ASSESSMENT REPORT

on the

JI PROPERTY

Vancouver Mining Division

1996 DIAMOND DRILLING PROGRAM

for

AQUATERRE MINERAL DEVELOPMENT LTD.
Suite 1003 - 470 Granville Street
Vancouver, B.C.
V6C 1V5

Field Work Performed:	• Oct 15 - Nov 23, 1996
Claims:	• JI 1-6
Location:	• 44 Km East of Powell River, B.C.
	• NTS Map No.: 92G/13
	• Latitude: 49°52' N
	• Longitude: 123°56' W

Prepared by

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February 24, 1997

24,973

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SUMMARY

During the fall of 1996, Aquaterre Mineral Development conducted a drilling program on it's wholly owned JI property located along the south coast of B.C. approximately 90 kilometres northwest of Vancouver. The property is situated along the west side of Jervis Inlet in steep, heavily forested terrain typical of the Coast Mountains.

The coastal region of British Columbia is host to numerous mineral occurrences, among them volcanogenic massive sulphide (VMS) deposits such as the Britannia deposit north of Vancouver, B.C. The Britannia mine operated from 1905 to 1974, producing 47.5 million tonnes of copper ore at a recovered grade of 1.1% Cu, 3.8 g/t Ag and 0.39 g/t Au.

Early this century, massive sulphide mineralization was discovered on Mt. Diadem approximately 16 kilometres northwest of the JI property. This, along with the JI property are located within northwesterly trending "roof pendants" of Mesozoic age volcanic and sedimentary rocks. These roof pendants are thought to be correlative with the rocks that host the Britannia deposit.

Aquaterre acquired the JI property as a result of research into readily accessible VMS type exploration targets and prospects along the coast of British Columbia. In 1993, six contiguous claims totalling 88 units (2,200 hectares) were staked by Aquaterre. The property covers an area where stream sediment sampling in the 1970's encountered highly anomalous copper values. No bedrock source for this anomaly was ever documented.

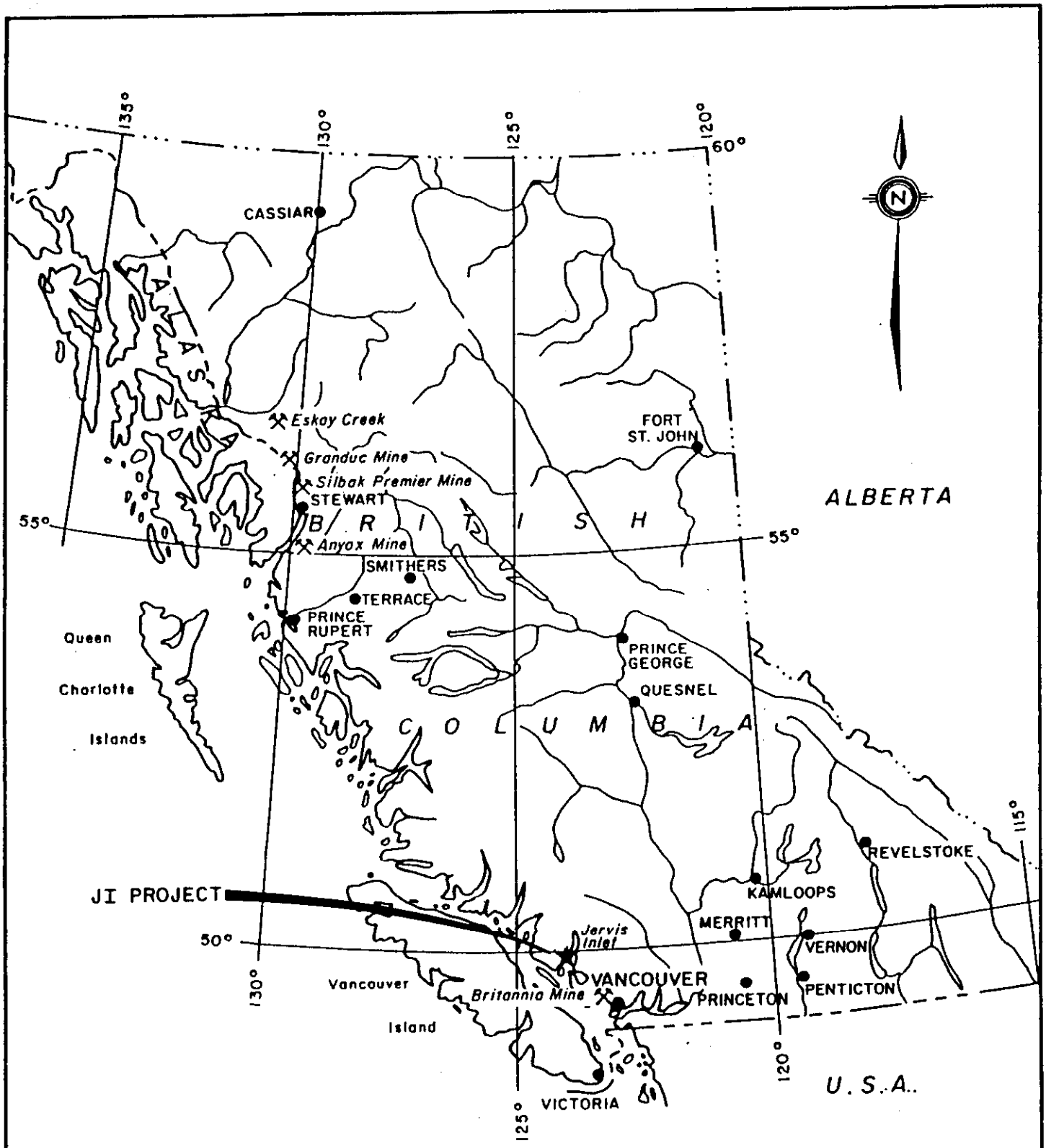
During 1993/94 Aquaterre spent approximately $144,000 on geochemical and geophysical surveys on the property. This work defined highly anomalous west-northwest trending copper-in-soil anomalies over an area of 350 by 1,300 metres. The anomaly is underlain by a steeply dipping sequence of volcanic and sedimentary rocks intruded by several varieties of sills and dykes. Geophysical surveys (1994) outlined induced polarization (IP) "highs" and resistivity "lows" coincident with and immediately uphill of the soil anomalies.

The 1996 drill program consisted of two 400+ metre holes designed to test coincident geochemical and geophysical anomalies. Drilling revealed a highly variable, weakly metamorphosed sequence of volcanic, sedimentary and intrusive rocks. Significant amounts of pyrite were found throughout many of the lithologies. ICP analysis revealed anomalous amounts of copper in both holes, especially in tuffaceous sedimentary rocks and occasionally in volcanic/intrusive rocks. Copper mineralization was observed in drill hole JI 96-01 in three distinct areas, one of which yielded an assay of 1.9% Cu over 0.20 metres within a 30 metre copper anomalous section of andesitic tuffaceous rocks, flows and cherty sediments.

Petrographic work revealed mineral assemblages that suggest the most probable environment is a contact metamorphic zone. It also indicated that the volcanic rocks are similar to but finer grained than those that host VMS deposits such as Britannia. In addition, it states that exploration should be directed toward more coarsely "fragmental" volcanic sequences as these would be indicative of volcanic centres often proximal to many VMS deposits.

The pervasive and substantial amounts of pyrite found in many of the lithologies is notable and may indicate a superimposed younger mineralizing event. Such mineralization is not unusual within the halo of porphyry type systems. Contact metamorphism as described in the observed stratigraphy would be consistent with an environment proximal to a porphyry system.

The JI property has good exploration potential for VMS and/or porphyry targets and additional work is recommended. As the large geochemical anomaly appears open to the northwest, it is recommended that the grid be expanded and that additional soil and rock sampling be conducted. Movement in this "up ice" direction will allow the assessment of the stratigraphy for potential VMS host rocks as well as indicators of porphyry type systems.



AQUATERRE MINERAL DEV. LTD.

LOCATION MAP

JI PROPERTY

Vancouver Mining Division, B.C.

Date: Jan/97

Figure No.: 1

INTRODUCTION

During the fall of 1996, Aquaterre Mineral Development Ltd. completed a diamond drilling program on the JI property. The objective of the program was to test coincident geochemical and geophysical anomalies in an area underlain by rocks believed to be similar to those that host the Britannia volcanogenic massive sulphide (VMS) deposit.

LOCATION AND ACCESS

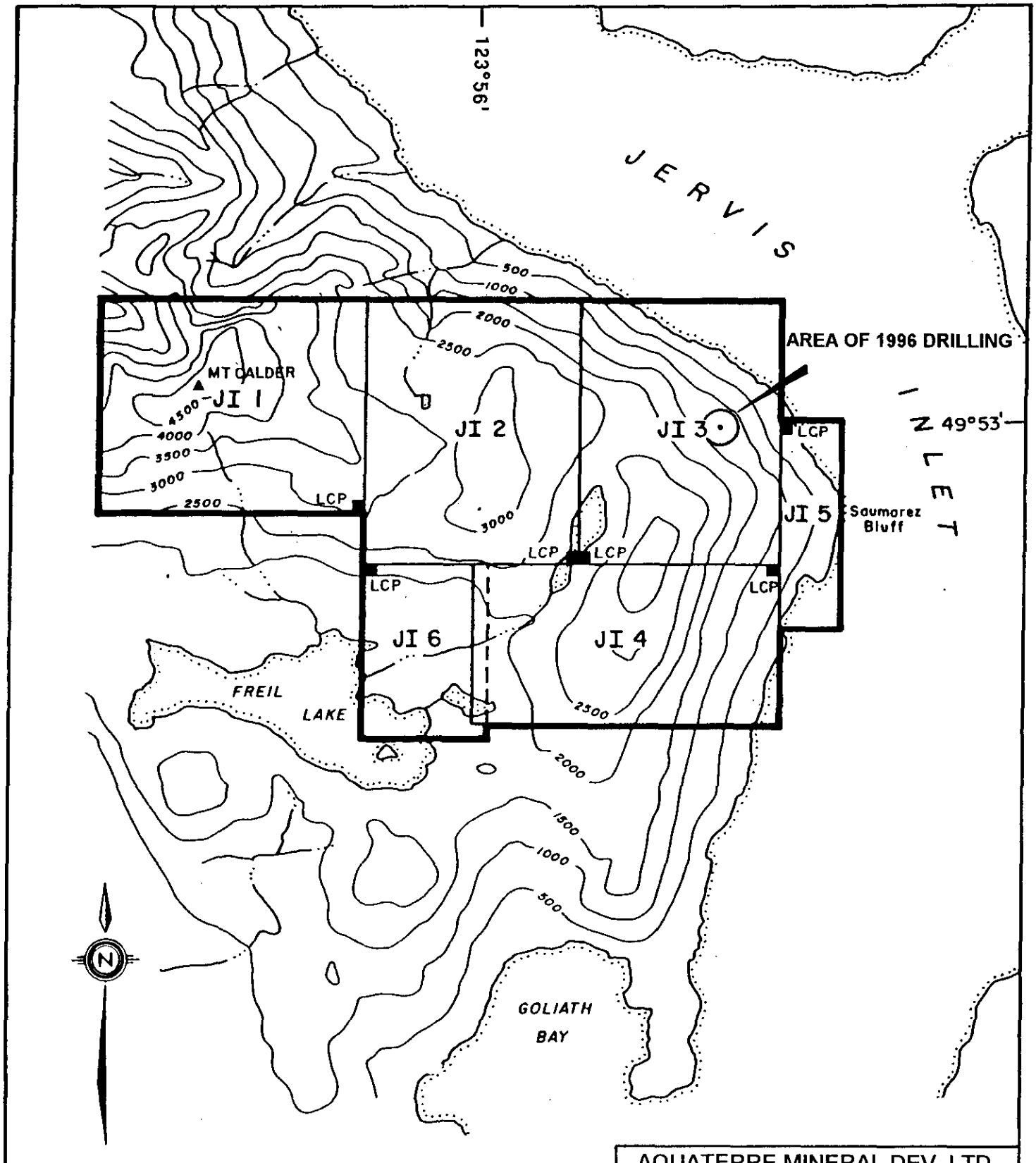
The JI property is located along the south coast of British Columbia approximately 90 kilometres northwest of Vancouver and 44 kilometres east of Powell River (Figure 1). The village of Egmont, at the northern end of the Sechelt Peninsula, is situated 14 kilometres south of the property. Geographic coordinates for the property are 49°52' north latitude and 123°56' west longitude on NTS Map 92J/13.

The claims are accessible by air and water. The 1996 exploration program required the use of a small barge to transport equipment up Jervis Inlet to the claim area and a Hughes 500 helicopter (Vancouver Island Helicopters) to sling equipment and materials to pre-constructed drill pads. Logging roads originating from Hotham Sound access the south-central portion of the claim block.

TERRAIN

The JI property is situated along the west side of Jervis Inlet in the Coast Mountains of southern British Columbia. Topographic relief on the property is 1,465 metres ranging from sea level to the Mt. Calder summit on the JI-1 claim (Figure 2). Slopes are generally steep due to the deep glaciation that carved coastal fjords such as Jervis Inlet. Outcroppings are abundant, locally forming a step like series of west to northwest trending bluffs. The gentler sloping benches between these bluffs are often devoid of rock exposures. Steep slopes, especially those near tide water, show abundant rock outcroppings. The central portion of the claims, covering the local height of land between Jervis Inlet and Hotham Sound, is less steep and contains several lakes and ponds. Freil Lake, the largest on this peninsula, is situated in the southwest portion of the property.

The property is heavily forested with stands of cedar, fir, hemlock, spruce and pine. Deciduous underbrush is locally dense, especially along drainages and in logged areas. Road based clear-cut logging has taken place in the south and central portion of the property. Helicopter logging has been carried out in several areas on the JI-3 and 4 claims. One such clear-cut on the JI-3 claim served as the site for two drill pads used by Aquaterre during the 1996 program (Figure 2).



*After report by R.H. McMillan Nov/96

AQUATERRE MINERAL DEV. LTD.

CLAIM MAP

JI PROPERTY

Vancouver Mining Division, B.C.

Scale: 1:50,000	NTS No.: 92G/13
Date: Jan/97	Figure No.: 2

CLAIMS

The JI property, shown on Figure 2, is located in the Vancouver Mining Division and consists of six modified grid claims. Details of the claims are as follows:

Claim Name	Record No.	No. of Units	Record Date	Expiry Date
JI 1	317922	20	May 27, 1993	May 27, 1997
JI 2	317923	20	May 26, 1993	May 26, 1997
JI 3	317924	20	May 26, 1993	May 26, 1999
JI 4	317925	18	May 26, 1993	May 26, 1997
JI 5	317926	4	May 26, 1993	May 26, 1999
JI 6	320376	6	Aug 05, 1993	Aug 05, 1997
	Total Units =	**88**		

Aquaterre Mineral Development Ltd. originally staked these claims and has a 100% ownership interest in the claims listed above.

HISTORY

Regional History:

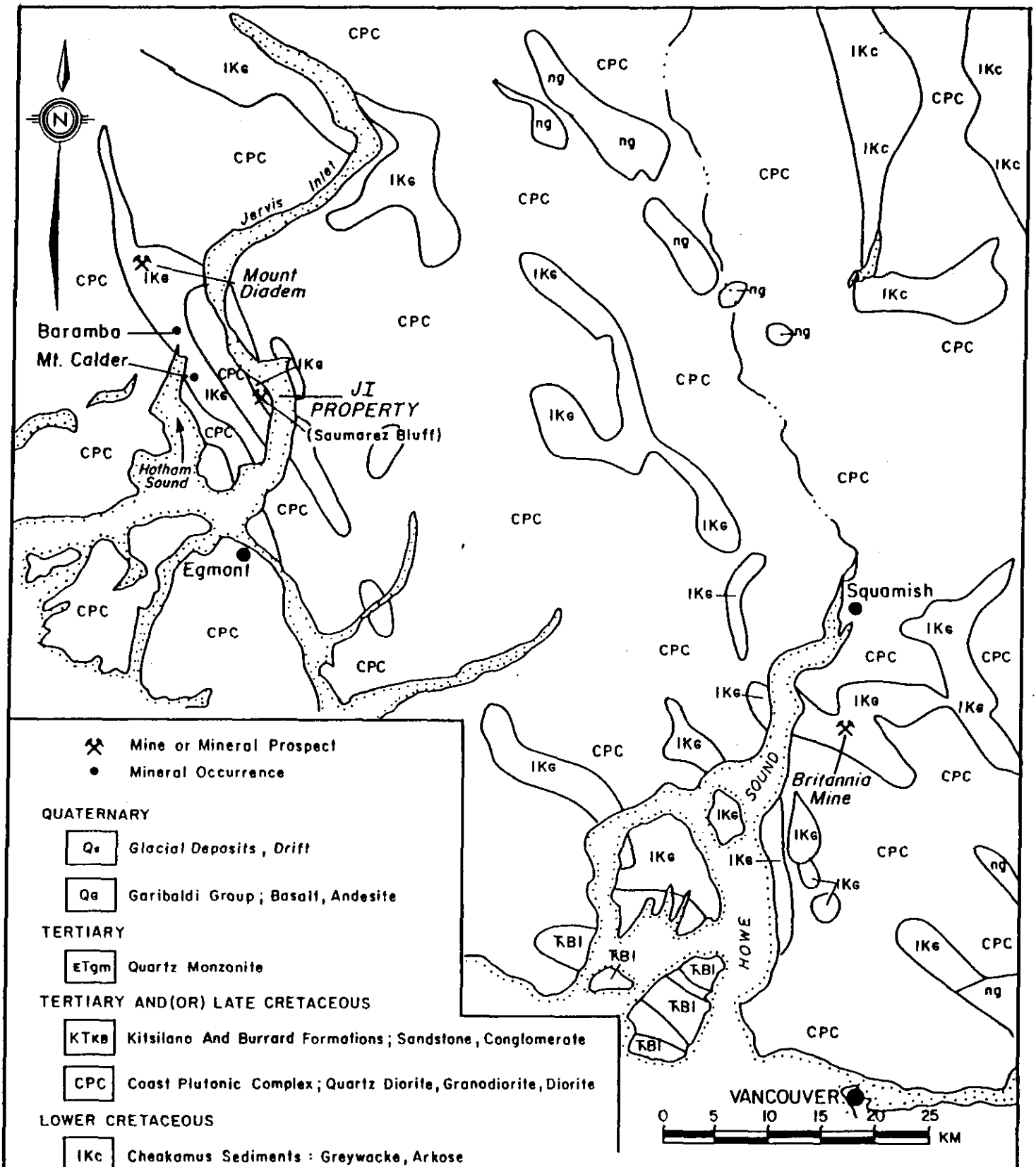
The mining history of the region dates back to 1888 with the discovery of the Britannia volcanogenic massive sulphide (VMS) deposit along the east shore of Howe Sound located 30 kilometres north of Vancouver, B.C. This deposit became the most notable base metal mine along the southwest British Columbia mainland. Between 1905 and 1974, 47.5 million tonnes of copper ore was mined from ten zones along what is referred to as the "Britannia Shear Zone". Other base and/or precious metal deposits such as Anyox, Granduc and Eskay Creek in the Stewart region and Myra Falls on Vancouver Island further exemplify the VMS potential of the coastal region of B.C.

Local History:

The Jervis Inlet area attracted early prospectors to the prominent reddish colouration of mountains in the Mount Diadem area approximately 16 kilometres northwest of the JI property (Figure 3). Prospecting, trenching and tunnelling by 1917 revealed several narrow (< 10 m) zones of base metal mineralization. Further advancement of these properties was hindered by the lack of infrastructure and rugged nature of the area.

During the 1970's, the Anaconda Company, owner of the Britannia Mine, completed some drilling on the Mount Diadem properties. A 1993 program of airborne geophysics by Noranda Exploration Company was the most recent work reported on the Mount Diadem properties.

The earliest recorded work on the JI property area was in 1974 when strongly anomalous copper was detected in stream sediments near the JI-5 Legal Corner Post. This led to a program of geological mapping along with soil and rock sampling. The soil survey identified



Mine or Mineral Prospect

Mineral Occurrence

QUATERNARY

Qs — Glacial Deposits, Drift

Qg — Garibaldi Group; Basalt, Andesite

TERTIARY

εTgm — Quartz Monzonite

TERTIARY AND(OR) LATE CRETACEOUS

KTKB — Kitsilano And Burrard Formations; Sandstone, Conglomerate

CPC — Coast Plutonic Complex; Quartz Diorite, Granodiorite, Diorite

LOWER CRETACEOUS

IKc — Cheakamus Sediments: Greywacke, Arkose

IKg — Gambier Group: Tuff, Breccia, Argillite

TRIASSIC

TRBI — Bowen Island Group: Greenstone

CRETACEOUS OR OLDER

Msv — Metasedimentary Rocks, Schist, Greenstone of Greenschist Rank

ng — Migmatitic Complexes of Amphibolite Rock

(modified after Roddick et al, 1979)

AQUATERRE MINERAL DEV. LTD.

REGIONAL GEOLOGY

JI PROPERTY

Vancouver Mining Division, B.C.

Scale: 1:500,000	NTS No.: 92G
Date: Jan/97	Figure No.: 3

a northwest trending copper anomaly measuring approximately 300 by 900 metres. Values up to 1,320 ppm copper were reported. No bedrock source was ever discovered.

In 1993, Aquaterre Mineral Development Ltd. conducted research into the exploration potential for VMS deposits along the British Columbia coast between Vancouver and Stewart. Identification of favourable host lithologies in readily accessible areas resulted in the acquisition of the JI property. During 1993 and 1994, Aquaterre expended $144,000 on programs of geochemical sampling, geological mapping and a geophysical (IP) surveys. This work defined a strong 1,300 metre x 350 metre west-northwest trending copper-in-soil anomaly coincident with and downslope of IP "chargeability highs" and "resistivity lows".

GEOLOGY

Regional Geology:

The region is dominated by Cretaceous to Tertiary Coast Plutonic rocks that intrude and enclose northwesterly trending "roof pendants" of several ages. These have been subdivided (Roddick et al, 1979) into two lithologic units (Figure 3). The oldest consists of pre-Jurassic metamorphosed volcanics and sedimentary rocks including gneiss, schist, quartzite and amphibolite. The second unit comprises Jurassic to Cretaceous volcanic and sedimentary rocks. Representatives of this second unit include the Britannia, Mount Diadem and JI roof pendants, which are reported to have similarities to the Cretaceous Gambier Group. The stratigraphy of the Gambier Group consists of andesitic to dacitic pyroclastics and flows, argillite, siltstone and cherty sedimentary rocks (Sutherland-Brown, 1970).

The Coast Plutonic Complex is comprised of older, commonly foliated diorite to granodiorite and younger, massive plutons of quartz diorite to quartz monzonite. The intrusive rocks have produced contact metamorphic aureoles several tens of metres in width. Products of metamorphism commonly include biotite with actinolite and cordierite in the more reactive lithologies.

Property Geology:

The JI property is underlain by two of three northwesterly trending roof pendants that traverse the Saumarez-Mount Calder peninsula. These pendants, believed to be correlative with the Lower Cretaceous Gambier Group, are enclosed and intruded by granodiorite to quartz monzonite of the Coast Plutonic Complex.

Detailed surface mapping conducted primarily on the JI- 3 claim (Saumarez grid) during 1993/94 revealed an assemblage of metavolcanic and metasedimentary rocks intruded by various dykes and plutonic rocks. Three layered rock units were identified in the field. The first type described as felsite, is comprised of undifferentiated, white to dark gray felsic flows ranging from dacite to rhyolite (Figure 4). These massive, fine grained rocks contain occasional feldspar and quartz phenocrysts. Pyrite disseminations are ubiquitous and where abundant, the rock is bleached to a quartz-sericite-pyrite phyllic mineral assemblage.

