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GEOLOGICAL AND GEOCHEMICAL ASSESSMENT
 REPORT ON
 SANTA MARINA GOLD LTD.'S
 LANCE 4 PROJECT

SKEENA MINING DIVISION
 KITSAULT RIVER AREA, NW BRITISH COLUMBIA

LATITUDE 55°30'30"N
 LONGITUDE 129°21'W

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 VANCOUVER, B.C.

NTS 103P/11

**GEOLOGICAL BRANCH
 ASSESSMENT REPORT**

21,060

Bernard Dewonck, F.G.A.C.
 Paul M. Brucciani, B.Sc.
 Brett LaPeare, B.Sc.

September, 1990

OREQUEST



SUMMARY

Exploration was completed between September 8th and September 10th on the LANCE 4 mineral claim by OreQuest Consultants Ltd., on behalf of Santa Marina Gold Ltd. The 18 unit claim lies on the north side of the Illiance River, between Theophilus and Foxy Creeks, 10 Km northeast of Alice Arm and Kitsault, B.C.

Work entailed regional mapping, prospecting, rock and silt sampling during which a total of 61 rock samples and 5 silt samples were collected.

The lithologies on the property include siltstones, calcareous mudstones, intermediate volcanic tuffs and mafic flows forming an upturned conformable sequence of Lower to Middle Jurassic age.

Similar rocks host the Dolly Varden, Northstar, Torbritt and Homestake silver-base metal deposits 30 km to the north-northwest. These deposits have been mined periodically since 1915 and have produced a total of 1.3 million tons of ore grading 485 g/t silver, 0.38% lead and 0.02% zinc.

Sulphide mineralization on the property is associated with a quartz-barite vein system up to 4 m wide which strikes north-south across the property. Grab samples collected from this vein have returned values up to 30 ppb gold. The highest gold value from the property is 180 ppb gold from a quartz vein near Theophilus Creek.

The quartz barite vein-shear zone has a considerable strike length and appeared to be a favourable site for mineralization. However no further work is recommended due to the very low assays received from the numerous grab samples taken from the zone.

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Bernard Dewonck, F.G.A.C.	✓
Paul M. Brucciani, Geologist	✓
Brett LaPeare, Geologist	✓
Bibliography	✓

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INTRODUCTION

This report, prepared by OreQuest Consultants Ltd. on behalf of Santa Marina Gold Ltd., presents the results of regional mapping, prospecting and silt sampling carried out by OreQuest during September of 1990 on the Lance 4 mineral claim.

PROPERTY DESCRIPTION

Location and Access

The property is located within the Coast Mountains, 35 km east of the Alaska-B.C. International Boundary, on the north slope of the Illiance River valley. The claim also lies 65 km southeast of Stewart and 10 km northeast of Kitsault and Alice Arm at the head of Alice Arm Inlet. The centre of the claim is located at a latitude of $55^{\circ}30'30''N$ and a longitude of $129^{\circ}21'W$ and the NTS map reference is 103P/11.

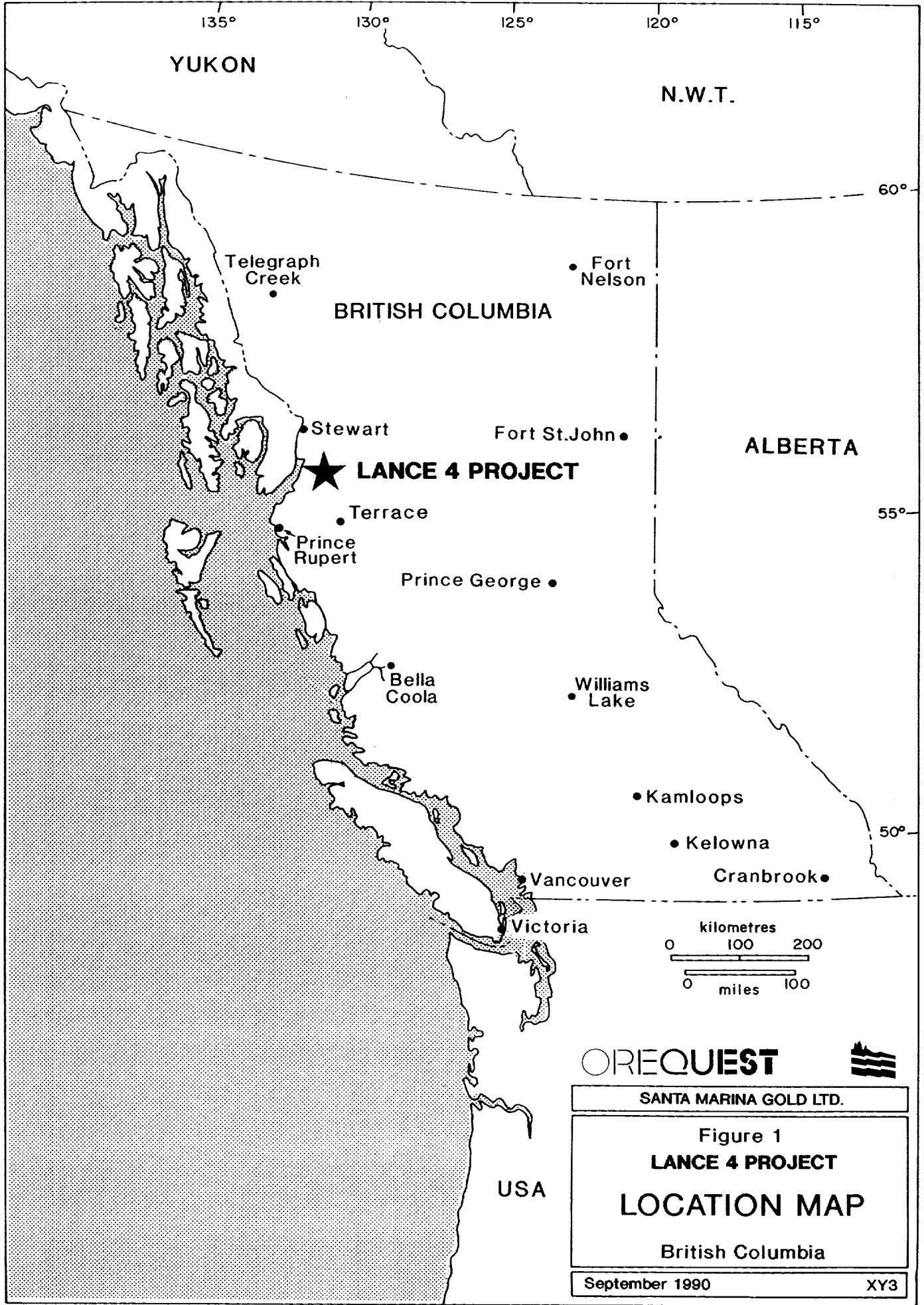
Access to the property is via helicopter based at Stewart, from which the flight time is approximately 30 minutes.


