafic crystals (relic Hbl.?) altered to chl; lath & mafic content consistent throughout interval but vary in lower intervals; unit has the appearance	2	59315	670 680	10	0.024	0.006	1.0	1

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DIAMOND DRILL LOG

DDH 91-2 number 1 of 11

exploration company/owner/optioneer VARITECH Resources Ltd	map ref # 93 L/5W	claim # JC 128(4)	bearing from true north N.A.	dip of hole at collar: -90°	logged by P. Peto & Todd Armstrong	other information CORE SIZE situated at collar of DDH 76-9 CORE Recovery 97.91%
property name BIG ONION	location (twp, lot, con, lat, long) 14, 810 North 9, 730 EAST		collar elevation 4700ft	at 698° az: 0° dip: 87°	date logged 9-13 August 1991	
drilling company J. T. THOMAS	date hole started 9 August 91	date hole completed 12 Aug 1991	depth of hole 608 feet	at az: dip:		
				at az: dip:		

interval from	interval to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	suphides %	sample number	sample interval from	sample interval to	sample length	assays						
											% Cu	% MoS ₂	Ag	Au ppb			
0	40	-	-	-	CASING (overburden & regolith)	-	N.A.	-	-	-	-	-	-	-	-	-	-
40	50	QP	Ar	Var	Pale grey (fresh surface) → mostly rusty yellow; f.g. w/ med. gr. phenocrysts (rare); pervasive fracturing; strongly altered; fault gouge @ 45'; fault brecciation; very siliceous (i); pervasive gypsum & clay minerals; tr. sulphides → v.f.g. disseminated py & f.g. cc. 100% recovery	CC	59501	40	50	10	.03	.04	.1	61			
50	60	QP	Ar	50	Pale grey w/ limonitic yellow staining; as above; tr. sulphides as above; 95% Rec.	CC	59502	50	60	10	.01	.03	.1	31			
60	70	QP	Ar	50	Pale grey w/ limonitic yellow staining; as above; dk. brown 0.5-1.5 cm frac. fill alteration; tr. sulphides as above 80% recovery	CC	59503	60	70	10	.01	.05	.1	37			
70	80	QP	Ar	Var	Pale grey w/ sparse limonitic yellow staining; lithologically as above; low fracturing; fault @ 77'; tr. sulphides as above	CC	59504	70	80	10	.01	.03	.2	41			
80	90	QP	Ar	Var	Pale Grey w/ tr. limonite stains; as above; several 0.5-20cm thick gtz veins → dark & rusty; sulphides to 2% @ bottom of int. → py, cc, cpx, v.f.g. diss. & 2-5mm blebs.	CC	59505	80	90	10	.03	.02	2.5	115			
90	100	QP	Ar	Var	Grey w/ tr. staining on frac. faces; shattered; Low R.C. ~ 30%; less gypsum than above; Sulphides to > 5% cpx, cc, py py & cpx in blebs, cc f.g. diss. 90% recovery	CC	59506	90	100	10	.61	.03	1.0	156			

DIAMOND DRILL LOG

DDH 91-2 number 2-11

exploration company/owner/optionee	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		Cu%	MoS ₂ %	Ag	
100	110	QP/And	Ar	70	100-108 Grey Qp as above; sulphides to > 5%, cpy & py in blebs & vein/frac fill residue, cc f.g. diss.) 108 → fault gouge.	5	59507	100	110	10	.08	.02	.6	168
					108-110 Grey-Med. Grey Andesite; v.f.g., soft (arg. alt.); thinner qtz veins than above; rusty frac. faces; sulphides to 2%, tr. f.g. diss. py; cpy blebs; f.g. diss. cc.	2								
110	120	And	Ph	70	Grey Andesite as above; sericite slips; Sulphides to > 2%, v.f.g. diss. py; cpy & py blebs; f.g. cc on frac. faces. faults @ 112.5' & 120' → v. rusty.	2	59508	110	120	10	.32	.02	.7	176
120	130	And/Ph	Ph	Var	120-125 And as above; sulphides as above. 125 → fractured rock 125-130 Grey to pale grey QP; lith. as above, sulphides to > 5%, cpy & py blebs, tr. v.f.g. diss. py; f.g. diss. cc.	75	59509	120	130	10	.63	.02	1.1	143
130	140	QP	Ar	VAR	grey, frag., shattered argillic felsite abundant chalcocite, pyrite, py frags, qtz vlt's, clay gouge @ 13'4", clay slip	4	59510	130	140	10	.59	.02	.8	83
140	150	QP	Ar	VAR	as above, clay & sericite slips, chalcocite sulphides on frac's, few qtz vlt's	4	59511	140	150	10	1.02	.02	1.2	142

DIAMOND DRILL LOG

DDH 91-2 number 3-11

exploration company/owner/optionee	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
	drilling company	date hole started	date hole completed	at az: dip:		

interval from	to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		%Cu	%FeS ₂	Ag	
150	160	QP	Ar	90°	grey, shattered, strongly argillic felsite 150-158 shear zone, clay gouge, dissemin chalcoelite, Cu smears, pyrite? fracs to 2mm	4	59512	150	160	10	0.62	0.015	0.9	142
160	170	QP	Ar	30-70	gray, fine gr, shattered, strongly argillic felsite 165-170 dark green felsite, chalcoelite fracs to 2mm, dissemin chalcoelite, Cu smears con slips, clay gouge @ 165, clay slips	4	59513	160	170	10	1.00	0.02	1.4	131
170	180	QP	Ar	VAR	dark green, fine gr, shattered felsite, clay gouge @ 180, strongly argillic dissemin & small chalcoelite, pyrite, dk green chlorite slips	4	59514	170	180	10	1.2	0.02	1.2	152
180	190	QP	Ar	90°	22ft of shattered core strong argillic alt, dk to light grey fine gr felsite, dissemin chalcoelite & Cu smears, clay gouge @ 184'	4	59515 (Box 11, 12, 13)	180	190	10	0.85	0.015	0.9	118
190	200	QP	Ar	VAR	dk green, shattered, fine gr, felsite, Argillic chalcoelite smears & disseminations, few drusy stz vlt, pyrite vugs, stz+py fracs to 3mm. sericite slips	5	59516	190	200	10	1.03	0.02	1.1	142
200	210	QP	Ar	VAR	light to dark green, shattered, fine gr, argillic felsite sooty, fine gr. dissemin. chalcoelite, clay partings & sericite slips, minor stz vlt, dissemin & fracture fill pyrite 205-210' volc?	4	59517	200	210	10	1.04	?	1.1	141
210	220	QP	Ar	80	dk green, fine gr, soft, argillic felsite abundant chalcoelite dissemin & fracs smears, few stz vlt, clay partings, sericite slips phyllitic lustre on fracs	5	59518	210	220	10	0.75	0.03	0.9	121

DIAMOND DRILL LOG

note number 91-2 page number 4-11

exploration company/owner/optionee	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from	to	sample length	assays			
											%Cu	%FeS ₂	Pg	Au
220	230	QP	Ar/Ph	80-40	light grey fine gr. shattered felsite, transition argillic to phyllic some clay partings disseminated chalcocite sooty Cc slips, disseminated pyrites, harder rock	2-3	59519	220	230	10	0.53	0.015	0.7	63
230	240	QP	Ar/Ph	80-45	as above, harder, light grey felsite disseminated Cc, sooty Cc flakes, disseminated pyrites, mostly chalcocite (disseminated) v.l.s.	4	59520	230	240	10	0.94	0.02	1.1	107
240	250	QP	Ar/Ph	80-40	grey, fine gr. drusy felsite cut by few (fz) v.l.s. + minor py & ep, sooty Cc smears more phyllic waxy green slips, gypsum v.l.s. to 5mm	3	59521	240	250	10	1.18	0.01	1.3	141
250	260	QP	Ph	VAR	as above light/dk green shattered, phyllic alt. sooty chalcocite, disseminated pyrites, drusy v.l.s. & gypsum	2	59522	250	260	10	1.34	0.02	1.4	181
260	270	QP	Ph	80-40	dk green, fine gr. fractured felsite disseminated pyrites, clay conge 268-270', thin v.l.s., Cc around limonite stains	2	59523	260	270	10	0.58	0.03	0.8	67
270	280	QP	Ph	Var	Grey; fine gr.; highly fractured felsite as above, fault gouge @ 272 & 276; Cc. diss & frac fill; py v.l.g. diss & frac fill; thin py frac fill w/ py; 100% on slip faces; minor qtz veinlets	4	59524	260	270	10	0.27	0.02	0.5	31

DIAMOND DRILL LOG

hole number 91-2
 assay number 5-11

exploration company/owner/optionee	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by Todd Armstrong	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged 11 Aug 91	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:		
				at az: dip:		

interval from	interval to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	% sulphides	sample number	sample interval from	sample interval to	sample length	assays			
											%Cu	%MoS ₂	Ag	Au
280	290	QP	Hr	Var	Grey w/ Greenish beige patches → clay mineral; Argillitic w/ sericitic slips; fault gangl @ 287; CC → diss but most on slips; py dia & frac fill; cpy, frac. fill w/ py; mol. on slips (tr) & w/ qtz veinlets.	2	59525	280	290	10	.23	.03	.05	.32
290	300	QP	Ph	45	Grey/Green → beige patches; fractured; strong, irregular qtz veining; py & cpy infilling vugs in qtz veins & frac fill; diss. v.f.g. py; CC diss & slips → less abundant than previous intervals; tr. mol.	2	59526	290	300	10	.56	.02	1.3	.63
300	310	QP	Ph	40	Grey Green f.g. sericitic felsite as above; qtz veining less pervasive; v.f.g. diss & frac. fill py & cpy; still full CC; increased MoS ₂ in veinlet & slips.	2	59527	300	310	10	.46	.02	1.1	.67
310	320	QP	Ph	45	Grey f.g. felsite as above; minor qtz veining; fracturing → brecciation; tr. diss & vug/frac. fill py; tr. cc; cpy diss & vug/frac. fill; diss, vlt., slips → MoS ₂	2	59528	310	320	10	.36	.02	1.0	.53
320	330	QP	Ph	45	Grey-Green f.g. felsite; as above qtz veinlets; v. little fracturing brecciation; py & cpy diss & vug/frac. fill → cpy > py; minor CC, diss; diss & vlt. & slips Moly.	2	59529	320	330	10	.50	.03	.8	.51

DIAMOND DRILL LOG

hole number
Q1-2
 number
6-11

exploration company/owner/optioneer	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:		

12 Aug 91

interval from	to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		%Cu	%PbS ₂	Ag	Au
330	340	QP	Ph Ar	80-40	dk grey, fn gr, shattered, argillic felsite sooty chalcocite slips, limonite frac coats dissem cp & py, thin gtz + ep + py vlt v. fn gr, moly on sericite slips, 1% chalcocite	1	59530	330	340	10	.325	.02	.90	6
340	350	QP	Ar	80-50	grey, fn gr, argillic, shattered felsite, sooty chalcocite smears, dissem cc gran grey clay partings, minor py + gtz vlt	1	59531	340	350	10	.57	.025	.6	61
350	360	QP	Ar	80-50	350-355' as above strong argillic alt, dissem cc & sooty cc smears v. fn gr py & ep dissem, possibly Moly flakes minor dissem. cc. py + ep frac vlt 1 to 2mm	1-2	59532	350	360	10	.43	.02	1.0	53
		QD	Ar	80	355'-360' speckled grey, white, blue, green med grained, quartz diorite, soft, argillic spongy limonite, clay partings, sooty to silvery sulphide slips, gtz + moly + py vlt	2								
360	370	QD	Ar	30-80	speckled grey, white, blue, med. gr, inequi- granular Qtz Diorite, py > ep + gtz vlt seams to 10mm, v. fn gr, silvery sulphide slips, dissem chalcopyrite, minor chalcocite	2-3	59533	360	370	10	.29	.025	.7	60
370	380	QD/V	Ar chloritic	60-80	370-375.5' as above 375.5-380' Hazelton volcanic inclusion dark grey, v. fn gr, drusy, limonite sponge fractured, no visible sulphide	2	59534	370	380	10	.35	.006	.6	64
380	390	V QD	chlor	60-80	380-386' volcanic, as above 386-390' fractured, limonitic, chloritic gtz diorite, v. fn gr, sulphides	<1	59535	380	390	10	.54	.006	.9	90

DIAMOND DRILL LOG

hole number
DDH 91-2
core number
7-11

exploration company/owner/optionee	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
	drilling company	date hole started	date hole completed	at az: dip:		

interval from	to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		% Cu	% MoS ₂	Ag	Agg ppb
390	400	QD	Ar	60-80	dk grey/green speckled gtz diorite, limonite fracture coats, drusy, gypsum vlt's, sericite slips, dissem ep, py, v-fn gr. sulphide smears. clay partings	<1	59536	390	400	10	.24	.243	.4	40
400	410	QD	Ar	60-80	shattered, drusy, limonitic frac coats in chloritic QD diorite, gypsum vlt's & frac's, diss ep, py, py+cp ± moly seams & frac fillings, sulphide smears on chlorite slips	1-2	59537	400	410	10	.42	.422	.6	40
410	420	QD	Ar	VAR	shattered, fractured, grey strongly argillic quartz diorite, chlorite slips chlorite pseudomorphs after H ₂ O? drusy, sericite slips, v-fn gr. dissem ep, py? feldspar to clch.	1	59538	410	420	10	.15	.004	.5	31
420	430	QP	Ar Ph	VAR	shattered fractured fn gr. argillic felsite chlor fracs, clay slip, etz-zoisite? shears v-fn gr. bluish sulphided py+cp & sulph seams. pervasive silicification?	1-2	59539	420	430	10	.08?	.006	1.1	33
430	440	QP	Ph	10-80	pale green/grey fn gr felsite, v-fn gr. dissem py+cp, sulph seams silicification (drusy etz vlt's), wavy etanulations late gypsum vlt's.	1	59540	430	440	10	.08	.004	1.2	49
440	450	QP	Ph	80-60	compact, pale green felsite, gypsum vlt's v-fn to p-gr dissem cpl, discontinuous sulph seams, gtz+carb vlt's	1-2	59541	440	450	10	.09	.006	1.4	20
450	460	QP QD?	Ph	60-80	compact, pale green, fn gr felsite gyp vlt's chlorite frac's slip gtz+carb vlt's v-fn gr dissem sulph end etc? possible Qz diorite in next. (5% core loss)	1	59542	450	460	10	.03	.003	.8	7