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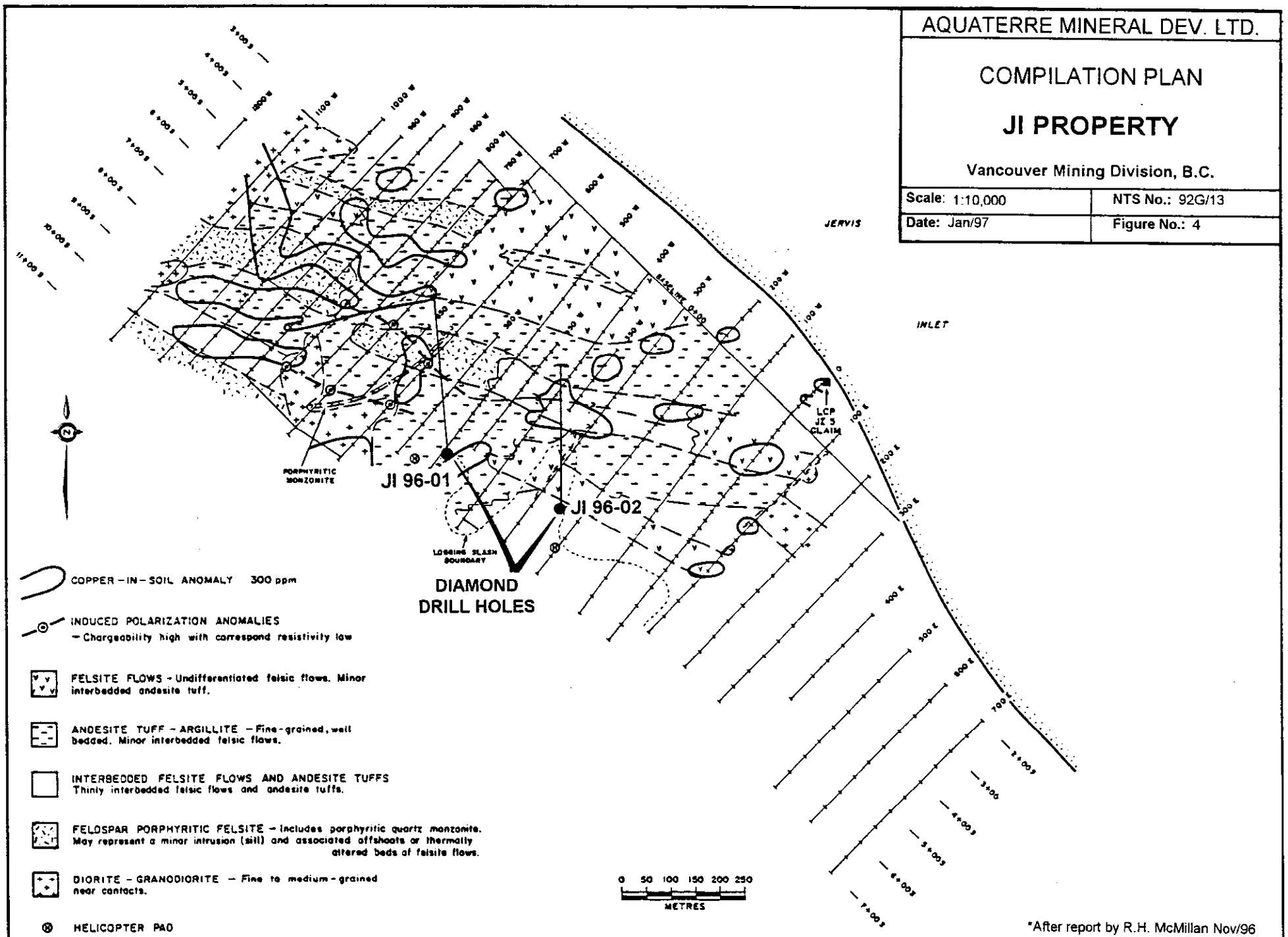
COMPILATION PLAN

JI PROPERTY

Vancouver Mining Division, B.C.

Scale: 1:10,000	NTS No.: 92G/13
Date: Jan/97	Figure No.: 4



*After report by R.H. McMillan Nov/96

The second layered rock unit identified is an andesite tuff. It is described as a fine grained, green-gray, bedded tuff with bedding exemplified by thin laminae of quartz and feldspars. Often intercalated within this unit are dark gray argillites. This rock unit is altered with epidote, chlorite and silica. Variable amounts of pyrite are present with minor specular hematite and magnetite. A third unit, termed andesite tuff/felsite, is a transitional unit.

Three varieties of dykes have been mapped. The first, occurring as a swarm, is described as a feldspar porphyritic andesite. These commonly altered dykes contain up to 5% pyrite. A second variety consists of feldspar porphyritic felsite dykes and sills which includes quartz monzonite and a quartz porphyritic equivalent. The concordant nature of these rocks suggests that they are subvolcanic and possibly related to the felsic flow rocks. The third and youngest variety, termed feldspar porphyritic andesite-basalt, has been observed to cut all other rocks on the mapped areas.

Rocks of the Coast Plutonic Complex enclose and intrude the aforementioned roof pendant rocks. These rocks are typically medium to coarse grained and unaltered aside from local epidote and sericite. Pyrite and magnetite occur as minor constituents.

Structural Geology:
The interbedded flows, tuffs and sediments generally strike west-northwest, approximating the regional trend. Beds dip steep to vertically and bedding tops are as yet undefined. Weakly developed foliation trends northwesterly to northerly and plunges steeply in either direction.

Several small scale shears trend westerly and dip steeply north or south. Several creek gullies are interpreted to reflect fault zones that trend approximately east-northeast. One such fault cuts the regional northwesterly geologic trend and juxtaposes the layered rocks against diorite in the southeast portion of the grid (Figure 4). Narrow, westerly trending breccia zones have been mapped, however their origin is not understood.

MINERALIZATION

Regional Mineralization:
The coastal region of British Columbia is endowed with numerous mineral occurrences including volcanogenic massive sulphide (VMS), skarn, vein and porphyry copper deposits. Notable VMS deposits include Britannia, Anyox, Eskay Creek and Myra Falls. Britannia and Anyox were notable copper and precious metal producers with Britannia having produced 47.5 million tonnes at a recovered grade of 1.1% copper, 3.9 g/tonne silver and 0.3 g/tonne gold. Mineralization at Britannia occurred near the top of a dacite pyroclastic unit overlain by argillites believed to be correlative with and part of the lower Cretaceous Gambier Group. Skarn deposits are found extensively on Vancouver and Texada Island. These deposits have been mined for their iron, copper and gold mineralization. The recently depleted Island Copper mine on northern Vancouver Island is the most well known of the porphyry copper deposits in the region.

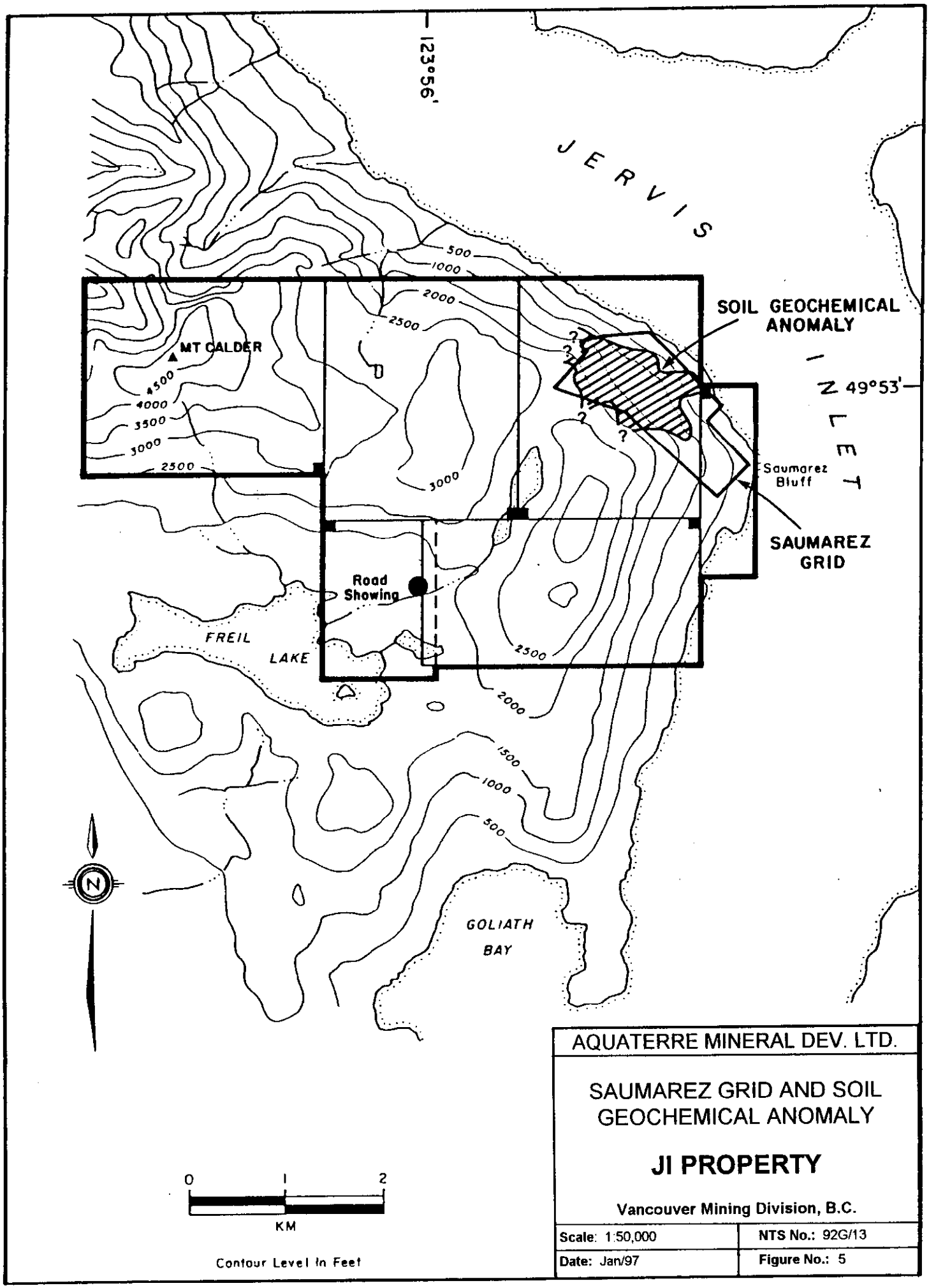
Several mineral occurrences are documented in the Jervis Inlet area with the Mt. Diadem prospect being the most significant. This prospect is located 16 kilometres northwest of the JI property in rugged terrain on the west side of Jervis Inlet (Figure 3). Mineralization consists of pods and lenses of massive sphalerite, chalcopyrite, pyrrhotite, galena and arsenopyrite in steeply dipping shears. Several strongly mineralized zones are present within a larger low grade zone covering approximately one square kilometre. The host rocks are reported to be mafic, volcanic, argillite and tuffaceous sediments that comprise a roof pendant within the Coast Plutonic Complex. The Mt. Diadem showings are interpreted as stratabound and volcanogenic in character and hosted by rocks correlated with the Lower Cretaceous Gambier Group (Roddick et al, 1979).

On the west flank of Mt. Calder, near the western border of the JI property, siliceous argillite and rhyolite-dacite flows host stratabound copper-zinc mineralization. Grab samples assaying up to 19% Cu and 2.6% Zn were reported (Crabb, 1983). Five kilometres north of the Calder showing, the Baramba showing is reported (Brewer, 1918) to be a 5 metre wide magnetite, pyrrhotite and chalcopyrite bearing zone within a 200 metre wide "shear zone" hosted by rocks interpreted as metasediments. Adjoining the Baramba to the north are showings (Jolly Group) containing magnetite, chalcopyrite, pyrite and bornite within graphitic metamorphosed rock. An adit face chip sample returned 2.6% copper across 0.9 metres (Brewer, 1918). The Mt. Diadem, Mt. Calder and Baramba/Jolly occurrences are all found within a northwesterly trending roof pendant mapped as Gambier Group rocks (Figure 3).

Property Mineralization:

During 1993/94, a total of 174 rock geochemical samples were collected on the JI property. Seven samples from the Saumarez grid returned anomalous values in copper (≥200 ppm), two were anomalous in molybdenum (>100 ppm), and two were anomalous in zinc (>200 ppm), lead (>50 ppm) and silver (>2.5 ppm) (Figures 4, 5). Mapping revealed variable amounts of disseminated, bleb and fracture controlled pyrite. Local concentrations of pyrite (to 10%) were often accompanied by magnetite and minor specular hematite. Disseminated and fracture controlled molybdenite was observed in dioritic rocks near the north end of the Saumarez grid. It does not appear however, that the rock sampling results satisfactorily explain the large copper in soil anomalies and on the Saumarez grid of the JI-3 claim.

In 1993, the "Road Showing" was located along a logging road near the JI-4 and JI-5 claim boundary (Figure 5). The road cut exposed a gossanous zone along an andesitic tuff and diorite contact adjacent to a feldspar porphyry dyke. Disseminations and narrow fracture controlled veins of pyrite yielded only trace amounts of copper across 4 metres.



AQUATERRE MINERAL DEV. LTD.

SAUMAREZ GRID AND SOIL GEOCHEMICAL ANOMALY

JI PROPERTY

Vancouver Mining Division, B.C.

Scale: 1:50,000	NTS No.: 92G/13
Date: Jan/97	Figure No.: 5

DIAMOND DRILLING PROGRAM - 1996

During 1996, exploration of the JI property consisted of a helicopter supported diamond drilling program based out of Egmont, B.C. Drill site selection was limited to an area that had been previously helicopter logged. Materials for the two drill pads were barged from Egmont up Jervis Inlet to a staging area north of Saumarez Bluff and then slung by helicopter to the prepared sites.

Diamond drilling was contracted to Falcon Drilling of Prince George, B.C. using a compact hydraulic drill (Falcon 1000). The drill utilized BQTW equipment to produce a 4.2 cm diameter core. Exploration and drilling crews were based at the Egmont Marina. Crew transportation and drill moves were carried out using a Hughes 500D helicopter owned by Vancouver Island Helicopters Ltd.

During the period October 22 to November 21, 1996, two holes were completed totalling 834.9 metres. Details of the drill program are presented in Table 1 and shown on Figure 4.

Table 1. Diamond Drill Holes - 1996

Hole No.	Date Start	Date Complete	Grid Coordinates Northing	Grid Coordinates Easting	Azmth.	Angle	Collar Elev. (m)	Hole Depth (m)	Horiz. Proj. (m)
JI 96-01	Oct 22	Nov 05	6+60S	5+00W	355°	-44°	427	426.7	306.9
JI 96-02	Nov 05	Nov 21	5+45S	2+50W	360°	-45°	396	408.2	288.8
							Total:	**834.9 metres**	

Drill core was labelled, logged, sampled and stored in Egmont. Samples of all significant quartz veining, silicification, alteration and sulphide mineralization were collected. Most samples consisted of split core generally ≤1.5 metres in length. Occasionally, longer intervals were sampled by collecting a number of small chip samples. A total of 201 samples were submitted to the Bondar Clegg Laboratory in North Vancouver, B.C. for 30 gram gold and ten element ICP analysis (Appendix B). Drill logs and sections are found in Appendix A and the pocket of this report. The ***field expenditure*** for the 1996 program was ***$187,832***. An itemized breakdown of the total program costs is shown in Appendix D.

Discussion of Results:

The objective of the 1996 drill program was to test some of the coincident copper geochemical and geophysical targets established during the 1993/94 programs. The positioning and spacing of the drill holes was largely dictated by the clear-cut area in the JI-3 claim. The drill holes achieved targeted depths and tested two coincident geochemical/geophysical targets approximately 250 metres apart.

Drilling revealed a highly varied sequence of weakly metamorphosed volcanic, sedimentary and intrusive rocks. In general, the observed bedding planes, weak foliation and "flow banding" indicate a near vertically oriented stratigraphic sequence. Although only 250 metres

apart, the lithologies of each hole differed substantially. A significant feature of the rocks is the often pervasive disseminations, stringers and clots of pyrite observed.

To assist in rock identification, alteration and determination of possible mineral environments, a petrographic study was conducted by Vancouver Petrographics Ltd. In all, eight core samples from several lithologies were selected from the two drill holes. The locations of the petrographic samples are shown on drill sections (Figures 6 and 7). A petrographic report is contained in Appendix C. A comparison of field log descriptions and the petrographic work occasionally revealed significant differences in lithologic types (Table 2). For the most part the differences were attributable to the fine grained nature of the rocks.

DDH JI 96-01:

Drill hole JI 96-01 encountered several sequences of variably bedded, fine grained, andesite tuff and minor sediments (Unit 2, Figure 6). Local coarse brecciation of these rocks is not uncommon. Epidote alteration is pervasive but variable in intensity. Approximately 60% of the drill hole encountered dykes, or more probably sills, of porphyries and quartz diorite. The quartz diorite name was assigned from petrographic work and is correlative with the field term "felsite" referring to a fine grained intrusive rock.

ICP/gold analysis of drill core revealed three areas of significant mineralization. The first occurs between 100 and 155 metres. Sporadic but elevated levels of copper, zinc, lead and silver occur in both tuffs and the more plentiful fine grained quartz diorite (felsite). Some of the highest values however were attributed to narrow (< 1 metre) zones of coarse volcanic breccia. These rocks consist of subrounded clasts of quartz and tuff and are likely the same units observed during surface mapping. Chalcopyrite and pyrite, along with sphalerite, were observed in one breccia (127.29 m) that returned 1,575 and 3,393 ppm copper and zinc respectively. It is unknown whether the mineralization in these breccia zones is primary, or remobilized from a deeper or more distal source.

The second and most significant area of mineralization occurs between 200 and 230 metres. This predominantly copper anomalous zone is hosted by andesite tuffs, mafic flows and possible cherty sediments. A sample between 207.35 and 207.55 m contained a 3-4 cm, low angle, sulphide rich vein comprised of chalcopyrite, pyrite, pyrrhotite, hematite and magnetite. This sample assayed 1.9% copper along with elevated silver (7.5 ppm). The remaining core samples between 201 and 229 metres returned anomalous copper values ranging from 181 to 406 ppm. Weakly anomalous silver values correspond to this section. Sampling in the remainder of this hole returned scattered anomalous copper values, again predominantly associated with the andesitic tuffaceous rocks. Sporadic "highs" for zinc, lead and barium are scattered throughout the hole and display a noticeable coincidence with the two aforementioned mineralized zones. Anomalous gold values are rare with the highest being 35 ppb. No distinct relationship to high base metal values was observed.

The third and smallest mineralized area occurs around 400 metres where predominantly anomalous copper values are associated with altered, pyritic andesitic tuffs and sediments.

Table 2. Comparison of Field Logs and Petrographic Study

Sample ID	Field Log Name/Description	Lith. Unit	Petrographic Name/Description	Cu ppm
JI 96-01 87.0 m	**FELSITE** Fine to medium grained, 15%± plagioclase phenocrysts, local epidote clots/stringers, 3-5% disseminated pyrite.	8	**QUARTZ DIORITE** Subhedral plagioclase phenocrysts, mafic patches of tremolite/ actinolite, pyrite, epidote, sphene. Chlorite alteration of biotite. Trace ***chalcopyrite***.	*
JI 96-01 194.2 m	**ANDESITE TUFF (BRECCIATED)** Weak to moderately developed bedding, fine grained, minor epidote, 5% disseminated and fracture controlled pyrite.	2	**ANDESITE/LATITE/DACITE BRECCIA** Fragments to 2 cm of metamorphosed fine grained andesite tuff. Matrix and irregular patches of quartz-epidote-pyrite. Trace ***chalcopyrite***.	156
JI 96-01 394.5 m	**ANDESITE TUFF/CHERT?** Bedded, local silicification, epidote. Pyrite throughout, locally to 10%+.	2	**METAMORPHOSED LATITE/ANDESITE** Very fine grained, massive to foliated rock dominated by plagioclase and lesser tremolite/actinolite, epidote.	132
JI 96-02 176.7 m	**RHYOLITE** Green to pinkish, very hard, glassy, 5-10% mafic/feldspar phenocrysts, trace-1% pyrite, trace hematite.	1	**METAMORPHOSED DIORITE** Rock was moderately brecciated with very fine grained epidote-plagioclase/chlorite matrix.	*
JI 96-02 230.0 m	**RHYOLITE** Green-brown, locally flow(?) banded, sparse feldspar phenocrysts. ½ - 1% disseminated and fracture controlled pyrite.	1	**LATITE DYKE (SILL?)** Plagioclase and K feldspar phenocrysts in a very fine grained groundmass. Strong foliation of alternating bands rich in plagioclase and K feldspar. Sulphide/epidote veinlet cuts each quartz veinlet.	*
JI 96-02 265.9 m	**ARGILLITE/TUFF** Gray-black, well bedded, locally silicified, epidote common. Locally 3-4% disseminated and fracture controlled pyrite.	2,3	**TUFFACEOUS SEDIMENTARY ROCK** Scattered coarser plagioclase and quartz in plagioclase dominant groundmass with moderately abundant epidote and pyrite porphyroblasts. Epidote rich veinlets carry lesser quartz, pyrite and ***chalcopyrite***.	271
JI 96-02 355.5 m	**TUFFS/FINE GRAINED SEDIMENTS** Well bedded, intercalated argillite, siltstone and cherty sediments. Local bleached and epidote rich zones. Pyrite up to 10% as disseminations and bands, paralleling bedding.	2, 3	**META-ANDESITE/DACITE TUFFACEOUS SEDIMENTARY ROCK** Dominated by plagioclase and lesser tremolite/actinolite. Several mm thick pyrite bands bordered by tremolite/actinolite, epidote and pyrite. Two ages of epidote rich veinlets noted.	96
JI 96-02 407.5 m	**ANDESITE TUFFS** Strongly epidotized, siliceous, >5% disseminated pyrite. Narrow bands of (0.5 - 2.0 cm) hematite - pyrite.	2	**META QUARTZ DIORITE** Well foliated, medium to very fine grained, dominated by plagioclase, lesser quartz and cluster of tremolite/actinolite and epidote. Moderately abundant disseminated pyrite, minor chlorite, apatite and ***chalcopyrite***.	309

* no analysis

The second area of mineralization in hole JI 96-01 when projected to surface corresponds closely to a northwest trending IP anomaly (Figure 4). This may be at least in part explained by the pervasive disseminations and stringers of pyrite that constitute 3 to 10% of the mineralized zone. It is unlikely however that the intersected mineralized zones adequately explain the extensive copper geochemical anomalies situated uphill and west of this drill hole.

DDH JI 96-02:

Drill hole JI 96-02 encountered a substantially different and more highly varied sequence of lithologies than the first hole. No geologic correlation is made between the two holes as they intersected different sections of the local stratigraphy. In hole JI 96-02 there are substantially less andesitic tuffs, more fine grained bedded sediments and numerous bands of rhyolite. Intrusive rocks are less abundant being comprised primarily of porphyry dykes and sills (Units 4, 6, and 7; Figure 7). Epidote alteration and pyrite mineralization are pervasive and variable. Metamorphism appears to be more intense with weak to strong foliation present in some lithologies. Drilling was slowed dramatically by the numerous bands of "rhyolite" that are extremely fine grained, "glassy" and very hard. Two petrographic samples described this rock unit as a fine grained, metamorphosed diorite and a porphyritic latite dyke or sill(?)

Found throughout the drill hole are numerous bands of sedimentary rocks up to 10 metres thick. These rocks are generally fine grained, bedded and consist of argillite, siltstone, and cherty sediments. In one instance, graphitic fracture coatings were observed. Two petrographic samples in this rock unit indicated a tuffaceous origin for these sediments (Appendix C).

As opposed to hole JI 96-01, drill core analysis did not reveal a strong clustering of anomalous values but rather returned a more scattered and sporadic pattern. This may be attributed somewhat to the highly varied lithologic makeup of this hole. Distinctly anomalous levels of copper were rare until 375 metres and the end if the hole where values ranged up to 614 ppm. Coincident, weakly anomalous levels of zinc and barium were also noted. Petrographic analysis of rock from the end of this hole identified a well foliated, medium to very fine grained, metamorphosed quartz diorite. Moderately abundant disseminated pyrite and minor chalcopyrite were also identified.

Elsewhere in this drill hole, six samples between 70 and 335 metres returned anomalous levels of zinc ranging from 450 to 2,415 ppm. Four of these samples occur in tuffaceous rocks (Unit 2) and had weak to definitely anomalous levels of copper. The remaining samples occur in altered rhyolite (Unit 1), one with highly anomalous lead and silver (334, 4.0 ppm) and the other with anomalous copper and barium (231, 227 ppm). The sporadic high barium values observed are not lithology specific and show a moderate coincidence with anomalous copper and zinc values. Anomalous gold values are rare with the highest being 24 ppb. As in hole 96-01, no distinct relationship to base metal values was observed.

When projected vertically to surface, the sedimentary/tuffaceous sections between 200 and 360 metres roughly coincide with the copper in soil anomaly (Figure 4). The coincident IP anomaly may be in part explained by pyritic and localized graphitic zones in the sediments at 340 to 360 metres in DDH JI 96-02.

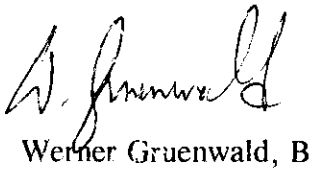
CONCLUSIONS AND RECOMMENDATIONS

The 1996 drilling program tested two areas of coincident geochemical and geophysical anomalies associated with a northwest trending roof pendant considered favourable for hosting volcanogenic massive sulphide (VMS) mineralization. Two 400 metre+ drill holes intersected a highly variable volcanic/sedimentary sequence that has been intruded by numerous sills and dykes related to the Coast Plutonic Complex. Anomalous levels of copper and zinc were indicated in both holes. Drill hole JI 96-01 intersected three areas of copper mineralization associated with andesitic tuffs, sediments and several narrow breccia zones. A small, low angle, sulphide rich vein hosted by siliceous tuffs returned a value of 1.9% copper over 0.20 metres. It is believed that the geochemical soil anomalies are not fully explained by the drill hole data.

Petrographic evidence suggests the most probable environment is a contact metamorphic zone at the border of quartz diorite and tuffaceous sedimentary rocks. The tuffaceous sediments are described as similar to the volcanics that host deposits such as Britannia. Further exploration should be directed toward delineating any coarser fragmental rocks usually found proximal to the volcanic centres necessary for the formation of VMS deposits. A favourable area for further exploration is northwesterly of hole JI 96-01.

The widespread pyrite mineralization within these rocks could also be interpreted to be a later superimposed event such as a halo to a porphyry system. Reconnaissance work to the north has revealed the presence of alteration zones (gossans) that should also be investigated for potential porphyry systems. Future exploration should therefore be directed to the northwest to assess the "up ice" geochemical signature and geology for the presence of both VMS and porphyry style mineralization.

Respectfully submitted by
GEOQUEST CONSULTING LTD.