Claim Status

The Lance 4 claim comprises 18 units (Figure 2) situated in the Skeena Mining Division and under option to Santa Marina Gold Ltd. Claim information is listed in Table 1 as follows:

TABLE 1: Claim Information

<u>Claim Name</u>	<u>Record No.</u>	<u>No. of Units</u>	<u>Record Date</u>	<u>Expiry Date</u>
Lance 4	8253	18	Dec. 10/89	Dec. 10/94

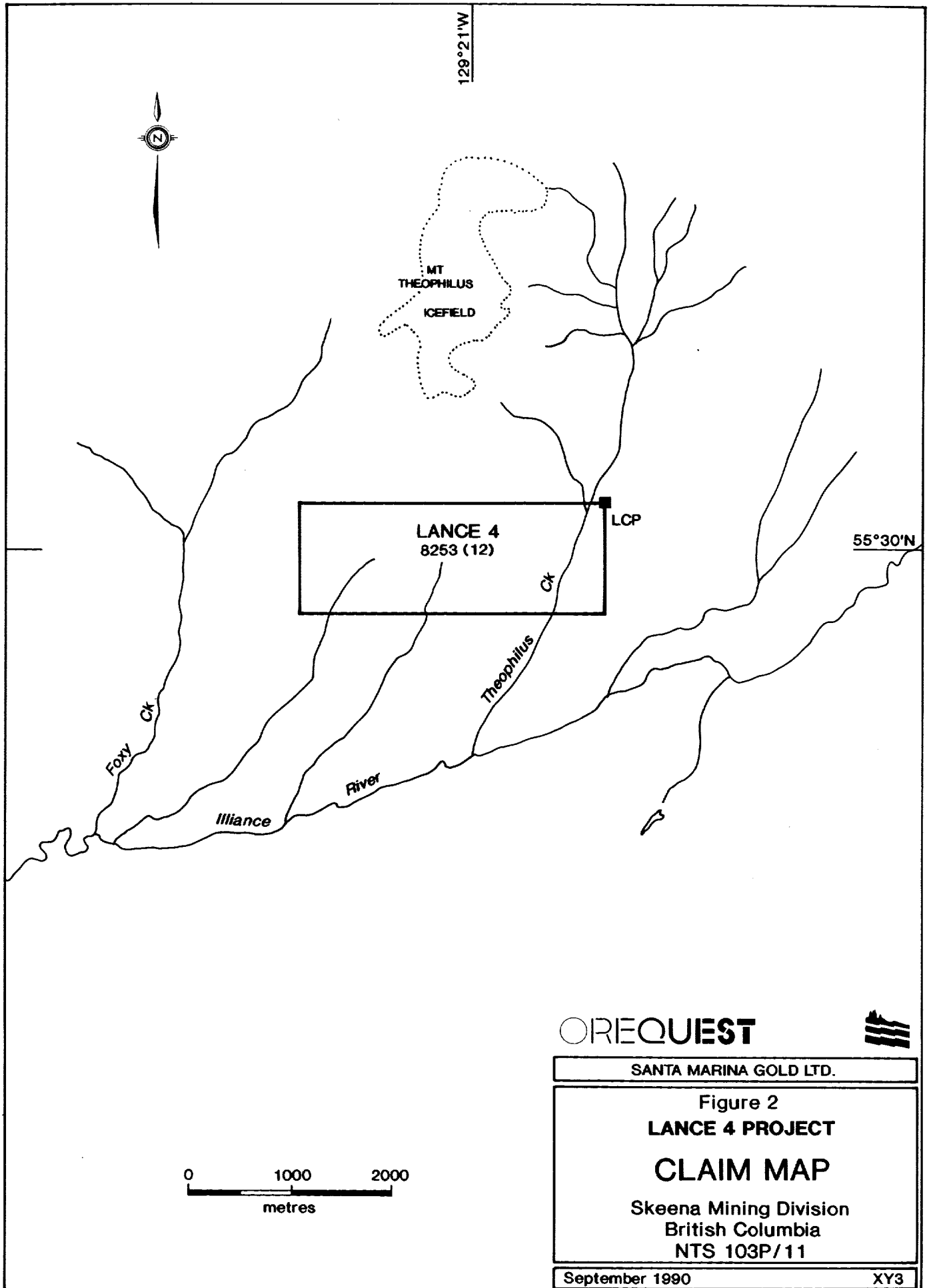


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SANTA MARINA GOLD LTD.

Figure 1
LANCE 4 PROJECT
LOCATION MAP
 British Columbia

September 1990 XY3



The owner of record is John Robins. The work described in this report was filed for assessment which, when approved, extends the expiry date to that shown above.

Physiography and Vegetation

The claim overlies typically glaciated mountainous terrain of British Columbia. Elevations range from 600 m (2000 ft) on Theophilus Creek to 1515 m (5000 ft) on the shoulder of an unnamed ridge on the northern boundary of the property.

Below 1000 m sub-alpine vegetation in the form of spruce, fir, hemlock, slide alder and devil's club is present. Above 1000 m alpine flora exists. The highest elevations support only mosses and lichens.

HISTORY AND PREVIOUS WORK

Exploration started in the upper Kitsault valley in the early 1900's and by 1913 the Dolly Varden property was already staked, along with numerous other claims in the area. Exploration of the Dolly Varden property, located 30 km north-northwest of the Lance claim, delineated a considerable tonnage of ore and a railway was constructed from Alice Arm to the deposit. The Dolly Varden deposit was in production from 1919 to 1921. At the same time, several other prospects were explored but interest in the area dropped in 1921 when the price of silver declined. However, a mill to concentrate the ore was built in 1928 on the Torbrit property.

The area remained relatively calm from 1930 to 1946. In 1946, a company controlled by Mining Corporation of Canada acquired the Torbrit mine and started to build the road from Alice Arm up the valley. A new mill was constructed and production started in 1949. Two other prospects, the Galena and the Vanguard, located less than 5 km northeast of the subject claims, were explored in 1951.

The total amount of concentrates produced to the end of 1951 by the Dolly Varden, the Homestake, the North Star, and the Torbrit deposits was: 84 ounces of gold; 7,189,130 ounces of silver; 2,183,965 pounds of lead; 344,832 pounds of zinc; and 1,740 pounds of copper (Black, 1951).