DIAMOND DRILL LOG

hole number
DDH91-2
number
E-11

exploration company/owner/optionee	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by Todd Armstrong	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged 12 Aug 91	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		% Cu	% K ₂ O	Ag	Au
460	470	QP	Ph Chl	45	Med. Grey, med. gr. qtz-feldspar rock, moderately fractured & foliated; ~10 qtz veins → most to folia; abundant chl. on folia planes; convoluted folia; cpy & epy along healed fractures; folia planes as v.f.g. disseminations & massive blebs to 2 cm 5% core loss	1	59542	460	470	10	0.05	0.006	0.6	17
470	480	QP	Ph Kfs	45	Med. Grey, f. to m. gr. qtz feldspar as above; 4 qtz blebs & vlt's along folia planes; convoluted folia not as prevalent; cpy & epy as above → sulphide blebs to 0.5 cm	1	59544	470	480	10	0.06	0.003	1.0	3
480	490	QP	Ph Kfs	50	Med to Dk grey, f to v.f.g. matrix → m.g. phenos; phenos range from 15-50%; v. chloritic; possibly Q. Diorite from 487 to 490; several qtz vlt's & blebs to folia; py & cpy occur as above → No blebs > 2 mm	0.5	59545	480	490	10	0.03	0.005	0.6	10
490	500	QP 4D	Ph Chl	50	Med grey as above; inter fingerings (gradational) of Qtz Diorite; fr. qtz vlt's; pale beige/green mineral, med. hard, massive → appears to be alb. prod.; foliated but not convoluted; cpy & epy occur as above → 2 vlt's to 1 cm thick	0.5	59546	490	500	10	0.06	0.006	0.7	21

DIAMOND DRILL LOG

note number
DDH91-2
page number
9-11

exploration company/owner/optioneer	map ref *	claim #	bearing from true north	dip of hole at collar:	logged by TODD Armstrong	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:		
drilling company	date hole started	date hole completed	depth of hole	at az: dip:	date logged 12 Aug	
				at az: dip:		

interval from	to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		% Cu	% H ₂ S	Ag	Flu
500	510	QD	Chl	40-50	Med to Dk Grey; Mostly m.g. QD w/ f. to mg. QP sections → no sharp contacts; weak folia → chl; trqtz, ults & blebs; cpy & py as above → no blebs > 2mm	65	59547	500	510	10	.05	.008	0.08	17
510	520	QD	Chl	45	Med. to Dk Grey; as above QD; 6 qtz, ults & blebs; cpy & py as above. 5% core loss	0.5	59548	510	520	10	.06	.006	1.0	43
520	530	QD	Chl	45	Med Grey; as above; 3 qtz, blebs/pods → along folia as above; cpy & py as above	65	59549	520	530	10	.04	.004	.6	3
530	540	QD	Chl	45	Med to Dk Grey, as above; Several qtz pods → 2" pore space in filling(?); cpy & py as above → also 2" pore space in filling	0.5	59550	530	540	10	.04	.004	.7	10
540	550	QD	Chl	45	Med to Dk Grey, as above; Several qtz pods; cpy & py as above except greater than 65% cpy; 2-10mm blebs begin near 550.	1-2	59551	540	550	10	.05	.003	.6	7
550	560	QD	Chl	45	Med to Dk grey, as above; 4 qtz pods; cpy & py occur as above → 2-10mm massive ults near 550; m.g. cpy xtal found in qtz pod; texture of rock grades to f.g. near 560.	1-2	59552	550	560	10	.05	.004	.8	11
560	570	QD	Chl	-	Med grey QD as above; f.g. grades to m.g. by 562; several qtz pods; cpy & py as above except more diss. grains occur; 2 x 1cm blebs.	2-3	59553	560	570	10	.06	.004	1.1	1

DIAMOND DRILL LOG

hole number
DDH91-2
number
10-11

exploration company/owner/optioneer	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by P. Peto	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged 3 Aug 91	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		10ft	%Cu	%PbS ₂	
570	580	QD	CHOR	55	dk green, med gr, compact, strongly chloritic 4 ft chlorite thin gypsum v lts, cp of frac fill to 10mm 180% CA, dissem py & ep? chlorite slips & gypsum coats	<1	59554	570	580	59554	.05	.006	.8	3
580	590	QD	CHOR	60-80	as above, dissem v. fine py & cp milky, stz + carb v lts	<1	59555	580	590	10	.08	.003	.8	3
590	600	QD	CHOR	50-70	as above, non magnetic, gypsum v lts chlorite slips, dissem v. fine pyrite	<1	59556	590	600	10	.08	.004	.9	39
600	610	QD	CHOR	50-70	dk green, med gr, chloritic stz chlorite dissem py & ep? thin gypsum v lts minor volcanic? or greenstone inclusions	<1	59557	600	610	10	.06	.005	.3	11
610	620	QD	CHOR	60-80	dk green, med gr, compact, chloritic stz chlorite, irregular gypsum v lts chloritic slips, small volcanic inclusion @ 611', dissem py & minor cp?	<1	59558	610	620	10	.12	.002	.8	1
620	630	QD QP	CHOR PH	60-80	as above, compact core, 620-625 ft 625-630' green/green fine gr. phyllic sericite slip & sulphide smudges, dissem sulphides, feldspar	<1	59559	620	630	10	.08	.004	1.2	1
630	640	QP	PH	40-60	dk green, green, pale green, fine gr, marbly feldspar, gypsum v lts, chlorite & sericite slips, discont thin ep seams v fine gr. dissem py & cp. compact core	1	59560	630	640	10	.14	.005	2.1	20
640	650	QP	PH	40-80	as above, fine gr, marbly feldspar gypsum v lts, dissem sulphides py & cp chlorite & sericite slips	1	59561	640	650	10	.21	.01	2.5	3

DIAMOND DRILL LOG

hole number DDH 91-2
 core number 11-11

exploration company/owner/optionee	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged 13 Aug 91	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:		

interval		rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
from	to							from	to		% Cu	% FeS ₂	Ag ppm	Au ppb
650	660	QP	Ph	5-90	grey/green, fine gr, foliated felsite cut thin cap fault to 5mm, stz vlt's, chlorite & sericite slips, gypsum vlt's, dissem cp blebs	1	59562	650	660	10	0.14	0.01	1.5	52
660	670	QP	Ph	60-90	as above, mostly fine gr. felsite dissem. sulphides, v. fine gr py & cp?, compact compact core.	4	59563	660	670	10	0.18	0.01	1.8	71
670	680	QP	Ph Ar	VAR	shattered interval, grey fine gr, argillic felsite, stz vlt's, disc fine gr pyrite cp blebs as dissem. sericite slips	1-2	59564	670	680	10	0.32	0.01	2.2	164
680	690	QP	Ph Ar	VAR	grey, shattered, drusy fine gr felsite argillic alt. sericite slips, pyrite fract's, dissem cp blebs to 1mm.	1-2	59565	680	690	10	0.37	0.01	2.3	58
690	698	QP	Ar	VAR	as above 75% recovery, dissem pyrite, drusy, sulph inclusions EOH=698'	1	59566	690	698	8	0.34	0.01	2.5	163
*Rock saw only operations Aug, 13 Aug 1991)														

DIAMOND DRILL LOG

Hole number DDH91-7 Page number 1-11

exploration company/owner/optionee VARITECH	map ref # 93L/15/W	claim # JB	bearing from true north 0	dip of hole at collar: -90	logged by P. Peto & T. Armstrong	other information HQ core See PDH 75-7
property name BIG ONION	location (twp, lot, con, lat, long) 24N 2+00E		collar elevation 3650'	at 702' az: 85° dip:	date logged 27 Aug - 30 Aug 91	Core Recovery = 96%
drilling company J. T. THOMAS	date hole started 26 Aug 91	date hole completed 29 Aug 91	depth of hole 733'	at az: dip:		

interval from	to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from	to	sample length	assays						
											%Cu	%H ₂ S	Ag ppm	Au ppb			
0	10				CASING												
10	20	QP	AR	VAR	beige to rusty, quartz eye felsite porphyry 1-3mm stz plands, 1-2mm feldspar laths, white to beige aphanitic matrix, 1-2% biotite limonitic fracture coats, shattered core, weak to moderate argillic alt'n thin drusy stz vlt's	<1	59801	10	20	10	0.039	0.017	0.5	31			
20	30	QP	AR	VAR	as above v. fine gr. dissemin pyrite? & cpn? & cpn?	<1	59802	20	30	10	0.046	0.029	0.7	23			
30	40	QP	AR	0.20, 90, 70	beige to rusty, fractured stz eye porph limonite fracture coats, drusy stz vlt's weak to moderate argillic alt'n overl sericite muscovite phenos, relict sulphide frac's to 3mm	1	59803	30	40	10	0.077	0.021	0.7	20			
40	50	QP	AT	30, 70	as above, pyrite fracture fill to 8mm	1	59804	40	50	10	0.444	0.041	1.3	27			
50	60	QP	AR	VAR	beige, stz eye porphyry limonite frac's <1mm sulphide frac's, a few green alteration envelopes, v. fine gr. sulphide disseminations	1	59805	50	60	10	0.550	0.022	0.9	35			
60	70	QP	AR	VAR	rusty fracture zones, thin stz vlt's, (OXIDE-SUPERGENE TRANSITION) first appearance of chalcocite tarnish, moly slips, chalcocite vein replacements	2	59806	60	70	10	0.525	0.022	1.0	23			
70	80	QP	AR	40-70	feldite stz eye porphyry, limonite frac's sooty limonite frac coats, v. fine gr. dissemin chalcocite & moly? specks. bz	2	59807	70	80	10	0.480	0.016	1.0	20			
80	90	QP	AR	30-50	light grey, drusy, siliceous eye porphyry limonite frac coats, drusy thin stz vlt's v. fine gr. epy laths & moly? specks, surface of malon slips, chalcocite tarnish moderate argillic alt'n, v. thin sulphide fracture fills. (100% core recovery 40-90')	2	59808	80	90	10	0.214	0.017	0.7	28			

DIAMOND DRILL LOG

Hole number **91-7** Page number **2-11**

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged 27 Aug	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays				
							%Cu	%H ₂ S		Ag ppm	Au ppb			
90	100	QP	Av	40-70	light grey, med-fn gr, qtz-eye porphyry limonite coats, v. thick sulphide frac's ± green alt in envelopes to 5mm, well developed mol. slips & smears, drusy qtz vlt, chalcite disseminated py & cpy, sericite slips pyrite + chalcite fracture fills	1-2	59809	90	100	10	0.297	0.027	1.0	30
100	110	QP	Av	20-70	as above, drusy limonitic qtz vlt, sooty chalcite, w/ly smears, py + cpy fracture to 2mm, chlorite + sericite slips, v. fn gr. chalcite, dissem cpy shls	2-3	59810	100	110	10	0.322	0.018	0.8	27
110	120	QP	Ph	70	Pale Grey; fn to med gr. qtz-eye porphyry; some mg. feldspar xtals; entire unit strongly fractured/shattered; moderate foli; sericite ± chl. on foli. planes & slips; abundant limonite on fracture faces & in drusy qtz veins; several drusy qtz veins & vlt; moderately silicified; Sulphides: py, cpy, mol, ± cc. diss; vlt; fracture & mol. slips	2-3	59811	110	120	10	0.302	0.022	1.1	18
120	130	QP	Ph	70	Pale Grey Qtz-eye porph, as above; limonite; fractured/shattered; qtz veins & vlt; py & cpy diss, vlt, fracture; mol. slips, fracs, diss; cc. v. fn. diss & tarnish	2-3	59812	120	130	10	0.248	0.035	0.8	20
130	140	QP	Ph		Pale Grey Qtz-eye Porph. as above; limonite decreasing; qtz veins; sulphides as above. pale cacy green mineral on fractures → does not react w/ HCl; soft; epidote (?)	2-3	59813	130	140	10	0.253	0.032	1.0	23