Werner Gruenwald, B. Sc., F.G.A.C.
Geologist

Vernon, B.C.
February 24, 1997

APPENDIX A

DIAMOND DRILL LOGS

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: J. I | DRILL HOLE NO.: JI 96-01 |

DIP AND AZIMUTH TESTS		
DEPTH	ANGLE	AZMTH
600'	-43°	
1400'	-44°	

CORE SIZE: BTW	TOTAL DEPTH: 426.72 M	DATE STARTED: OCT 22/96
HOLE ANGLE: -44°	HOLE AZIMUTH: 355°	DATE FINISHED: NOV 5 /96
SECTION: 5+00 W	COLLAR ELEVATION: ~1400' 426.7m	ANALYSIS BY: BONDAR CLEGG
LATITUDE:	RECOVERY:	LOGGED BY: R. MONTGOMERY
DEPARTURE: 6+60 S	CLAIM:	CORE STORED AT: EGMONT MARINA

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba Ag Au
0-.45		OVB (ORGANICS w minor SOIL). CASING TO 2'							
.45-3.42	.10	0.45-3.42 Med Grey-green F.G. ANDESITE TUFF	Locally 3-4%						
		Bedding mod. well defined @ 45° to c/A (ie beds	py stringers						
		near vertical to steeply dipping to the north).	// to bedding &						
		Broken, rubbly core over top of intv. Fractures	along fractures.						
		strongly Limonitic. Minor patchy secondary epidote							
		alt^n							
		@ .55-.85m occasional patchy pink K-feldspar (?)							
3.42-6.41	0	3.42-6.41 Light grey/green → maroon FELDSPAR	2-3% f^n diss						
		PORPHYRY DIKE ~25-30% plagioclase phenocrysts (avg	py & py blebs.						
		3-5 mm diameter) Fractures @ 40-80° to c/A & strongly							
		Limonitic H.W & F.W contacts gradational w							
		f.g. andesite tuff. F.W contact @ 50° to c/A. H.W contact							
		@ ~60° to c/A.							
	*	Chip Sample Description as above	" "	143401	3.42-6.41	35	32	7	50, 0.3, <5

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** JI 96-1

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba Ag, Au
6.41-26.10		6.41-26.10 Med. grey-green F.G. ANDESITE TUFF	2-3% diss. &						
		Intv. generally well bedded (bedding @ 40-45° to c/A)	stringer py over						
		Fractures strongly Limonitic, especially over top of intv.	intv. Locally seams						
		Intermittant zones light grey/green bleached & silicified f.g	of semi-massive →						
		tuff often w epidote clots/stringers. Minor chlorite.	massive py often						
		-Locally narrow stringers & irregular patches of pink	w epidote.						
		K-feldspar (stringers // to bedding)							
		Grey-green F.G Locally bleached, silicified AND. TUFF w	~10-15% f"	143402	11.19-11.79	14	14	<2	16, 0.2, <5
		Qtz veining (intv. ~25% Qtz). Qtz veins @ ~30-35°	py within Qtz						
		to c/A. Ep, chloride, pink K-feldspar w Qtz	veins.						
		SPLIT sample. F.G AND. TUFF w ↑ py content. Py/ep. stringer sub // to c/A	~5% py stringers.	143403	15.1-16.6	72	18	3	27, 0.4, <5
26.10-26.44		26.10-26.44 Green/grey coarse grained volconic BRECCIA.	3-5% diss. &	143404	26.10-26.44	30	102	4	10, 0.3, <5
		~50% sub rounded white-grey Qtz frags (± 7-8cm long),	locally bleb py						
		~30% f.g green TUFF frags, 5-10% pink K-feldspar	& diss py (3-4%						
		frags, 10% feldspar porphyry dike. Intv. Limonitic locally							
		w/gy	* CHIP SAMPLE						
26.44-29.11		LIGHT GREY/GREEN FELDSPAR PORPHYRY DIKE	7% f" diss.	143405	26.44-29.11	39	46	2	23, 0.3, <5
		~20-25% plag. phenocrysts (2-3 mm avg width) Locally	py.						
		few narrow veinlets pink K-feldspar. ~10 cm wide white.							
		barren Qtz vein @. 26.66 M							
29.11-52.84		MED GREEN/GREY F.G. ANDESITE TUFF Mod well	F" diss & fracture						
		bedded (40-45° to c/A.). ↑ buff/pinkish K-feldspar over	controlled stringer						
		previous TUFF units. Core locally fractured/brecciated w	py to 3-4%.						
		patchy chlorite/epidote alt", Minor qtz veinlets/micro-veinlets.							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI DRILL HOLE NO.: JI 96-1

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
29.11-52.84 CONT'D		- core locally vuggy w Qtz x'stals infilling vugs.							
		- fractures often Limonitic							
		@ 30.4m Drag fold in 7mm wide F.G. TUFF bed.							
		@ 35.0 - 52.84 ↑ brecciation, epidote alt^n.							
		* Chip sample FG Grey/green ANDESITE TUFF w ~10%	2-3% f^n diss	143406	34.75-37.5	64	47	3	21, 0.3, <5
		pink K-feldspar. Minor → mod ep, chl. alt^n	py, fracture py.						
		@ 41.15 m 5cm wide bed K-feldspar w few							
		vugs.							
		49.37 - 50.6 m Strong epidote alt^n, locally minor Qtz	1-2% f^n diss.	143407	49.37-50.6	38	248	4	3, 0.3, <5
		microveins.	py						
52.84-53.64		52.84-53.64 Pale grey, F.G bleached ash tuff							
		@ top of intv. grading to med. grained light green							
		tuff @ bottom of intv. few large f.g. green tuff							
		lapilli (≤ ~3-4cm wide).							
53.64-58.11		Light grey/green bleached wkly silicified f.g. TUFF							
		few Qtz veinlets/microveinlets. Minor epidote alt^n.							
		@ 55.97 soft white, lustreous mineral (gypsum?)							
58.11-59.88		Light grey FELDSPAR PORPHYRY DIKE H.W contact	~5% f^n diss.						
		@ 45° to C/A. Minor soft white mineral on H.W contact.	py.						
		F.W contact @ ~40° to C/A.							
59.88-64.11		Med grey, MED → COARSE grained Qtz-feldsp-Hbl porphyry DIKE.	3-5% diss &						
		(plag > Qtz > HBL. ± Bi(?) >) Few Qtz vnlt^s ≤ ~2-3cm	blob py ↑ @						
		wide. Core broken/rubbly @ bottom of intv. w 7-10%	bottom of intv.						
		py (crystals often 1-1.5 mm wide).							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI DRILL HOLE NO.: JI 96-1

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
59.88-64.11		- Sample description as above -	3-5% diss &	143408	59.88-61.38	31	49	2	51, <0.2, <5
CONT'D...			blob py.						
		Lt. grey M.G.-C.G. Qtz-Fldsp porphyry dike @ 62.08	4-5% diss py.	143409	61.38-63.0	23	78	<2	23, <0.2, <5
84.42 M		irregular grey muggy Qtz vein ~2 cm wide w/ plag.	↑ to 7+% @						
		62.21-62.44 M Green chlorite/epidote altered Qtz-Fldsp. porphry	bottom of sample						
		S.T.A w/ ↑ pyrite & white Qtz veining. Qtz	~15% py over	143410	63.0-64.11	19	73	4	A, <0.2, <5
		veins generally barren w/ irregular boundaries.	intv. locally to 25%						
		semi-massive py							
64.11-71.02		64.11-71.02 Med grey F.G. TUFF Bedding poorly-	~10% diss &	143411	64.11-65.61	22	77	<2	16, 0.2, <5
		mod developed @ ~40-42° to C/A. Occasional	stringer py, ↓						
		stringers ep + py ± Qtz ± K-feldspar Local	@ bottom of intv						
		brecciation w/ py ± Qtz healing fractures.							
		@ 65.4-65.6 10-15% hornblende laths							
		(≤ ~4-5mm long).							
71.02-75.51		71.02-75.51 M Light green/grey, fine→med grained	~3-5% finely						
		equigranular, pyrite FELSITE (?) Plag. phenocrysts	diss. py.						
		~15% of rock (avg ~1 mm) and are set in an aphanitic							
		groundmass.							
		Sample description same as rock unit descrip. above.	5+% f° diss.	143412	74.01-75.51	80	59	<2	26, 0.3, <5
			py.						
75.51-77.51		75.51-77.51 M Light-med grey/green, F.G. well							
		bedded ANDESITE TUFF. Bedding @ 40° to C/A Sulfide							
		// to bedding or following X-cutting fractures Few							
		1-2 mm Qtz micro-veinlets X-cutting & sub // to bedding							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** JI 96-1

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
75.51-77.51		H.W contact sharp & @ 35° to C/A. F.W contact							
CONT'D		vague (~60° to C/A ?).							
77.51-79.34		Light-med green/grey, f^n → med grained FLOSP. PORPHYRITIC FELSITE	5-7% f^n diss.						
		(Similar to 71.02-75.51 m). Narrow shear zone @ 78.9m	py.						
		Pynte & Tr green clay gouge along shear (shear @ ~15° to							
		C/A).							
79.34-79.97		Med green/grey f.g. moderately well bedded	2-3% py. f^n						
		ANDESITE TUFF. (bedding @ 35° to C/A.)	diss. & along						
		Minor epidote alt^n along fractures.	fractures.						
79.97-84.44		Light → med green/grey f^n-med grained FLOSP. PORPHYRITIC	7-8% f^n diss						
		FELSITE. Fractures often sub // to C/A.	& fracture py.						
84.44-85.22		Pale grey Medium grained FELDSP. PORPHYRY DIKE	2-3% evenly	143413	84.44-85.22	22	32	<2	29, 0.3, <5
		~25% Plag. phenocrysts (2-3mm avg width). few 3-5mm	diss. f^n py.						
		wide white/grey Qtz veinlets @ ~35° to C/A. Tr							
		epidote, chlorite alt^n along fractures							
85.22-114.0		Light-med grey f^n → med grained FLOSP. PORPHYRITIC FELSITE	~5% diss. &		* 87.0 m				
		Generally massive w sparse .5-1mm plag. phenocrysts	fracture py over		OFFICE SAMPLE				
		well fractured w fractures commonly @ 30-45° to C/A.	intv.						
		Py evenly diss. throughout w stringers along fractures.							
		Locally narrow stringers of epidote.							
		FLOSP. PORPHYRITIC FELSITE as above w few 2-3mm wide	~5% diss. &	143414	92.95-94.45	39	179	<2	37, 0.4, <5
		HBLD(?) crystals. Few 2-7mm wide wide Qtz veinlets @	fracture py.						
		35-45° to C/A. Tr - minor patchy epidote blebs.							
		Similar to 143414 w bleaching, silicification, & Qtz micro veining	~5% diss, fract. py	143415	97.5 - 99.0	56	93	<2	104, 0.4, <5
		over top 50cm of intv. Qtz vems = ~5cm wide @ ~30-							
		45° to C/A. (Qtz ~6-7% of intv.). Tr pink K-feldspar rimming Qtz veining.							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** JI 96-1

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
85.22-114.0		(CHIP) MED GREY FELSITE Wkly silicified.	7% f" diss py	143456	104.0-107.0	73	53	21	28, <0.2, <5
CONT'D		(CHIP) S.T.A Fractures often sub // to C/A.	" "	143457	107.0-110.0	34	60	23	32, <0.2, <5
		(CHIP) S.T.A Occasional pale green / buff carb. altered zone	5-7% diss. py.	143458	110.0-111.6 / 111.6-114.0	138 / 174	93 / 122	<2 / 23	40, 0.3, <5 / 40, 0.3, <5
114.0-114.15		Green, C.G. VOLCANIC BRECCIA. (Similar to 26.1-26.44m). FW contact @ 50° to C/A (HW contact broken, fractured) - BUT LESS QTZ FRAGS.	2-3% f" diss py	143417	114.0-114.15	147	266	3	27, 0.5, <5
114.15-119.10		Light-med grey f" → med grained FLDSP. PORPHYRITIC FELSITE Fractures @ 45-60° to C/A & sub // to C/A.	~ 5-7% f" diss py						
		(CHIP) Light-med grey FELSITE pyritic fract. often sub // to C/A.	5-7% diss py.	143459	114.15-117.0	65	75	24	43, <0.2, <5
		(CHIP) S.T.A	7-10% diss py.	143460	117.0-119.10	85	51	24	40, <0.2, <5
119.10-119.59		Med Green/grey F.G. ANDESITE TUFF. Mod-strongly silicified, ep. alt" over intv. FEW Qtz microveinlets. Wk bedding @ 35-40° to C/A, Faint slickensides on ep. fracture (plunge 40° to C/A).	2-3% f" diss py over intv.	143418	119.10-119.59	306	511	14	31, 0.3 <5
119.59-127.29		Pale grey F.G. FLDSP PORPHYRITIC FELSITE ↓ plag phaiocrysts. Core extremely broken / rubbly. @ 122.0-124.0 cm.	3-5% f" diss py.						
		(CHIP) S.T.A Dk grey @ top 40 cm of intv.	5-7% f" diss py	143461	119.59-122.0	73	71	27	39, <0.2, <5
		(CHIP) @ ~ 1249 M - 125.1 M C.G. VOLCANIC BRECCIA.	5-7% diss py.	143462	122.0-125.0	31	74	25	37, <0.2, <5
		(CHIP) Grey felsite @ top. Crumbly green M.G AND. TUFF @ Bottom.	Locally 10-15% py.	143463	125.0-127.29	1164	611	53	21, 1.0, <5
127.29-127.74		Med green/grey C.G VOLCANIC BRECCIA Frags sub-rounded (75% F.G Green AND. TUFF, ~20% grey/white Qtz frags). Clasts within	2-3% stringer & crystal Cpy over intv.	143419	127.29-127.74	1575	3393	174	<2, 2.3, <5
		F.G green tuffaceous(?) matrix. At 127.59 gradation to F.G → M.G. AND. TUFF.	1-2% fracture filling &						
		@ 127.65 M 1.5cm vug w euhedral Qtz crystals, Cpy crystals & silver/grey	diss. Chalcocite ? 2-3%						
		compact Chalcocite(?) crystals. 3 cm wide Cpy, py, chalcocite (?)	diss, stringer py.						
		stringer adjacent to vug & @ ~ 25° to C/A. Pink K-feldspar	common w few Qtz mmounts.						
127.74-137.12		Light Grey F.G. FELSITE w minor interbedded F.G. TUFF @ bottom							

NOTE: 143463 examined - no cpy noted.

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** JI 96-1

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Ca	Zn	Pb	Ba, Ag, Au
127.74-137.12		Fractures often sub // to C/A. Local wk. epidote alt^n	4-5% f^n diss. py.						
CONT'D		(CHIP) Med grey felsite. Fractures pyritic.	7-10% diss. py.	143464	127.74-130.0	116	138	26	43, 0.3, <5
		(CHIP) S.T.A.	" "	143465	130.0-133.0	66	84	24	36, <0.2, <5
		(CHIP) S T A	" "	143466	133.0-135.63	86	186	24	34, <0.2, <5
		F.G. Green AND. TUFF. Locally wk bedding @ 45° to C/A	7-10% diss., fract. py. locally semi-massive.	143420	135.63-137.13	154	2525	9	14, 0.8, <5
137.12-139.42		PALE GREY M.G. FELDSPAR PORPHYRY DIKE. Minor Chlorite	3-4% diss. py.						
		on fractures HW contact @ 60° to C/A. FW contact @ 40° to	C/A.	FINAL IN SAMPLE:					
139.42-152.68		Light → Med grey F.G. FELSITE Core extremely broken &	5% diss. & fract	143597	139.40-141.12	132	22	160	36, <0.2, <5
		fractured over much of intv.	py Locally 1-2cm	143598	141.12-142.9	63	21	101	29, <0.2, <5
		- @ 152.0 m / cm wide epidote vn/t. w Tr dolomite, Tr	py blebs.	143599	142.9-145.74	159	1332	29	31, <0.2, <5
		hematite, Tr vuggy. Shear @ 20° to C/A w minor grey							
		clay gauge.							
		Light → Med grey F.G. FELSITE Broken, fractured core.	5-7% diss, fract,	143421	145.74-148.74	45	74	<2	22, 0.8, <5
		(CHIP SAMPLE).	bleb py.						
			(Blebs .5-2cm wide)						
152.68-154.0		MED Green F.G. ANDESITE TUFF. Locally bleached &	1-2% f^n diss	143422	152.68-154.0	215	388	3	322, 0.5, <5
		silicified w few .5-1cm wide white Qtz veins @ 35-	py.						
		50° to C/A. Minor patchy pink K-feldspar @ top of							
		intv. Core often vuggy w Tr Qtz crystals & dolomite							
		infilling vugs.							
154.0-154.50		Green, M.G→C.G. AND. TUFF/VOLCANIC BRECCIA FW contact @	2-3% f^n diss. py.	143423	154.0-154.50	177	1715	<2	120, 0.3, <5
		40° to C/A. Core bleached w shear zone @ 154.40-154.50 (clay							
		gouge @ 154.50). Few pink K-feldspar crystals @ top of							
		intv. Few narrow Qtz veinlets & microveinlets.							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: **DRILL HOLE NO.:** JL 96-1 **PAGE** 8 **OF** 17

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
154.50-163.87		MED GREY F.G → M.G FELSITE ẅ minor interbedded AND. TUFF.	3-5% diss, fract						
		Broken core over intv. Local bleaching & silicification.	py						
		(CHIP) Core strongly pyritic / crumbly @ ~158.0-158.5M	7-10%, Locally 15% py.	143467	157.5-158.5	56	58	28	,26, <0.2, <5
		@ 157.63 Shear zone ẅ grey/green clay gouge.							
		Shear @ 45° to c/A. ~ 1cm wide Qtz vein ẅ 1-2%							
		diss. py. adjacent to shear. (HW side)							
		Felsite as above ẅ minor interbed f.g green AND. TUFF.	5-7% diss/fract.	143474	160.65-162.15	70	227	12	24, 0.3, <5
		Tr. pink K-feldspar adjacent to shear zone / Qtz	py over intv.						
		vein. Locally minor chlorite alt^n.							
163.87-174.4		Pale grey FELDSPAR PORPHRY DIKE. locally	3-5% diss/						
		20-25% plag. phenocrysts. Occasional pink K-feldspar	fract. py						
		crystals. (adjacent to shear zone). Core generally							
		quite broken / fractured.							
		@ 169.14M. bleached, crumbly shear zone ẅ Tr-minor							
		green clay gouge Shear @ ~45° to c/A.							
174.4-174.88		MED-DK GREY F.G. AND. TUFF ẅ interbedded	3-4% f^n diss.						
		dk grey FELDSPAR PORPHYRY DIKE.	py.						
174.88-189.76		Pale grey FELDSPAR PORPHYRY DIKE FRACTURES	4-5% f^n diss						
		commonly @ 30-45° to c/A. Locally well silicified	& fracture py.						
		~5-35% plag. phenocryst (~2-4 mm avg. width).							
		@ 188.83-189.47M Dk grey wkly brecciated							
		F.G. TUFF, FELDSPAR PORPYRITIC TUFF.							
		@ 187.10 Several large dk. grey F.G. TUFF & grey							
		Qtz Xenoliths within, strongly silicified FELDSP. PORPYRITIC DIKE.							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: J I **DRILL HOLE NO.:** 96-1

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
189.76-195.27		Dk. Grey/Green F.G. ANDESITE TUFF Locally Tr feldspar phenocrysts.	~5% diss, bleb	143600 (chip)	192.9-193.2	156	74	14	30, <0.2, <5
		Wk-Mod developed bedding @ 40° to c/A. Locally minor ep. w py	fract py.	↑ *	SPECIMEN 194.20m				
195.27-197.90		Med-dk grey green Feldspar porphyry ANDESITE BASALT w minor		Grade coarse brecciation with pyrite inf. lit. cpy					
		interbedded AND. TUFF. Locally wk-mod magnetic core. Wk bedding (40° to c/A).							
197.9-216.30		Med. grey/green F.G. ANDESITE TUFF Locally w interbedded Chert							
		Bedding locally poorly → mod. well developed @ 35-40° to c/A. Fractures							
		sub // & @ 35-50° to c/A. Tr pink k-feldspar along fractures. Locally							
		strong silicification / bleaching, mod. brecciation. Patchy ep/chl. alt^n							
		on fractures.							
		Dk green/maroon F.G. AND. TUFF / MAFIC VOLC. FLOWS. Locally wkly	3-5% diss,	143477	201.0-202.5	201	80	14	40, <0.2, <5
		magnetic. Sparse plag. phenocrysts Tr vuggy. Mod. silicification	fracture py.						
		S.T.A w ↑ sulfides.	7% py locally w 10-15% semi-massive py.	143478	202.5-204.0	230	46	15	35, <0.2, <5
		Dk grey/green interbedded AND TUFF / MAFIC FLOWS. Local	5% diss, fract py.	143479	204.0-205.65	217	192	61	53, 0.3, <5
		silicification. Pink k-feldspar @ 204.85m. Minor carb/chl/ep on fractures.							
		F.G. Dk grey/green silicified AND TUFF / Chert. Few blk vnlt^s @ top.	3-5% diss py, blebs, stringers.	143425	205.65-207.35	226	65	<2	30, 0.8, <5
		Dk. grey/green Wk → mod siliceous AND TUFF. @ 207.45 m 3-4 cm	5-7% cpy, 5% hem,	143426	207.35-207.55	>10,000 1.9%	115	10	8, 7.5, <5
		wide massive sulfide vein (~ 25° to c/A.). Cpy + py + po +	2-3% po & py. ½-1%	mag.					
		hem + magnetite. Vein mod. magnetic.							
		Med green/maroon F.G. Locally bleached / silicified AND. TUFF.	3% diss, fract. py.	143427	207.55-209.05	406	112	<2	49, 0.8, <5
		Med green/maroon mod. silicified AND TUFF / Chert. Banding sub	3% diss, fract. py	143428	209.05-210.55	357	103	<2	31, 0.9, <5
		// to c/A.							
		Dk grey/green AND. TUFF / Chert. Mod silicification over intv.	3-5% diss, fract py.	143480	210.55-210.92	320	83	17	45, 0.4, <5

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** JI 96-1

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
197.9-216.30 CONT'D		MED Green/grey F.G. AND. TUFF. Locally bleached/silicified. Locally bedding well developed @ 35° to C/A. Tr pink K-feldspar on fract. S.T.A. Locally wk-mod brecciation. Minor epidote alt^n	3-5% py blebs, stringers	143429	210.92-212.42	404	85	14	34, 1.0, 6
			" "	143430	212.42-213.92	333	48	<2	22, 0.8, <5
		Med grey/green locally bleached/silicified F.G. AND. TUFF. Bedding @ 40° to C/A. Epidote common as blebs & along fract.	3-5% py blebs, stringers.	143431	213.92-215.42	337	64	<2	24, 0.7, <5
		Med grey FELSITE. 3 cm wide soft, greasy, vitreous gypsum, (?) veinlet @ 45° to C/A near middle of intv.	5-7% diss py.	143481	215.42-217.53	208	54	14	28, <0.2 <5
216.30-217.53		Lt-med grey F.G. FELSITE Few small plag phenocrysts Few narrow carb. veinlets.							
217.53-229.0		Med green/grey F.G ANDESITE TUFF. Locally w minor silicified SEDIMENTS. Bedding locally well developed @ 40° to C/A Epidote common as irregular blebs & stringers on fractures. Locally core extremely broken, rubbly.							
		-Description as above- Few ep. stringers ≤ ~ 1cm wide	~5% diss, fract py Locally 1-2% po(?)	143432	217.53-219.03	401	176	3	40, 0.9, <5
		Med grey/green F.G. AND. TUFF. Locally bleached, silicified. 2-3 cm wide Qtz vein sub // to C/A @ 219.10 m. @ 219.56 massive magnetite. Tr vuggy epidote/Qtz vanlets 1cm wide Qtz vein w py, Tr chalcocite (?).	5% diss, fract py. 1-2% mag. over intv, Tr Chalcocite (?)	143433	219.03-220.53	235	115	26	32, 0.5, 6
		Dk green/grey locally strongly silicified/bleached AND. TUFF. Whly magnetic @ top (f^n diss magnetite). Locally epidote/chlorite on fractures.	4-5% py. Tr-1/2% magnetite.	143434	220.53-222.03	198	55	<2	43, 0.5, <5

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** JI 96-1

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
217.53-229.0		Dk green/grey F.G locally bleached, wk-mod	5-7% diss, bleb,	143435	222.03-223.53	222	62	<2	28, 0.6, <5
cont'd.		silicified AND. TUFF. Well bedded @ bottom of	fracture py.						
		intv. (40° to c/A.) Wk-med patchy epidote							
		alt^n over intv. Tr-minor chlorite alt^n							
		S.T.A (143435) Core becoming extremely broken, rubbly	" "	143436	223.53-225.03	181	81	<2	28, 0.5, <5
		@ bottom of intv.							
-		Top of intv = Dk green/maroon AND. TUFF, BOTTOM = MED GREY FELSITE	7% f^n diss py	143482	225.03-227.03	208	54	14	28, <0.2, <5
		@ 226.36 Tr grey clay gouge.							
		Light-med grey F.G → M.G. FELSITE	10-15% diss. py	143483	227.03-229.0	264	52	14	33, <0.2, <5
229.0-234.83		Light grey M.G. FELDSPAR PORPHYRY DIKE	3-4% diss./	143437	233.33-234.83	29	49	X 13	28, <0.2, <5
		Locally minor chlorite alt^n on fractures. Shear crush	fract. py.						
		zone w Tr clay gouge @ bottom 40 cm of intv.							
234.83-235.0		Coarse grained green VOLCANIC BRECCIA, sheared	1/2% cpy. 1-2%	143438	234.83-235.0	69	194	55	41, 0.5, <5
		w grey clay gouge on HW. Tr white calcite crystals	diss/bleb py.						
		on FW.							
235.0-258.93		Light grey M.G FELDSPAR PORPHYRY DIKE Locally	3-4% diss, py.	* SPECIMEN 245.3 m.					
		minor patchy chlorite alt^n. Locally Tr hematite	Few py seams 1-						
		blebs. @ 248.0 - 248.8 m Flow banding @ 40-45° to c/A.	2 cm wide. @						
—			45-50° to c/A.			113	29	9	28 <0.2, 35
		FELDSP PORP DIKE as above Locally with few 1-3 mm	4-5% diss, bleb,	143439	235.0-236.5				
		wide stringers hematite.	occas stringer py. *	143601	236.5-238.0	40	142	14	30, <0.2, <5
		Light grey M.G. FELDSP PORP DIKE w few 5-10 mm wide	5-6% py (diss,	143440	246.24-247.74	9	7	7	19, <0.2, <5
		pyrite stringers	stringer).						
		* 143601 - collected to check below 35 ppb Au sample							

Rock cut by several narrow hematite filled fractures (@ 50° to C.A).