At the present time, the Dolly Varden property includes the Dolly Varden Mine, the Torbrit Mine, the Wolf Mine, the North Star Mine, as well as the Red Point Prospect.

Until recently silver has been the focus of mining in the area, however, results from the 1989 diamond drilling program at the Dolly Varden suggest that mining in the past has been concentrated within the silver rich zone of a volcanic exhalative formation. The emphasis of current exploration has expanded to include the search for massive sulphide deposits rich in zinc, lead, and silver with appreciable gold, copper and cadmium.

In 1985 the regional geology and mineral deposits of the general area were mapped by Alldrick and others (Alldrick et al, 1986). There is no recorded history of exploration on the Lance claim specifically.

REGIONAL GEOLOGY AND MINERALIZATION

The northwestern portion of British Columbia has undergone regional mapping by the Geological Survey of Canada over an extended period of time (Kerr, 1930, 1948; Hanson, 1935; GSC 1956, 1979; Anderson, 1984, 1989; Anderson and Thorkelson, 1990). On a more detailed basis, the geological framework from which current mapping is evolving was established by the British Columbia Ministry of Energy Mines and Petroleum Resources (Grove, 1986). Grove defined the Stewart Complex as an assemblage of volcanic and related sedimentary rocks, ranging in age from Upper Triassic to Upper Jurassic, bounded by the Coast Plutonic Complex to the west, the sedimentary Bowser Basin to the east, Alice Arm to the south and the Iskut River to the north. Included in the Complex were the Upper Triassic Takla Group, Lower Jurassic Unuk River and Betty Creek, Middle Jurassic Salmon River Formation and Upper Jurassic Nass Formation of the Hazelton Group.

In 1985 the BCMEMPR initiated an on-going regional mapping program by D. J. Alldrick and several co-workers, with the first work conducted in the Kitsault area (Alldrick et al, 1986). Mapping has extended more than 200 kilometres northwest, resulting in constantly

evolving formation and age definition of rock units. In the Sulphurets Creek and Unuk River areas the Upper Triassic is referred to as the Stuhini Group, the Hazelton Group includes Unuk River, Betty Creek and the newly defined Mt. Dilworth Formations of Lower Jurassic Age and - on the open file maps for these areas (1988-4 and 1989-10 respectively)- the Middle Jurassic Salmon River Formation. On a more regional scale Alldrick (1989) has limited the Hazelton Group to the Unuk, Betty Creek and Mt. Dilworth Formations and suggested a correlation of the Salmon River Formation to rocks of the Spatzizi Group. The Ashman Formation, also Middle Jurassic, overlies the Salmon River and is part of the Bowser Group. Grove's Upper Jurassic Nass Formation no longer appears in the stratigraphic column.

In order of increasing age, lithologies of the Stewart Complex are described as follows:

1. Spatzizi Group (Middle Jurassic)

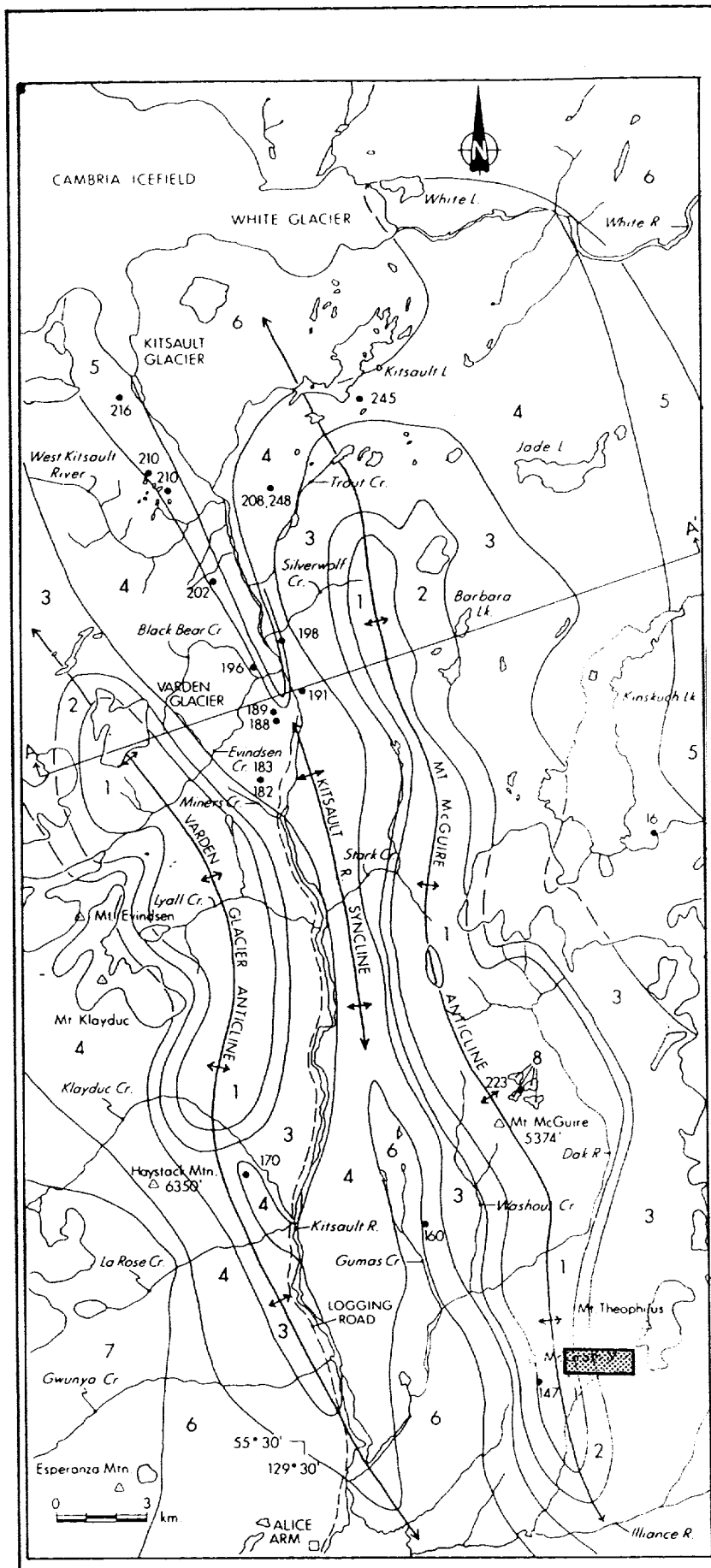
a) Salmon River Formation - thinly bedded alternating siltstones, mudstones and greywacke, and minor andesite pillow lavas and pillow breccias.