DIAMOND DRILL LOG

Hole number DDH 91-7 Page number 3-11

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:	date logged

other information

interval from to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%H ₂ O ₂		Ag ppm	Au ppb		
140 150	QP	Ph	r70	Pale Grey Qtz eye Porph, as above; tr limonite; pale green mineral as above; sulphides as above → decreased c.c.	<2	59814	140	150	10	0.0346	0.022	7.5	39
150 160	QP	Ph	r70	Pale Grey Qtz eye Porph as above; increased silicification near qtz v.lts; pale green mineral abundant → appears to be an epidote mineral; py & cpy as above; increased mol; no cc.	<2	59815	150	160	10	0.319	0.038	1.4	37
160 170	QP	Ph	r40-70	Grey Qtz Porph as above; increased sericite; strong silicification; py, cpy & mol as above; fault @ 161.5' & @ 170'; low recovery	<2	59816	160	170	10	0.302	0.016	0.5	51
170 180	QP	Ph		Grey Qtz Porph as above, strongly faulted zone, v. low recovery; mineralization as above	53	59817	170	180	10	0.426	0.004	0.8	20
180 190	QP / Volc And	Ph / And	r40-70	180'-184' v. low recovery (-15%) of Qtz Porph as above; mineralization as above. 184'-190' Dark Green Volcanic; v.f.g. minor dog-lath &/or fragments; ~5% mafic stabs → alt. to chl.; possibly andesite flow; ep. & cal. v.lts; several qtz-carb. veins; hematite on fractures; <1% py diss; most in fractures.	<2	59818	180	190	10	0.104	0.012	0.9	18
190 200	Volc Prop	And	Var.	Green Andesite Flow as above; ep. & cal; qtz-carb veins to 3cm wide (one) hematite & limonite on fractures; v. weak fol; chl on fol; py & cpy & cpy → fractures, v.lts, diss.	2	59819	190	200	10	0.426	0.042	1.2	51
200 210	Volc Prop	Var.	Var.	Grey-Green Andesite Flow / Tuff grains appear more fragmental → v. diff. cult to tell true lithology: ep. (less than above) & cal.; qtz-carb veins; →	3-5	59820	200	210	10	0.431	0.016	0.8	75

DIAMOND DRILL LOG

Hole number DDH91-7 PAGE number 4-11

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (tpw, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to	sample length	assays				
									%Cu	%H ₂ S	Ag ppm	Au ppb	
210	220	Volc. Prop.	Var.	minor hematite; py & po ± cpy veins; some diss & fractures Grey Andesite Tuff (D); altn & min. as above; silicified veins near qtz-carb veins fractured & brecciated, includes felsic fragments, chloritic matrix, mud pyrite some cpy in qtz vlt.	5	59821	210	220	10	0.615	0.012	1.3	81
220	230	Volc Pr QP	70	dark grey green - fine, fractured shattered strongly pyritic felsite stz gashes, 1 py seams to 2mm, cpy splashes strong chlorite altn	5	59822	220	230	10	0.533	0.014	2.3	67
230	240	Volc Pr	VAR	as above, shattered, dk green/green volc tuff, with epidote frags, pyrite frags, broken felsite fragments, phyl. slips, strong chlorite, dissem. pyrite	4	59823	230	240	10	0.171	0.014	1.4	38
240	250	Volc Pr	VAR	as above shattered propylitic volc tuff, qtz + chlorite vlt, epidote + py frags chlorite slips, pyrite seams & dissem.	3-5	59824	240	250	10	0.425	0.016	1.5	21
250	260	QP Volc	Pr 30-40	light green felsite VN 251-255', pyritic 255-260' dk green volc tuff qtz + py + epidote vlt, chlorite slips, dissem. py	3	59825	250	260	10	0.328	0.005	1.8	40
260	270	Volc Pr	70	dk green, shattered, propylitic volc tuff pyrite frags & clots to 3mm. qtz vlt	3	59826	260	270	10	0.359	0.015	1.9	37
270	280	Volc Pr QP	VAR	dk green/green, fine gr, shattered, strongly pyritic felsite, trace cp in qtz vlt.	6	59827	270	280	10	0.387	0.007	1.5	21

DIAMOND DRILL LOG

Hole number 91-7 Page number 5-11

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%H ₂ O ₂		Ag ppm	Pb ppm		
280 290	QP	Chl	VAR	dark grey, fine gr, shattered, pyritic felsite chlor + pyrrho, pyrite seams dissemin - v thin 3 vts vts.	5	59828	280	290	10	0.348	0.011	7.8	40
290 300	QP	Chl	VAR	as above, shattered, chloritic, pyritic felsite chlorite + sericite slips.	4	59829	290	300	10	0.231	0.011	1.0	20
300 310	QP	Chl Ph	0-80	shattered, light grey, fine gr to porcelaneous felsite, v. thin pyrite fractures sericite + chlorite slips, v. fine pyrite dissem.	2	59830	300	310	10	0.215	0.001	0.9	27
310 320	QP	Ph	50	light grey, porcelaneous felsite, compact, shear zone @ 341 50° NCA within stz vts, pyritic fractures with well developed grey siliceous envelopes.	1	59831	310	320	10	0.130	0.015	1.0	22
320 330	QP	Ph	50-90	as above, moly slips, sericite slips ± pyrite smears, v. fine dissp py in siliceous alb envelopes, compact core	1	59832	320	330	10	0.065	0.010	0.8	21
330 340	QP	Ph	50-90	light grey, porcelaneous, siliceous felsite, sericite ± chlorite slips ± pyrite smears, v. fine dissp pyrite	1	59833	330	340	10	0.065	0.04	0.5	1
340 350	QP	Ph	45-70	light grey w/ white patches, v. f. g. w/ fine phenocrysts of Qtz & feldspar; Qtz Porphyry; v. siliceous w/ sericite slips; some sec's void of phenocrysts; py & cpy smears, vts, diss; mol. vts, v. f. g. diss; fault @ 349'	72	59834	340	350	10	0.100	0.018	0.8	1
350 360	QP	Ph	50-70	light grey Qtz Porph. & feldspar as above; at 354 highly shattered & chloritic, dk green grey; rk becomes v. f. g. down interval → felsite as above; decreased sulphides in grey felsite; py + cpy, diss, vts, smears, fractures, mol. vts, slips → Tr in felsite	1-2	59835	350	360	10	0.151	0.017	1.4	3

DIAMOND DRILL LOG

note number 91-7
page number 6-11

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:		
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:	date logged	

interval from to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays				
							%Cu	%H ₂ S		Ag ppm	Au ppb			
360	370	QP	Ph	50-80	Grey to Pale Grey; v. f.g. felsite; increasingly siliceous down interval; chloritic from 360 to 364; sericitic; Strongly fractured; sulphides locally >10% → mostly py; py & cpy diss, vltz, fractures; mol. slips (tr).	1-2	59836	360	370	10	0.353	0.014	2.1	37
370	380	QP	Ph	50-80	Grey v.f.g. felsite as above; several qtz vltz; py, cpy, mol; diss, fractures, qtz veins, vltz, smears	2-5	59837	370	380	10	0.246	0.014	1.3	21
380	390	QP	Ph	50-70	Grey felsite as above; increasingly siliceous; moderate sericite; tr. qtz vltz; py → diss, fractures, vltz; cpy → abundant smears, diss, blebs, vltz; mol. → diss, vltz, smears.	3-5	59838	380	390	10	0.489	0.25	2.1	27
390	400	QP	Ph	50-70	Grey felsite as above; siliceous as above; tr. carbonate & qtz-carb. veins (v. thin); sulphides occur as above except less cpy	2-4	59839	390	400	10	0.147	0.014	1.1	7
400	410	QP	Ph / chl	40-70	Grey-Green felsite as above; introduction of chl → green colour; abundant qtz veins & carb.; pure calcite veins; sulphides as above; less mol. in chloritic sections & more cpy smears	2-3	59840	400	410	10	0.127	0.012	1.7	23
410	420	QP	py / chl	40-70	Grey-Green Chloritic felsite as above; 411'-412' qtz vein → contains fragments of wall rk & sulphides in similar proportions; qtz-carb veins; tr. po.	2	59841	410	420	10	0.246	0.011	1.9	30
420	430	QP	chl / sil / sp.	40-80	Green Chloritic felsite as above; qtz-carb vltz & po; dots; sulphides as above. 422'-430' Green Volcanic w/ qtz-carb vltz & ep. abundant py & po; diss, vltz, fractures; tr. mol; cpy smears; vltz, fractures.		59842	420	430	10	0.544	0.030	2.2	63

DIAMOND DRILL LOG

Hole number 91-7
Page number 7-11

exploration company/owner/optionee VARITECH	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)	collar elevation	at	az: dip:		
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at	date logged	
				at	az: dip:	

interval from	interval to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from	sample interval to	sample length	assays			
											%Cu	%H ₂ O ₂	Ag ppm	Pb ppm
430	440	Volc	Prop	40-80	Dark Green Volcanic tuff (?); v. fg. fractured/shattered; qtz, carb; carb; ep. no sericite; py & cpy, diss. frac veins & k; trpo.	2-3	59843	430	440	10	0.436	0.009	7.7	60
440	450	GP	chl	50-70	Grey felsite, v. fg.; fractured/shattered; qtz, carb vlt's; tr. epidote; py + cpy + mol. less cpy than above; mostly diss & frac. moly vlt's & slips	2	59844	440	450	10	0.104	0.010	1.8	37
450	460	QP	chl	VAR	med green to gr. fractured, pyritic felsite cut by chlorite + sericite frac's ± pyrite, also cut by stz vlt's dissem in gr pyrite.	3	59845	450	460	10	2.239	0.006	1.9	17
460	470	QP	chl	VAR	green shattered, pyritic felsite, enthy stz (H. Moly vlt's, sulphide spots (pyrite) Oathorite + py slips. 0 cpy vlt's	4	59846	460	470	10	0.429	0.012	2.3	45
470	480	QP	chl	VAR	shattered, dark green/green, frac. pyritic felsite, stz + py + cpy vlt's, pyrite ± cpy frac's, moly slips, bromolite stz vein salvages	5	59847	470	480	10	0.453	0.023	2.0	10
480	490	QP	chl	VAR	as above, shattered pyritic felsite chlorite + pyrite slips, pyrite ± cpy frac's py >> cpy, fault gouge @ 485'	4	59848	480	490	10	0.216	0.007	0.9	2
490	500	QP	chl	VAR	green, fractured, shattered, pyritic felsite cut by pyrite frac's & green siliceous veins open moly slips, stz + py vlt's, chlorite + cpy? frac's, in gr. dissem py & cpy?	4	59849	490	500	10	0.179	0.015	1.8	8
500	510	QP	chl	40-80	dark green, frac, fractured, pyritic felsite, cut by vlt's, stz vlt's, chlor + pyrite frac's moly slips, well developed cpy splashes at 503; dissem pyrite & k to 3mm	4	59850	500	510	10	0.220	0.009	0.9	2

DIAMOND DRILL LOG

note number 91-7
 page number 8-11

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays				
							%Cu	%H ₂ O ₂		Ag ppm	Au ppb			
510	520	QP	chl	40-60	50% core loss, dark green grey, fn gr, chloritic, pyritic felsite chlorite + pyrite fracture coats, pyrite smears, thin broken stz vlt.	4	59851	510	520	10	0.260	0.007	0.8	22
520	530	QP	chl	VAR	as above, shattered, fractured felsite porcelaneous texture, grey siliceous envelopes on pyrite frac's	3	59852	520	530	10	0.526	0.012	2.2	45
530	540	QP	chl	45-90	grey with green fractured, compact porcelaneous pyritic felsite dk green siliceous envelopes on v. thin pyrite fractures, rare stz + mdly vlt to 5mm rare gypsum vlt, diss py clots & epy? blebs, v. fractured	4	59853	530	540	10	0.309	0.009	1.2	5
540	550	QP	chl	80	grey, compact unfractured, felsite v. thin irregular stz + sulphide vlt, chlorite frac's, shales pyrite & plashes to 10mm locally	3	59854	540	550	10	0.146	0.008	0.9	6
550	560	QP	chl	80	light green, porcelaneous felsite, euhedral gypsum vlt, thin irregular epy frac's chlorite + mica? + py smears on frac's rare stz vlt, dissem py + epy? blebs.	4	59855	550	560	10	0.165	0.004 0.011	1.0	4
560	570	QP	chl	80	as above to 567', porcelaneous felsite, euhedral gypsum vlt, dissem & frac fill pyrite, stz vlt 10° NCH 567-570 or dark green green, chloritic fractured felsite, v. fine milky stz vlt chlorite + pyrite slips, some epy?	3-4	59856	560	570	10	0.166 0.356	0.005 2.006	1.1	5

DIAMOND DRILL LOG

note number 91-7
 page number 9-11

exploration company/owner/options VARITECH	map ref *	claim #	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dp:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dp:		

interval from	interval to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from	sample interval to	sample length	assays			
											%Cu	%H ₂ S	Ag ppm	Au ppb
570	580	QP volc?	chl?	80	dark green, fine gr., compact, chloritic felsite cut by epidural vlt, irregularly disjunct stz vlt, chlorite fracs & sulphide smears pyrite + chalcopyrite seams & fracs to 5mm	3-4	59857	570	580	10	0.327	0.005	7.6	41
580	590	QP volc?	chl	80	as above, epidural vlt, could be 3-4 of volcanic origin (chlorite slips, pyrite + chalcopyrite fracs to 5mm, more chalcopy in chloritic replacements.		59858	580	590	10	0.233	0.010	0.8	20
590	600	QP volc?	chl	70	as above, solid compact core gypsum vlt, chalcopyrite splashes & 597/10' within stz vlt (7/10'), mostly disseminated pyrite clots to 3mm.	3-4	59859	590	600	10	0.163	0.004	0.7	7
600	610	QP volc?	chl	20-80	as above, solid core, pyrite + cpy? fractures, seams & replacements, gypsum vlt, 7stz vlt, porphyritic felsite from 607-610, grey siliceous frac envelopes disseminated pyrite clots.	3	59860	600	610	10	0.196	0.005	1.1	2
610	620	Volc	chl	80	Dark Green-Grey, v.f.g., soft rk; appears to be ash infill; fractured but competent abundant qtz & cal. vlt; 627-629 Very siliceous, v. strong qtz, v. strong possible fingers of felsite; chl vlt w/ sulphides wall rock chloritic; py, cpy, epid. vlt in siliceous zone; py + minor cpy in wall rock > diss. vlt blocks.	2	59861	610	620	10	0.218	0.015	2.1	8