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DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
235.0-253.93		S.T.A (143440) ẅ 2 cm wide py veinlet @ 248.69.	5-6% py over	143441	247.74-249.24	22	34	8	22, <0.2, <5
cont'd...		Few lg (~5-7 mm wide py x-stals in a carb/	intv.						
		clay altered void.				15	94	33	38, <0.2, <5
253.93-254.71		Dark green F.G. mod. magnetic ANDESITE		143442	253.93-254.71	*	OFFICE		
		BASALT Minor small (1-2 mm) carb (?) filled				254.15	SAMPLE		
		amygdules, Sharp HW contact (70° to c/A) SHARP FW CONTACT @ ~80° to c/A.							
254.71-279.93		Pale Grey FELDSPAR PORPHYRY DIKE							
		Locally clots & blebs epidote. Minor chlorite alt.							
		Locally Tr vugs in ep/chl/carb (calcite?).							
		Same rock description as above	5-6% diss,	143443	259.7-262.7	111	14	7	32, <0.2, <5
			locally stringer py						
		@ 267.7 - 279.93 m Core extremely fractured & broken.							
		Broken rubbly core. 274.75-274.95 shear zone	5-7% py over	143444	273.75-275.75	10	12	8	21, <0.2, 6
		ẅ minor grey clay gouge (@ ~50° to c/A) & ẅ ~1-1.5	intv.						
		cm wide irregular py stringers							
279.93-284.11		Dk green F.G wkly magnetic BASALT (similar							
		to 253.93-254.71 m). 25-30% plag. phenocrysts @							
		~254.0 - 254.31 m.							
284.11-286.63		Light → med grey M.G. FELDSPAR PORPHYRY DIKE	5-7% diss, &	143445	284.11-285.61	134	11	14	25, <0.2, <5
		Core strongly fractured, rubbly.	semi-massive						
			py (@ trp).						
286.63-313.5		MED GREEN/GREY F.G. ANDESITE TUFF							
		Generally well bedded (~35-40° to c/A). Locally							
		strong bleaching/silicification, especially adjacent							

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AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: **DRILL HOLE NO.:** JI 96-1

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
		ANDESITE TUFF							
286.63-313.5		to shear zones. Locally irregular MED → large blebs epidote	5% + diss, bleb						
CONT'D.		often w/ py. Minor intermittent chlorite alt^n.	stringer py.						
		Shear w/ buff / green clay gouge & 'ganthy' broken	3-5% py	143446	295.35-296.85	162	76	21	34, <0.2, <5
		rock @ 295.69 M. Intv. locally strongly bleached light	blebs, stringers.						
		grey / brecciated.							
		Shear zone @ 296.85-297.90 M. Abundant grey / green	3-4% py stringers	143447	296.85-298.35	108	110	24	18, <0.2, <5
		clay gouge, core very soft, epidote / chlorite altered.	& diss. py.						
		Bedding / shearing @ ~45° to c/A.							
		Pale olive green, buff strongly bleached, locally	5% py stringers	143448	298.35-299.85	15	76	16	15, <0.2, <5
		mod. silicified F.G. AND. TUFF. FEW NARROW	& blebs.						
		irregular Qtz veinlets.							
		Med olive green F.G. well bedded AND. TUFF	5% py stringers	143449	299.85-301.35	181	69	21	24, <0.2, <5
		(bedding @ 35-40° to c/A). Wk-mod bleaching/sil.	& blebs (often // to bedding).						
		Pale-olive green/grey mottled, bleached F.G.	5-6% py as	143450	309.7-311.20	35	74	15	27, <0.2, <5
		TUFF. Strong patchy epidote alt^n. Minor chlorite	stringers, lg. irregular blebs.						
		alt^n.							
		Top 40 cm S.T.A. Bottom portion green/grey	5-7% py (as in	143451	311.2-312.7	100	70	25	15, <0.2, <5
		well bedded (35° to c/A) Locally well silicified	143450).						
313.5-322.58		Med grey, M.G FELDSPAR PORPHYRY DIKE.							
		FW contact @ 45° to c/A. Minor ep, chl. on fractures							
		Tr hematite @ bottom of intv.							
322.58-324.10		Dk grey / green. F.G Locally bleached pale grey Interbedded	1-2% diss. py						
		AND. TUFF & FELDSP. PORPHYRY DIKE. Wk-mod bedding @ 40-45° to c/A.	Minor Chl, alt^n						

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** JI 96-1

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
324.10-326.05		Med-dk grey F.G. Wkly magnetic ANO. BASALT Few narrow	Tr diss py, mag.						
		dolomite vn/ltˢ. 5-10% irregular anhedral plag (?) phenocrysts.	Locally Tr ep. altⁿ						
326.05-330.43		Med grey-green F.G. well bedded bleached, locally silicified							
		ANDESITE TUFF. Bedding 45° to C/A. Local minor Qtz veining.	3-5% diss &						
			stringer py ½-1% hem.						
330.43-336.76		Med-dk green Intermediate-Mafic M.G. DIKE. 25% plag			*335M	OFFICE SAMPLE			
		phenocrysts, 15% mafic phenocryst (HBld, ± Bi pyroxene ?) in a dk							
		green/grey aphanitic groundmass. Narrow gypsum? veinlet on one							
		fracture. Core very wkly magnetic. Sharp HW contact @ 50°							
		to C/A. FW contact gradational & @ ~ 50° to C/A.							
336.76-353.25		Med-dk. green/grey F.G ANDESITE TUFF Generally well	3-5% diss,						
		bedded (~ 40° to C/A). Locally bleaching, wk-mod silicifi-	stringer py.						
		cation. Intermittant chlorite altⁿ./epidote, hematite							
		on fractures & as narrow stringers.							
		Sample description as above. Tr hem, chl, ep. on fractures.	" "	143452	338.0-339.5	80	90	20	49, <0.2, <5
		S.T.A	" "	143453	339.5-341.0	120	31	17	34, <0.2, 17
		Sample becoming more bleached towards bottom of int'v.	5-7% diss,	143454	341.0-342.5	15	46	11	32, <0.2, <5
		few .3-7mm wide Qtz veinlets // to bedding. Chlorite >	stringer py over						
		ep. altⁿ. Minor carb. on fractures.	int'v.						
353.25-380.1		Med Green/grey M.G → C.G Feldspar-Qtz porphyritic	-						
		Dike. (Rock fresh, unaltered) 25-30% plag. phenocrysts							
		(avg 2-5 mm) 20% Qtz (avg. 7-10 mm) 10-15% mafic minerals							
		(amphiboles, bi (?)) in an aphanitic dk grey/green groundmass							
		Very wkly magnetic (Tr f.g. magnetite). Sharp HW contact							
		@ 45° to C/A.							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** 96-1

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba Ag Au
353.25-380.1		(CHIP) Sample description same as above unit (353.25-380.1)	-	143455	353.35-365.15	*	359.8	M	
CONT'D						OFFICE SAMPLE			
380.1-383.60		Med Green/grey F.G. ANDESITE TUFF. Locally well				13	54	23	26, <0.2, <5
		silicified. High overall sulfide content, moderately		SPECIMEN 367.6m					
		abundant magnetite & hematite over top half of intv.							
		- AS ABOVE -	5-10% mag., 5% hem., 5-7% py.	143468	380.1-381.85	171	65	8	58, 0.4, <5
		Minor epidote, chlorite alt'n. Locally core strongly silicified.	5-10% diss. fract.	143469	381.85-383.6	49	90	12	54, <0.2, <5
			py						
383.6-388.1		MED Green/grey Intermediate → Mafic DIKE							
		- Wkly magnetic							
		- Local narrow bleached zones.							
		- 10-15% anhedral feldspar							
		phenocrysts.							
388.1-414.4		MED Green/grey F.G. ANDESITE TUFF							
		Locally w Chert / siliceous F.G SEDIMENT interbeds.							
		- Bedding locally well developed @ 30-35° to c/A.							
		- Strong silicification over most of intv.							
		- few Qtz veinlets.							
		- Epidote alteration common, especially along							
		fractures.							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** JI 96-1

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba Ag Au
388.1-414.4		ANDESITE TUFF w minor interbedded Rhyolite / Chert(?)	Locally 3-4%						
CONT'D		siliceous sediments.	specular hematite						
		(CHIP) Med green F.G AND. TUFF. Local strong silicificat-	5%-7% py over	143470	388.1-391.1	72	48	7	38, <0.02, <5
		ion. Qtz veinlet w hematite @ 389.6 m. Minor patchy ep.	intv. locally to 25%. 1-2% hem.						
		(CHIP) S.T.A. strongly silicified, ↓ hematite	5-7% diss, fract.	143471	391.1-394.1	93	27	6	31, <0.2, <5
		vuggy Qtz @ 393.4 m.	py over intv.						
		Interbedded siliceous AND. TUFF / chert. Bedding @	5-7% diss, stringer	143472	394.1-395.6	132	21	5	35, <0.2, <5
		50-55° to c/A. Minor vuggy Qtz on fractures. Minor ep.	py	SPECIMEN @ 394.50m					
		S.T.A. 10 cm wide Qtz vein w ~10-12% py @ 396.15m	" "	143473	395.6-397.1	203	40	7	23, <0.2, 5
		Dark grey/green F.G→M.G AND. TUFF w banded (bedded)	10%+ diss., fract,	143474	397.1-398.6	363	32	14	21, <0.2, <5
		chert @ bottom. Locally M.G tuff frags elongated, stretched	massive py over						
		@ ~45° to c/A orientation. Bleached, vuggy porous tuff(?) w	intv.						
		25-35% semi-massive py @ 397.35m. Locally mod. ep. alt'n							
		Interbedded Chert / AND. TUFF. Well bedded chert (40°	10-12% py over	143475	398.6-400.1	128	74	13	23, <0.2, <5
		to c/A) @ top of intv. Deformation of F.G beds around	intv.						
		Qtz lenses. @ 398.95-399.02m Qtz w py (~35-40%							
		massive py). @ 399.25-399.3 C.G. silicified volcanic breccia.							
		Pale-Med Green silicified AND TUFF w Minor interbedded	5-7% py	143476	400.1-401.6	65	25	6	31, <0.2, <5
		Cht.							
		Well silicified F.G AND. TUFF. Core broken / rubbly.	5-7% py. Locally 10-15% massive	143484	401.6-404.4	107	36	6	26, <0.2, <5
		Vuggy white Qtz w py @ top. @ 405.1 m 7 cm wide C.G.	Locally 30-35%	143485	404.4-406.9	420	343	9	23, 0.5, 11
		VOLCANIC BRECCIA. (Clasts = 60% grey/white Qtz, 10% intrusive,	diss. massive py.						
		10% F.G. TUFF (?) 5-10% dk grey/blk Cht (?) frags). in a	especially over top						
		olive green F.G volc. matrix. Minor ep alt'n, Strong silicifi-	1/2 of intv.						
		cation & minor Lt. brown Cht bands over bottom of intv.							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** JI 96-1

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
388.1-414.4		Med green/maroon well silicified F.G AND. TUFF / SST (?)	7% diss, fract	143486	406.9-408.4	91	90	10	36, <0.2, <5
CONT'D.		Minor ep. alt^n w/ py.	py						
		Pale grey/pinkish Rhyolite. Very hard/brittle.) STRONG	5-7% diss, fract py	143487	408.4-409.9	48	72	5	31, <0.2, <5
		Pale grey/pink Rhyolite " " " } Brecciation	" "	143488	409.9-411.40	18	34	5	36, <0.2, <5
		Med Grey/green Rhyolite/ minor interbedded silicified AND TUFF.	5% diss, fract	143489	411.4-412.90	12	14	5	44, <0.2, <5
			py TR epidote.						
		Lt. grey Chert, less fract./brecciated than 408.4-411.4 M		143490	412.9-414.4	16	35	5	45, <0.2, <5
414.4-416.35		MED Grey-maroon Int → mafic FELDSP PORPHYRY DIKE	~5% diss, fract.	143491	414.4-416.35	90	38	19	49, <0.2, <5
		Minor ep alt^n especially on fractures.	py over intv.						
416.35-419.35		Lt grey Chert Locally few Qtz microveinlets @ all	4-5% diss, fract.	143492	416.35-417.85	96	24	6	34, <0.2, <5
		orientations to c/A. Core very hard, brittle.	py.						
		S.T.A Core very broken & rounded by drill @ bottom of intv.	" "	143493	417.85-419.35	36	23	5	42, <0.2, <5
419.35-422.9		Dk. green/black F.G. wkly. magnetic, pyritic MAFIC DIKE	(?) or F.G → M.G	AND. TUFF.					
		Pyrite rich sections soft, crumbly. Minor green clay gouge	10-15% → Locally	143494	419.35-421.15	95	33	8	30, 0.4, <5
		@ 422.7 M.	25% diss & massive py.						
		Wk bedding @ ~50° to c/A @ 422.60. 2-3 cm wide	20-25% & locally	143495	421.15-422.9	141	40	11	20, <0.2, 5
		semi-massive py veinlet w/ silicified host rock @ 422.60.	25-35% py.						
422.9-426.72		Pale grey FELDSPAR PORPHYRY DIKE Broken, crumbly	~5% diss, fract. py	143496	422.9-424.81	11	20	5	37, <0.2, <5
		core w/ Minor white → green clay gouge @ 425.0 M. Locally							
		mod. silicified w/ few Qtz microveinlets. ↑ in green mafic minerals							
		over last 1.5 M of intv.							
		DESCRIPTION AS ABOVE (422.9-426.72 M). Core broken/rubbly		143497	424.81-426.72	100	29	6	42, <0.2, <5
		over intv.							

E.O.H @ 426.72 M

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** JI 96-2 **PAGE** 1 **OF** 18

DIP AND AZIMUTH TESTS		
DEPTH	ANGLE	AZMTH
1224'	Etch = 54° True = 45°	

CORE SIZE: BTW	TOTAL DEPTH: 408.23	DATE STARTED: NOV 5/96
HOLE ANGLE: -45°	HOLE AZIMUTH: 360°	DATE FINISHED: NOV 21/96
SECTION:	COLLAR ELEVATION: 1300' 396.2m	ANALYSIS BY: BONDAR CLEGG LABS
LATITUDE: 2+50W	RECOVERY:	LOGGED BY: R. MONTGOMERY
DEPARTURE: 5+45S	CLAIM:	CORE STORED AT: EGMONT MARINA

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba Ag Au
0-.9		OVB (3' CASING)							
.9-1.38		Med-dk green F.G. ANDESITE BASALT. Tr Limonite on fractures. FW contact @ 55° to C/A.	Tr oxidized py.						
1.38-9.75		Lt grey→pinkish M.G. FELDSPAR-QTZ-HBLD-PORPHYRY DIKE. Broken, Limonitic @ top. Well silicified. Occasional narrow Qtz veinlet. Bleaching adjacent to fractures.							
9.75-11.05		Dk green M.G Porphyritic (Plag, Qtz amphibole phenocrysts) MAFIC DIKE Tr Limonite on fractures.							
11.05-12.0		Dk green F.G. ANDESITE BASALT Few plag/carb. amygdules. Wkly magnetic.							
12.0-17.50		Lt. grey/green PORPHYRITIC FELSIC→INTERMEDIATE DIKE ~25% subhedral plag phenocrysts, 15% F.G. mafic minerals in @ f.g. pale green groundmass. Locally Fractures filled w. soft white mineral gypsum (?).							
17.50-19.95		Dk green F.G. Locally wkly feldspar porphyritic ANDESITE BASALT. Wkly mag. Tr Limonite.	Tr fn diss py						

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: **DRILL HOLE NO.:** J196-2

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, As
19.95-21.20		MED GREEN/GREY FELDSPAR PORPHYRY DIKE (SIMILAR							
		TO 12.0-17.5 M. Strong silicification, core very hard.							
		Epidote on fractures.							
21.20-21.75		Dk green/grey F.G ANDESITE TUFF. Finely bedded							
		@ 45° to C/A.							
21.75-24.10		MED GREEN/GREY FELDSPAR PORPHYRY DIKE (SIMILAR							
		TO 12.0-17.5 M).							
24.10-38.58		Dk green-grey F.G strongly silicified ANDESITE							
		TUFF w minor interbedded INT. MAFIC FLOWS							
		AND BASALT. Bedding generally well developed in tuff							
		@ 45° to C/A. Chlorite/ep. alt' common. @ 25.10-25.25M							
		white Qtz vein. Few 1-2 cm wide Qtz veins over							
		intv. Local brecciation, shearing. Bleaching w chl, ep alt'							
		often gives core a mottled appearance. Locally ash tuff seams.							
		Dk green F.G silicified AND. TUFF w Qtz veins @ 25.10-25.25M		143498	24.10-27.10	125	248	130	53, <0.2, <5
		S.T.A. Locally strong bleaching/silicification.		143499	27.10-30.10	166	137	39	60, <0.2, <5
38.58-44.70		Dk green/grey RHYOLITE very hard, brittle Fractures,	Few phy. pheno.						
		often Limonitic. Locally brecciated, Tr gypsum on fract.							
		As above. Pale buff color @ top. Rest of intv. dk green.							
		Dk Green Chert Locally brecciated, Fract, Limonitic	41.55-44.58 →	143500	41.55-44.58	18	32	11	26, <0.2, <5
44.70-44.95		Dk green C.G. VOLCANIC BRECCIA HW contact sharp	✓	143502 (1)	44.70-44.95	13	39	4	22, <0.2, <5
		@ ~20° to C/A.							
44.95-52.85		Dk green/grey RHYOLITE (Similar to 38.58-44.70 M)							
		Fractures often Limonitic. Tr carb. gyp(?) on fract.							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: **DRILL HOLE NO.:** JI 96-2

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
		@ 49.7 M 3cm wide silicified C.G. Breccia @ ~15° to		143502	44.95-47.95	14	16	4	20, <0.2, <5
		c/A.							
		↳ Core has a mottled green/grey/brown texture.		143503	47.95-50.95	17	16	4	20, <0.2, <5
		@ 52.26-52.66 M Dk green Feldsp. porphyritic mafic							
		DIKE. (plag. phenocrysts .5-2 mm avg).							
		Dk green/grey glassy Cht. w/ DIKE @ bottom. Locally	✓	143504	50.95-52.85	48	116	13	25, <0.2, <5
		mod-strong brecciation.							
52.85-59.31		Dk green-grey V.F.G. AND TUFF / SEDIMENTS							
		MOD-STRONG silicification. Locally well developed							
		bedding @ 45° to c/A. Occasional 1/arrow Qtz							
		veinlet. Minor patchy epidote. Few narrow pale							
		yellow/grey ash layers.							
59.31-59.70		C.G Green/grey VOLCANIC BRECCIA. 2-3 cm wide ash tuff		143505	59.31-59.70	275	277	43	9, <0.2, <5
		beds on FW and HW. (contacts @ ~45° to c/A.).							
59.70-62.95		F.G Green ANDESITE TUFF, Locally w/ 1-8 cm wide							
		ash tuff interbeds. Intv. becoming darker, finer grained							
		towards bottom (argillite, sediments). Locally mod silicif							
		ication.							
62.95-63.90		Dk grey F.G MAFIC DIKE. 1-2 mm mafic pheno-	Tr-1/2% diss py.						
		crysts over middle portion of intv. Aphanitic @							
		margins.							
63.90-77.05		Dk grey/green F.G AND. TUFF / ARGILLITE interbeds.							
		Locally pale grey/buff ash tuff. Intv often well							
		bedded (50° to c/A.). Locally strong ep./Qtz, mod	chlorite.						

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** 96-2

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
63.9 - 77.05		@ 68.10 - 68.45 buff ash tuff. HW contact @							
CONT'D		45° to c/A. HW & FW MOD. well silicified.							
		Dk grey F.G. well bedded AND. TUFF Few 2-3 mm wide	@ 71.15 1-2 mm seam	143506	70.45-71.95	143	9415	28	11, <0.2, <5
		Qtz veinlets ẅ epidote @ ~45°-50° to c/A.	Sph.(?) ẅ Qtz & ep.						
		@ 76.0 - 77.05 ↑ ep, minor Qtz stockworks Bedding							
		@ 45° to c/A.							
77.05 - 83.90		Dk grey - pinkish (potassic alt^{n}) ; wkly feldspar		143507	77.05-80.05	17	82	6	37, <0.2, <5
		porphyritic RHYOLITE. very hard 'glassy' Minor							
		carb. on fractures. Ep. common along fractures.							
83.90 - 85.30		Med green M.G. Mafic Dike. Few .5 - 1 cm wide carb.	TR - ½% diss py.	143508	83.90-85.30	30	362	27	41, <0.2, <5
		veinlets. Minor chl. /ep alt^{n}	TR - ½% hem.						
85.30 - 86.25		Dk grey/green RHYOLITE ~10% subhedral plag.							
		phenocrysts. Irregular							
86.25 86.45		Dk grey F.G silicified AND. TUFF / SEDS. Sharp H.W							
		contact @ 40° to c/A. Sharp F.W contact @ ~60° to c/A.							
86.45 - 86.9		MED GREEN M.G MAFIC DIKE (SIMILAR TO 83.9-85.30m).							
86.9 - 87.5		Dk Grey F.G SEDIMENTS, ARGILLITE / F.G TUFF							
		Bedding @ 55° to c/A. Sharp 55° to c/A HW contact.							
87.5 - 88.15		Dk green F.G → M.G MAFIC DIKE (Flow ?) Sharp							
		Irregular H.W contact @ 20-30° to c/A.							
88.15 - 90.70		Dk grey/green interbedded F.G AND TUFF / ARGILLITE.	Tr py	143509	88.15 - 90.70	132	1038	22	11, <0.2, <5
		Bedding v. well defined ca ~ 55° to c/A. Few narrow ash							
		tuff interbeds Locally strong ep alt^{n}. Few 2-3 cm irregular							
		Qtz veins ẅ Tr py cubes.							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** JI 96-2

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
90.70-93.05		Dk grey/green Rhyolite. 5-10% plag phenocrysts.							
		Minor pink K-feldspar (potassic alt^{n}). V. hard, glassy.							
93.05-93.95		Med green M.G MAFIC DIKE Sharp irregular							
		HW contact (~ 50° to c/A). Sharp regular FW contact							
		(30° to c/A).							
93.95-101.90		Med grey/green → maroon M.G. strongly silicified Qtz		143510	93.95-96.95	18	74	5	39, <0.2, <5
		Feldspar porphyry Dike. Minor ep, carb along healed		143511	96.95-99.95	18	114	9	35, <0.2, <5
		fractures. Sharp F.W contact @ ~40° to c/A.							
101.90-102.11		Med green F.G AND TUFF.		*Estimated					
102.11-102.27		C.G VOLCANIC BRECCIA. Sharp HW contact @ 50° to		143512?	102.11-103.8	23	453	4	36, <0.2, <5
		c/A. Strong ep. alt^{n} over bottom of intv.							
102.27-103.8		MED GREEN F.G AND TUFF Tr Qtz / wk silicifi-							
		cation. Minor carb/ep. along fractures.							
103.8-103.95		Dk green/grey RHYOLITE ω few pkg. phenocrysts. HW							
		contact 45° to c/A. Sharp FW contact @ 40° to c/A.							
103.95-105.2		Med Green M.G. MAFIC DIKE. Locally few Qtz eyes/							
		silicification. Chlorite/ep. alt^{n}							
105.2-107.62		Interbedded Feldspar porphyry Dike / Green M.G MAFIC							
		DIKE. Few xenoliths of Mafic dike within F.P.D. Minor							
		brecciated Qtz within Mafic dike @ bottom of intv.							
107.62-108.15		RHYOLITE / TUFF & ash TUFF / C.G VOLCANIC BRECCIA.							
*		107.62-107.85 Dk grey Rhyolite.							
		107.85-108.0 Lt grey/buff ash tuff							
		108.0-108.15 C.G silicified volcanic breccia.							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** 96-2

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
108.15-110.65		Dk grey/brownish RHYOLITE. Spurse white → pink (K-feldspar) feldspar phenocrysts. Very hard. Minor ep/carb.							
110.65-111.40		Black V. F.G AND. BASALT. MODERATELY MAGNETIC.							
111.40-113.95		Dk grey/brown RHYOLITE.							
		@ 113.70-113.80 Strong brecciation w Qtz veining, silica							
		healed.							
113.95-115.25		Med-Dk green/grey M.G MAFIC DIKE. Few narrow							
		ep/carb vn/ls.							
		@ 115.05-115.40 Qtz stockworks, silicified C.G volcanic		143513	113.95-115.25	24	254	10	174, <0.2, <5
		breccia F.G							
115.25-115.7		Med Green/Grey Strongly silicified TUFF/SEDS. Well							
		bedded @ 55° to c/A.							
115.70-125.0		Dk Grey/brown/green RHYOLITE. FEW feldspar							
		phenocrysts. Locally pink staining of groundmass &							
		feldspar phenocrysts. Locally flow banding @ ~35°							
		to c/A.							
		@ 122.85-122.95 C.G volcanic Breccia. HW &		143514	121.85-124.85	24	92	5	46, <0.2, <5
		FW contacts sharp & @ ~ 30-35° to c/A.							
125.0-126.30		Dk grey/blk F.G ARGILLITE/TUFF. Sharp FW							
		CONTACT @ 45° to c/A.							
126.30-127.45		Med green M.G MAFIC DIKE. Chl/ep alt° throughout.		143515	126.30-127.60	42	351	7	246, <0.2, <5
127.45-131.20		Dk grey/blk F.G ARGILLITE/TUFF(?). Sediments							
		finely bedded @ ~70-80° to c/A.							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI

DRILL HOLE NO.: 96-2

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
131.20-132.05		Dk green/grey RHYOLITE. Locally wk flow banding							
		@ ~ 45° to C/A. HW contact sharp @ ~ 60° to C/A							
132.05-133.45		Dk grey/green → blk Finely bedded ARGILLITE / ANDESITE. Bedding @ 55° to C/A.							
133.45-141.15		MED Green M.G MAFIC DIKE. Locally strong patchy epidote alt^n. Locally wk-mod silicification.							
141.15-146.4		Lt→Med grey Feldspar porphyry Dike, Strongly silicified. Locally filaments epidote. ~35% plag		143516	143.4-146.4	9	30	4	44, <0.2, <5
		phenocryst. ~ 10% mafic phenocrysts (HBld, Bi?)							
146.4-147.95		Med-dk green M.G MAFIC DIKE. Wk-mod magnetic.							
		HBld phenocrysts decomposing to chlorite. FW contact sharp							
		@ 45° to C/A. 10-15% carb X-stals (2-4mm wide), plag→carb (?)							
149.95-150.4		C.G. Feldspar porphyry Dike. 40-50% large (avg 3-5mm)							
		plag. phenocrysts. Dike fresh, unaltered. HW & FW contacts							
		@ ~50° to C/A. Contacts bleached.							
150.4-152.70		Dk green M.G→F.G. MAFIC DIKE. Few intervals pale, bleached							
		green, chlorite/carb altered. Sharp, irregular (~25° to C/A) FW contact.							
152.70-159.70		Med grey, M.G. Strongly silicified Feldspar porphyry Dike							
		Locally narrow ep./carb stringers along fractures							
		@ 155.9-156.4 m Dk green F.G Mafic Dike. Sharp contacts							
		on HW & FW (15° to C/A & 25° to C/A.) Few large							
		xenoliths of F.P.D near FW contact. Vuggy white							
	.5	1cm wide Qtz vein (20° to C/A) @ 156.25 m.							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** JI 96-2

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
159.70-166.4		Med green M.G INT→MAFIC DIKE. Chlorite/epidote	Locally Tr-1/2%						
		alt^n common. Locally few small Qtz vn/lt^s.	diss, bleb py.						
166.4-167.6		Dk green → Black F.G ANDESITE BASALT. Wk→ mod							
		magnetic. Sharp HW contact @ 50° to c/a. FW contact 55°(?) to c/A.							
167.6-171.21		MED GREEN M.G. INT→MAFIC DIKE (SIMILAR TO							
		159.70 - 166.4 m).							
171.21-174.05		MED GREEN/BROWN RHYOLITE. 5-10% plag. phenocysts							
		HW & FW contacts sharp (30° & 55° to c/A).							
174.05-175.26		Black F.G AND. BASALT (SIMILAR TO 166.4-167.6)							
		wkly→ mod magnetic							
175.26-185.8		MED GREEN → PALE PINK (OVER BOTTOM 2/3 of intv)							
		RHYOLITE. Locally few Qtz microveinlets.							
		@ 176.7 elongate blebs hematite & py.	Tr hem, Tr py.						
		@ 179.4 m Rhyolite becomes pale buff/pink. (Rhodonite?)	SPECIMEN	176.70m					
		Locally 5-10% f^n mafic phenocysts (Hbld, Bi).							
		(CHIP) Pale grey/buff → pink Rhyolite. ↑ irregular, wkly		143517	180.10-183	10	6	50	9	34, <0.2, 5
		vuggy white Qtz over bottom 40 cm.							
		@ 182.6 m soft, vuggy, white → Tr pinkish mineral (gypsum?).							
185.8-186.2		Med→ Dark green F.G →M.G. MAFIC DIKE, Patchy ep alt^n							
		common. One .5-.7cm wide Qtz vnlet @ ~30° to c/a.							
186.2-188.9		Med→Dk grey/green Rhyolite. Sharp HW & FW contacts (50° & 70° to c/A)							
		187.5-187.7 Green F.G→M.G MAFIC DIKE. (HW=80° FW=65° to c/A).							
188.9-192.15		Med Grey M.G. Strongly silicified FELDSPAR PORPHYRY DIKE							
		HW contact sharp @ ~90° to c/A. FW sharp @ ~45-50° to c/A							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** JI 96-2

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
192.15-198.45		Med-dk green M.G MAFIC DIKE. Locally chlorite/ep. alt° along fractures.	Locally Tr-1/2% f° diss. py. Tr py stringers	SPECIMEN	194.20m				
198.45-200.6		Dk grey/green F.G→M.G AND. TUFF. WELL BEDDED (~55° to C/A). Tuff becoming coarser grained near bottom.							
		Shear w/ dk grey/green clay gouge @ 198.45-198.60 m @ 199.2-199.35 strong ep., Tr Qtz w/ 10-15% massive, irregular py blebs (~50° to C/A)	~3-4% py over Intv.	143518	198.45-199.95	404	657	11	20, 0.6, <5
200.6-210.9		Dk grey→blk F.G Locally well bedded ARGILLITE/TUFF Locally narrow seams ep/py/Qtz.	1/2-2% f° diss.→ Stringer py	143519	199.95-201.45	115	132	7	78, 0.3, <5
		@ 202.27-202.47m Shear zone w/ high py (10-15% cubes) and grey clay gouge.		143520	201.45-202.95	92	110	7	48, 0.3, <5
		F.G→M.G TUFF (ASH→LAPILLI TUFF) over top 2/3 of Intv. F.G Dk green/grey→blk sediments @ bottom of intv.	Tr f° diss py @ top of intv. Tr Aem	143521	205.20-? 206.70	101	57	5	41, <0.2, <5
		@ 206.95-207.05 C.G VOLCANIC BRECCIA.							
		@ 208-210.9 - Dk Grey→blk F.G→M.G SEDS.							
210.9-211.30		Lt→Med grey M.G→C.G FELDSPAR PORPHYRY DIKE. Sharp 70° to C/A FW contact.	2-3% f° diss. py.						
211.3-212.30		Dk grey/green F.G ARGILLITE/ASH TUFF.	Tr f° diss py						
		@ 211.37-211.50 Green F.G. Feldspar porphyritic Mafic Dike. Sharp HW, FW contacts (high x to C/A).							
		@ 211.8-211.9 - ash tuff.							
212.3-216.0		Med Green Feldspar porphyritic Int→mafic DIKE. Few xenoliths felsic F.P.D. Minor ep/chl. alt° HW contact sharp @ 30° to C/A. FW contact sharp @ ~45° to C/A.	Tr-1/2% f° diss py.						

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** JI 96-2

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
216.0-218.55		White → Lt Grey M.G FELSPAR PORPHYRY DIKE Few	½-1% f^n diss py						
		xenoliths E.G. Green mafic dike/flow (?). Sharp							
		45° to c/A FW contact							
218.55-221.85		Dk Grey/green M.G INT→MAFIC FELDSPAR PORPHYRY	Tr-½% f^n diss						
		DIKE. Sharp FW contact w/ seds (40° to c/A). Minor	py.						
		epidote on fractures.							
221.85-227.4		Dk grey → Black F.G ARGILLITE w/ minor interbedded	Tr-½% py, @ 224.85-225m 10-15% py						
		F.G → M.G (LAPILLI) TUFF. Locally well bedded (45-50°	@ 226.85 Few narrow						
		to c/A). @ 222.2-222.23 White Qtz vein w/ ep / 3-4% py	seams po.	143522	221.85-223.35	132	363	12	29, 0.3, <5
		Dk grey/Blk F.G ARGILLITE	Tr f^n diss py	143523	223.35-224.85	86	103	7	68, 0.2, <5
		224.85-225 10-15% diss py, py blebs, high ep. Mafic dike 225-225.35m	½-1% f^n diss py	143524	224.85-226.35	78	90	5	165, 0.2, <5
		Tr Qtz vn/f^n silicification Locally seams, blebs po	½% py. Tr-½% po.	143525	226.35-227.40	32	103	5	38, <0.2, <5
227.4-244.1		Light → med green/brown RHYOLITE. Locally well	½-1% diss, fract (	143526	235.4-238.4	* OFFICE SAMPLE			56, .4, <5
		developed flow banding (20° to c/A @ 230 m), (45° to	py. CHIP → {	143527.	238.4-241.4	10	230/249	M 6	49, <0.2, <5
		c/A @ 227.5m). Sparse feldspar phenocryst throughout.							
		Locally pink alt^n mineral on fractures.							
		@ 243.13 soft white mineral / barite (?) w/ epidote. Wk	Tr-½% py	143528	241.4-244.4	14	94	14	96, 0.4, <5
		flow banding @ 25-30° to c/A. (CHIP).							
244.1-245.35		Med-Dk green FELSPAR PORPHYRY MAFIC DIKE							
245.35-245.55		Green/Grey-brown Rhyolite. Top 5 cm C.G VOLCANIC							
		BRECCIA.							
245.55-247.1		Dk grey → blk F.G ARGILLITE, LOCALLY silicified	~10-15% py in	143529	245.55-247.1	14	190	7	50, 0.3, <5
		Bedding @ 50° to c/A. Shear w/ grey gouge @ 245.85	shear zone. Tr						
		Cherty beds (?) @ ~ 245.85 m. Bleaching w/ ep. @ bottom	hem.						

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI DRILL HOLE NO.: 96-2

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
247.1-251.05		Dk grey/green → brown Rhyolite Locally well developed							
		flow banding @ 25° to c/A		(CHIP).					
251.05-253.3		MED GREY FELDSPAR PORPHYRY DIKE. Well	3-4% fine diss py.	143530	251.05-253.3	10	212	52	51, 1.2, <5
		silicified. Minor carb. on fractures.							
253.3-255.0		Blk F.G Locally silicified ARGILLITE. Bedding @	5-7% fine diss,	143542	253.3-255.0	85	191	7	21, 0.3, <5
		~45° to c/A	stringer py.	(CHIP)					
255.0-266.95		Med green/grey → Brown RHYOLITE. Locally flow	TR-½% py	143531	255.0-258.0	7	26	8	54, <0.2, <5
		banding @ 40-35° to c/A. Rock often has a sugary →							
		glassy appearance. Silica healed fractures common.		143532	258.0-261.95	6	53	7	54, <0.2, <5
		Occasional white, irregular Qtz vein. Locally vuggy							
		Qtz. minor fine diss py.							
266.5-271.8		Variable Med green → Dole grey. Felsic → Int.	5-7% py blebs.	143535	266.5-269.5	186	196	8	18, 0.3, <5
		Locally feldspar porphyritic DIKE. Hard, well	stringers	143536	269.5-271.8	159	94	9	15, 0.3, 10
		silicified. Ep, Chl, alt° on fractures & halos							
		around py.							
261.95-266.5		Dk grey → blk F.G ARGILLITE / TUFF. Thin	Locally 3-4	143533	261.95-264.95	121	115	6	33, 0.4, <5
		well bedded @ ~30° to c/A. Locally well silicified.	1% diss, fract.	143534	264.95-266.5	145	271	12	19, 1.0, <5
		10 cm wide M.G pale olive green Breccia @	py.						
		263.50 & 263.97 M. Ep/Chl alt° common in	SPECIMEN	265.90 m					
		F.G → M.G TUFF.							
271.8-279.75		Dk grey → blk F.G ARGILLITE & minor interbedded	½-1% fine diss						
		F.G → M.G TUFF. Bedding 40-45° to c/A. Few white	py.						
		Qtz veins (@ 273.2 ± 1cm wide). Local strong silicification							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI DRILL HOLE NO.: 96-2

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
271.8-278.75		patchy epidote alt^n Few vugs in Qtz, ep @ bottom	Locally Tr hem.	143537	271.8-274.8	88	291	9	12, <0.2, <5
CONT'D		of intv. Fin contact oxidation @ ~35° to c/A.							
278.75-280.22		Pale → med green → Brown. Locally bleached, mottled	Tr py cubes.	143539	278.75-280.22	17	129	7	1094, <0.2, <5
		Rhyolite Locally ~10% fine phenocrysts, minor							
		carb on fractures. Tr vugs. minor ep alt^n							
280.22-290.06		Dk grey/green → blk F.G. ANDESITE TUFF ± minor	1-2% py often	(CHIP)					
		interbedded grey argill.te → siltystds. Tuff/lava	parallel to bedding	143538	280.22-283.22	29	195	9	43, <0.2, <5
		often well bedded (~50° to c/A).							
		epidotized breccia zone @ 287.40 - 287.60m 70° to c/A.		(CHIP) 143540	283.22-286.22	110	146	8	22, 0.4, <5
		- majority of unit is mix of a f.g tuff to local		(CHIP) 143541	289.22-290.26	141	212	13	38, <0.2, <5
		sedimentary intrusds.							
290.06-		GREEN-GREY, F GRAINED TUFF (+ RHYOLITE)	diss py ±						
291.00		- transitional contact zone" Some qtz sections	2-3% loc >						
		evidence of contortion - probably due to contact zone.							
		local epidote as fracture coatings or irregular clots							
291.00-		GREY, VARIABLY FRACTURED RHYOLITE		(CHIP)					
296.24		- occasional flow banding noted, locally shear like	diss py gen	143543	290.26-293.26	45	91	45	48, <0.2, 11
		292.90 → 293.26m	<2% loc					-	
		- minor epidote noted	fine fillings						

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI DRILL HOLE NO.: 96-2

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, As
296.24-		GREEN-GREY, PREDOMINANTLY F.G TUFF HORIZON		143544	296.24-297.34	107	661	143	26, 0.7, <5
298.93m		- occasional thin bands of possible sediments. bedding		143545	297.34-298.93	66	356	13	42, <0.2, 24
		usually @ 50° A to C.A.							
		296.24 to 298.44m is greenish epidotized / variably	py loc to 10%						
		pyritic zone	avg 3-4%						
		- rest of section shows decrease in epidote + pyrite							
		- lower contact contorted with notable incr in ep.							
		contact @ irregular @ ~15-20° to C.A.	py clots along						
			lower contact						
298.93-		PALE GREY VARIABLY FRACTURED RHYOLITE PORPHYRY.	py disem +						
306.15		304.25 to 304.80 - variolored weakly qtz veined epidote	loc frac filling						
		clotic to zone (shear?) - v. low sulphide content.	1-2%						
		zone @ 50° to 70° to C.A. Qtz veinlets ~1cm.							
306.15-		MED. GREY SHEAR ZONE (F. GRAINED RHYOLITE/ANDESITE)							
307.35		- core v. broken, occasional qtz stringer (<1cm) @ 70° to C.A	disem py to	143546	306.15-307.35	63	34	9	54, <0.2, <5
			3%, local clots						
307.35-		PALE GREEN, EPIDOTIZED ANDESITE / RHYOLITE FLOWS.	disem + fracture						
310.27		- highly variable section both in color, epidote intensity	filling + clots	143547	307.35-308.50	16	112	6	19, <0.2, 5
		- pyritic zone (3-5%+) from 308.50 to 309.15	py 1-5%+.	143548	308.50-309.15	9	97	12	27, <0.2, 9
		- locally feldspar porphyry texture very evident		143549	309.15-310.27	29	61	8	190, <0.2, 6
		- last 0.30 m section shows strong epidote-silicified							
		zone likely representing a contact feature							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI DRILL HOLE NO.: 96-2

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba Ag Au
310.27-		PALE GREY-GREEN, ALTERED FELDSPAR PORPHYRY.		143550	CHIP 310.27-312.10	23	71	7	110, <5, <
312.10		-numerous fine fractures, often bleached appearance	by diseminated 1-2%						
		-occasional qtz veinlet especially in last 0.4m							
312.0-		PALE GREEN, BLEACHED, ALTERED & LOCALLY QTZ VEINED ZONE		143551	Req. 312.10-	39	78	10	133, <5, <
313.91		-original texture indicates possible porphyry? lor f.g	Sulphide content		313.90				
		volcanic rock.	gen. low <2%						
		312.50 to 313m is pale pinkish-green, highly alt'd, veined							
		zone. Locally fine tension gash? qtz microveinlets - lower							
		contact ~60° to C.A.							
		@ 313.50m is 15cm zone of greenish, bleached, weakly qtz veined	1-2cm clots to 5-8%						
		zone in clots of hematite ?							
		lower contact of this zone @ 313.91 = 55-60° to CA.							
313.91-		GREY WEAK -> MOD. ALTERED FELDSPAR PORPHYRY (RHYOLITE)	low sulphides-						
317.77		-cut by fine fractures often lined with epidote	py < 2% . loc						
		-epidote also scattered in matrix	fracture coatings						
		-irregular lower contact @ 45° to C.A.							
317.77-		GREEN, F.GRAINED, MASSIVE TO PORPHYRITIC ANDESITE	FLOW						
319.50		-weak to moderate epidote	v. low sulphides						
		-lower contact = sharp / irregular ~45° to C.A.							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI

DRILL HOLE NO.: 96-02

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag Au
319.50 -		PALE GREY FELDSPAR PORPHYRY (RHYOLITE FLOW?)	Minor py dissem						
321.50		-as in 313.91-317.77m, local fine fractures, ep weak but throughout. Lower contact irreg. but sharp 45-60°.	+ bx fac < 1-2%						
321.50 -		SEQUENCE OF INTERMIXED ANDESITE + FELDSPAR PORPHYRY		143552	Reg 321.50-322.20	86	52	7	137, <5,
326.45		-sequence roughly as follows: 321.50 to 322.80 predominantly grey-f.g. epidotized andesite with minor feldspar porphyry	10cm zone of 5-7% py	143553	Chip. 322.20-324.38	12	95	9	32, <5, <
		322.80 to 323.65m: feldspar porphyry, - lower contact @ 0-10° for ~20cm	+ 5% bx @ 322.15 m 10cm long	143554	324.38-326.45	40	83	9	106, <5,
		-323.65 to 324.38m andesitic sequence, massive to weak epidote	Py loc. on fractures + some dissem.						
		-324.38 to 325.60 - grey, altered (epidote) feldspar porphyry.	usually < 2%,						
		-lower contact sharp @ 30° to C.A., upper @ 45°.	lower in andesite						
		325.60 to 326.45m - weak to mod epidotized andesite flow, lower contact sharp @ 50° to C.A.							
326.45 -		GREYISH GREEN, ALTERED & SHEARED FELDSPAR PORPHYRY		143555	CHIP. 326.45 -	31	81	5	97, <5,
329.05		(RHYOLITE).	Py dissem +		329.05				
		-numerous fractures often associated with bleaching	fracture filling						
		-local qtz veining	gen ≤ 1-1.5%						
		-last 0.5m± is fractured qtz veined rhyolite porph in clasts of green andesite.							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** JI 96-02

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ex, Ag, Au
329.05 -		BRECCIA / SHEAR / QUARTZ VEINED ZONE							
332.42		- rock undergone intense bleaching as well as shearing	low sulphides (py)						
		- 329.05 to 330.10 m is pale green & shows intense brecciation	≤ 1%	143556	(Req.) 329.05-330.10	10	97	11	32, <0.2, <5
		and healing with qtz veinlets (up to 40% silica) and		SPECIMEN	329.70m				
		silicification / microveinlets							
		- 330.10 to 332.42m is sheared contorted variably silicified		143557	(Req) 330.10-332.42	66	175	33	55, 0.3, <5
		volcanics (?) and possible dark sediments							
332.42 -		PALE GREY, GLASSY, FRACTURED RHYOLITE PORPHYRY							
333.60		- 333.0 m ~10cm zone of intense epidote ~ 45-50° to C.A.	V. low sulphides	143558	(chip) 332.42-333.60	231	1275	6	227, <0.2, <5
			≤ 1% py						
333.60 -		MED. TO DARK GREEN, MASSIVE ANDESITE FLOW & MINOR TUFF							
339.85		333.60 to 334.20 m - contorted, locally bx'd andesite with	-> clots of py ≥ 3%	143559	(chip) 333.60-335.0	232	135	25	24, <0.2, <5
		minor tuff xds - have been strongly epidotized		143560	(chip) 335.0 - 337.0	51	110	25	23, <0.2, <5
		- central zone of feldspar porphyry andesite flow		143561	(chip) 337.0 - 339.85	24	60	12	28, <0.2, <5
339.85 -		DARK GREY & GREEN, BEDDED F. GRAINED TUFFS + SEDIMENTS							
343.45		- upper contact sharp @ 45° to C.A		143562	(chip) 339.85-341.55	166	60	13	27, <0.2, <5
		- interbedding of tuffs and sediments common	py low < 10%, loc	143563	(chip) 341.55-343.45	174	134	13	13, <0.2, <5
		- local zones of epidote often parallel to bedding (40-55°)	clots to 2% *	SPECIMEN	343.35				
		- 341.55 to 342.05 m sheared fractured section of sediments >							
		tuff (some graphitic fracture planes)							
		- lower contact ~50° to C.A.							

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** 96-2

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
343.45-		GREEN, MASSIVE, WEAKLY PORPHYRITIC ANDESITE/BASALT							
345.93		-unaltered except for occasional epidote lined fracture	low sulphides	143564	(chip) 343.45-345.93	44	74	11	28, <0.2, <5
		-moderately magnetic; lower contact @ 55° to C.A.	<1%, local clots						
345.93-		VARICOLORED (GREEN/GREY) SEQUENCE OF FINE GRAINED TUFFS & SEDIMENTS.							
359.02		-sequence characterized by well bonded appearance with bedding		143565	(req) 345.93-347.05	43	109	39	22, <0.2, 5
		usually @ 40-50° to C.A.	356.3m - 12cm	143566	(req) 347.05-348.78	69	161	9	21, <0.2, <5
		-rocks consist of argillite, siltone & cherty seds (tuffs?)	qtz-py rich	143567	(req) 348.78-350.50	31	42	10	22, <0.2, 5
		-not unusual to see local contortion & small scale faulting of	folded band	143568	(req) 350.50-352.30	43	62	9	23, <0.2, <5
		beds	py loc 10%+	143569	(req) 352.30-352.80	118	89	14	57, <0.2, <5
		-occasional areas of bleaching along with epidote rich zones.		143570	(req) 352.80-353.60	157	107	13	11, <0.2, <5
		-357.3 to 357.93m - area of bleaching with dots/stringers of py	Py loc. to 7%	143571	(chip) 353.60-354.30	61	112	15	27, <0.2, <5
		-some sulphides (py) noted as late stage quartz infilling	*	143572	(req) 354.30-355.53	62	93	12	22, <0.2, 12
		and more commonly as thin bands parallel to bedding (1-10mm)	SPECIMEN @ 355.53m →	143573	(req) 355.53-356.70	96	149	15	24, <0.2, 5
				143574	(req) 356.70-357.78	99	123	11	9, <0.2, <5
359.02-		MEDIUM GREEN, MASSIVE, FINE GRAINED INTERMEDIATE SILL (DYKE?)		143575	(req) 357.78-359.02	67	65	9	14, <0.2, <5
361.33		-generally unaltered, locally fractured	Dissem py to						
		-359.90 to 360.22 - narrow pale green, bx'd, weakly	1-2%	143576	(req) 359.02-359.90	23	90	11	14, <0.2, <5
		silicified zone (50° to C.A.)		143577	(req) 359.90-360.22	18	50	14	7, <0.2, <5
		-after 360.22m increased dissem pyrite	Dissem py 2-3%	143578	(req) 360.22-361.33	45	76	21	27, <0.2, <5
361.33-		PALE GREY-GREEN RHYOLITE	Generally low						
374.69		-locally porphyritic, quite fractured (ie 361.33 to 363.20)	sulphides <1% py	143579	(chip) 361.33-363.20	40	42	8	33, <0.2, <5
		-weak epidote on fractures + some areas with pink color (Kspar?)		143580	(chip) 374.4-375.7	602	212	17	19, 1.1, <5

-upper contact - irregular sharp @ 45° to C.A. Lower @ 50-55°
-lower 0.30m is green epidotized zone w 5-7cm of bedded sediments.