2. Hazelton Group (Lower to Middle Jurassic)

a) Mt. Dilworth Formation - intermediate to felsic pyroclastic rocks, including dust, ash, crystal and lithic tuffs, lapilli tuffs.

b) Betty Creek Formation - grey, green, locally maroon massive to bedded pyroclastic and sedimentary rocks, pillow lava.

c) Unuk River Formation - green and grey intermediate to mafic volcanoclastics and flows with local beds of fine grained immature sediments.



MINERAL PROPERTIES	LEGEND COMMODITIES	MINFILE NUMBERS
KIT	Ag, Pb	103P-245
GALENA (ACE. TYEE)	Ag, Pb	103P-208, 248
WOLF	Ag, Pb, Zn	103P-198
TORBRIT	Ag, Pb, Zn	103P-191
NORTHSTAR	Ag, Pb, Zn	103P-189
DOLLY VARDEN	Ag, Pb, Zn	103P-188
LA ROSE	Ag, Pb	103P-170
HOMESTAKE	Au, Cu	103P-216

INTRUSIVE ROCKS

TERTIARY

- 9 MINOR DYKES: MICRODIORITE (a); GRANODIORITE (b); LAMPROPHYRE (c)
- 8 AJAX INTRUSIONS: QUARTZ FELDSPAR PORPHYRITIC QUARTZ MONZONITE (a); BIOTITE QUARTZ MONZONITE (b); 55.1 Ma (K/Ar)
- 7 COAST PLUTONIC COMPLEX: QUARTZ MONZONITE (a); GRANODIORITE (b); 43-51 Ma (K/Ar)

INTRUSIVE CONTACT

VOLCANIC AND SEDIMENTARY ROCKS

MIDDLE TO UPPER JURASSIC

- 6 BASAL FOSSILIFEROUS WACKE (a); BLACK SILTSTONE AND WACKE (b); MINOR INTRAFORMATIONAL CONGLOMERATES AND LIMESTONE (c)

LOWER JURASSIC

- 5 GREEN AND MAROON VOLCANIC BRECCIA (a); EPICLASTIC CONGLOMERATE AND SEDIMENTS (b); LOCAL DACITIC FLOWS AND PYROCLASTICS (c)
- 4 FELDSPAR-HORNBLende PORPHYRITIC ANDESITIC PYROCLASTICS (a) AND FLOWS/SILLS (b); MINOR INTERBEDS OF LIMESTONE, SILTSTONE, SANDSTONE, CHERT, AND BARITE (c)
- 3 BASAL POLYMICITIC CONGLOMERATE, MINOR INTERBEDDED LIMESTONE, SILTSTONE, GRIT, SANDSTONE (a); SILTSTONE, ARGILLITE (b); VOLCANIC BRECCIA, MINOR INTERBEDDED SILTSTONE, SANDSTONE (c); INTERBEDDED SILTSTONE, SANDSTONE, AND PEBBLE CONGLOMERATE (MARKER HORIZON) (d)
- 2 AUGITE (OLIVINE) PORPHYRITIC BASALT FLOWS, PILLOWED FLOWS (a); AUGITE-FELDSPAR PORPHYRITIC BASALT PYROCLASTICS AND VOLCANIC BRECCIAS (b); EPICLASTIC CONGLOMERATE, MINOR INTERBEDDED SILTSTONE, ARGILLITE, AND LIMESTONE (c)
- 1 SILTSTONE, ARGILLITE, WACKE (a); RARE LIMESTONE (b);

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**Figure 3
LANCE 4 PROJECT
REGIONAL GEOLOGY**

**British Columbia
NTS 103P/11**

September 1990

(after Dawson & Aldrick, 1986)

3. Stuhini Group (Upper Triassic)

Mixed sedimentary rocks interbedded with mafic to intermediate volcanic and volcanoclastic rocks.

The regional geology depicted in this report (Figure 3) is reproduced from Dawson and Alldrick's summary in Geological Fieldwork 1985 (Dawson and Alldrick, 1986). A more detailed geological map can be found as Open File 1986-2 (Alldrick et al, 1986). It should be noted that no formation designations appear on these maps since the nomenclature described above was published in later years.

The Bowser Lake Group, a large sedimentary basin, in part overlies the Stewart Complex to the east. Previous workers (Hansen, 1935 and Grove, 1971) have interpreted the Bowser Lake Group as a large successor sedimentary basin, consisting of marine and non-marine sediments with only minor volcanics, that extends over an area 160 km wide by 320 km long. The Bowser Lake Group has been unaffected by regional metamorphism, although numerous dykes and small plutons have caused minor metasomatism. Historically the Bowser Lake Group has proven uneconomic, with no significant discoveries associated with it.

The youngest rocks in the region are the Tertiary plutons of the Coast Plutonic Complex which forms the western contact of the Stewart Complex. Compositionally these plutons range from quartz monzonite and quartz diorite through to granodiorite and granite. They exhibit a typical massive crowsfoot texture and usually are medium to coarse

grained and porphyritic. Mafic minerals present are almost always hornblende \pm biotite.

Within the older volcanics regional structural features include a series of parallel anticlines and synclines with the fold axis striking north-south to northwest-southeast. Faults, photolineaments, small and large scale shears and fracturing are common throughout the area.

A number of epithermal and mesothermal precious metal deposits, massive sulphides, skarns and hydrothermal systems, as well as copper-gold porphyries have been found in northwestern British Columbia. The majority of these deposits are hosted by rocks of the Stewart Complex and often show a spatial relationship with Early Jurassic intrusions.

The principal deposits in the Stewart area are hosted by an assemblage of volcanics of Lower Jurassic age, forming a northwest trending belt. Three types of deposits have been found within this belt:

- 1) - Alkalic Copper-Gold Porphyry: High tonnage copper deposits containing significant amounts of gold (eg. Galore Creek and Copper Canyon deposits).

- 2) - Gold-Silver Vein and Stockwork Deposits: High grade veins are found in the Lower Jurassic Hazelton volcanics (e.g. Silbak-Premier Mine). This type of deposit has been the most productive in the area.

- 3) - Gold-Silver-Lead-Zinc Volcanic Exhalative Deposits: This type of deposit is found at Eskay Creek, within the upper sections of the Lower Jurassic volcanic-arc assemblage. The Dolly Varden Property, located 30 km north of the subject property, is believed to have potential for a similar type deposit as a result of interpretation of recent field mapping and diamond drilling.