DIAMOND DRILL LOG

hole number 91-7
 page number 10-11

exploration company/owner/optionee VARITECH	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%H ₂ S		Ag ppm	Pb ppm		
620 630	Vdc	Chl	20-80	620'-621.5' Grey Green Volcanic as above; py & cpy, qtz & carb. vlt's 621.5'-626.5' Grey feldite finger as above; strong qtz vlt's; py blebs & vlt's w/ cpy mixed in; diss. py; mol. vlt's; diss. → stannite & smears. 626.5'-630' V. DK Grey feldite Volcanic → ash tuff (?); vuggy secns; chloritic; abundant cal. vlt's; py fracture fill	1-2	59862	620	630	10	0.140	0.005	0.7	7
630 640	Vdc	Chl	Var.	V. DK Grey Volcanic, as above; vuggy, chloritic, cal. vlt's; py & cpy frac. fill; diss; cpy smears 636'-637' felsite finger (?) qtz & cal veining; v. chloritic; weak sulphides	1-2	59863	630	640	10	0.127	0.005	1.1	1
640 650	Vdc	Chl	Var.	V. DK Grey Vdc. as above; vuggy; chloritic; less qtz vlt's; similar cal. vlt's; py & cpy as above	>1	59864	640	650	10	0.158	0.005	2.7	5
650 660	Vdc	Chl	Var.	V. DK Grey Vdc. as above; mineralization & alth as above; less cpy smears	>1	59865	650	660	10	0.099	0.010	1.3	2
660 670	Vdc	Chl	30-70	Inter-fingered DK Grey-Green Vdc. and felsite; Vdc. mineralized & altered as above but w/ more qtz vlt's; felsite secns contain more cpy + mol. smears & vlt's.	1-2	59866	660	670	10	0.240	0.015	1.3	14
670 680	QP	Chl	40-80	Pale Grey, f.g. to v.f.g. Qtz/Pyph./Felsite; vuggy; fractured/weakly fragmented; qtz & qtz-carb vlt's; v. siliceous but not porcelainous chlorite, along slips & in vlt's; py & cpy blebs, vlt's tr. mol. 70-80% of sulphides are cpy	>2	59867	670	680	10	0.200	0.15	1.1	5
680 690	QP	Chl	-	As above; slight increase in cpy; py + tr. mol. cpy blebs & smears near chl slips & vlt's.	>2	59868	680	690	10	0.138	0.12	1.1	4

DIAMOND DRILL LOG

note number DDH91-8
page number 1-12

exploration company/owner/optionee VARITECH	map ref # 93L/12W	claim # JB	bearing from true north 0	dip of hole at collar: 90°	logged by P. Peto & T. Armstrong	other information HQ core see PDH 75-4
property name BIG ONION	location (twp, lot, con, lat, long) 22N 4+00E	collar elevation 3550'	at az: dip:	at az: dip:	date logged 30 Aug - 2 Sept 91	
drilling company J. T. THOMAS	date hole started 29 Aug 91	date hole completed 2 Sept 91	depth of hole 750'	at az: dip:		

interval from to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%H ₂ S		Ag ppm	Au ppb		
0	10			CASING (OB & regolith)		-	-	-	-				
10	20	QP	Ph	20-70 druse, brown, off-white - rusty stz eye of silite porphyry, strong limonite coats, limonite sponge, grey stz vlt, limonite relict fractures	<1	59401	10	20	10	0.018	0.011	1.0	4
20	30	QP	Ar	20-70 argillic shears, argillic overprint on phyllic alt as above, grey siliceous alt envelopes 1 to 1cm, druse limonite fractures		59402	20	30	10	0.020	0.012	0.9	2
30	40	QP	Ar	VAR druse to mottled grey white, shattered stz eye porphyry siliceous alt envelopes, limonite coats, relict primary sulphide py ± cpn? frac's & disseminations relict sericite slips	1-2	59403	30	40	10	0.159	0.019	0.9	3
40	50	QP	Ar	60-80 sooty chalcocite? tarnish from 35' down as above, shattered argillic-limonitic core, druse stz vlt, siliceous fracture envelopes, med. gr. chalcocite xfract on fractures, sooty chalcocite slips	2	59404	40	50	10	0.424	0.014	0.9	5
50	60	QP	Ar	45-80 50-58' as above (40-50') druse stz + chalcocite vlt, chalcocite? fracture fill, & sooty Cu slips, 58-60' volcanic argillite	2	59405	50	60	10	1.016	0.018	1.4	23
60	70	Vok	chl	VAR shattered, dark green phn or, limonite pyrite & chalcocite, possibly v. fine gr. chalcocite on fine chlorite fracture coats.	<1	59406	60	70	10	0.337	0.004	1.3	16

DIAMOND DRILL LOG

note number 91-8
page number 2-12

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:		
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:	date logged	
				at az: dip:		

interval from to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%H ₂ O ₂		Ag ppm	Au ppm		
70	Volc	Chl Pr	VAR	dk green, fine gr. chloritic volcanic argillite, weaker limonite frac coats or hornblende porphyry (basaltic) flow - chlorite pseudomorphs after H ₂ O? to 35mm, cut by stz + epidote + pyrite fracture fills to 1mm, chlorite slips some possible cyan frac's & blebs, possible chalcocite, shattered core interval	<1	59407	70	80	10	0.513	0.008	1.3	5
80	Volc	chl. Pr.	VAR	as above, hbl porphyry flow, cc coats propylitic / alt, low Fe alt + sulphides.	<1	59408	80	90	10	0.305	0.007	1.0	2
90	Volc	Pr	VAR	shattered, weakly limonitic, dk green hbl porphyry volcanic flow, cut by chlorite + pyrite fractures, pyrite ± cpy? fracture fills, non magnetic, strong chalcocite (?) along fractures (supragene)	2	59409	90	100	10	0.131	0.004	1.2	1
100	Volc	Pr	40-80	dk green, propylitic hbl porphyry volc flow cut by sulphidic fractures & seams to 5mm stz + chalcocite vlt's, chlorite + pyrite fractures & sulphides cpy? & py replace chlorite pseudomorphs sooty & granular chalcocite on fractures	2	59410	100	110	10	0.153	0.004	0.1	3
110	Volc	Pr	0, 65, 80	dark green, propylitic hbl porphyry flow, weak limonite coats, chlorite + pyrite fractures, chalcocite grains on frac faces	2	59411	110	120	10	0.194	0.005	0.8	4
120	Volc	Pr		pyrrhotite, dissemin for gr pyrite + cpy? as above, chlorite slips drusy limonitic fractures, sulphide fract's cpy + pyrrhotite seams to 7mm, drusy stz vlt's to 3mm, shattered core	4	59412	120	130	10	0.381	0.006	1.1	15

Hole in circulation
~330ft

DIAMOND DRILL LOG

hole number 91-8
page number 3-R

exploration company/owner/optionee VARITECH	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		%Cu	%H ₂ S	Ag ppm	Au ppb
130	140	Volc	Pr	0-50	130-134 & 135-140' dark green, fine gr. shattered, sil porphyry, strong epidote + py fracture fills, shattered eolite, pyrite + pyrrohotite frac's ± cpy? 134-135' felsite dyke	4	59413	130	140	10	0.203	0.009	1.2	6
140	150	Volc	Pr	VAR	dk green volc porphyry, strong propylitic fractures, cutting aplite VN e 140.5', thick chalcocite? envelope on sulphide seams chlorite + py frac's, pyrrohotite + pyrite ± cpy? seams	4	59414	140	150	10	0.204	0.003	1.3	17
150	160	Volc	Pr	VAR	dk green shattered, strong propylitic volc porphyry, epidote + pyrite frac's ± pyrrohotite & cpy. v. little disseminated sulphide presence of chalcocite uncertain hereabouts	2	59415	150	160	10	0.124	0.029	1.3	2
160	170	Volc	Pr	0-90	dark green, fractured, propylitic volc porphyry, diverse epidote frac's stz vlt, pyrite + pyrrohotite frac's, chlorite slips, chalcocite in soft shear zones on fracture coats, minor dissem pyrite.	1	59416	160	170	10	0.133	0.042	1.1	4
170	180	Volc	Pr	20-70	170-178' dk green, highly altered & sheared volcanic, limonite coats, stz + epidote + carbonate frac's & seams pyrite ± cpy, largely in frac's chlorite slips	1-2	59417	170	180	10	0.168	0.005	0.5	1
180	190	QP	Ph	40	178-180' grey, fine gr, pyritic felsite dyke									
		QP	Ph	60	light green compact, weakly argillitic fine gr felsite dyke, out by thin irreg - w/ tal stz vlt, thin sulphide frac's, some weak chalcocite + msh in argillitic vuggy seams.	2	59418	180	190	10	0.124	0.003	0.2	1

DIAMOND DRILL LOG

hole number 91-8
 page number 4-12

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%H ₂ O ₂		Ag ppm	Au ppb		
190 200	QP Ph		50	lt grey, porcelaneous, felsite cut by thin sulphide (py+cpy) frac's stz v lts moly slips, sericite frac's minor, sulphide clots in argillie sheds, green siliceous fracture envelopes, minor dissem cpy?	2	59419	190	200	10	0.131	0.009	0.3	2
200 210	QP Ph		35-60	as above, light grey porcelaneous felsite sericite ± chlorite slips, moly slips & dissem. green siliceous fracture envelopes on py ± cpy? fracture (<1mm), 6" stz + sulphid shdr p. 200.5', minor dissem pyrite, compact core	2	59420	200	210	10	0.108	0.012	0.9	22
210 220	QP Ph		VAR	light grey porcelaneous felsite shattered core, sericite slips ± moly smears locally argillie where sheared, thin sulphide frac's, grey stz eyes	1	29421	210	220	10	0.080	0.010	1.0	3
220 230	QP Ph		VAR	light grey, shattered felsite, stz eye porphyry, moly slips, pyrite smears & thin frac's, grey siliceous envelopes minor dissem. py	4	29422	220	230	10	0.035	0.009	0.7	4
230 240	QP Ph		VAR	med grey, siliceous, aphanitic felsite moly slips, pyrite frac's & smears, stz eyes, dissem on py, sericite slips	2	29423	230	240	10	0.311	0.015	1.8	5
240 250	QP Chl		VAR	dark grey green, shattered, v. fine gr. chloritic felsite, chlorite + sericite slips pyrite frac's & smears dissem pyrite cubes, minor dissem pyrite, few stz + py v lts, locally argillie & vuggy	2	29424	240	250	10	0.505	0.005	1.2	30

DIAMOND DRILL LOG

hole number 91-8
page number 5-R

exploration company/owner/optionee * VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:		
drilling company J.T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:	date logged	
				at az: dip:		

interval from to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%H ₂ S		Ag ppm	Pb ppm		
250 260	QP	Chl Ph	30	250'-256' Greenish-Grey, f.g. to v.f.g. felsite, fractured/shattered; vuggy, sec'ns, chloritic & sericitic → mostly on slips; abundant cal. vlt's; v.f.g. diss, & frac fill. py; cpy smears & w/ some cal. vlt's. 256'-260' Pale Grey v.f.g. to aphanitic "porcelaneous" felsite; v. siliceous; no cal. vlt's; some vugs py → frac fill, diss, vlt's; cpy → smears, vlt's, blebs; Moly → smears.	2	59425	250	260	5	0.241	0.007	7.1	32
260 270	QP	Ph Chl	30	Pale grey felsite as above; v. siliceous; phillite alt'n, sulphides as above; qtz & cal vlt's; cal. vlt's parallel to folia fault @ 265' 268'-270' Green-Grey chloritic felsite as above; abundant cal. vlt's; py → frac fill; v.f.g. diss; cpy → smears, in cal. vlt's.	2	59426	260	270	10	0.209	0.009	1.0	2
270 280	QP	Chl	?	Greenish-Grey chloritic felsite as above; highly fractured/shattered; abundant cal. vlt's; minor epidote along fractures; py → f.g. diss & frac fill; cpy → smears & vlt's.	<2	59427	270	280	10	0.334	0.006	1.3	42
280 290	QP	Chl	?	Greenish-Grey chloritic felsite, as above; cal. & qtz vlt's, fr. ep; py & cpy as above fr moly → diss, vlt's ± smears.	2	59428	280	290	10	0.345	0.017	1.4	12
290 300	QP	Chl Ph	20-40	Grey f.g. felsite, siliceous but not porcelaneous; competent rk; strong qtz veining ± cal. vlt's; no ep; one qtz vein 3cm wide; v. weak folia; py & cpy vlt's & blebs; in 3cm wide qtz vein, cpy blebs to 1cm wide; fr mol in v. thin vlt's.	2	59429	290	300	10	0.235	0.017	1.6	4