AQUATERRE MINERAL DEVELOPMENT LTD. - DRILL HOLE RECORD

PROPERTY: JI **DRILL HOLE NO.:** 96-2

DEPTH (M)	CORE LOST	DESCRIPTION	MINERALIZATION	SAMPLE NUMBER	SAMPLE INTERVAL	Cu	Zn	Pb	Ba, Ag, Au
374.69 -		PALE GREEN - GREY FELDSPAR PORPHYRY FLOW (SILL?)							
384.35		- first 1m shows distinct chill border + disseminated py →	Py to 3%+						
		- remainder is massive generally unaltered							
		- 379.45 to 379.60 = 15cm zone of well bedded sediments with		143581	(req) 379.25-380.0	82	129	17	36, <0.2, <5
		prominent chill margin of feldspar porphyry on either side							
		- sediments @ 65° to C.A. with py seams near upper sed contact →	3-5%+ py						
		- lower contact marked by chill margin (15-20cm) @ 50° to CA.							
384.35 -		GREEN-GREY, FINE GRAINED SEDIMENTS / TUFFS		143582	(req) 384.2-385.2	139	170	17	87, <0.2, <5
394.40		- often well bedded @ 45° to C.A.		143583	(req) 385.2-386.75	90	134	19	88, <0.2, <5
		- local bleached, silicified zone (often pyritic 3-5%)	Pyrite dissem.	143584	(req) 386.75-388.71	44	72	11	30, <0.2, <5
		- 388.71 to 390.66 = green, weakly porphyritic mafic dyke (@45°)	& often in bands	143585	(chip) 388.71-390.66	38	100	18	12, <0.2, <5
		- sediments appear locally siliceous (ie cherty)	parallel to	143586	(chip) 390.66-392.36	39	476	21	34, <0.2, <5
		- few irregular patches of epidote in last 1.5m	bedding 1-5%	143587	chip 392.36-394.4	35	99	10	27, <0.2, <5
394.40 -		PREDOMINANTLY GREEN, WEAK → STRONGLY EPIDOTIZED ANDESITE TUFFS / MINOR SEDIMENTS.							
408.23		- characterized by epidote in matrix & fracture linings		143588	394.4-395.95	578	157	27	129, 0.2, <5
		- bedding when observed @ 45° to C.A.		143589	395.95-397.56	315	149	15	81, <0.2, <5
		- local weak brecciation noted at 398.16m with minor qtz healing - veinlets		143590	397.56-399.06	295	195	21	95, <0.2, <5
		- 90% of unit looks like poor to mod. bedded andesitic tuffs		143591	399.06-401.76	113	381	25	92, <0.2, <5
		- 398.16m = well defined bx zone (2cm @ 25° to C.A) w/ epidote lined cavities		143592	401.76-403.4	135	157	23	37, <0.2, <5
		- strongest epidotized zones @ 394.4-400.75; 404.85 to EOH.	Hematite-py rich	143593	403.4-404.85	127	107	13	41, <0.2, <5
		- 405.55 to EOH slightly coarser, more siliceous tuffs	zone @ 405.50	143594	404.85-405.75	614	354	20	2, <0.2, <5
		that also contain > amounts of disseminated py (5-15%)	High dissem py	143595	405.75-407.21	231	136	14	14, <0.2, <5
		- also in this area are narrow hematite-pyrite rich clots 0.5 to 2cm wide	>5% @ 407.05 to 407.86m.	143596	407.21-408.23	309	124	11	11, <0.2, <5

EOH @ 408.23m

SPECIMEN @ 407.50m

APPENDIX B

ANALYTICAL PROCEDURES

and

RESULTS

(Bondar Clegg Laboratory Ltd.)

BONDAR - CLEGG

Analysis of Geological Samples by Extraction with Aqua Regia and ICP Atomic Emission Spectrometric Measurement

1. Sample material was weighed at 0.5 g and transferred into a 18 x 150 mm glass test tube.

2. 2 mls of nitric acid was added and the sample was heated in hot water at 85° for 1 hour.

3. 5 mls of hydrochloric acid was added and the test tube was shaken to mix the acids with the sample. The heating in a hot water bath was continued for 2 more hours.

4. After cooling to room temperature, the sample was diluted to 10.0 mls with 14.3% hydrochloric acid and mixed well.

5. The residue is allowed to settle in the test tube or is centrifuged, and then the sample solution was run on ICP (Inductively Coupled Plasma) which has been calibrated by standard solutions containing the same acid matrix.

6. The data was then checked against our known standards to establish that the process is working properly. Once this is done, the data is sent to the client

Determination of Gold by Fire Assay - Atomic Absorption Finish

1. Lead collection fire assay fusion and cupellation was carried out to have gold in the 30 g sample pre-concentrated into a Dore bead by lead-collection fire assay fusion and cupellation.

2. The Dore bead then was treated with dilute nitric acid to dissolve Ag first and followed with an aqua regia solution to dissolve the Au. The sample solution was diluted to 3.0 mls.

3. The sample solution was then run on an Atomic Absorption spectrophotometer along with calibration solutions that are used to calibrate the instrument.

4. Once the data is checked, it is sent out to the client.

Bondar Clegg
Inchcape Testing Services

Geochemical Lab Report

CLIENT: AQUATERRE MINERAL DEVELOPMENT LTD. PROJECT: JI

REPORT: V96-01848.0 (COMPLETE) DATE PRINTED: 14-NOV-96 PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB	Ag PPM	Cu PPM	CuOL PCT	Pb PPM	Zn PPM	Mo PPM	Bi PPM	As PPM	Sb PPM	Hg PPM	Ba PPM
R2 143401		<5	0.3	35		7	32	4	<5	<5	<5	<0.010	50
R2 143402		<5	0.2	14		<2	14	2	<5	<5	<5	0.046	16
R2 143403		<5	0.4	72		3	13	4	<5	<5	<5	<0.010	27
R2 143404		<5	0.3	30		4	102	6	<5	<5	<5	<0.010	10
R2 143405		<5	0.3	39		2	46	5	<5	<5	<5	<0.010	23
R2 143406		<5	0.3	64		3	47	3	<5	<5	<5	<0.010	21
R2 143407		<5	0.3	38		4	248	4	<5	<5	<5	<0.010	3
R2 143408		<5	<0.2	31		2	49	6	<5	<5	<5	<0.010	51
R2 143409		<5	<0.2	23		<2	78	7	<5	7	<5	<0.010	23
R2 143410		<5	<0.2	18		4	73	11	<5	29	<5	<0.010	4
R2 143411		<5	0.2	22		<2	77	7	<5	12	<5	<0.010	16
R2 143412		<5	0.3	80		<2	59	7	<5	9	<5	<0.010	26
R2 143413		<5	0.3	22		<2	32	6	<5	<5	<5	<0.010	29
R2 143414		<5	0.4	39		<2	179	5	<5	<5	<5	<0.010	37
R2 143415		<5	0.4	56		<2	93	6	<5	7	<5	<0.010	104
R2 143416		<5	0.5	138		<2	93	4	<5	<5	<5	<0.010	44
R2 143417		18	0.5	147		3	266	5	<5	<5	<5	<0.010	27
R2 143418		<5	0.3	306		14	511	6	<5	8	<5	<0.010	31
R2 143419		<5	2.3	1575		174	3393	20	6	<5	<5	<0.010	<2
R2 143420		<5	0.8	154		9	2525	8	<5	17	<5	<0.010	14
R2 143421		<5	0.8	45		<2	74	7	<5	<5	<5	<0.010	22
R2 143422		<5	0.5	215		3	388	5	<5	<5	<5	<0.010	322
R2 143423		<5	0.3	177		<2	1715	10	<5	<5	<5	<0.010	120
R2 143424		<5	0.3	70		12	227	7	<5	<5	<5	<0.010	24
R2 143425		<5	0.8	226		<2	65	7	<5	<5	<5	<0.010	30
R2 143426		<5	7.5	>10000	1.9	10	115	331	24	6	5	<0.010	8
R2 143427		<5	0.8	406		<2	112	11	<5	<5	<5	<0.010	49
R2 143428		<5	0.9	357		<2	103	27	<5	5	<5	<0.010	31
R2 143429		6	1.0	404		14	85	10	<5	<5	<5	<0.010	34
R2 143430		<5	0.8	333		<2	48	46	<5	<5	<5	<0.010	22
R2 143431		<5	0.7	337		<2	64	16	<5	<5	<5	<0.010	24
R2 143432		<5	0.9	401		3	176	8	<5	<5	<5	<0.010	40
R2 143433		6	0.5	235		26	115	27	<5	<5	<5	<0.010	32
R2 143434		<5	0.5	198		<2	55	10	<5	<5	<5	<0.010	43
R2 143435		<5	0.6	222		<2	62	24	<5	<5	<5	<0.010	28
R2 143436		<5	0.5	181		<2	31	6	<5	<5	<5	<0.010	28

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Geochemical Lab Report

CLIENT: AQUATERRE MINERAL DEVELOPMENT
PROJECT: JI
REPORT: V96-01916.0 (COMPLETE)
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SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Mo PPM	Bi PPM	Ba PPM	As PPM	Sb PPM	Hg PPM
D2 143437		<5	<0.2	29	13	49	18	<5	28	<5	<5	0.011
D2 143438		<5	0.5	69	55	194	12	<5	41	<5	<5	<0.010
D2 143439		35	<0.2	113	9	29	7	<5	25	<5	<5	<0.010
D2 143440		<5	<0.2	9	7	7	5	<5	19	<5	<5	<0.010
D2 143441		<5	<0.2	22	8	34	3	<5	22	<5	<5	<0.010
D2 143442		<5	<0.2	15	23	94	4	<5	28	<5	<5	<0.010
D2 143443		<5	<0.2	111	7	14	6	<5	32	<5	<5	<0.010
D2 143444		6	<0.2	10	8	12	9	<5	21	<5	<5	<0.010
D2 143445		<5	<0.2	134	14	11	11	<5	25	<5	<5	<0.010
D2 143446		<5	<0.2	162	21	76	8	<5	34	<5	<5	0.015
D2 143447		<5	<0.2	108	24	110	5	<5	18	<5	<5	0.021
D2 143448		<5	<0.2	15	16	76	4	<5	15	<5	<5	0.010
D2 143449		<5	<0.2	181	21	69	4	<5	24	<5	<5	<0.010
D2 143450		<5	<0.2	35	15	74	6	<5	27	<5	<5	<0.010
D2 143451		<5	<0.2	100	25	70	6	<5	15	<5	<5	<0.010
D2 143452		<5	<0.2	80	20	90	3	<5	49	<5	<5	<0.010
D2 143453		17	<0.2	120	17	31	7	<5	34	<5	<5	<0.010
D2 143454		<5	<0.2	15	11	46	2	<5	32	<5	<5	<0.010
D2 143455		<5	<0.2	13	23	54	4	<5	26	<5	<5	<0.010
D2 143456		<5	<0.2	73	21	53	5	<5	28	<5	<5	<0.010
D2 143457		<5	<0.2	34	23	58	3	<5	32	<5	<5	<0.010
D2 143458		<5	0.3	174	23	122	4	<5	40	<5	<5	<0.010
D2 143459		<5	<0.2	65	24	75	4	<5	43	<5	<5	<0.010
D2 143460		<5	<0.2	85	24	51	4	<5	40	<5	<5	<0.010
D2 143461		<5	<0.2	73	27	71	3	<5	39	<5	<5	<0.010
D2 143462		<5	<0.2	31	25	74	2	<5	37	<5	<5	<0.010
D2 143463		<5	1.0	1164	53	611	4	<5	21	<5	<5	<0.010
D2 143464		<5	0.3	116	26	138	2	<5	43	<5	<5	<0.010
D2 143465		<5	<0.2	66	24	84	3	<5	36	<5	<5	<0.010
D2 143466		<5	<0.2	86	24	186	4	<5	34	<5	<5	<0.010
D2 143467		<5	<0.2	56	28	58	5	<5	26	<5	<5	<0.010

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Geochemical Lab Report

CLIENT: AQUATERRE MINERAL DEVELOPMENT
PROJECT: JI
REPORT: V96-01954.0 (COMPLETE)
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SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Mo PPM	As PPM	Sb PPM	Hg PPM	Bi PPM	Ba PPM
D2 143468		<5	0.4	171	8	65	5	<5	<5	0.030	<5	58
D2 143469		<5	<0.2	49	12	90	3	<5	<5	0.029	<5	54
D2 143470		<5	<0.2	72	7	48	3	<5	<5	0.032	<5	38
D2 143471		<5	<0.2	93	6	27	6	<5	<5	0.011	<5	31
D2 143472		<5	<0.2	132	5	21	10	<5	<5	0.031	<5	35
D2 143473		6	<0.2	203	7	40	11	<5	<5	0.028	<5	23
D2 143474		<5	<0.2	353	14	32	4	<5	<5	0.020	<5	21
D2 143475		<5	<0.2	128	13	74	8	<5	<5	0.026	<5	23
D2 143476		<5	<0.2	65	6	25	3	<5	<5	0.018	<5	31
D2 143477		<5	<0.2	201	14	80	7	<5	<5	0.021	<5	40
D2 143478		<5	<0.2	230	15	46	6	<5	<5	0.029	<5	35
D2 143479		<5	0.3	217	61	192	7	<5	<5	0.028	<5	53
D2 143480		<5	0.4	310	17	83	18	<5	<5	0.014	<5	45
D2 143481		<5	<0.2	208	14	54	5	<5	<5	0.011	<5	28
D2 143482		<5	<0.2	264	14	51	8	<5	<5	0.024	<5	33
D2 143483		<5	<0.2	334	26	38	4	<5	<5	0.038	<5	33
D2 143484		<5	<0.2	107	6	56	6	<5	<5	0.014	<5	26
D2 143485		11	0.5	420	9	343	7	<5	<5	0.028	<5	23
D2 143486		<5	<0.2	91	10	90	6	<5	<5	0.015	<5	36
D2 143487		<5	<0.2	48	5	72	8	<5	<5	0.028	<5	51
D2 143488		<5	<0.2	18	5	34	8	<5	<5	0.015	<5	36
D2 143489		<5	<0.2	13	5	14	4	<5	<5	0.016	<5	44
D2 143490		<5	<0.2	16	5	35	20	<5	<5	0.020	<5	45
D2 143491		<5	<0.2	90	19	38	6	<5	<5	0.034	<5	49
D2 143492		<5	<0.2	96	6	24	16	<5	<5	0.028	<5	34
D2 143493		<5	<0.2	36	5	23	8	<5	<5	<0.010	<5	42
D2 143494		<5	0.4	95	8	33	54	<5	<5	0.016	<5	30
D2 143495		5	<0.2	141	11	40	6	<5	<5	0.021	<5	20
D2 143496		<5	<0.2	11	5	20	7	<5	<5	0.015	<5	37
D2 143497		<5	<0.2	100	6	29	8	<5	<5	<0.010	<5	42

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Geochemical Lab Report

CLIENT: AQUATERRE MINERAL DEVELOPMENT
PROJECT: JI
REPORT: V96-01979.0 (COMPLETE)
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SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Mo PPM	Bi PPM	As PPM	Sb PPM	Hg PPM	Ba PPM
D2 143498		<5	<0.2	125	130	248	2	<5	<5	<5	0.020	53
D2 143499		<5	<0.2	166	39	137	2	<5	<5	<5	<0.010	60
D2 143500		<5	<0.2	18	11	32	3	<5	<5	<5	0.028	26
D2 143501		<5	<0.2	13	4	39	1	<5	<5	<5	0.052	22
D2 143502		<5	<0.2	14	4	16	1	<5	<5	<5	0.030	20
D2 143503		<5	<0.2	17	4	16	3	<5	<5	<5	0.017	20
D2 143504		<5	<0.2	48	13	116	3	<5	<5	<5	0.013	25
D2 143505		<5	<0.2	275	43	277	2	<5	<5	<5	0.019	9
D2 143506		<5	<0.2	143	28	2415	2	<5	<5	<5	0.075	11
D2 143507		<5	<0.2	17	6	82	2	<5	<5	<5	0.015	37
D2 143508		<5	<0.2	30	27	362	2	<5	<5	<5	0.032	41
D2 143509		<5	<0.2	132	22	1038	2	<5	<5	<5	<0.010	11
D2 143510		<5	<0.2	18	5	74	2	<5	<5	<5	<0.010	39
D2 143511		<5	<0.2	18	9	114	2	<5	7	<5	0.017	35
D2 143512		<5	<0.2	23	4	453	4	<5	<5	<5	<0.010	36
D2 143513		<5	<0.2	24	10	254	3	<5	<5	<5	<0.010	174
D2 143514		<5	<0.2	24	5	92	2	<5	<5	<5	0.018	46
D2 143515		<5	<0.2	42	7	351	2	<5	<5	<5	<0.010	246
D2 143516		<5	<0.2	9	4	30	2	<5	<5	<5	<0.010	44

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Geochemical Lab Report

CLIENT: AQUATERRE MINERAL DEVELOPMENT
PROJECT: JI
REPORT: V96-02024.0 (COMPLETE)
DATE PRINTED: 28-NOV-96

SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Mo PPM	As PPM	Sb PPM	Bi PPM	Hg PPM	Ba PPM
D2 143517		<5	<0.2	6	9	50	1	12	<5	<5	<0.010	34
D2 143518		<5	0.6	404	11	657	6	18	<5	5	0.017	20
D2 143519		<5	0.3	115	7	132	3	26	<5	<5	<0.010	78
D2 143520		<5	0.3	92	7	110	3	<5	<5	7	<0.010	48
D2 143521		<5	<0.2	101	5	57	3	5	<5	<5	<0.010	41
D2 143522		<5	0.3	132	12	353	4	27	<5	<5	0.016	29
D2 143523		<5	0.2	86	7	103	3	6	<5	5	0.032	68
D2 143524		<5	0.2	78	5	90	4	18	<5	7	0.016	165
D2 143525		<5	<0.2	32	5	103	<1	13	<5	<5	<0.010	38
D2 143526		<5	4.0	29	334	450	1	8	<5	20	0.011	56
D2 143527		<5	<0.2	10	6	49	1	8	<5	<5	<0.010	49
D2 143528		<5	0.4	14	14	94	3	10	<5	<5	0.011	96
D2 143529		<5	0.3	14	7	190	4	18	<5	<5	0.012	50
D2 143530		<5	1.2	10	52	212	3	11	<5	7	<0.010	51
D2 143531		<5	<0.2	7	8	26	2	19	<5	<5	0.016	54
D2 143532		<5	<0.2	6	7	53	5	5	<5	<5	<0.010	54
D2 143533		<5	0.4	121	6	115	2	22	<5	6	0.012	33
D2 143534		<5	1.0	145	12	271	4	18	<5	12	0.019	19
D2 143535		<5	0.3	186	8	196	3	26	<5	<5	0.019	18
D2 143536		10	0.3	159	9	94	1	14	<5	<5	0.029	15
D2 143537		<5	<0.2	88	8	281	3	25	<5	<5	0.017	12
D2 143538		<5	<0.2	17	7	129	5	23	<5	<5	<0.010	1094
D2 143539		<5	<0.2	29	9	195	2	10	<5	<5	0.019	43
D2 143540		<5	0.4	110	8	146	5	18	<5	<5	0.017	22
D2 143542		<5	0.3	85	7	191	5	18	<5	6	0.021	21

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Geochemical Lab Report

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PROJECT: JI
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SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Mo PPM	As PPM	Sb PPM	Hg PPM	Bi PPM	Ba PPM
D2 143541		<5	<0.2	121	13	212	4	<5	<5	0.056	<5	38
D2 143543		11	<0.2	45	5	91	3	<5	<5	0.025	<5	48
D2 143544		<5	0.7	107	143	661	4	<5	<5	0.027	<5	26
D2 143545		24	<0.2	66	13	356	4	<5	<5	0.028	<5	42
D2 143546		<5	<0.2	63	9	34	9	<5	<5	0.018	<5	54
D2 143547		5	<0.2	16	6	112	1	<5	<5	0.013	<5	19
D2 143548		9	<0.2	9	12	97	6	<5	<5	0.024	<5	27
D2 143549		6	<0.2	29	8	81	4	<5	<5	0.014	<5	190
D2 143550		<5	<0.2	23	7	71	4	<5	<5	0.011	<5	110
D2 143551		<5	<0.2	39	10	78	5	<5	<5	0.016	<5	133
D2 143552		<5	<0.2	86	7	52	5	<5	<5	0.015	<5	137
D2 143553		<5	<0.2	12	9	95	5	<5	<5	0.023	<5	32
D2 143554		<5	<0.2	40	9	83	5	<5	<5	0.017	<5	106
D2 143555		<5	<0.2	31	5	51	2	<5	<5	0.010	<5	97
D2 143556		<5	<0.2	10	11	97	3	<5	<5	0.013	<5	32
D2 143557		<5	0.3	66	33	175	3	<5	<5	0.056	<5	55
D2 143558		<5	<0.2	231	6	1275	7	<5	<5	0.298	<5	227
D2 143559		<5	<0.2	252	25	135	8	<5	<5	0.032	<5	24
D2 143560		<5	<0.2	51	25	110	5	<5	<5	0.023	<5	23
D2 143561		<5	<0.2	24	12	60	4	<5	<5	<0.010	<5	28
D2 143562		<5	<0.2	165	13	60	5	<5	<5	0.019	<5	27
D2 143563		<5	<0.2	174	13	134	3	<5	<5	0.014	<5	13
D2 143564		<5	<0.2	44	11	74	5	<5	<5	0.018	<5	28
D2 143565		5	<0.2	43	39	109	3	<5	<5	0.043	<5	22
D2 143566		<5	<0.2	69	9	161	4	<5	<5	0.021	<5	21
D2 143567		9	<0.2	31	10	42	3	<5	<5	<0.010	<5	22
D2 143568		<5	<0.2	43	9	62	4	<5	<5	0.013	<5	23
D2 143569		<5	<0.2	118	14	88	5	<5	<5	0.021	<5	57
D2 143570		<5	<0.2	157	13	107	4	<5	<5	0.026	<5	11
D2 143571		<5	<0.2	61	15	112	3	<5	<5	0.021	<5	27
D2 143572		12	<0.2	62	12	93	4	<5	<5	0.020	<5	22
D2 143573		5	<0.2	96	15	149	7	<5	<5	0.015	<5	24
D2 143574		<5	<0.2	98	11	123	3	<5	<5	<0.010	<5	9
D2 143575		<5	<0.2	67	9	66	3	<5	<5	<0.010	<5	14
D2 143576		<5	<0.2	23	11	90	3	<5	<5	0.012	<5	14
D2 143577		<5	<0.2	18	14	50	3	<5	<5	0.015	<5	7
D2 143578		<5	<0.2	45	21	76	5	<5	<5	0.017	<5	27
D2 143579		<5	<0.2	40	8	42	4	<5	<5	<0.010	<5	33
D2 143580		<5	1.1	602	17	212	6	<5	<5	0.024	5	19
D2 143581		<5	<0.2	82	17	129	6	<5	<5	0.010	<5	36

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Geochemical Lab Report

CLIENT: AQUATERRE MINERAL DEVELOPMENT
PROJECT: JI
REPORT: V96-02075.0 (COMPLETE)
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SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Mo PPM	As PPM	Sb PPM	Hg PPM	Bi PPM	Ba PPM
D2 143582		<5	<0.2	139	17	170	8	<5	<5	0.013	<5	37
D2 143583		<5	<0.2	90	19	134	5	<5	<5	0.012	<5	33
D2 143584		<5	<0.2	44	11	72	4	<5	<5	<0.010	<5	30
D2 143585		<5	<0.2	38	18	100	6	<5	<5	<0.010	<5	12
D2 143586		<5	<0.2	39	21	476	5	<5	<5	<0.010	<5	34
D2 143587		<5	<0.2	35	10	99	5	<5	<5	<0.010	<5	27
D2 143588		<5	0.2	578	27	157	5	<5	<5	<0.010	<5	129
D2 143589		<5	<0.2	315	15	149	21	<5	<5	<0.010	<5	81
D2 143590		<5	<0.2	295	21	195	9	<5	<5	<0.010	<5	95
D2 143591		<5	<0.2	113	25	981	5	<5	<5	0.019	<5	92
D2 143592		<5	<0.2	135	23	157	6	<5	<5	0.011	<5	37
D2 143593		<5	<0.2	127	13	107	5	<5	<5	<0.010	<5	41
D2 143594		<5	<0.2	614	20	354	12	<5	<5	0.017	<5	2
D2 143595		<5	<0.2	231	14	136	5	<5	<5	<0.010	<5	14
D2 143596		<5	<0.2	309	11	124	7	<5	<5	0.013	<5	11
D2 143597		<5	<0.2	132	22	150	8	<5	<5	0.020	<5	36
D2 143598		<5	<0.2	63	21	101	10	<5	<5	0.019	<5	29
D2 143599		<5	<0.2	159	29	1332	8	<5	<5	0.019	<5	31
D2 143600		<5	<0.2	156	14	72	7	<5	<5	0.014	<5	30
D2 143601		<5	<0.2	40	14	142	8	<5	<5	<0.010	<5	46

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APPENDIX C

PETROGRAPHIC SAMPLE DESCRIPTIONS

Vancouver Petrographics Ltd.

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Report # 970010 for:

John Kerr,
Aquaterre Mineral Development Ltd.,
1003 - 470 Granville Street,
Vancouver, B.C., V6C 1V5

January. 1997

copy to: **Warner Gruenwald,**
Geoquest Consulting Ltd.,
8055 Aspen Road,
Vernon, B.C., V1B 3M9 (Phone: 1-250-549-5192)

Project: **Jervis Inlet**

Samples: **JI-96-1** **87.0 m, 194.2 m, 394.5 m**
JI-96-2 **230 m, 265.9 m, 355.53 m, 407.5 m**

Summary:

Sample JI-96-1 87.0 m is a quartz diorite containing minor subhedral phenocrysts of plagioclase and smaller subhedral plagioclase grains intergrown with interstitial plagioclase and quartz, with patches of tremolite/actinolite, less abundant pyrite, and minor biotite. A few mafic clusters are of tremolite/actinolite, pyrite, epidote, and sphene. Plagioclase is zoned strongly and calcic cores are altered slightly to moderately to secondary more-sodic plagioclase(?). Biotite is replaced completely by pseudomorphic chlorite and lenses of Ti-oxide.

Sample JI-96-1 194.2 m is an andesite/latite/dacite breccia. Fragments up to 2 cm across are of metamorphosed, very fine to extremely fine grained andesite tuff dominated by plagioclase-tremolite/ actinolite-quartz and lesser ones of latite tuff dominated by plagioclase-biotite. A few small fragments of are dominated by plagioclase-quartz-(tremolite/actinolite) (=metamorphosed dacite) or plagioclase (= metamorphosed hypabyssal andesite?). Much of the matrix between the fragments and some irregular replacement patches and veinlets are dominated by quartz-epidote-pyrite, in part with plagioclase. One main replacement/vein zone is dominated by plagioclase-calcite-(chlorite). Miner replacement minerals are apatite and chalcopyrite.