The other types of mineralization are:

- 1) Silver-rich quartz-barite veins
- 2) Disseminated copper-gold mineralization

The silver-rich mineralization consists of mesothermal to epithermal veins deposited during folding within fractures and faults parallel to the axial plane of the fold. Historically exploration and development at Dolly Varden has been on this type of mineralization. Disseminated copper-gold mineralization includes the Homestake, Vanguard, Red Point and Red Bluff properties. The mineralization is localized along the upper contact of a feldspar and/or hornblende porphyritic flow or subvolcanic sill. Both types of mineralization

occur within andesitic pyroclastics of Middle to Lower Jurassic lithologies.

PROPERTY GEOLOGY AND GEOCHEMISTRY

The Lance 4 property is underlain by Stewart Complex volcanic and sedimentary rocks of Lower to Middle Jurassic age (Figure 4).

Along Theophilus Creek, the rocks are composed of fine grained siltstones and calcareous mudstones (Unit 3a). These strike approximately northeast-southwest and are overlain by a generally planar bedded, medium grained sequence of intermediate tuffs and volcanoclastics which occupy over two thirds of the property (Unit 4). Within the volcanics conformable bands of black siltstone and sandstone occur up to 50 m thick. The western margin of the property is underlain by porphyritic olivine and pyroxene basalt flows (Unit 2) which are the oldest rocks on the property.

Faults and shears within the claim are predominantly oriented north-south to northeast-southwest.

The strike of the strata varies from northwest-southeast to northeast-southwest and dips are variable in both east and westerly directions. Rocks on the west side of the property appear to "young" towards the east while those in the eastern and central parts of the property "young" to the west, suggesting the presence of a northerly trending syncline through the centre of the property.

The quartz and quartz-barite veins on the property trend approximately north-south and are mostly associated with the intermediate volcanic rocks.

The largest vein pinches and swells from less than 1 m to over 4 m in width and is at least 500 m long. It typically has a massive coarse grained barite core with a network of later enveloping quartz veins.

Sulphide mineralization on the property, in the form of pyrite, is associated with the sericitized, brecciated wall rocks at the margin of the largest quartz barite vein, which also host smaller quartz and quartz-calcite-ankerite veins, and with several shears.

A total of 61 rock samples and 5 silt samples were collected from the property (Figure 5). They were sent to TSL Laboratories in Saskatoon, Saskatchewan and were analyzed for gold by atomic absorption (samples >1000 ppb Au were then fire assayed). Samples also were analyzed for 35 elements by inductively coupled plasma (ICP) spectrophotometry. Seventeen rock samples assayed above the 5 ppb detection limit with the highest gold value (#60557, 180 ppb Au) found in a float sample of andesitic breccia containing up to 50% pyrite and minor chalcopyrite. The ICP results produced no significant anomalies. Sample #60581 (1300 ppm Zn) was taken from a quartz vein within a zone of moderate limonitic alteration. Sample #60567 (1200 ppm Cu) was also taken from a quartz vein within moderate limonitic

alteration. Neither sample contained visible sulphides. Rock sample descriptions appear in Appendix I, assay certificates in Appendix II and analytical procedures in Appendix III.

CONCLUSIONS AND RECOMMENDATIONS

The property is underlain by a conformable sequence of volcanic and sedimentary rocks of Lower to Middle Jurassic age, a part of the Stewart Complex.

A prominent quartz-barite vein up to 4 m wide and 500 m long strikes north-south through the central area of the property. The core of the vein is composed of massive barite and the periphery of anastomosing quartz veins. Sheared intermediate tuffs which form the host rock are often brecciated and intensely sericitized with up to 30% fine grained pyrite mineralization at the vein margin. Grab samples from the vein have returned values of up to 30 ppb gold.

The highest gold value on the property, 180 ppb gold, was returned from a float sample of brecciated andesite.

Samples from the quartz barite system and its associated shear zone failed to produce any significant assays. Although this zone has a strike length extending across much of the width of the Lance 4 claim, the absence of anomalous results from it and from the claim area in general indicates that additional work is not warranted.

STATEMENT OF EXPENDITURES

Mobilization/Demobilization (pro-rated from Kitsault Project)		\$ 650.36
Wages:		
B. La Peare (geologist)	2.0 days @ \$340/day	680.00
P. Brucciani (")	2.5 days @ \$330/day	<u>825.00</u>
		\$ 1,505.00
Engineering, Supervision & Administration (direct and pro-rated from Kitsault Project)		1,681.66
Support Costs (camp costs, expiditing, etc. - pro-rated from Kitsault Project)		1,628.87
Transportation & Communication (pro-rated from Kitsault Project)		458.48
Helicopter		934.11
Analyses		1,340.40
Report		<u>1,225.83</u>
Total Expenditures		<u>\$ 9,424.71</u>

CERTIFICATE OF QUALIFICATIONS

I, Paul Brucciani, of 15 Knighton Park Road, Stoneygate, Leicester, U.K., hereby certify:

1. I am a graduate of the University of Aberdeen, Scotland (1987) and hold a B.Sc. Honours degree in Geology and Mineralogy.
2. I am presently employed as a geologist with OreQuest Consultants Ltd. of 306-595 Howe Street, Vancouver, British Columbia.
3. I have been employed in my profession by various companies since graduation and have worked on projects in Canada, Australia, Cyprus and the United Kingdom.
4. The information contained in this report was obtained by direct onsite supervision of the work done on the property by OreQuest Consultants Ltd. in 1990 and a review of all data listed in the Bibliography.
5. Neither OreQuest Consultants Ltd. nor myself have or expect to receive direct or indirect interest in the property or in the securities of Santa Marina Gold Ltd.
6. I consent to and authorize the use of the attached report and my name in the Company's Prospectus, Statement of Material Facts of other public documents.



Paul Brucciani, B.Sc.
Geologist

DATED at Vancouver, British Columbia, this ___th day of September, 1990.

CERTIFICATE of QUALIFICATIONS

I, Brett R. LaPeare, of #114-175 E. 4th St. North Vancouver, British Columbia hereby certify:

1. I am a graduate of the Lakehead University and hold a BSc. degree in Geology.
2. I am presently employed as a geologist with OreQuest Consultants Ltd. of 306-595 Howe Street, Vancouver, British Columbia.
3. I have been employed in my profession by various companies since graduation and have worked on projects in Canada and the United States.
4. The information contained in this report was obtained by direct onsite supervision of the work done on the property by OreQuest Consultants Ltd. in 1990 and a review of all data listed in the Bibliography.
5. Neither OreQuest Consultants Ltd. nor myself have or expect to receive direct or indirect interest in the property or in the securities of Santa Marina Gold Ltd.
6. I consent to and authorize the use of the attached report and my name in the Company's Prospectus, Statement of Material Facts or other public document.