DIAMOND DRILL LOG

note number 91-8
page number 6-12

exploration company/owner/optionee VARITECH	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%H ₂ O ₂		Ag ppm	Pb ppb		
300 310	QP	Ph chl	20-40	300-305 - Grey competent felsite as above; alt'n & mineralization as above but with less cpy. 305-310 Greenish Grey f.g. chloritic felsite; fractured/shattered; abundant cal & qtz carb. vlt's; tr ep; py & diss, fractures vlt's; cpy & fractures, vlt's, blebs.	2	59430	300	310	10	0.299	0.009	1.3	3
310 320	Volc Prop	?	?	Grey-Green v.f.g. volcanic tuff (?); fractured & shattered. some chl. on v. weak foliation; abundant cal & qtz carb. vlt's; pervasive ep. on fractures; py & cpy, vlt's, fractures; cpy blebs & smears; tr po	2-3	59431	310	320	10	0.231	0.007	1.5	8
320 330	Volc Prop	?	?	DK Grey-Green Volcanic as above; v. low recovery (~15%); alteration as above; 0.5-1.0 cm wide veins of py & cpy -> x-lattice cpy; moderate folia; miss-latch -> recovery loss; po	7	59432	320	330	10	0.872	0.014	1.0	42
330 340	Volc Prop		25-80	DK Green Volcanic as above; some fractured & shattered, some competent (last 2 Ft. of int.); alt'n as above; py & diss, fractures, vlt's; cpy & vlt's, blebs; tr smears; tr po	5-7	59433	330	340	10	0.266	0.014	0.1	21
340 350	Volc Prop		50-80	DK Green Volc. as above; 340-346' competent 346'-350' fractured/shattered; alt'n as above; py & cpy diss, fractures, vlt's w/ cal, tr cpy slips	5	59434	340	350	10	0.221	0.013	0.8	2
350 360	Volc Prop		50-80	DK Green Volc. as above; 350-355' fractured/shattered 355'-360' competent; alt'n as above; py & cpy fractured, diss, most abundant in cal. vlt's; mostly py	5-7	59435	350	360	10	0.274	0.009	1.3	1

DIAMOND DRILL LOG

Hole number 91-8 Page number 7-12

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged 1 Sept	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%H ₂ S		Ag ppm	Pb ppb		
360 370	Volc	Pr	50-70	dark green, v. fine gr. volcanic argillite in tuff cut by 6mm pyrite + epy fracture fills chalc. v. lts, epidote frac's, chlorite slips chalcopyrite clots to 3mm.	3	59436	360	370	10	0.369	0.013	1.1	5
370 380	Volc	Pr	50-80	as above, shattered core, strong chlorite path cut by white gtz + carb v. lts sulphide frac's, massive sulphide replacement 378' large py with malachite salvages, py 77 cpy.	3	59437	370	380	10	0.734	0.026	1.2	40
380 390	Volc	Pr	50-65	380 - 385 1/2' as above 385 1/2 - 390 - light grey, fine gr, fractured argillite felsite dyke contact, cut by gtz + carb + sulphide shears 20' NCA sericite slips, dissem fine gr pyrite, sulphide fracture fills, py 77 cpy.	3	59438	380	390	10	0.121	0.027	1.3	6
390 400	QP	PH	45-80	lt grey fine gr, sericitic felsite dyke with chlorite + sericite slips, thin sulphide frac's, white gtz + carb v. lts minor py + cpy disseminations. epy pyrite frac's.	2	59439	390	400	10	0.224	0.023	0.9	3
400 410	QP	PH	0-80	light grey, fine to porcelaneous felsite argillite from 400-403', cut by chlorite frac's, py + cpy frac fills, epy splashed to 15mm, white gtz + carb v. lts + moly salvages	2-3	59440	400	410	10	0.296	0.033	1.6	7
410 420	QP	PH	-	solid, fractured, light grey felsite core cut by v. thin sulphide frac's + grey siliceous envelopes, dissem py & epy blebs, moly slips sericite slip SHEAR ZONE 417-420'	3	59441	410	420	10	0.145	0.025	0.6	4

Argillite + ...

DIAMOND DRILL LOG

Hole number 91-8 Page number 8-12

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged 1 Sept 91	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		%Cu	%H ₂ S	Ag ppm	Au ppb
420	430	QP	PH	-	solid fractured, grey felsite core, cut by pyrite + chalcocite frac's, sericite slips, gtz + carb vlt's, locally vuggy, large cpy replacements e. 4' 29.5ft.	3	59442	420	430	10	0.213	0.030	0.7	2
430	440	QP	PH	25-80	as above, thin sulphide frac's with grey siliceous envelopes, gtz vlt's, moly subears	2	59443	430	440	10	0.154	0.017	0.5	4
440	450	QP	PH	0-80	grey, fine gr. pyritic felsite, sericite + moly slips, cpy splashes along frac's, few gtz + dark vlt's, chlorite + pyrite frac's	4	59444	440	450	10	0.108	0.036	0.4	2
450	460	QP	PH	VAR	shattered, light to dark grey, pyritic felsite; chlorite + py ± cpy? fine clots, sericite slips, sulphide clots to 10mm, few gtz vlt's, v. fine disseminations	3	59445	450	460	10	0.116	0.006	0.3	6
460	470	QP	PH	VAR	dark grey shattered chloritic, pyritic felsite, as above, good cpy blebs & clots locally.	30	59446	460	470	10	0.164	0.007	1.0	7
470	480	QP	PH	?	Medium to Dark Grey, v. fine, felsite, fractured & shattered; weak foln, carb & gtz-carb vlt's; epidote on several fracture faces; chlorite w/ sericite on foliations & in fractures w/ sulphides; py → v. fine diss; fractures; vlt's; cpy → blebs, fractures	3	59447	470	480	10	0.161	0.007	1.3	4
480	490	QP	PH	?	Grey felsite as above; fractured/shattered, alt'n as above; some py & cpy w/ gtz-carb & carb vlt's; py → v. fine diss; fractures; vlt's; cpy → blebs, frac, vlt's	3	59448	480	490	10	0.152	0.007	1.2	5
490	500	QP	Prop	20-60	Grey felsite as above; alt'n as above but w/ abundant epidote → pyritic; py → diss, frac, vlt's w/ or w/out gtz-carb; cpy → blebs; vlt's ± gtz-carb.	3	59449	490	500	10	0.143	0.004	1.0	2

DIAMOND DRILL LOG

hole number 91-8
page number 9-12

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:		
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:	date logged	
				at az: dip:		

interval from to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%H ₂ O ₂		Ag ppm	Au ppb		
500 510	QP	Prop.	Var.	Grey felsite as above; fractured/shattered; pervasive ep & cal. frac. fill vlt's ± qtz, carb vlt's; abundant chl. in some cal. vlt's; fault @ 508'; py → vlt's, diss.; abundant vlt's, frac. fill; cpy → blebs/clots, sphalerite, vlt's; sulphide vlt's most often assoc. w/ carb. & qtz-carb vlt's; 508' to 509.5' increased silica → aphanitic.	3-5	59450	500	510	10	0.096	0.003	1.2	1
510 520	QP	Prop.	Var.	Grey Felsite as above; fractured/shattered; alth. as above; 515-516' Hld-Qtz-eye porph dyke, f. form. g. phenocrysts; hld altered to chl, mostly diam. py; py → diss., vlt's, frac.; cpy → vlt's, blebs.	3-5	59451	510	520	10	0.205	0.004	2.0	37
520 530	QP	Prop. Ph	Var.	Grey Felsite as above; alteration changes from decreasing ep and increased silicification down interval; 523-530' competent & moderately silicified; sulphides in unsilicified portion as above; sulphides in silicified portion mostly in vlt's w/ stockwork appearance, increased cpy, as blebs & in vlt's; tr. magnetite vlt's w/ some sulphides.	3-10	59452	520	530	10	0.517	0.017	1.2	20
530 540	QP	Ph	Var.	Grey, f.g. non-silicified felsite, as above; qtz & qtz-carb. vlt's; tr. ep. on fractures → more like phillic than prop.; shear @ 536' w/ carb. veining & mol. smears/slips; py & cpy vlt's & clots; diam. py.	2	59453	530	540	10	0.436	0.017	2.2	30

DIAMOND DRILL LOG

Hole number 91-8 Page number 10-12

exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged 1 Sept 91	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%H ₂ S ₂		Ag ppm	Pb ppm		
540 550	QP	Prop	?	Grey, f.g. felsite, as above; fractured/shattered; several ep. fractures; qtz-carb & carb vlt's; chl. in some vlt's; py & cpy as above; no mol.	2	59454	540	550	10	0.196	0.006	1.9	2
550 560	QP	Prop	?	Grey felsite as above; fractured/shattered; alt'n as above; py & cpy as above; qtz veining @ 560 w/ abundant chl. → no change in sulphides.	2	59455	550	560	10	0.327	0.019	2.2	16
560 570	QP	Prop	?	Grey felsite as above; increased ep. → prop. fractured/shattered; py → fractures, clear; abundant vlt's; cpy → vlt's (w/py) & minor blebs.	3-5	59456	560	570	10	0.199	0.008	1.6	15
570 580	QP	Prop	?	Grey felsite, as above; fractured/shattered; alt'n as above; sulphides as above w/ increased cpy smears on chlorite foliations.	2-4	59457	570	580	10	0.813	0.007	2.5	50
580 590	QP	Chl	?	Grey felsite as above; Moderately fractured & shattered; no ep.; cal ± qtz carb veins absolutely no litho change from above; mod. yet varied chlorite foliation; sulphides as above.	2-3	59458	580	590	10	0.407	0.013	2.1	20
590 600	QP	Chl	Van.	Grey Felsite as above; moderate fracturing; alt'n as above; sulphides as above.	2-3	59459	590	600	10	0.398	0.015	2.4	21
600 610	QP	Chl	?	Grey Felsite as above; moderately fractured; alteration as above w/ tr. ep.; sulphides as above w/ less cpy; mol. slips.	2-3	59460	600	610	10	0.161	0.033	1.8	8
610 620	QP	Chl	Van.	Grey Felsite as above; fractured/shattered; >10% of interval qtz-carb veining; chl slips & vlt's; tr. ep.; py & cpy → fracture, vlt's; qtz-carb vlt's; blebs of cpy; disc of py; tr. mol (?) in qtz-carb.	2-3	59461	610	620	10	0.136	0.010	1.1	2

DIAMOND DRILL LOG

Hole number 91-8 Page number 12-12

exploration company/owner/optioneer VARITECH	map ref *	claim #	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)	collar elevation	at az: dp:	at az: dp:		
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dp:	date logged	

interval from to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
							from	to		%Cu	%H ₂ S	Ag ppm	Au ppm
670	680	Volc. Prop.	✓	Dk. Green Volc. as above; cal & ep. vltz; fractures; some chl w/ cal & gty-carb vltz; sulphides as above.	<2	59467	670	680	10	0.095	0.004	1.3	14
680	690	Volc. Prop.	✓	Dk. Green Volc. as above; cal & ep.; several gty-carb vltz; fractured/shattered; sulphides as above; v. weak fol. more evident but orientation indiscernable.	<2	59468	680	690	10	0.076	0.005	1.2	5
690	700	Volc. Prop.	✓	690' to 695' Dk. green Volc. as above. 695' to 700' Pale grey v.f.g.; gty porph dyke; fractured & competent, chl vltz; several gty vltz; vltz, clots, & diss. of py & cpy.	2	59469	690	700	10	0.122	0.007	1.1	4
700	710	Volc. Prop.	✓	700'-702' Pale Grey QPdyke as above. 702'-710' Dk Green Volc as above; cal & ep.; abundant chloritic slips; py & dia; frac; vltz; cpy → vltz & smears.	<2	59470	700	710	10	0.097	0.005	0.8	6
710	720	Volc. Prop.	✓	Dk Green Volc. as above; cal & ep.; chl slips; gty-carb veins; sulphides as above.	<2	59471	710	720	10	0.092	0.003	0.8	4
720	730	Volc. Prop.	?	Dk Green Volc. as above; fractured/shattered, as above; cal & ep.; gty-carb veins; sulphides as above w/ decreasing cpy.	1-2	59472	720	730	10	0.101	0.003	0.7	3
730	740	Volc. Prop.	?	Dk. Green Volc. as above; fractured/shattered; alth as above; sulphides as above w/ increased clots of py & cpy.	2-3	59473	730	740	10	0.136	0.004	0.8	12
740	744	Volc. Prop.	?	Dk Green Volc. as above; v. fractured/shattered alth as above; sulphides as above. E.O.H.		59474	740	744	4	0.121	0.002	0.9	2