Sample JI-96-1 394.5 m is an extremely fine to very fine grained, metamorphosed latite/andesite dominated by plagioclase with lesser tremolite/actinolite and minor epidote and sphene. Half of the sample is very fine grained and massive and the other half is extremely fine grained and well foliated. The rock contains scattered coarser grained patches dominated by mafic minerals or plagioclase. Numerous lensy veinlets are of epidote-K-feldspar. A lensy veinlet up to 0.25 mm wide is of pyrite with much less abundant quartz; it has an envelope 1.5 mm wide in which actinolite was destroyed. A few veinlets are of pyrite-tremolite/actinolite. A veinlet is of an unknown calc-silicate.

Sample JI-96-2 176.7 m contains a few patches which are dominated by medium grained plagioclase, whose texture suggests that it is a metamorphosed diorite. These patches were fractured coarsely, with interstitial patches of extremely fine grained epidote-(plagioclase) or very fine grained epidote-chlorite. Elsewhere, plagioclase forms disseminated grains mainly surrounded by irregular, early(?) replacement patches of medium grained quartz with abundant epidote inclusions. Several patches and lenses up to 15 mm long are of extremely fine grained epidote. Late replacement patches up to several mm across are of fine to medium grained quartz.

Sample JI-96-2 230 m is a slightly porphyritic latite dike or sill(?) containing phenocrysts and clusters of phenocrysts of plagioclase and K-feldspar and minor ones of biotite in a very fine grained to cryptocrystalline groundmass dominated by plagioclase and K-feldspar. The groundmass has a strong follow-foliation with alternating bands rich in plagioclase and K-feldspar. An early veinlet is of quartz; it is cut and offset along one of several veinlets of pyrite-epidote-pyrrhotite.

Sample JI-96-2 265.9 m is a well bedded tuffaceous sedimentary rock containing scattered slightly coarser plagioclase and quartz grains in a groundmass dominated by plagioclase with much less abundant quartz and moderately abundant disseminated epidote and porphyroblasts of pyrite. Veins and veinlets are mainly of epidote with much less abundant quartz and pyrite and minor chalcopyrite. One patchy veinlet is of plagioclase-epidote-quartz-pyrite-(chalcopyrite).

Sample JI-96-2 355.53 m is a well bedded, metamorphosed andesite/dacite tuffaceous sedimentary rock dominated by plagioclase and lesser tremolite/actinolite, with moderately abundant quartz, mainly in dacitic layers. One band several mm wide contains a core of pyrite bordered by zones with abundant tremolite/actinolite, epidote, and pyrite intergrown with plagioclase. Early veinlets parallel to bedding are of epidote and pyrite-(sphalerite). Later veins of epidote-(quartz-calcite) cut foliation at a moderate angle; one of these offsets the pyrite-rich band and an early epidote vein. Braided, fracture-filling veinlets of very fine grained calc-silicate(?) cut foliation and the late epidote-rich veins.

Sample JI-96-2 407.5 m is a well foliated, medium to very fine grained, metamorphosed quartz diorite dominated by plagioclase with lesser quartz, ragged grains and a few clusters of tremolite/actinolite and of epidote, moderately abundant disseminated pyrite and lenses of sphene-(Ti-oxide), and minor chlorite, apatite, and chalcopyrite. Plagioclase occurs in three main modes: as scattered, ragged megacrysts, as very fine grained groundmass, and in two bands up to 1 mm wide parallel to foliation as extremely fine grained aggregates intergrown with much less chlorite and scattered patches of each of tremolite/actinolite and epidote. A veinlet is of pyrite and a discontinuous veinlet is of epidote.

I discussed the possible geological environment of these samples by telephone with Warner Gruenwald.

The most probable environment is a **contact metamorphic** zone at the border of the quartz diorite and metamorphosed tuffaceous sedimentary rocks. The system is dry, in that little pervasive hydrothermal alteration occurred in the country rocks away from the veins and replacement patches. The hydrothermal alteration and replacement assemblage is dominated by quartz, epidote, pyrite, tremolite/actinolite, and plagioclase, with much less abundant chlorite and calcite and minor sphalerite and chalcopyrite. This assemblage is suggestive of a contact metamorphic zone.

The tuffaceous sedimentary rocks are distal from a volcanic source, and moderately to strongly reworked. Their composition is in the andesite to dacite range, which is similar to that of the volcanic rocks associated with volcanogenic massive sulfides in this part of the Coast Range (e.g., Britannia). If coarser and less reworked tuffaceous sedimentary rocks and tuffs could be found in the belt, this would be a vector to indicate the direction to go to explore for a volcanic centre and a **volcanogenic massive sulfide** deposit in or near it.

No indication is present that the rock are part of a **"Cu-porphyry"** system.

The copper and zinc values in the samples is relatively low, and probably in themselves do not account for the geochemical anomalies in these elements. However, it the geochemical anomalies could be produced in the contact metamorphic environment.

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Sample JI-96-1 87.0 m **Quartz Diorite: Slight/Moderate Propylitic Alteration**
Tremolite/Actinolite-Chlorite-Epidote-Pyrite Alteration

Minor subhedral phenocrysts of plagioclase and smaller subhedral plagioclase grains are intergrown with interstitial plagioclase and quartz, with patches of tremolite/actinolite, less abundant pyrite, and minor biotite. A few mafic clusters are of tremolite/actinolite, pyrite, epidote, and sphene. Plagioclase is zoned strongly and calcic cores are altered slightly to moderately to secondary more-sodic plagioclase(?). Biotite is replaced completely by pseudomorphic chlorite and lenses of Ti-oxide.

plagioclase	70-75%
quartz	8-10
tremolite/actinolite	8-10
pyrite	4- 5
biotite	2- 3
epidote	0.5
sphene	0.3
Ti-oxide	minor
chalcopyrite	trace

Plagioclase forms subhedral to slightly interlocking, prismatic grains averaging 0.5-0.8 mm long, a few prismatic phenocrysts up to 1.8 mm long, and interstitial, anhedral grains averaging 0.3-0.5 mm in size. Many coarser grains show delicate, oscillatory zoning throughout a broad core of labradorite composition and strong growth zoning near their margins from labradorite/andesine to oligoclase. Many larger grains are altered moderately in their cores to very fine grained, irregular secondary sodic plagioclase(?) with locally minor quartz and epidote.

Quartz forms interstitial grains averaging 0.15-0.3 mm in size and a few up to 0.6 mm across.

Tremolite/actinolite forms anhedral, prismatic grains averaging 0.3-0.5 mm in size and a few up to 1 mm long. It is concentrated moderately in ragged clusters. Some ragged equant to prismatic grains averaging 0.5-1 mm in size have pleochroism from light to medium yellowish green. In most finer grains, pleochroism is from very pale to pale green.

Pyrite forms disseminated, anhedral grains averaging 0.1-0.5 mm in size and a few patches from 2-3 mm in size. The largest patch is of medium grained, anhedral pyrite containing a patch and veinlet of very fine grained epidote and one of the pyrite grains contains moderately abundant, acicular grains of amphibole(?) up to 0.1 mm long.

Biotite forms scattered flakes averaging 0.2-0.3 mm in size. It is altered completely to pseudomorphic chlorite with minor lenses of Ti-oxide parallel to cleavage. Chlorite is colourless to very pale green.

Epidote forms ragged patches averaging 0.1-0.2 mm in size and a few up to 0.5 mm across of anhedral, very fine to extremely fine grains.

Sphene forms disseminated, anhedral grains averaging 0.05-0.08 mm in size and forms anhedral grains averaging 0.1-0.15 mm in size in mafic clusters. Ti-oxide forms a few prismatic grains averaging 0.05 m long surrounded by sphene.

Chalcopyrite forms a few anhedral grains averaging 0.03-0.07 mm in size.

Sample JI-96-1 194.2 m Andesite/Latite Breccia: 2 Main Fragment Types
Matrix/Replacement of Quartz-Epidote-Pyrite-Plagioclase-Calcite-Chlorite

Fragments up to 2 cm across are of metamorphosed, very fine to extremely fine grained andesite tuff dominated by plagioclase-tremolite/ actinolite-quartz and lesser ones of latite tuff dominated by plagioclase-biotite. A few small fragments of are dominated by plagioclase-quartz-(tremolite/actinolite) (=metamorphosed dacite) or plagioclase (= metamorphosed hypabyssal andesite?). Much of the matrix between the fragments and some irregular replacement patches and veinlets are dominated by quartz-epidote-pyrite, in part with plagioclase. One main replacement/vein zone is dominated by plagioclase-calcite-(chlorite). Miner replacement minerals are apatite and chalcopyrite.

fragments

plagioclase-tremolite/actinolite-quartz	60-65%
plagioclase-biotite	12-15
plagioclase-quartz	2- 3
plagioclase	0.5

replacement patches

quartz	4- 5	calcite	1- 2%
epidote	3- 4	chlorite	0.5
pyrite	3- 4	apatite	minor
plagioclase	3- 4	chalcopyrite	trace
tremolite/actinolite	1- 2		

Some fragments are of metamorphosed andesite tuff. These contain minor coarser grains of plagioclase and quartz averaging 0.07-0.15 mm in size and scattered porphyroblasts of tremolite/actinolite up to 0.2 mm long in a slightly foliated groundmass dominated by plagioclase and lesser tremolite/actinolite and quartz averaging 0.03-0.05 mm in size. Plagioclase is altered slightly to dusty sericite and opaque. Tremolite/actinolite is pleochroic from pale/light to light/medium green. Chlorite forms minor disseminated flakes and clusters of flakes averaging 0.02-0.03 mm in size. One metamorphosed andesite fragment dominated by equant plagioclase grains averaging 0.01-0.015 mm in size contains moderately abundant, ragged porphyroblasts of tremolite/actinolite averaging 0.3-0.7 mm in size. Ilmenite/Ti-oxide and sphene each forms disseminated patches averaging 0.02-0.05 mm in size. A few patches of ilmenite/Ti-oxide are up to 0.2 mm long. Pyrite forms disseminated grains averaging 0.03-0.1 mm in size. Chalcopyrite forms minor disseminated grains averaging 0.02-0.05 mm in size.

A few fragments are dominated by extremely fine grained plagioclase with minor to locally moderately abundant disseminated grains of actinolite, quartz, biotite/chlorite, and pyrite.

Several fragments up to 5 mm in size of well foliated latite/andesite tuff are dominated by plagioclase grains averaging 0.02-0.04 mm in size and lesser biotite flakes averaging 0.03-0.05 mm long. Biotite is pleochroic from pale to medium/dark brown. One of these contains an alteration patch 2 mm across in which plagioclase was altered moderately to strongly to sericite, biotite was replaced by chlorite, and the rock contains moderately abundant disseminated pyrite grains averaging 0.05-0.1 mm in size.

(continued)

One fragment(?) a few mm across is dominated by plagioclase and quartz grains averaging 0.05-0.07 mm in size with moderately abundant grains of each up to 0.2 mm across. Less abundant minerals include ragged patches of tremolite/actinolite and minor pyrite.

One fragment 2.5 mm across is dominated by interlocking, very fine grains of plagioclase, which is altered moderately to dusty sericite and opaque. It contains a lensy patch/veinlet 0.05 mm across of very fine grained chlorite-(calcite).

Irregular replacement patches up to a few mm across are dominated by one or more of very fine to locally fine grained quartz, cryptocrystalline to very fine grained epidote, and pyrite. Some of these contain minor very fine grained plagioclase and trace to minor calcite and chlorite.

Pyrite forms disseminated anhedral, commonly irregular grains averaging 0.05-0.2 mm in size and a few up to 0.5 mm across. It is concentrated moderately in interstitial patches up to a few mm across as anhedral grains averaging 0.3-1 mm in size. Many larger grains have moderately abundant silicate inclusions averaging 0.03-0.05 mm in size with a few up to 0.1 mm across. A few have minor inclusions of chalcopyrite or pyrrhotite averaging 0.02-0.03 mm in size.

Chlorite forms patches of very fine to extremely fine grains interstitial to pyrite and a few grains up to 0.05 mm in size intergrown with silicates. .

Apatite forms a few equant grains averaging 0.1-0.15 mm in size.

Chalcopyrite forms disseminated grains averaging 0.01-0.02 mm in size.

One replacement patch/veinlet up to 1.5 mm wide and several mm long is of very fine to fine grained plagioclase with moderately abundant calcite and chlorite and minor pyrite. One lens in this zone has an outer zone of very fine grained plagioclase with a core of extremely fine to very fine grained, radiating to irregular, feathery plagioclase with scattered, subrounded patches up to 0.1 mm in size of chalcedony.

A few replacement lenses and patches up to 0.5 mm wide are dominate by very fine to fine grained tremolite/actinolite. Some of these also contain patches of cryptocrystalline epidote, commonly interstitial to tremolite/actinolite.

Sample JI-96-1 394.5 m Metamorphosed Latite/Andesite:
Veinlets of Epidote- K-feldspar-(Quartz),
Pyrite-(Quartz) and Pyrite-Tremolite/Actinolite with Phyllic Envelopes,
Quartz; Late Veinlet of Calc-Silicate

The sample is an extremely fine to very fine grained, metamorphosed latite/andesite dominated by plagioclase with lesser tremolite/actinolite and minor epidote and sphene. Half of the sample is very fine grained and massive and the other half is extremely fine grained and well foliated. The rock contains scattered coarser grained patches dominated by mafic minerals or plagioclase. Numerous lensy veinlets are of epidote-K-feldspar. A lensy veinlet up to 0.25 mm wide is of pyrite with much less abundant quartz; it has an envelope 1.5 mm wide in which actinolite was destroyed. A few veinlets are of pyrite-tremolite/actinolite. A veinlet is of an unknown calc-silicate.

plagioclase	70-75%	epidote	2- 3%
tremolite/actinolite	10-12	pyrite	1- 2
quartz	2- 3	sphene	0.3
veinlets			
K-feldspar-epidote-pyrite	3- 4		
pyrite-(quartz)	1- 2	(amphibole-destructive envelope)	
pyrite-tremolite/actinolite	1	(in part with amphibole-destructive envelopes)	
quartz	0.1		
late calc-silicate	1		

In one half of the sample, plagioclase forms a few anhedral grains averaging 0.1-0.15 mm in size which are set in a groundmass dominated by slightly interlocking plagioclase grains averaging 0.03-0.05 mm in size with much less abundant quartz averaging 0.01-0.03 mm in size with a few up to 0.05 mm across. Tremolite/actinolite forms anhedral grains averaging 0.03-0.07 mm in size, with pleochroism from pale to very light green.

The other half of the sample is well foliated and dominated by plagioclase grains averaging 0.01-0.02 mm in size and actinolite grains averaging 0.02-0.03 mm in size.

A few patches up to 2 mm across are of interlocking very fine grained plagioclase with less abundant ragged, prismatic tremolite/actinolite grains from 0.1-0.2 mm long.

One mafic patch 1.5 mm across has a core of equant grains of clinopyroxene(?) averaging 0.02-0.03 mm in size. It is surrounded by and replaced by patches of cryptocrystalline to very fine grained epidote and lesser very fine grained tremolite and pyrite. One mafic patch 1.7 mm in size is of ragged, prismatic grains of tremolite/actinolite averaging 0.3-0.5 mm in size.

Epidote forms minor anhedral grains averaging 0.03-0.05 mm in size and a few up to 0.15 mm across. A few ragged patches up to 0.5 mm across are of ragged, very fine grained epidote with lesser pyrite and tremolite. A few patches up to 0.4 mm across are of cryptocrystalline to very fine grained epidote and pyrite. Much of the epidote associated with pyrite is bright yellow in colour. A few patches up to 3 mm across are of very fine grained plagioclase intergrown intimately with ragged, very fine grained epidote; in these, epidote may have formed by replacement of tremolite/actinolite. tremolite/actinolite was replaced by

Pyrite forms disseminated grains and clusters of a few grains, in part associated with patches of tremolite/actinolite or epidote. Some of them grade into pyrite-rich veins.

Sphene forms ragged, disseminated grains averaging 0.01-0.02 mm in size.

(continued)

Most veinlets have diffuse borders and are somewhat discontinuous. They grade into irregular patches of similar mineralogy. Age relations between some of the vein types are obscure.

A few veinlets averaging 0.05-0.1 mm wide and one 3 mm across are of cryptocrystalline to extremely fine grained K-feldspar and very fine grained epidote, with disseminated grains of pyrite averaging 0.03-0.05 mm in size. Some of these also have envelopes contain minor to moderately abundant K-feldspar.

A few veinlets up to 0.2 mm wide are of very fine grained pyrite, tremolite/actinolite, and minor quartz. Some of these have an alteration envelope up to 0.8 mm wide in which tremolite/ actinolite was destroyed, and which contain minor disseminated pyrite grains averaging 0.02-0.05 mm in size.

A veinlet from 0.05-0.2 mm wide is of very fine grained pyrite with much less abundant lenses of extremely fine to very fine grained quartz. It is bordered by a zone up to 1.5 mm wide in which tremolite/actinolite was destroyed, and which contains minor disseminated pyrite grains up to 0.05 mm in size and chlorite flakes up to 0.02 mm in size.

A discontinuous veinlet of quartz is 0.1 mm wide.

One irregular, late veinlet averaging 0.1-0.15 mm in width is of anhedral, very fine to fine grained calc-silicate of unknown composition. It is similar to epidote but has lower relief.

Sample JI-96-2 176.7 m **Metamorphosed, Brecciated Diorite: Quartz-Epidote Replacement; Late Quartz Replacement**

A few patches in the sample are dominated by medium grained plagioclase, whose texture suggests that it is a metamorphosed diorite. These patches were fractured coarsely, with interstitial patches of extremely fine grained epidote-(plagioclase) or very fine grained epidote-chlorite. Elsewhere, plagioclase forms disseminated grains mainly surrounded by irregular, early(?) replacement patches of medium grained quartz with abundant epidote inclusions. Several patches and lenses up to 15 mm long are of extremely fine grained epidote. Late replacement patches up to several mm across are of fine to medium grained quartz.

plagioclase	8-10%	zircon	trace
biotite	minor		
early replacement			
quartz	35-40	epidote	20-25%
(with epidote inclusions)		chlorite	0.3
breccia matrix			
epidote-(plagioclase)	5- 7	epidote-chlorite	1
late replacement patches			
quartz	20-25	(free of epidote inclusions)	

Plagioclase is concentrated in patches up to several mm across as subhedral grains averaging 0.5-1 mm in size. A few interstitial patches up to 2 mm in size are of strongly interlocking, extremely fine to very fine grained plagioclase with minor epidote. The rock was brecciated moderately with interstitial patches filled by either early replacement of quartz-epidote or cryptocrystalline to extremely fine grained epidote-plagioclase or locally by very fine grained epidote and chlorite. Some of these patches contain abundant extremely fine fragments of primary plagioclase grains. Some plagioclase grains are fractured slightly to moderately, and some contain veinlets of quartz along fractures.

Elsewhere in the rock, plagioclase forms disseminated subhedral to anhedral grains averaging 0.7-1.2 mm in size, and a few up to 1.7 mm long enclosed mainly in quartz-epidote alteration. All plagioclase grains contain minor dusty inclusions, but are not altered to epidote; this suggests that plagioclase is albite/oligoclase, because more-calcic plagioclase would be altered to epidote.

Biotite forms a ragged flake 0.7 mm long which is altered completely to chlorite-Ti-oxide.

Zircon forms disseminated, subhedral grains averaging 0.1-0.15 mm long.

In the early replacement patches, quartz forms anhedral to subhedral grains averaging 0.5-1.2 mm in size. Intergrown with quartz are moderately abundant to very abundant inclusions of cryptocrystalline to extremely fine grained epidote. In some patches, it is uncertain whether the host for the epidote inclusions is quartz or plagioclase. Lenses up to 15 mm long are of dense aggregates of extremely fine grained epidote. These commonly have irregular, gradational borders against quartz-epidote intergrowths. A few internal patches in epidote-rich patches are of subhedral to euhedral epidote grains averaging 0.05-0.15 mm in size with interstitial patches of quartz grains averaging 0.05-0.15 mm in size. Chlorite is concentrated in a few irregular patches up to 0.8 mm in size of cryptocrystalline to extremely fine grains with a medium green colour.

Late replacement patches up to a few mm long are of anhedral to subhedral quartz grains averaging 0.7-1.2 mm in size, with a few grains up to 2 mm long These are free of epidote inclusions. Contacts with epidote-rich patches are sharp, and those with quartz-epidote patches range from sharp to moderately gradational.

Sample JI-96-2 230 m **Slightly Porphyritic Latite (Dike or Sill?): Plagioclase, K-feldspar, (Biotite) Phenocrysts; *Veinlets of Quartz, Pyrite-Epidote-Pyrrhotite***

Phenocrysts and clusters of phenocrysts of plagioclase and K-feldspar and minor ones of biotite are set in a very fine grained to cryptocrystalline groundmass dominated by plagioclase and K-feldspar. The groundmass has a strong follow-foliation with alternating bands rich in plagioclase and K-feldspar. An early veinlet is of quartz; it is cut and offset along one of several veinlets of pyrite-epidote-pyrrhotite.

phenocrysts			
plagioclase	3- 4%		
K-feldspar	2- 3		
biotite	0.3		
groundmass			
plagioclase	70-75	leucoxene	0.1%
K-feldspar	17-20	pyrrhotite	0.1
sericite	0.5	pyrite	minor
chlorite	0.1	zircon	trace
veinlets			
quartz	0.2		
pyrite-epidote-pyrrhotite-quartz-(chalcopyrite)	2%		

Plagioclase forms a few subhedral phenocrysts averaging 0.2-1 mm in size, and one 1.7 mm long. Some are concentrated in a few clusters up to 1.7 mm across. A few interstitial patches up to 0.15 mm in size are of subradiating aggregates of chlorite or patches of chlorite-Ti-oxide. Some plagioclase phenocrysts were replaced along their rims or have thick overgrowths of K-feldspar. A few close to phenocrysts of biotite contain irregular replacement patches of extremely fine grained chlorite.

K-feldspar forms a few anhedral to subhedral phenocrysts averaging 0.6-1.2 mm in size, and a few euhedral grains from 1-1.7 mm long. A few of these are associated with clusters of plagioclase phenocrysts. Alteration is slight to patches of extremely fine grained sericite and chlorite.

Biotite forms a few flakes up to 0.5 mm long, mainly bordering clusters of plagioclase phenocrysts. Alteration is complete to pseudomorphic chlorite with lenses of epidote and Ti-oxide parallel to cleavage.

One slender lens 1.3 mm long is of cryptocrystalline leucoxene.

The groundmass is dominated by interlocking, ragged plagioclase grains averaging 0.05-0.1 mm in size with a few up to 2 mm across. These are intergrown with cryptocrystalline K-feldspar and plagioclase and disseminated, slender flakes of sericite. K-feldspar is concentrated moderately to strongly in thin seams parallel to the flow foliation; its distribution is seen well in the stained offcut block.

Pyrite forms a few disseminated grains averaging 0.03-0.05 mm in size, in part associated with epidote grains of similar size. These patches probably are related in origin to the pyrite-epidote veinlets.

Zircon forms a few equant, subhedral to euhedral grains averaging 0.05-0.07 mm in size associated with plagioclase and biotite phenocrysts.

(continued)

A few subparallel early veinlets averaging 0.05-0.08 mm wide of very fine grained quartz with moderately abundant dusty opaque inclusions is cut and offset 0.2 mm along a wispy epidote-pyrite veinlet.

A few discontinuous veinlets averaging 0.01-0.02 mm in width are of extremely fine grained quartz without dusty inclusions.

Several replacement veinlets averaging 0.1-0.5 mm wide are dominated by pyrite grains averaging 0.2-0.8 mm in size and much less abundant pyrrhotite grains averaging 0.1-0.15 mm in size. These are intergrown with minor to moderately abundant extremely fine to very grained epidote, which is concentrated strongly along the margins of some of the veinlets. A few quartz grains are from 0.07-0.12 mm in size. In a few veinlets, pyrrhotite is much more abundant than pyrite. Chalcopyrite forms one grain 0.1 mm across associated with a large pyrite grain. One vein 0.1-0.2 mm wide is of very fine grained quartz with patches of very fine grained epidote and pyrite.

Sample JI-96-2 265.9 m **Dacite Tuffaceous Sedimentary Rock; Veins, Veinlets of Epidote-Pyrite-Quartz-(Chalcopyrite) and Plagioclase-Epidote-(Pyrite-Quartz-(Chalcopyrite)**

The sample is a well bedded tuffaceous sedimentary rock containing scattered slightly coarser plagioclase and quartz grains in a groundmass dominated by plagioclase with much less abundant quartz and moderately abundant disseminated epidote and porphyroblasts of pyrite. Veins and veinlets are mainly of epidote with much less abundant quartz and pyrite and minor chalcopyrite. One patchy veinlet is of plagioclase-epidote-quartz-pyrite-(chalcopyrite).

plagioclase	70-75%
quartz	15-17
pyrite	3- 4
chalcopyrite	minor
veinlets	
epidote, epidote-(pyrite-quartz-chalcopyrite)	5- 7
plagioclase-quartz-pyrite-epidote-(chalcopyrite)	1
quartz lenses	minor

Plagioclase forms scattered, anhedral grains averaging 0.07-0.12 mm in size. Quartz forms scattered, equant grains averaging 0.05-0.08 mm in size and a few up to 0.12 mm across. A few rounded to irregular, equant patches up to 0.3 mm in size are of very fine grained quartz.