Brett R. LaPeare, B.Sc.
Geologist

DATED at Vancouver, British Columbia, this day of ,
1990.

CERTIFICATE OF QUALIFICATIONS

I, Bernard Dewonck, of 11931 Dunford Road, Richmond, British Columbia hereby certify:

1. I am a graduate of the University of British Columbia (1974) and hold a BSc. degree in geology.
2. I am an independent consulting geologist retained by OreQuest Consultants Ltd. of #306-595 Howe Street, Vancouver, British Columbia.
3. I have been employed in my profession by various mining companies since graduation.
4. I am a Fellow of the Geological Association of Canada.
5. I am a member of the Canadian Institute of Mining and Metallurgy.
6. The information contained in this report was obtained by supervision of the work done on the Lance 4 claim and a review of the materials listed in the bibliography.
7. Neither OreQuest Consultants Ltd. nor myself have or expect to receive direct or indirect interest in the property or in the securities of Santa Marina Gold Ltd.
8. I consent to and authorize the use of the attached report and my name in the Company's Prospectus, Statement of Material Facts or other public document.

Bernard Dewonck, F.G.A.C.
Consulting Geologist

DATED at Vancouver, British Columbia, this ____ day of _____, 1990.

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GEOLOGICAL SURVEY OF CANADA

Map No. 9-1957: Operation Stikine 1956.

Map No. 1418A-1979: Iskut River.

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APPENDIX I
ROCK SAMPLES DESCRIPTIONS

APPENDIX I

ROCK SAMPLE DESCRIPTIONS

SAMPLE NO.	DESCRIPTION	ANALYSIS (ppb Au)
60501	- Andesite - Chloritized, moderately silicified - 3-4% pyrite	15
60502	- Mudstone - Quartz-carb stringers- minor oxidation.	15
60503	- Mudstone - 3 foot wide shear with minor rust.	15
60504	- Mudstone - Qtz veins, normal to bedding.	5
60505	- Andesitic Tuff - Silicified - highly, Oxidized and fractured. - 3-4% disseminated pyrite.	15
60506	- Andesitic Tuff - Highly oxidized, limonite alteration	<5
60507	- Andesitic Tuff - Highly oxidized, limonite alteration.	<5
60508	- Andesite - 4 cm wide qtz vein within gossan.	<5
60509	- Andesite - Gossan with limonite alteration.	5
60510	- Andesite - Oxidized - \leq 1% disseminated pyrite	15
60511	- Andesite - Ankerite-limonite, alteration - 2-3% disseminated pyrite.	10
60512	- Andesite - Oxidized, silicified - \leq 1% disseminated pyrite.	10

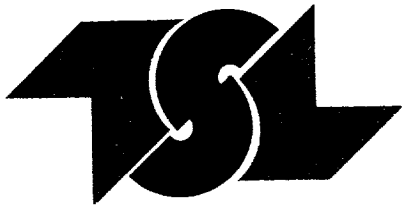
SAMPLE NO.	DESCRIPTION	ANALYSIS (ppb Au)
60513	- Quartz vein - Minor oxiditation, chloritic alteration.	5
60514	- Quartz vein - > 75 cm wide, minor oxiditation.	5
60515	- Andesite - Gossan-shear zone 3 m wide - 2% pyrite, disseminated and stringers	80
60516	- Andesite - Contact at shear with barite and qtz veins.	20
60517	- Barite vein - Minor oxiditation, trace chlorite.	15
60518	- Andesite - Oxidized, silicified - 3% disseminated pyrite.	5ppb Au/110ppmZn
60519	- Andesite - Barren quartz vein.	<5
60520	- Andesite - Qtz-carbonate vein.	5
60521	- Andesite - Porphyritic, gossan - 4% disseminated pyrite.	5
60522	- Andesite - Silicified - 10% cubic pyrite	<5 <5
60523	- Mafic Tuff - Moderately silicified - 3% disseminated pyrite.	<5
60524	- Andesitic Tuff - Gossan with qtz-carbonate stringers.	10
60551	- Mudstone - Moderate limonitic alteration, carbonate veining.	<5
60552	- Mudstone - Limonitic vugs, within qtz veinlets.	<5

SAMPLE NO.	DESCRIPTION	ANALYSIS (ppb Au)
60553	- Andesite - Chloritized, moderate sericitic alteration.	<5
60554	- Andesite - Chloritized, moderate sericitic alteration.	<5
60555	- Andesite - Quartz vein 4cm wide/lm long.	10
60556	- Andesite - Quartz vein - 15cm wide.	
60557	- Andesite (float) - Blocky Tuff fragments =20% - ≤ 50% pyrite, chalcopyrite	180ppbAu, 470ppmCu
60558	- Andesitic Tuff - Moderate jarosite, limonite, sericitic alteration	<5
60559	- Andesitic Tuff - Moderate jarosite, limonite, Alteration.	470ppm Cu, <5ppbAu
60560	- Medium grained, feldspar phenocrysts, brecciated	<5
60561	- Andesite - Quartz vein stockwork, and sericitized.	<5
60562	- Barite vein - 1-2 m wide, 25m long, limonite and sericite alteration.	<5
60563	- Andesitic tuff - Sericite and limonite alteration within fractures	<5
60564	- Andesitic tuff - Quartz vein (10cm x 20m) limonite and sericitic alteration - ≤ 10% euhedral pyrite.	<5
60565	- Andesitic tuff - Sericite and limonite alteration, qtz in fractures.	5

SAMPLE NO.	DESCRIPTION	ANALYSIS (ppb Au)
60566	- highly altered/@ contact of barite vein - 30% disseminated pyrite	30
60567	- Quartz vein <5ppbAu/1200ppm Cu/310ppmCu - Minor limonite alteration	
60568	- Barite vein - Massive white barite	<5
60569	- Andesite tuff - Ankerite staining and minor limonite/calcite stringer	<5
60570	- Andesitic Tuff (float) - 5 cm calcite vein, ankerite staining.	<5
60571	- Andesitic Breccia Tuff - Quartz vein, limonite-sericite alteration.	<5
60572	- Andesitic tuff - Jarosite alteration - ≤ 30% pyrite.	50
60573	- Quartz vein stockwork - High limonite, jarosite alteration - 10% pyrite, 10% chalcopyrite	50
60574	- Andesitic tuff - Subvolcanic, quartz vein parallel to shear.	55
60575	- Andesitic tuff - Quartz ankerite vein, moderate limonite alteration.	<5
60576	- Quartz vein float - Moderate limonite alteration.	<5
60577	- Siltstone - Brecciated ankerite + calcite and quartz vein.	25
60578	- Quartz vein float - Moderate limonite alteration faint banding.	<5