CORE: HQ number 1-11

exploration company/owner/optionee VARITECH RESOURCES Ltd	map ref # 93 L/15W	claim # JC 128(?)	bearing from true north N.A.	dip of hole at collar: -90°	logged by P. Peto & T. Armstrong	other information DDH 91-1 situated at collar of DDH 76-8 (B) PDH 75-56
property name BIG ONION	location (tpw, lot, con, lat, long) 14, 240 North 9, 525 EAST		collar elevation 4635 feet	at 800ft az: ±? dip: 86°	date logged 4-9 August 1991	
drilling company J.T. THOMAS	date hole started 3 Aug 1991	date hole completed 9 Aug 1991	depth of hole 800 feet	at az: dip:		

interval from	to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	TOTAL CORE RECOVERY assays 795.7%			
								from	to		TOTAL %Cu	% MoS ₂	(ppm) Ag	(ppb) Au
0	10				CASING (overburden & regolith)		20801	12.5	20	12.5	0.013	0.011	0.4	24
10	20	QP	Ar	60°	shattered, limonitic crumbly & soft 75% recovery. fr. grained, limonite frags.	0	20802	20	30	10	0.011	0.019	0.1	31
20	30	QP	Ar	50°	rusty, shattered, crumbly & soft felsite with clay gouge seams, limonite frags 70% recovery.	0	20803	30	40	10	0.015	0.016	0.1	36
							20804	40	50	10	0.006	0.02	0.3	29
							20805	50	60	10	0.004	0.05	0.2	23
							20806	60	70	10	0.011	0.012	0.1	14
30	40	QP	Ar	40	rusty, shattered crumbly, felsite, lim frags, clay seams, 60% recovery	0	20807	70	80	10	0.234	0.013	0.7	24
40	50	QP	Ar	0-90	beige/rusty, v. fr. gr. felsite, limonite frags, 0.5' ftz vein @ 51.5' 90% recovery	0	20808	80	90	10	0.088	0.013	0.2	19
50	60	QP	Ar	70	beige/rusty, shattered, crumbly, felsite	0	leached		0	100	100	Assay Summary %Cu 0.05%		
60	70	QP	Ar	70-80	ditto limonite frags	0	H-QP	100	270	170'	0.257			
70	80	QP	Ar		Grey, crumbly clay rich felsite with disseminated chalcocite & pyrite	2	QP	270	340	70'	0.294			
					65-85' fault zone		Volu	340	460	120'	0.566			
80	90	Ar	VAR		Blue-Grey, felsite, fractured & faulted; 80-85' → shattered & friable; 1-4% py, 1-2% chalcocite; clay seams; minor rust/limonite fractures; sulphides diss. & in veins & blebs; random fracture orientation, secondary silica cement (tr.) & veining (tr.) 85-90' → competent rock, random rusty fractures, pale yellow beige patches of potassic clay allin, oxidation of sulphids from veins, 0-2% py (diss & veinlets), 0-2% chalcocite (diss.); tr moly (blebs); post vein fracturing.	4	F-QP	460	580	120'	0.418			
							FW-QP	580	690	110'	0.10			
											Assay Summary			
								10	100	0.066	7% Cu			
								100	460	0.235				
								460	650	0.29				

exploration company/owner/optionee	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by	other information DDH 91-1
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dp:	date logged	
drilling company	date hole started	date hole completed	depth of hole	at az: dp:		

interval from	to	rock type	alteration	foliation core axis to	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	ASSAY assays			
								from	to		%Cu	MoS ₂	Ag	Au
90	100	QP	Ar		Blue-Grey felsite, competent but broken; as above (85-90 interval); 1-5% py (diss, veinlets, blebs), 1-4% chalcocite (diss; veinlets); tr marcasite (vein scars); random orientation of fractures → 5% rusty/limonitic	4	20809	90	100	10	0.067	0.015	0.1	3
100	110	QP	Ar		Blue-Grey felsite; competent → not broken up as much as above; lithology and fracturing same as above → except only trace rusty fractures; 2-5% py, 2-4% chalcocite, tr marcasite (?).	5	20810	100	110	10	0.110	0.012	0.3	4
110	120	QP SP	Ar	40°	Blue-Grey felsite to Med. Grey Feldspar porphyry; 110' to 113' same as above. 113' to 120' → Med. Grey Feldspar porphyry med. gr. feldspar laths altered to clay; f.g. groundmass; minor fracturing and veining; 1-2% dissem. py; 1% py in 1-4mm veins & fracture fills → 40° to C.A.; 5-10% dissem. C.C. and 1-2% cc. in veinlets/fracture fills.	10	20811	110	120	10	0.219	0.014	0.5	35
120	130	QP	Ar	50°	grey, fn gr, shattered strongly argillic felsite with dissem fn. gr. chalcocite pyrite, 10mm chalcocite vlt e 125' thick stz ± py frac fills	?	20812	120	130	10	0.256	0.013	0.9	17
130	140	QP	Ar	70-80°	grey fn gr strongly argillic shattered felsite with dissem pyrite, chalcocite grain, stz + py frac ± chalcocite to 1mm clay gouge 130' & 134' 100% Rec.	?	20813	130	140	10	0.203	0.011	0.3	18

exploration company/owner/options		map ref #		claim #		bearing from true north		dip of hole at collar:		logged by		other information					
property name		location (twp, lot, con, lat, long)				collar elevation		at az: dip:		date logged		DDH 91-1					
drilling company		date hole started		date hole completed		depth of hole		at az: dip:									
interval from to		rock type	alteration	foliation core axis to	description (colour, grain size, texture, minerals, alteration)				sulphides %					sample number	sample interval from to		sample length
140	150	QP	Ar	60-90	green, fine gr. strongly argillic felsite, disseminated chalcocite, disseminated stz + py 5-10mm vltz, 100% rec, py frags cut stz vltz.				1	20814	140	150	10	0.262	0.006	0.6	18
150	160	QP	Ar	70-90	as above, clay gouge 150-183' & diss				1	20815	150	160	10	0.130	0.016	0.3	16
160	170	QP	Ar	45°	green/white, fine gr. shattered, strongly argillic felsite disseminated chalcocite, pyrite cut by thin irregular stz + py vltz				1	20816	160	170	10	0.135	0.013	0.4	5
170	180	QP	Ar	50-70	green fine gr. strongly argillic felsite shattered, disseminated fine gr. c.c. & pyrite thin irreg. stz vltz				1	20817	170	180	10	0.121	0.012	0.4	23
180	190	QP	Ar	VAR.	as above, clay gouge 189', chalcocite smears & slickens					20818	180	190	10	0.123	0.019	0.5	17
190	200	QP	Ar	VAR.	green fine gr. shattered, strongly argillic felsite, disseminated c.c., py, thin irreg. stz vltz, clay gouge & sulphides c. 185'				1	20819	190	200	10	0.169	0.018	0.5	15
200	210	QP	Ar	-	dark grey highly sheared, fine gr. felsite disseminated, minor py, Bornite (?) grains, clay gouge 80% recovery				1	20820	200	210	10	0.314	0.007	0.8	34
210	220	QP	Ar	-	lt to dk green, fine gr, highly argillic felsite highly shattered & soft, bleached from 210-225' & chalcocite smears, disseminated c.c.				1	20821	210	220	10	0.172	0.022	0.6	19
220	230	QP	Ar	-	dk to lt green fine gr, shattered, highly argillic felsite, disseminated & thin chalcocite smears minor py, dark grey (more sulph. rich 220-225')				2	20822	220	230	10	0.387	0.012	0.8	36

exploration company/owner/optionee	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by	other information DDH 91-1
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dp:	date logged	
drilling company	date hole started	date hole completed	depth of hole	at az: dp:		

interval from	to	rock type	alteration	foliation core axis to	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		%Cu	MoS ₂	Ag	Au
290	300	QM	Ar	40-60	med gr, speckled white/green, argillitic, shattered Qtz Monzonite; green argillitic frags & slicks green metallic chalcocite(?) v. infillings possibly tetrahedrite(?) some sulph replacement of mafics	1	20829	290	300	10	0.365	0.002	0.5	45
300	310	QM	Ar	60-70	as above, limonitic-chloritic frags sulph (Cc) replacement of chloritic mafics, stz +Cc + py vlt, core more compact	1	20830	300	310	10	0.342	0.004	0.7	40
310	320	QM	Ar	80-90	as above, drusy limonitic vugs, sulph (c?) vug replacements, Cc dissem & shears	1	20831	310	320	10	0.260	0.013	0.2	40
320	330	QM	Ar	60-70	less argillitic, med gr, speckled QM, sulph replacement of chloritic mafics, limonitic vug infillings, 3mm py frag, fillings & slicks	1	20832	320	330	10	0.214	0.011	0.3	23
330	340	QM	Chl	30-80	330-333' as above, 333-340 dk green/green, v. fn gr, fractured (Brecciated) Hazelton Volcanic(?) with v. fn gr. dissem sulphides (Cc?), brown fibrous frag fillings, 1-5cm QM vlt, chloritic alt	3	20833	330	340	10	0.319	0.005	0.2	85
340	350	V/QM	Ar	40-80	340-343' chloritic fn gr. HAZELTON Volcanic 343-350' huge fn gr. Qtz porph felsite compact, weakly argillitic v. thin (Cc?) slips dissem Cc grains, Qtz + clay frag fills + Cc	1	20834	340	350	10	0.231	0.008	0.5	44
350	360	V	Chl	80-60	green/green fn gr. compact, volcanic? screen v. strong sulph (Cc) replacement, py + chalcocite seams to 5mm, white clay frag fills	4	20835	350	360	10	0.740	0.006	1.1	182
360	370	V	Chl		as above, well mineralized with dissem Cc shattered / cut by rare felsite vlt	5	20836	360	370	10	0.638	0.006	0.8	186

exploration company/owner/options		map ref #	claim #	bearing from true north	dip of hole at collar:	logged by	other information							
property name		location (tpw, lot, con, lat, long)		collar elevation	at az: dip:	date logged								
drilling company		date hole started	date hole completed	depth of hole	at az: dip:									
interval from	to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to	sample length	assays				
370	380	QP	Ar	60-90	370-378' grey/white, fn gr. compact, fractured felsite mod argillic, thin dis continuous seams of cc, dissein cc, stz + py + cc frac fills. 378-380' grey/green fn gr. shattered volc with cc replacement as dissein, fracs & seams.	3	20837	370	380	10	0.660	0.006	1.04	162
380	390	QP VP	Ar chl	60-90	dk grey, fn gr. shattered, felsite with strong sulphidic (cc + py) replacement, vuggy, massive sulph seams, chlorite slips, v. fn gr. py dissein. 380-390' dk grey, fn gr. volcanic cut by chlorite sulphide slips, dissein cc & py	5	20838	380	390	10	0.722	0.007	1.5	215
390	400	QP VP	Ar chl	60-90	mixed grey / fn gr sulphide rich felsite cc + py acumb, fracs & dissein. & dk grey v. fn gr. volcanic & sulph (cc + py) replacement	3	20839	390	400	10	0.582	0.006	2.2	110
400	410	Volc	chl.	VAR	Chal loss (65%) shattered, dk green volcanic, py + stz fracs, chlor slicks & slips		20840	400	410		0.440	0.002	2.2	137
410	420	Volc QP	chl.	VAR	410-414' shattered, dark grey, v. fn gr volc, chlor. slips, limonite coating, diss py 414-420' grey fn gr. shattered felsite cut by stz + py fracs, chlorite seams to 2m. 5cm pyrite? segregation @ 418'	2	20840	410	420	10	0.359	0.007	2.2	67
420	430	Volc	chl QP	VAR	dk grey / green, fn gr volcanic, shattered, limonite coats, diss chalcocite from 424-430: 420-424' fractured felsite & dissein cc & py fracs, limonite coats		20840	420	430	10	0.677	0.011	1.9	188

exploration company/owner/options	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:		
				at az: dip:		

interval from	to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		% Cu	MoS ₂	Ag	Au
430	440	V	Ch	VAR	shattered, dk grey/green vfn-gr Volcanic chlorite slips, limonite educts, stz + py ± cc(?) fracs, v. fn gr. dissemin. cc? primary cp blebs	?	20843	430	440	10	0.837	0.005	1.0	232
440	450	V	Ch	Var	dk grey/green; shattered pieces; v. f.g; slickenside surfaces; minor limonitic qtz veins; Sulphides in veinlets; disseminated & associated with qtz veinlets → py, cc, bor(?), cpy(?), cv(?)		20844	440	450	10	0.521	0.001	1.8	148
450	460	V/Q	Phil	Var	450-458 → dk grey-green vfn-gr; same as above. 458-460 → Lt. Grey to beige patches; fta med gr; competent rock; Quartzite(?) to qtz porphy; 40-60% Qtz → silicified? irregular gypsum veinlets/fracture fills; 5% diss sulphides → py, cpy, cc ± br.	5	20845	450	460	10	0.394	0.005	1.0	122
460	470	QP	Phil	Var	Lt. grey with beige patches; competent; >50% qtz in grey sections → silicified & sericitized → phyllic altn; random gypsum veinlets; mafics altered to chlorite; 2-5% cpy ± py disseminated & in veinlets → est. 0.35% Cu.	5	20846	460	470	10	0.562	0.011	2.3	192
470	480	QP	Phil	Var	Lt. grey w/ beige patches; same as previous int.; 1-3% cpy ± py → diss & veinlets; → est. 0.7% Cu.	3	20847	470	480	10	0.570	0.009	2.1	203

exploration company/owner/optionee	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:		