These are set in a groundmass of equant plagioclase and much less abundant quartz grains averaging 0.01-0.02 mm in size with ragged, disseminated patches of cryptocrystalline epidote averaging 0.01-0.03 mm in size. A few layers up to 1 mm wide are of slightly coarser grained plagioclase averaging 0.03-0.06 mm in size with minor quartz and cryptocrystalline epidote.

Pyrite forms disseminated, euhedral to subhedral, cubic grains averaging 0.2-0.4 mm in size and a few lenses up to 1.5 mm long of anhedral to subhedral grains.

Chalcopyrite forms disseminated grains averaging 0.01-0.02 mm in size and a few up to 0.03 mm across.

Veinlets and a few veins are dominated by epidote with minor to moderately abundant amounts of one or more of plagioclase, quartz, and pyrite.

A few veins and veinlets parallel to bedding averaging 0.2-0.4 mm wide are dominated by very fine grained epidote. Some are bordered by an irregular envelope up to 0.2 mm wide containing moderately abundant patches of epidote. A few veinlets from 0.2-0.4 mm wide of very fine grained epidote cut across the bedding. Some of these also have irregular envelopes up to 0.5 mm wide containing moderately abundant to abundant epidote.

A patchy vein parallel to bedding and from 0.5-1 mm wide contains a few zones. At one end is a zone dominated by very fine grained epidote and minor to moderately abundant irregular, disseminated pyrite grains averaging 0.05-0.1 mm in size. Another zone is dominated by very fine grained epidote and minor to moderately abundant, subhedral to euhedral quartz. At the other end is a zone dominated by fine to medium grained pyrite with minor inclusions of chalcopyrite. The epidote-rich zones have thin envelopes containing replacement patches of epidote.

A veinlet up to 0.5 mm wide is of very fine grained plagioclase and much less abundant quartz, with minor disseminated grains of pyrite averaging 0.05-0.15 mm in size. Chalcopyrite forms a few anhedral grains averaging 0.02-0.05 mm in size. Towards one end it contains patches up to 1 mm long of very fine grained epidote.

A few lenses up to 0.15 mm wide parallel to foliation are of very fine grained quartz.

Sample JI-96-2 355.53 m Metamorphosed Andesite/Dacite Tuffaceous Sedimentary Rock; Pyrite-Tremolite/Actinolite Bands; Veinlets of Pyrite-(Sphalerite), Epidote, Later Epidote-(Quartz-Calcite), and Very Late Calc-silicate

The sample is a well bedded, metamorphosed andesite/dacite tuffaceous sedimentary rock dominated by plagioclase and lesser tremolite/actinolite, with moderately abundant quartz, mainly in dacitic layers. One band several mm wide contains a core of pyrite bordered by zones with abundant tremolite/actinolite, epidote, and pyrite intergrown with plagioclase. Early veinlets parallel to bedding are of epidote and pyrite-(sphalerite). Later veins of epidote-(quartz-calcite) cut foliation at a moderate angle; one of these offsets the pyrite-rich band and an early epidote vein. Braided, fracture-filling veinlets of very fine grained calc-silicate(?) cut foliation and the late epidote-rich veins.

plagioclase	60-65%	
quartz	10-12	
pyrite	5- 7	
K-feldspar	4- 5	
tremolite/actinolite	4- 5	
pyrite	0.5	
chalcopyrite	trace	
veins, veinlets		
epidote		0.5
pyrite-sphalerite-(chalcopyrite)		0.5
epidote-(quartz-calcite)		2- 3
calc-silicate		0.5

In andesite layers, plagioclase forms anhedral grains averaging 0.01-0.03 mm in size. Tremolite/actinolite is concentrated in a few seams parallel to foliation as elongate grains up to 0.7 mm in length. Pleochroism is from pale/light to light/medium green.

In a few dacitic layers, plagioclase forms moderately abundant megacrysts averaging 0.1-0.5 mm in size in a groundmass of plagioclase and moderately abundant quartz averaging 0.01-0.03 mm in size. A few patches/fragments up to 0.25 mm long are of extremely fine grained sphene.

K-feldspar is concentrated slightly to moderately in layers and lenses parallel to foliation as extremely fine to locally very fine grains. A few lenses up to 0.2 mm wide are dominated by very fine grained K-feldspar.

Sphene forms a few lenses up to 0.5 mm long parallel to bedding. Some contain minor cores of Ti-oxide.

Pyrite forms disseminated, subhedral to euhedral porphyroblasts averaging 0.07-0.15 mm in size. Chalcopyrite forms disseminated, anhedral grains averaging 0.01-0.02 mm in size and a few up to 0.05 mm across.

A zone up to several mm wide contains abundant pyrite and tremolite/actinolite and lesser epidote. A central core averaging 1.5-2 mm wide is dominated by pyrite with moderately abundant inclusions of tremolite/actinolite. Quartz forms an equant grain 0.8 mm across. It also occurs in late, fracture-filling veinlets averaging 0.02-0.03 mm wide in the pyrite core.

Bordering this is a zone of fine to extremely fine grained tremolite/actinolite. This is bordered by a zone of tuff containing moderately abundant to abundant pyrite, epidote, and tremolite/actinolite intergrown with plagioclase and minor quartz. Sphene forms anhedral grains up to 0.2 mm in size.

(continued)

A few veinlets parallel to foliation is of very fine grained pyrite. One discontinuous veinlet parallel to foliation averaging 0.1 mm wide contains moderately abundant disseminated grains of pyrite averaging 0.1-0.2 mm in size, lenses up to 0.4 mm long of colourless sphalerite, and minor grains of chalcopyrite up to 0.05 mm in size, mainly associated with pyrite.

A few veinlets up to 0.1 mm wide parallel to foliation are of extremely fine to very fine grained epidote. Some of these contain minor patches of extremely fine grained quartz and/or K-feldspar.

A late, lensy veinlet up to 0.5 mm wide is of cryptocrystalline to extremely fine grained epidote. It contains clusters of pyrite grains up to 0.3 mm in size and one elongate, colourless sphalerite grain 0.3 mm long. A second irregular veinlet 0.2-0.4 mm wide is of cryptocrystalline epidote with a few lenses in the core of very fine grained epidote and a few lenses of very fine grained quartz and epidote. A lensy vein averaging 0.2-0.5 mm wide and locally up to 1 mm wide is dominated by extremely fine grained epidote and minor calcite, quartz, and pyrite. It cuts the main pyrite-bearing band and offsets it by a few mm.

A few, subparallel braided veinlets up to 0.1 mm wide are of very fine grained colourless calc-silicate(?) of uncertain composition and low birefringence; they cut foliation at a high angle. These cut across the late epidote-rich vein, but are much narrower and discontinuous in the vein than in the adjacent host rock.

Sample JI-96-2 407.5 m **Metamorphosed Quartz Diorite: *Plagioclase-Quartz-Tremolite/Actinolite-Pyrite-Sphene-Epidote;* Veinlets of Pyrite, Epidote**

The sample is a well foliated, medium to very fine grained, metamorphosed quartz diorite dominated by plagioclase with lesser quartz, ragged grains and a few clusters of tremolite/actinolite and of epidote, moderately abundant disseminated pyrite and lenses of sphene-(Ti-oxide), and minor chlorite, apatite, and chalcopyrite. Plagioclase occurs in three main modes: as scattered, ragged megacrysts, as very fine grained groundmass, and in two bands up to 1 mm wide parallel to foliation as extremely fine grained aggregates intergrown with much less chlorite and scattered patches of each of tremolite/ actinolite and epidote. A veinlet is of pyrite and a discontinuous veinlet is of epidote.

plagioclase		pyrite	7- 8%
megacrysts	7- 8%	sphene	4- 5
very fine	40-45	epidote	3- 4
extremely fine	7- 8	apatite	0.4
quartz	12-15	chlorite	0.4
tremolite/actinolite	8-10	chalcopyrite	0.2
veinlets			
pyrite	0.5		
epidote	minor		

Plagioclase forms anhedral megacrysts averaging 0.4-0.5 mm in size, with a few up to 1.2 mm across. Several of these contain abundant, cryptocrystalline to locally extremely fine grained inclusions of quartz. Most of the plagioclase occurs as anhedral, equant grains averaging 0.1-0.2 mm in size, which are intergrown with less abundant quartz grains averaging 0.07-0.15 mm in size. Plagioclase contains minor to moderately abundant dusty inclusions.

Two bands parallel to foliation averaging 0.5-0.9 mm wide are dominated by extremely fine to locally very fine, strongly interlocking plagioclase grains. Chlorite forms minor to moderately abundant disseminated, extremely fine grained flakes and lenses, and tremolite/actinolite and epidote each forms minor ragged grains and patches.

Quartz forms disseminated grains averaging 0.05-0.1 mm in size and a few up to 0.5 mm across. These are concentrated moderately in lenses parallel to foliation intergrown with plagioclase of similar grain size.

Tremolite/actinolite forms ragged grains averaging 0.1-0.5 mm in size. Pleochroism is from pale to light green.

Epidote forms disseminated patches averaging 0.05-0.15 mm in size and a few irregular lenses from 0.5-1.5 mm long, mainly of very fine to fine grains.

Pyrite forms disseminated, anhedral grains averaging 0.1-0.5 mm in size. Most contain moderately abundant silicate inclusions averaging 0.03-0.05 mm in size. Several contain inclusions of chalcopyrite and less abundant pyrrhotite averaging 0.02-0.03 mm across, and one contains an inclusion 0.08 mm long of chalcopyrite and pyrrhotite.

Sphene forms abundant, subparallel, irregular lenses and patches averaging 0.3-0.8 mm in size of grains averaging 0.01-0.02 mm in size. A few lenses contain minor to moderately abundant cores of cryptocrystalline Ti-oxide.

(continued)

Chlorite forms minor disseminated flakes averaging 0.05-0.07 mm in size in coarser grains plagioclase, and a few patches up to 0.2 mm across of subradiating flakes up to 0.07 mm in size. Pleochroism is from pale to light green.

Apatite forms disseminated, equant, anhedral grains averaging 0.02-0.05 mm in size and a few subhedral to euhedral prismatic grains up to 0.1 mm long and one anhedral prismatic grain 0.3 mm long.

Chalcopyrite forms disseminated grains averaging 0.01-0.03 mm in size with a few up to 0.1 mm across. It commonly is surrounded by patches of epidote.

One irregular veinlet of pyrite is parallel to foliation. It is mainly a fairly continuous train of grains averaging 0.05-0.1 mm in size, with scattered patches of coarser grains up to 0.5 mm across.

A discontinuous, wispy veinlet averaging 0.015-0.02 mm wide is of very fine grained epidote.

APPENDIX D

PROGRAM EXPENDITURES

Diamond Drilling:		
Falcon Drilling, Prince George, B.C. (metres)		75,540.93
Helicopter Support:		
Vancouver Island Helicopters, , B.C.		58,605.09
Consulting Fees:		
W. Gruenwald, B. Sc. - 23½ days @ $350/day	$8,225.00	
J.R. Kerr, P. Eng. - 14 days @ $400/day	5,600.00	
T.M. Waterland, P. Eng. - 3 days @ $500/day	1,500.00	
R.H. McMillan, P. Geol. - 1 day @ $500/day	500.00	15,825.00
Labour:		
R. Montgomery, B. Sc. - 34 days @ $275/day	9,350.00	
R. Calhoun - 68 hours @ $17.50/hour	1,190.00	
D. Nehamken - 30 hours @ $17.50/hour	525.00	11,065.00
Contractors:		
Edgewater Marine Services	2,223.67	
Earl's Cove Barge Terminal Ltd.	600.88	2,824.55
Room and Board:		
Egmont Marina		11,682.60
Analytical Costs:		
Bondar Clegg Labs	4,118.66	
Vancouver Petrographics	1,053.90	5,172.56
Travel Costs:		3,550.75
Equipment Rental:		490.00
Supplies:		3,075.68
Report and Compilation:		3,100.00
TOTAL:		**$190,832.16**

APPENDIX E

REFERENCES

Payne, J.G. (1994	Geological Notes on the JI and Pilldolla Properties
BCEMPR	Minfile Reports
Schatten, M. G. (1995)	Assessment Report on the JI Property 1994 - Geochemical, Geological and Geophysical Program
McMillan, R.H. (1996)	Report on the Mineral Potential of the JI Property
Pinsent, Robert (1997)	B.C. Geological Survey Branch. Personal communications regarding a field visit during the fall drilling program.

APPENDIX F

STATEMENT OF QUALIFICATIONS

I, WERNER GRUENWALD, OF THE CITY OF VERNON, BRITISH COLUMBIA HEREBY CERTIFY THAT:

1. I am a graduate of the University of British Columbia with a B. Sc. degree in Geology (1972).

2. I am a fellow of the Geological Association of Canada (#F2958).

3. I am presently employed as a consulting geologist and president of Geoquest Consulting Ltd., Vernon, B.C.

4. I have practiced continuously as a geologist for the past 24 years in Canada and the US.

5. I was actively involved as project geologist on the JI property during the 1996 exploration program.

W. Gruenwald, B. Sc., F.G.A.C.

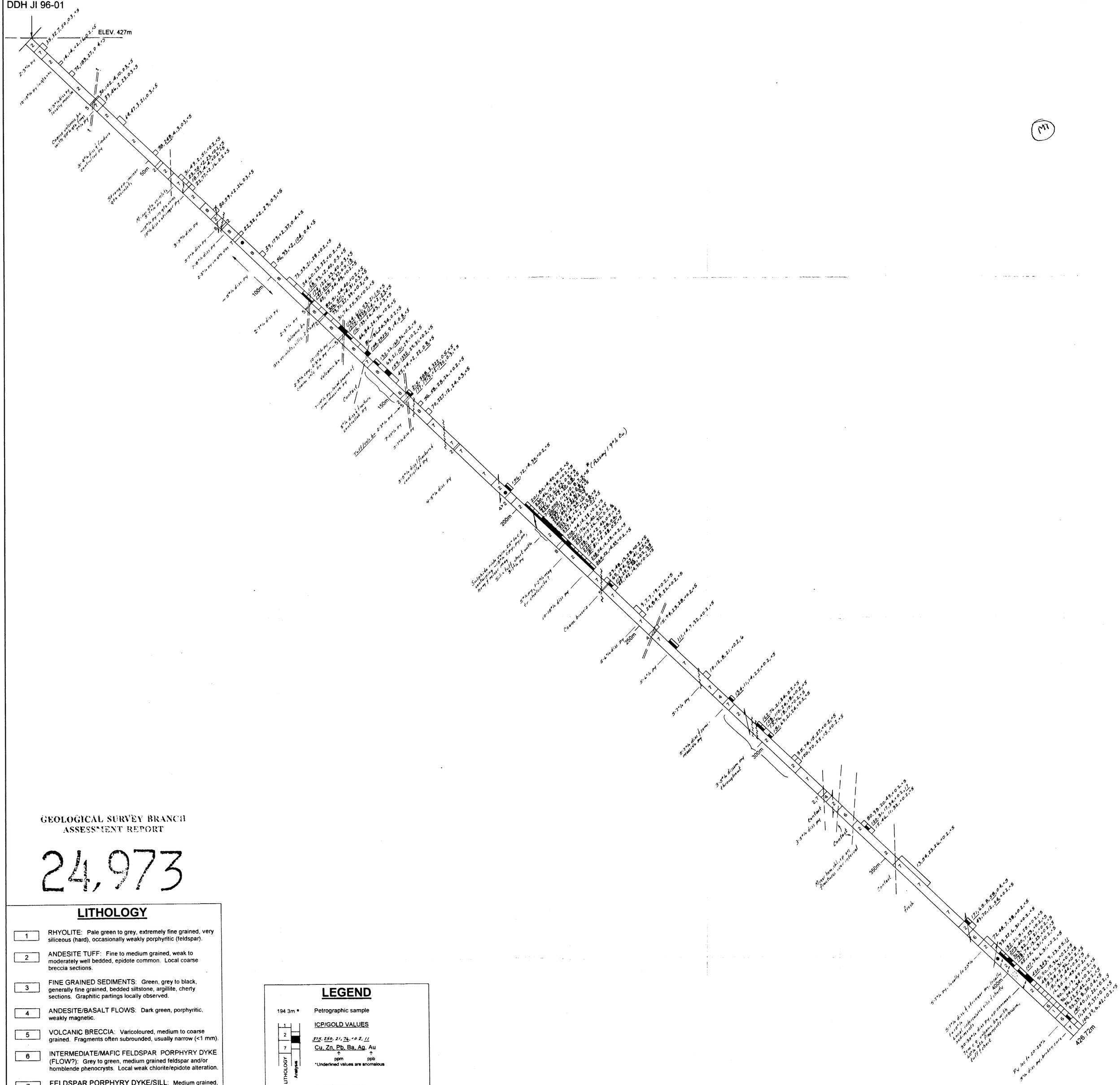
Dated: February 24, 1997

175°

355°

DDH JI 96-01

ELEV. 427m



* (Assay / 9% Cu)

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

24,973

LITHOLOGY

1	RHYOLITE: Pale green to grey, extremely fine grained, very siliceous (hard), occasionally weakly porphyritic (feldspar).
2	ANDESITE TUFF: Fine to medium grained, weak to moderately well bedded, epidote common. Local coarse breccia sections.
3	FINE GRAINED SEDIMENTS: Green, grey to black, generally fine grained, bedded siltstone, argillite, cherty sections. Graphitic partings locally observed.
4	ANDESITE/BASALT FLOWS: Dark green, porphyritic, weakly magnetic.
5	VOLCANIC BRECCIA: Varicoloured, medium to coarse grained. Fragments often subrounded, usually narrow (<1 mm).
6	INTERMEDIATE/MAFIC FELDSPAR PORPHYRY DYKE (FLOW?): Grey to green, medium grained feldspar and/or hornblende phenocrysts. Local weak chlorite/epidote alteration.
7	FELDSPAR PORPHYRY DYKE/SILL: Medium grained, plagioclase phenocrysts, weak chloritic alteration.
8	QUARTZ DIORITE: Weak propylitic alteration; tremolite/ actinolite - chlorite - epitote - pyrite alteration. Field logged as "Felsite".
9	QUARTZ VEINED/STOCKWORK ZONES: Bleached, locally brecciated/sheared. Low sulphide content.

LEGEND

194 3m • Petrographic sample

ICP/GOLD VALUES

375, 250, 21, 74, <0.2, 11

Cu, Zn, Pb, Ba, Ag, Au

ppm ppb

*Underlined values are anomalous

LITHOLOGY / Analysis

Shear/gouge zone

Bedding/foliation

ABBREVIATIONS

cpy - chalcopyrite	ep - epidote
sph - sphalerite	chl - chlorite
py - pyrite	carb - carbonate
po - pyrrhotite	bx - breccia
hem - hematite	silic - silicified/silicification
mag - magnetite	diss - disseminated
qtz - quartz	tr - trace

ANALYTICAL CATEGORIES

LITHOLOGY / Analysis		Cu ppm	Zn ppm	Pb ppm	Ba ppm	Ag ppm	Au ppb
1	Background	<100	<200	<30	<50	<0.5	<5
2	Anomalous	101-300	201-400	30-50	50-100	0.6-1.0	5-20
7	Definitely anomalous	>300	>400	>50	>100	>1.0	>20

AQUATERRE MINERAL DEVELOPMENT LTD.

DRILL SECTION: JI 96-01

JI PROPERTY

VANCOUVER MINING DIVISION, BRITISH COLUMBIA

Technical Work By: Geoquest Consulting Ltd.	**Scale:** 1:500 (0 5 10 metres 20)
Date: January, 1997	**Figure No.:** 6

To accompany a report by W. Gruenwald, B. Sc.

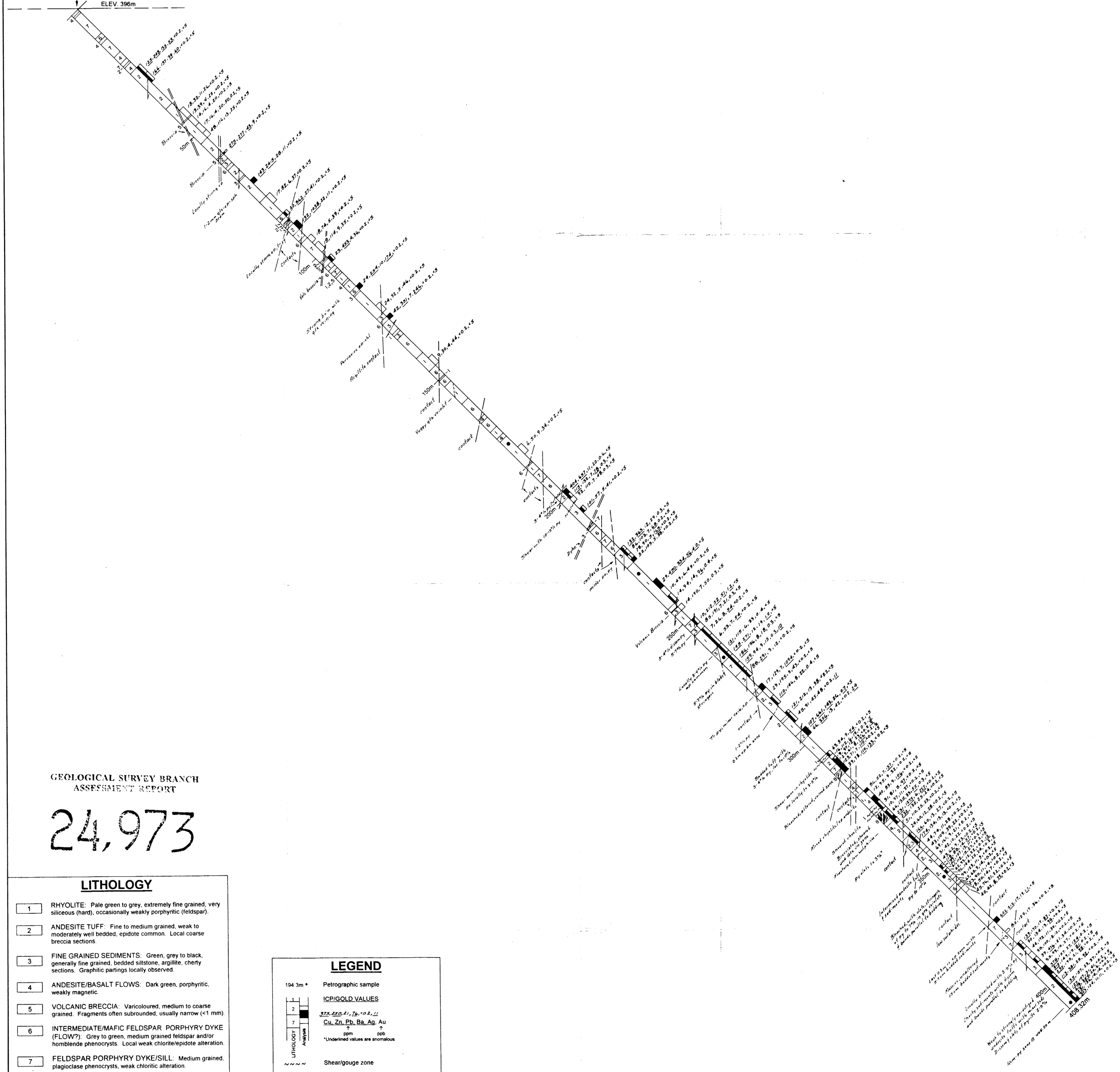
SOUTH

NORTH

(Ma)

DDH JI 96-02

ELEV. 396m



GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

24,973

LITHOLOGY

1	RHYOLITE: Pale green to grey, extremely fine grained, very siliceous (hard), occasionally weakly porphyritic (feldspar).
2	ANDESITE TUFF: Fine to medium grained, weak to moderately well bedded, epidote common. Local coarse breccia sections.
3	FINE GRAINED SEDIMENTS: Green, grey to black, generally fine grained, bedded siltstone, argillite, cherty sections. Graphitic partings locally observed.
4	ANDESITE/BASALT FLOWS: Dark green, porphyritic, weakly magnetic.
5	VOLCANIC BRECCIA: Varicoloured, medium to coarse grained. Fragments often subrounded, usually narrow (<1 mm).
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8	QUARTZ DIORITE: Weak propylitic alteration; tremolite/ actinolite - chlorite - epitote - pyrite alteration. Field logged as "Felsite".
9	QUARTZ VEINED/STOCKWORK ZONES: Bleached, locally brecciated/sheared. Low sulphide content.

LEGEND

194 3m • Petrographic sample

LITHOLOGY / Analysis

ICP/GOLD VALUES

373,250,21,76,<0.2,11

Cu, Zn, Pb, Ba, Ag, Au
ppm ppb

*Underlined values are anomalous

~~~~ Shear/gouge zone

Bedding/foliation

ABBREVIATIONS

cpy - chalcopyrite	ep - epidote
sph - sphalerite	chl - chlorite
py - pyrite	carb - carbonate
po - pyrrhotite	bx - breccia
hem - hematite	silic - silicified/silicification
mag - magnetite	diss - disseminated
qtz - quartz	tr - trace

ANALYTICAL CATEGORIES

LITHOLOGY / Analysis		Cu ppm	Zn ppm	Pb ppm	Ba ppm	Ag ppm	Au ppb
1	Background	<100	<200	<30	<50	<0.5	<5
2	Anomalous	101-300	201-400	30-50	50-100	0.6-1.0	5-20
7	Definitely anomalous	>300	>400	>50	>100	>1.0	>20

AQUATERRE MINERAL DEVELOPMENT LTD.

DRILL SECTION: JI 96-02

JI PROPERTY

VANCOUVER MINING DIVISION, BRITISH COLUMBIA

Technical Work By: Geoquest Consulting Ltd.	**Scale:** 1:500 (0 5 10 metres 20)
Date: January, 1997	**Figure No.:** 7

To accompany a report by W. Gruenwald, B. Sc.
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