SAMPLE NO.	DESCRIPTION	ANALYSIS (ppb Au)
60579	- Breccia tuff - Quartz vein, moderate limonite alteration	<5
60580	- Brecciated Andesite - Quartz vein (40cm x 15m) moderate limonite.	<5
60581	- Brecciated tuff - Quartz vein, limonite alteration.	5ppb Au/1300ppm Zn
60582	- Breccia tuff - Quartz vein, 10 cm wide	5
60583	- Basalt - Quartz, ankerite vein (10cm x 2m)	<5
60584	- Andesitic Breccia - Moderate limonite, minor jarosite alteration.	<5
60585	- Quartz vein (float) - Minor limonite alteration, breccia clasts dissolved.	<5
60586	- Quartz vein - Sub parallel, stockwork, minor limonite alteration.	5
60587	- Quartz vein - 15 cm x 1 m, vuggy.	<5

APPENDIX II
ASSAY CERTIFICATES



TSL LABORATORIES

DIV. BURGNER TECHNICAL ENTERPRISES LIMITED

2 - 302 - 48th STREET, EAST
SASKATOON, SASKATCHEWAN
S7K 6A4

☎ (306) 931-1033 FAX: (306) 242-4717

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM OreQuest Consultants Ltd.
306 - 595 Howe Street
Vancouver, B.C.
V6C 2T5

REPORT No.
S1056

SAMPLE(S) OF Rock

INVOICE #: 15560
P.O.: R2575

P. Brucciani
Project LANCE 4

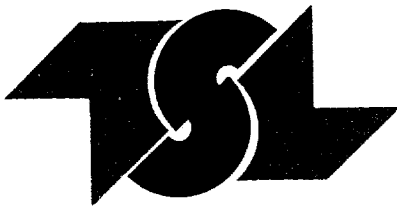
	Au ppb
60518	5
60519	<5
60520	5
60521	<5
60522	<5
60523	<5
60524	10
60574	55
60575	<5
60576	<5
60577	25
60578	<5
60579	<5
60580	<5
60581	5
60582	5
60583	<5
60584	<5
60585	<5
60586	5

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Sep 21/90

SIGNED *Dennis Pitjuk*





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2 - 302 - 48th STREET, EAST
SASKATOON, SASKATCHEWAN
S7K 6A4

☎ (306) 931-1033 FAX: (306) 242-4717

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM OreQuest Consultants Ltd.
306 - 595 Howe Street
Vancouver, B.C.
V6C 2T5

REPORT No.
S1056

SAMPLE(S) OF Rock

INVOICE #: 15560
P.O.: R2575

P. Brucciani
Project LANCE 4

Au
ppb
60587 <5

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INVOICE TO: OreQuest - Vancouver

Sep 21/90

SIGNED *Dennis Piljnik*



T S L LABORATORIES

2-302-48TH STREET, SASKATOON, SASKATCHEWAN 57K 6A4
 TELEPHONE #: (306) 931 - 1033
 FAX #: (306) 242 - 4717

I.C.A.P. PLASMA SCAN

Aqua-Regia Digestion

DREQUEST CONSULTANTS LTD.
 306 - 595 HOWE STREET
 VANCOUVER, B.C.
 V6C 2T5

T.S.L. REPORT No. : S - 1056 - 1
 T.S.L. File No. : M - 8119
 T.S.L. Invoice No. : 15667

ATTN: B. DEWONCK, J. CHAPMAN PROJECT: LANCE 4 R-2575

ALL RESULTS PPM

ELEMENT	60518	60519	60520	60521	60522	60523	60524	60574
Aluminum [Al]	13000	11000	22000	15000	20000	17000	3200	510
Iron [Fe]	39000	21000	33000	32000	35000	31000	32000	5100
Calcium [Ca]	2200	880	70000	5500	8200	24000	42000	3400
Magnesium [Mg]	5500	4700	7800	8600	8200	7900	5700	440
Sodium [Na]	260	230	90	340	270	330	90	50
Potassium [K]	900	430	300	360	260	270	1300	190
Titanium [Ti]	16	11	81	1800	1000	710	18	12
Manganese [Mn]	280	280	1000	420	830	830	1100	260
Phosphorus [P]	820	560	450	910	860	740	870	64
Barium [Ba]	38	23	17	16	42	270	64	16
Chromium [Cr]	39	90	96	64	22	28	17	110
Zirconium [Zr]	9	4	12	24	15	14	10	1
Copper [Cu]	65	15	41	51	17	95	32	4
Nickel [Ni]	7	6	19	16	5	5	4	3
Lead [Pb]	36	21	2	15	5	2	3	2
Zinc [Zn]	110	31	57	71	59	43	44	11
Vanadium [V]	98	60	110	130	120	160	38	4
Strontium [Sr]	12	4	160	41	14	42	110	8
Cobalt [Co]	6	4	18	9	10	10	11	< 1
Molybdenum [Mo]	< 2	4	< 2	< 2	< 2	< 2	< 2	4
Silver [Ag]	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium [Cd]	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Beryllium [Be]	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Boron [B]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Antimony [Sb]	20	< 5	< 5	15	< 5	10	10	< 5
Yttrium [Y]	4	3	8	7	7	7	9	2
Scandium [Sc]	8	4	15	5	8	12	11	< 1
Tungsten [W]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Niobium [Nb]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Thorium [Th]	30	< 10	20	40	50	40	30	< 10
Arsenic [As]	230	5	< 5	< 5	< 5	< 5	5	90
Bismuth [Bi]	< 5	< 5	10	5	< 5	10	< 5	< 5
Tin [Sn]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lithium [Li]	15	10	25	10	25	< 5	< 5	< 5
Holmium [Ho]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

DATE : SEP-26-1990

SIGNED :



T S L LABORATORIES

2-302-48TH STREET, SASKATOON, SASKATCHEWAN S7K 6A4
 TELEPHONE #: (306) 931 - 1033
 FAX #: (306) 242 - 4717

I.C.A.P. PLASMA SCAN

Aqua-Regia Digestion

DREQUEST CONSULTANTS LTD.
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 V6C 2T5

T.S.L. REPORT No. : S - 1056 - 2
 T.S.L. File No. : SE25MD
 T.S.L. Invoice No. : 15667