interval		rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
from	to							from	to		%Cu	MoS ₂	Ag	Au
480	490	QP	Ph	Var	Lt. grey w/ tr. beige patches; same as previous interval; 1-3% cpy, ± py dia. & veinlets;	3 cp	20848	480	490	10	0.571	0.014	2.0	152
490	500	QP	Ph	Var	Lt. grey; no beige patches; same as previous interval; 1-4% cpy + py; 0.5 to 3.0 cm wide cpy ± py vein @ 499.5' sulphides diss., veinlets, & blebs.	4 cp	20849	490	500	10	0.500	0.010	1.9	110
500	510	QP	Ph	60-80	Grey, fng. compact felsite cutting thin gypsum vlt. Hk green sericite slips, 5mm irregular stz + cp vlt. & irregular py + cp frac fills	1	20850	500	510	10	0.472	0.012	1.8	144
510	520	QP	Ph	10-90	as above, 7 stz + cp vlt. behind gypsum vlt. smooth metallic grey slips (hematite) or v. fng. moly? fng. irreg. dissem. chalcopyrite blebs	1	20851	510	520	10	0.310	0.019	1.7	93
520	530	QP	Ph	40-80	Green sericite alt. sh. as 520-523' thin cp frac. moly dissem. + pyrite Moly, 4 stz vlt. as above, 3 stz vlt. clay conc. @ 523'	1	20852	520	530	10	0.311	0.012	2.1	87
530	540	QP	Ph		dissem. moly pl. fng. cp blebs & pyrite, thin cp frac, chloritic mafics < 3%	1	20853	530	540	10	0.298	0.007	1.8	78
540	550	QP	Ph	30-60	as above, 6 stz vlt. thin cp frac sericite slips & moly emb. dissem. fng. cp blebs	1	20854	540	550	10	0.330	0.009	1.6	83
550	560	QP	Ph	30-90	as above: sericite slips, thin cp frac dissem. cp blebs, 8 stz vlt. minor moly	1	20855	550	560	10	0.254	?	1.6	72
560	570	QP	Ph		as above, 8 stz vlt. cp frac dissem. cp & blue tinge suggesting v. fng. moly	1	20856	560	570	10	0.199	0.013	1.3	56

exploration company/owner/optionee	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by	other information
property name	location (tpw, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		%Cu	MoS ₂	Ag	Au
570	580	QP	Ph	40-90	570-576' Fault zone c clay gouge minor sulphides, 576-580' grey compact felsite, 3qtz vns, py+cp frac fills, sericite slip c grey v. thin v. 10mm?	?	20857	570	580	10	0.250	0.010	1.1	100
580	590	Ap	Ph	45-80	580-581' ad above, felsite c ep frags 581-590' beige, v. fine gr. compact aplite dyke, sericite slips, cut by 6 qtz+cp v. lts to 10mm	?	20858	580	590	10	0.060	0.004	0.8	40
590	600	Ap	Ph	45-55	Pale beige, aplite dyke as above, dk green chl slips; no mineralization	?	20859	590	600	10	0.003	0.003	0.6	10
600	610	Ap/Op	Ph	50	600'-603.5' aplite dyke as above, fault gouge 600-600.5'; 603.5-610 Grey f. to m. gr., Qtz porph; m.g. chloritic phenocryst relics; 2-3% cpy ± py diss., v. lts, frac fill; tr. MoS ₂	3	20860	600	610	10	0.138	0.011	1.4	41
610	620	Op	Ph	~15	Grey f.g. w/ some m.g. phenos; as above, chloritic; moderate to highly silicified; cpy, trpy, → diss., frac fill; tr MoS ₂ slipages; porous/vuggy (alt. veins)	?	20861	610	620	10	0.257	0.033	1.2	50
620	630	Op	Ph	~15	Grey; same as above; sericitic slips; cpy ± py → diss., frac fill, vug fill; tr Mo. diss. & slips.	?	20862	620	630	10	0.291	0.016	1.1	63
630	640	Op	Ph	45-75	Grey, as above; sericitic slips, weakly friable sections → vuggy qtz veins; fault gouge @ 632' & 637'; 4-6% sulphides; cpy, py diss + minor v. lts & vug filling / frac fill; tr. diss MoS ₂ .	6	20863	630	640	10	0.233	0.009	1.4	73

DIAMOND DRILL LOG

note number 91-1 page number 10-11

exploration company/owner/optionee	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:		

interval from to		rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
													%Cu	MoS ₂
640	650	QP	Ph	45	Grey, As above; fault gauge @ 647.5; cpy + py mostly frac. fill veinlets ± diss.; strong MoS ₂ in frac. fill & slips.		20864	640	650	10	0.191	0.016	0.06	33
650	660	QP	Ph	45	Grey, As above; sericitic slips; cpy + py mostly frac. fills & v.f.g. diss.; tr. MoS ₂ on slips & v.f.g. diss.		20865	650	660	10	0.043	0.010	0.1	20
660	670	QP	Ph		660-665 Grey, as above; min. as above. 665 → Fault gauge 665-666.5 Lt. grey, v.f.g. competent; cpy, mol, ± py healed fractures; Not Aplite 666.5 → Fault gauge. 666.5 - Grey to Lt. grey, v.f.g. as above; fractures healed by sulphides (as above) rimmed by grey bands to 1cm each side → silicification.		20866	660	670	10	0.004	0.007	0.3	6
670	680	QP	Ph	35-80	Grey, compact, fine gr. felsite, well fractured with silver grey v. fine, moly slips & coarse grained silver & tetrahedrite?/arsenopyrite pyrite fracture fills dissem. bpi & py. blebs grey silicic fracture envelopes, post-mineral frac's	4	20867	670	680	10	0.004	0.001	0.1	13
680	690	QP	Ph	60	680-687' as above, arsenopyrite? frac's & disseminations, grey alt'n (silica) envelopes to 10mm on sulphide frac's 687-689' huge compact barren aplite 689-690' as for 680-687	4	20868	680	690	10	0.007	0.003	0.5	10

DIAMOND DRILL LOG

hole number
DDH 91-1
number
11-11

exploration company/owner/optionee	map ref ●	claim #	bearing from true north	dip of hole at collar:	logged by	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		% Cu	% MoS ₂	Ag	Au
690	700	QP	Ph	60-80	690-698' grey compact felsite, cp frags to 5mm, thin ph+cp frags & grey siliceous envelopes. Asp? dissem. 697.5-698' massive chlorite seam	5	20869	690	700	10	.009	0.001	0.1	44
700	710	Ap	Ph	40	698-700' pale green aplite cut by stz vlt & minor cp blebs pale green, v. fn. cp. perthite cut by irregular stz vlt. carry minor dissem. cp? dk green chloritic frags c. 708' sericitic alt.	<1	20870	700	710	10	.005	0.001	0.7	3
710	720	Ap	Ph	60-80	as above sericitic slips, irreg. stz vlt. v. thin ph+cp? frags, minor v. fn. cp blebs, 10 stz vlt.	<1	20871	710	720	10	.004	0.001	0.8	7
720	730	Ap	Ph	50-60	pale green, v. fn. gr, compact aplitic felsite cut by irregular, barren milky carbonate + stz vlt. (27 mesh 10 ft), minor v. fn. gr. dissem. ph+cp	<1	20872	720	730	10	.001	0.001	0.5	4
730	740	Ap	Ph	60	as above, 12 stz + carb vlt. sericite slips	<1	20873	730	740	10	.002	0.001	0.7	5
740	750	Ap	Ph	60	as above, irregular stz + carb vlt. (10) sericite slips, no sulphides	<1	20874	740	750	10	.002	0.001	0.8	3
750	760	Ap	Ph	60-80	as above, compact & siliceous felsitic aplite, no sulphides	0	20875	750	760	10	.001	0.001	0.8	13
760	770	Ap	Ph	70	as above sericite slips, irreg. stz + carb vlt.	0	20876	760	770	10	.002	0.001	0.7	3
770	780	Ap	Ph	70	as above, no sulphides	0	20877	770	780	10	0.002	0.001	0.8	10
780	790	Ap	Ph		" "	0	20878	780	790	10	0.001	0.001	0.7	5
790	800	Ap	Ph		" , minor v. fn. gr. sulph. seams	1	20879	790	800	10	0.001	0.001	0.9	6

DIAMOND DRILL LOG

hole number DDH 91-3
number 1-12

exploration company/owner/options VARITECH RES Ltd	map ref # 93L/15W	claim # JC, 128(4)	bearing from true north 0	dip of hole at collar: -90	logged by P. Peto	other information HQ CORE near PDH75-28 BDH 75-58 % Core recovery = 98.2
property name BIG ONION	location (twp, lot, con, lat, long) 64 N 4+00 W		collar elevation 4745'	at 85° az: 750' dip: 750'	date logged	
drilling company J. T. THOMAS	date hole started 12 Aug 91	date hole completed 17 Aug 91	depth of hole 750'	at 597 az: 88° dip: 88° at 407 az: 90 dip: 90		

interval from	to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays ppm				
								from	to		% Cu	% H ₂ S	Ag	Au	ppb
0	50				CAPPING (overburden + regolith)						0				
50	60	QP	Ar	VAR	blue to rusty, crumbly clay rich felsite regolith (oxide gone) 150% rec relict Qz + moly vlt fault gouge(?)	0	59101	50	60	10	0.024	0.026	0.4	60	
60	70	QP	Ar	VAR	blue - rusty, shattered, fine gr felsite clay rich (argillic), fault gouge in part. sulphides washed out	0	59102	60	70	10	0.175	0.028	0.7	81	
70	80	QP	Ar	35-80	lt grey to rusty, shattered, crumbly argillite felsite, moly slips, py + cp fracture fill to 3mm, drusy, clay clips, dissem in chalcoelite rims?	1	59103	70	80	10	0.022	0.033	0.1	37	
80	90	QP	Ar	50	blue to rusty, fractured fine gr felsite drusy, limonite coats, qz + moly vlt dissem py & minor cp, v. fine gr.	1-2	59104	80	90	10	0.022	0.024	0.2	53	
90	100	QP	Ar	VAR 0-80	blue/green, more compact felsite limonite frac coats, drusy v. fine gr dissem py, cp? moderate clay alt	1	59105	90	100	10	0.018	0.019	0.5	60	
100	110	QP	Ar	50-80	rusty, fractured, fine gr. felsite limonite frac coats, drusy qtz vlt, v. fine gr. dissem. py & cp. specks	<1	59106	100	110	10	0.010	0.018	0.4	19	
110	120	QP	Ar	50	as above, fractured, strong limonite fracture coats, spongy limonite seams v. fine gr. dissem chalcoelite? (supergene) drusy, moderately argillic.	1	59107	110	120	10	0.029	0.043	0.2	63	
120	130	QP	Ar	0-90 55	compact, grey, fine gr felsite limonite coats, v. fine gr. dissem sulphide (py + cp?) & v. fine gr. chalcoelite, spongy limonite seams	1	59108	120	130	10	0.394	0.031	0.8	116	

DIAMOND DRILL LOG

hole number
DDH91-3
page number
2-12

exploration company/owner/optionee	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		%Cu	MoS ₂ %	Ag	Au
130	140	QP	Ar	0,40	80 beige, grey, rusty, fractured druse, felsite, limonite frags & cracks clay partings, v. fine gr. dissemin chalcocite to dissemin pyrite, moderate argillic alter	1	59109	130	140	10	0.158	0.028	0.5	100
140	150	QP	Ar	60-90	beige, earthy, shattered, sheared, fine gr. felsite, gouge @ 141', druse, hornish ep seams, sooty chalcocite frags, v. fine gr dissemin ep & Cc specks limonite frags coats	1-2	59110	140	150	10	0.212	0.026	0.7	61
150	160	QP	Ar	30-80	Grey druse, rusty, fine gr. felsite druse cut by Kfs + Qtz v. fine, thin chalcocite seams & v. fine gr Cc dissemin & pyrite, sooty Cc slips, graphitic looking, dissemin ep blebs, mod. argillic alter	1-2	59111	150	160	10	0.167	0.027	0.6	70
160	170	QP	Ar	60-70	grey, shattered, fine gr. felsite, clay gouge 169' weaker limonite, fractures moderate to strong clay alter, dissemin chalcocite specks, pyrite, sooty (C?) slips, hybrid hypogene/superficial zone	1-2	59112	160	170	10	0.054	0.028	0.3	39

DIAMOND DRILL LOG

hole number	page number
91-3	3-12

exploration company/owner/optionee	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by	other information
property name	location (tpw, lot, con, lat, long)		collar elevation	at az: dip:	Todd Armstrong	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		%Cu	%H ₂ O ₂	Wg	Au
170	180	QP	Ar	Var.	Pale Blue Grey Felsite; f. gr.; qtz eye phenos; weak foliated w/ sericite; random fracturing; several oxidized fractures & vltz. → zone of oxidation thinning; Sulphides; c.c. diss. & sooty slips; py diss to 2mm blebs; tr. cpy. diss.	1-2	59113	170	180	10	0.263	0.018	.6	50
180	190	QP	AR	Var	Pale Blue-Grey Felsite as above; less oxidized; cc. diss, slip planes & vltz; py diss; tr. cpy. diss; tr. Mol. (C)	1-2	59114	180	190	10	0.403	0.020	.9	54
190	200	QP	Ar	Var	Pale Blue-Grey Felsite as above; Zone of Ox. terminated; fault gauge @ 195' & 196'; minor qtz vltz; c.c. diss, vltz, slip planes; py diss, blebs; py. diss, blebs.	1-5	59115	190	200	10	0.442	0.028	.6	61
200	210	QP	Ar	40	Pale Blue-Grey Felsite as above; stronger foliation & fracturing than above; c.c. diss, & slips → diss grains to 2mm; cpy & py. diss, blebs & 2 vltz. (2mm)	2-4	59116	200	210	10	0.498	0.013	.6	68
210	220	QP	Ar	30-45	Pale Blue-Grey felsite as above; increasing sericite; fault gauge @ 212', 213', 215', 218', 219'; c.c. diss, slips, vltz → to 4mm grain; py & cpy diss, vltz (3), blebs	?	59117	210	220	10	0.579	0.029	.8	67

DIAMOND DRILL LOG

hole number
91-3
number
4-12

exploration company/owner/options	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by Todd Armstrong	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		%Cu	%H ₂ O ₂	Ag	Au
220	230	QP	Ar	45	Greenish Blue-Grey felsite as above; green due to sericite; 6, 1-2 mm Qtz vlt's // to fol'n; c.c. diss, slips as above; py & cpy, as above → also infilling dusty Qtz vlt's (2); fault @ 227.5'	2-4	59118	220	230	10	0.96	0.011	1.3	113
230	240	QP	Ar	var	Greenish Blue Grey felsite as above; fault gauge @ 234'; minor Qtz vlt's; c.c. diss, slips; py & cpy, diss., blebs, one 5mm wide vlt. w/Qtz.	3-5	59119	230	240	10	1.224	0.015	1.1	162
240	250	QP	Ar	50	Greenish Med. grey felsite, as above; fault gauge @ 245' & 248'; increasing silicification near bottom of interval; 240' to 248' Argillic zone, Sulphide mineralization as above; 248' to 250' (below fault) → pale grey; minor c.c., diss., cpy & py, diss., blebs, vlt's (3) w/Qtz to 2mm wide.	2-4	59120	240	250	10	1.271	0.013	2.0	120
250	260	QP	Ph	var	250-254' Pale Grey f.g. felsite, silicified, as above; end at fault @ 254'; sulphides as above → minor c.c., cpy & py, diss., blebs, vlt's to 4mm wide (2); 254' to 260' Med grey felsite; f.g. sericitic fol'n; minor Qtz vlt's; abundant c.c. as in previous intervals; py & cpy, diss., blebs; vlt's (3) to 2mm wide.	2-4	59121	250	260	10	0.557	0.013	.8	109

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exploration company/owner/optionee	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by	other information	
property name	location (tpw, lot, con, lat, long)		collar elevation	at	az: dip:		date logged
				at	az: dip:		
drilling company	date hole started	date hole completed	depth of hole	at	az: dip:		

interval from	interval to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		%Cu	H ₂ S ₂ %	Ag	Au
260	270	QP	Py/Ar	Van	Med Grey w/ beige patches, f.g. felsite; as above; minor qtz vlt; increased fracturing; sulphides above w/ cc grains 1-3mm locally	2-4	59122	260	270	10	0.802	0.020	1.1	83
270	280	QP	Ar/Ph	Van	Med. Grey, f.g. felsite, as above; weaker foln, minor qtz vlt; fault gauge @ 277; mod. fracturing; cc. diss. increased & in locally; cpy & py diss, 2 py & cpy vltsto 2mm wide; 2 molybdenum	2-5	59123	270	280	10	0.873	0.018	1.3	127
280	290	QP	Ar/Ph	Van	Med. Grey felsite, as above; mod. foln; Several qtz vlt., silicification in secis; fault gauge @ 288 & 289.5; mineralization as above; cc becoming more banded & remains dominant sulphide.	2-5	59124	280	290	10	0.695	0.019	1.1	83
290	300	QP	Ar/Ph	Van	Med. Grey felsite w/ beige patches → less altered - less mineralized; fractures through beige patches contain sulphides (mostly cc); several qtz vlt.; cc. diss. in bands, slips, vlt.; py & cpy diss, tr blebs;	2-5	59125	290	300	10	0.782	0.017	1.1	107
300	310	QP	Ar/Ph	Van	Med. grey felsite, as above → no beige patches; several qtz vlt.; cc. diss. through-out → less banded; py & cpy diss (v.f.g) & tr blebs.	3-5	59126	300	310	10	1.101	0.022	1.4	132

DIAMOND DRILL LOG

hole number
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exploration company/owner/optionee	map ref *	claim #	bearing from true north	dip of hole at collar:	logged by	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:		

interval from	to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		%Cu	%H ₂ O ₂	Ag	Au
310	320	QP	Ph	Var	310-315' Med Grey felsite, as above; alteration & mineralization as above; 311-312' - fault zone. 315-320' Pale Grey w/ dark inclusions (cc.); f.g. bleached sec'n of QP; mineralization as above except less cc.	2-4	59127	310	320	10	0.563	0.021	1.0	86
320	330	QP	Ph	Var	Pale grey felsite, as above; minor st. vlt's; increased sericite; Sulphides most c.g., diss, vlt's; py & cp; diss, blebs vlt's; fault gang 328	2-3	59128	320	330	10	0.440	0.028	1.9	57
330	340	QP	Ph	VAR	grey argillite, fn gr. shattered felsite dissem ep, py, v. fn gr. Chalcocite?	1	59129	330	340	10	0.392	0.023	1.0	70
340	350	QP	Ph	VAR	shattered, grey/white fn gr. felsite moly slips, sil + py + cp? vlt's clay & sericite slips dissem ep, py	2	59130	340	350	10	0.514	0.034	1.0	80
350	360	QP	Ph	60-80	dark green drusy, shattered felsite silicified?, dissem ep, py or chalcocite moly slips, cp + py trac. ill. cc seams to 2mm	2-3	59131	350	360	10	0.433	0.021	1.0	41
360	370	QP	Ph	60-80	grey/green shattered fn gr felsite sericite slips, chalcocite specks silicification grey fracture envelopes dissem ep, sericite slips & cc dissem. chlorite frac's, py frac's	2	59132	360	370	10	0.531	0.032	1.2	80
370	380	QP	Ph	VAR	grey shattered, fn gr. felsite clay + pyrobitite parting } moly slips, sericite slips diss py & cp, silicified in part. py & cp specks of Chalcocite in part. /	1	59133	370	380	10	0.452	0.021	1.8	62

DIAMOND DRILL LOG

hole number 91-3
 number 7-

exploration company/owner/optionee	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by	other information
property name	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:		

interval		rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
from	to							from	to		%Cu	%FeS ₂	Ag	
380	390	QP	Ph	S0	gray, fine gr., shattered felsite, dissem feldspars, cp, moly, silicified in spots, cp + cp = chlorite + quartz Sooty chlorite slips, clay + limonite markings	1	59134	380	390	10	0.652	0.035	1.0	115
390	400	QP	Ph	S0	green/white, shattered drusy felsite chlorite & sericite slips, sooty cp? slips, dissem cp, & ec' tanish	cc	59135	390	400	10	0.651	0.022	1.1	62
ASSAY SUMMARY														
DDH 91-3														
								50	120	70	0.074	0.036		
								120	400	280	0.574	0.025		
								400	560	160	0.35	0.022		
								560	750	190	0.11	0.004		

DIAMOND DRILL LOG

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exploration company/owner/optionee	map ref #	claim #	bearing from true north	dip of hole at collar:	logged by	other information
property name	location (tpw, lot, con, lat, long)		collar elevation	at az: dip:	P. Peto T. Armstrong	
drilling company	date hole started	date hole completed	depth of hole	at az: dip:	date logged 16 Aug	

interval from	to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays			
								from	to		%As	%Cu	Pg	Au
540	550	QP	Ph	0	mottled green/white, inequigranular felsite porphyry, cut by gypsum vlt	<1	59150	540	550	10	0.009	0.217	1.2	53
550	560	QP	Ph	70-90	as above, gypsum vlt, chlorite & sericite slips, v. fine dissemin py & cp	1	59151	550	560	10	0.011	0.148	1.1	27
560	570	QD	Chlor	60	fracture controlled py & cp? stringers dk green, fine med gr. plag porphyry cut by irregular gypsum vlt v. fine	<1	59152	560	570	10	0.006	0.056	1.1	12
570	580	QD	Chlor	45-80	dissemin sulphides, compact hard core mottled, green, black, inequigranular lab & th diorite, irregular gypsum vlt compact, hard, dissemin v. fine sulphides prob ep. chloritic mafics	<1	59153	570	580	10	0.009	0.124	1.0	33
580	590	QD	Chlor	10-80	as above compact th diorite, low grade mineral dissemin. of gypsum vlt	<1	59154	580	590	10	0.007	0.136	1.4	21
590	600	QD	Chlor	70	as above v. fine cp? + py dissemin & stringers, chlorite hard & gypsum vlt		59155	590	600	10	0.006	0.173	1.2	4
600	610	QD	Chlor	80	as above, v. hard, compact dissemin py & cp, low grade <10% Cu, nonmagnetic	<1	59156	600	610	10	0.005	0.159	1.0	23
610	620	QD	Chlor	75	Med. grey, f. g. m.s. Qtz Diorite, 10% mafics	<1	59157	610	620	10	0.005	0.128	1.8	24
620	630	QD	Chlor	70	Med. Grey Q. Diorite, as above, gyp. vlt; g. vlt; cp & py v. fine dissemin; 2 vlt (toluene)	<1	59158	620	630	10	0.003	0.135	0.9	20
630	640	QD	Chlor	70	Med Grey QD as above; gyp. vlt; 2 g. vlt; 2 py & cp, py, dissemin; particular blebs 2-2mm wide; or w/ gyp vlt; veins over 15cm interval to 2cm wide	>1	59159	630	640	10	0.002	0.099	0.9	17

DIAMOND DRILL LOG

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exploration company/owner/options VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)	collar elevation	at	az: dip:		
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at	date logged	
				at	az: dip:	

interval from to	rock type	alteration	foliation core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval		sample length	assays				
							from	to		%Cu	%H ₂ S	Ag ppm	Pb ppb	
640	650	QD	Chl	?	Med. grey, m.g., qtz diorite porphyry; weakly foliated; chloritic matrix replacement; pervasive gypsum vlt; several qtz vlt; fractures healed by gypsum ± qtz and/or py & cp; remainder of sulphides (50%) diss. & blebs to 5mm; @ 649', 6" interval of f.g. porphyry (green-grey) w/ m.g. phenocrysts	<1	59160 59160	640	650	10	0.124	0.001	.9	10
650	660	QD	Chl	70	650-655 Med Grey QD, as above; most sulphides w/ qtz &/or gyp vlt; remainder diss. (py & cp) @ 655' irregular contact 655-660 Med greenish-grey QD; v.f.g. matrix w/ m.g. phenocrysts; weak foliation w/ minor sericite; gyp & qtz vlt. as above; Sulphides: cp & py, most diss. (py v.f.g. vlt; cp f.g. blebs); vlt w/ gyp &/or qtz	>1	59161 59161	650	660	10	0.071	0.002	.8	1
660	670	QD	Chl	70	Med. greenish-grey QD, as above; 2 minor inclusions of coarser gr. QD; cp & py as above; 668.5 - 670 Med grey QD; coarser grained phase.	>1	59162 59162	660	670	10	0.054	0.001	.6	9
670	680	QD	Chl	70	Med. grey QD, m.g. phase, as above; gyp & qtz vlt as above → one qtz pool 2x4cm w/ band of cp & py surrounding in country rk; sulphides diss, vlt, frs fill as above; inclusion of v.f.g. greenish-grey QD.	1	59163 59163	670	680	10	0.118	0.003	.9	7

DIAMOND DRILL LOG

note number
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exploration company/owner/optionee VARITECH	map ref *	claim *	bearing from true north	dip of hole at collar:	logged by P. Peto & T. Armstrong	other information
property name BIG ONION	location (twp, lot, con, lat, long)		collar elevation	at az: dip:	date logged	
drilling company J. T. THOMAS	date hole started	date hole completed	depth of hole	at az: dip:		

interval from to	rock type	alteration	foliation to core axis	description (colour, grain size, texture, minerals, alteration)	sulphides %	sample number	sample interval from to		sample length	assays			
							%Cu	%MoS ₂		Ag ppm	Au ppb		
680 690	QD	chl	70	Med Grey QD, as above; gyp & qtz vltz as above; cp & py diss, vltz w/ & w/out gyp. &/or qtz	1	59164	680	690	10	0.145	0.003	.9	13
690 700	QD	chl	?	Med Grey QD as above; gyp & qtz vltz as above; cp & py as above.	1	59165	690	700	10	0.095	0.004	.8	10
700 710	QD	chl	?	Mixture of Med grey, m.g. QD & greenish-grey, v.f.g. matrix QD; 5 qtz vltz to lam wide; gyp vltz as above but w/ anhydrite rims in places; cp & py as above.	<1	59164 59166	700	710	10	0.098	0.002	.9	12
710 720	QD	chl	?	Med. Grey QD, med. gr. w/ minor f.g. inclusions; gyp & qtz vltz as above; cp & py as above. foln has become v. weak.	<1	59165 59167	710	720	10	0.134	0.002	.9	21
720 730	QD	chl	?	Grey to lt. grey QD; texture & vltz as above; sulphides: cp, mostly blebs (<2mm) py. v.f.g. diss.	1	59166	720	730	10	0.101	0.003	.9	1
730 740	QD	chl /2 /Ph	60-70	730-734 Grey, m.g. QD as above; sulphides, cp & py as above 734-740 Greenish-Beige, highly fractured & foliated rk; v.f.g. to f.g. beige matrix, silicified; abundant (20%) anhydrite grains → blocky-angular; abundant qtz veins → convoluted; gyp vltz. w/ anhydrite; sulphides: py - v.f.g. - f.g. diam. cubes; cp as blebs & vltz.	1	59169	730	740	10	0.081	0.004	1.8	1
740 750	QD	chl	60-70	Gradational change from greenish-beige lithology (as above) to non-fractured/foliated, m.g. QD w/ mineralization as above.	1	59168 59170	740	750	10	0.115	0.003	1.3	1