ATTN: B. DEWONCK, J. CHAPMAN PROJECT: LANCE 4 R-2575

ALL RESULTS PPM

ELEMENT	60575	60576	60577	60578	60579	60580	60581	60582
Aluminum [Al]	1300	470	1200	400	3900	1300	4800	13000
Iron [Fe]	17000	3900	27000	6100	11000	5600	19000	24000
Calcium [Ca]	25000	920	63000	5100	1100	280	8200	2000
Magnesium [Mg]	3500	230	7200	600	2300	480	2500	7700
Sodium [Na]	100	40	40	30	120	60	180	60
Potassium [K]	490	250	710	220	420	320	800	230
Titanium [Ti]	4	3	< 1	2	5	2	5	370
Manganese [Mn]	560	140	860	210	390	190	520	1300
Phosphorus [P]	420	58	260	66	290	120	480	360
Barium [Ba]	33	5	46	18	85	28	31	45
Chromium [Cr]	84	130	32	110	81	110	78	170
Zirconium [Zr]	5	< 1	6	1	2	1	4	8
Copper [Cu]	9	14	7	15	35	5	14	31
Nickel [Ni]	3	4	3	3	2	3	3	29
Lead [Pb]	3	9	< 1	13	3	< 1	66	10
Zinc [Zn]	23	60	29	23	17	8	1300	120
Vanadium [V]	25	5	8	3	24	5	22	72
Strontium [Sr]	260	9	260	12	7	2	15	9
Cobalt [Co]	4	< 1	4	< 1	5	2	7	12
Molybdenum [Mo]	< 2	4	< 2	4	< 2	4	< 2	< 2
Silver [Ag]	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium [Cd]	< 1	< 1	< 1	< 1	< 1	< 1	2	< 1
Beryllium [Be]	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Boron [B]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Antimony [Sb]	5	< 5	10	< 5	5	< 5	25	< 5
Yttrium [Y]	4	< 1	6	2	1	< 1	4	6
Scandium [Sc]	5	< 1	5	< 1	3	1	4	10
Tungsten [W]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Niobium [Nb]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Thorium [Th]	< 10	< 10	40	< 10	< 10	< 10	< 10	< 10
Arsenic [As]	15	< 5	5	10	< 5	< 5	15	< 5
Bismuth [Bi]	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Tin [Sn]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lithium [Li]	< 5	< 5	< 5	< 5	< 5	< 5	< 5	10
Holmium [Ho]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

DATE : SEP-26-1990

SIGNED :

Bernie Dunn

T S L LABORATORIES

2-302-48TH STREET, SASKATOON, SASKATCHEWAN S7K 6A4
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T.S.L. REPORT No. : S - 1056 - 3
 T.S.L. File No. : SE25MD
 T.S.L. Invoice No. : 15667

ATTN: B. DEWONCK, J. CHAPMAN PROJECT: LANCE 4 R-2575

ALL RESULTS PPM

ELEMENT	60583	60584	60585	60586	60587
Aluminum [Al]	1800	14000	540	11000	6400
Iron [Fe]	24000	33000	3200	22000	12000
Calcium [Ca]	32000	24000	900	3300	620
Magnesium [Mg]	5700	5400	300	5600	3800
Sodium [Na]	40	150	30	200	50
Potassium [K]	340	1200	130	250	190
Titanium [Ti]	20	39	4	27	11
Manganese [Mn]	800	1200	58	560	360
Phosphorus [P]	220	830	36	450	92
Barium [Ba]	46	57	3	21	8
Chromium [Cr]	92	47	120	61	110
Zirconium [Zr]	4	11	< 1	6	3
Copper [Cu]	8	69	5	50	4
Nickel [Ni]	7	8	2	5	7
Lead [Pb]	5	6	2	6	4
Zinc [Zn]	79	59	5	30	16
Vanadium [V]	16	78	5	110	26
Strontium [Sr]	180	65	3	20	4
Cobalt [Co]	3	12	< 1	10	3
Molybdenum [Mo]	< 2	< 2	< 2	< 2	< 2
Silver [Ag]	< 1	< 1	< 1	< 1	< 1
Cadmium [Cd]	< 1	< 1	< 1	< 1	< 1
Beryllium [Be]	< 1	< 1	< 1	< 1	< 1
Boron [B]	< 10	< 10	< 10	< 10	< 10
Antimony [Sb]	10	< 5	< 5	< 5	5
Yttrium [Y]	4	11	< 1	3	1
Scandium [Sc]	3	13	< 1	7	2
Tungsten [W]	< 10	< 10	< 10	< 10	< 10
Niobium [Nb]	< 10	< 10	< 10	< 10	< 10
Thorium [Th]	< 10	20	< 10	10	< 10
Arsenic [As]	15	< 5	< 5	< 5	10
Bismuth [Bi]	< 5	< 5	< 5	< 5	< 5
Tin [Sn]	< 10	< 10	< 10	< 10	< 10
Lithium [Li]	< 5	15	< 5	< 5	< 5
Holmium [Ho]	< 10	< 10	< 10	< 10	< 10

DATE : SEP-26-1990

SIGNED :

Bernie Dunn



TSL LABORATORIES

DIV. BURGNER TECHNICAL ENTERPRISES LIMITED

2 - 302 - 48th STREET, EAST
SASKATOON, SASKATCHEWAN
S7K 6A4

(306) 931-1033 FAX: (306) 242-4717

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM OreQuest Consultants Ltd.
306 - 595 Howe Street
Vancouver, B.C.
V6C 2T5

REPORT No.
S1061

SAMPLE(S) OF Rock

INVOICE #: 15570
P.O.: R2588

P. Brucciani
Project LANCE 4

	Au ppb
60551	<5
60552	<5
60553	<5
60554	<5
60555	10
60556	180
60557	<5
60558	<5
60559	<5
60560	<5
60561	<5
60562	<5
60563	<5
60564	<5
60565	5
60566	30
60567	<5
60568	<5
60569	<5
60570	<5

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INVOICE TO: OreQuest - Vancouver

Sep 21/90

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SASKATOON, SASKATCHEWAN
S7K 6A4

☎ (306) 931-1033 FAX: (306) 242-4717

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM OreQuest Consultants Ltd.
306 - 595 Howe Street
Vancouver, B.C.
V6C 2T5

REPORT No.
S1061

SAMPLE(S) OF Rock

INVOICE #: 15570
P.O.: R2588

P. Brucciani
Project LANCE 4

	Au ppb
60571	<5
60572	50
60573	50
60501	15
60502	15
60503	15
60504	5
60505	15
60506	<5
60507	<5
60508	<5
60509	5
60510	15
60511	10
60512	10
60513	5
60514	5
60515	80
60516	20
60517	15

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 FAX #: (306) 242 - 4717

I.C.A.P. PLASMA SCAN

Aqua-Regia Digestion

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 VANCOUVER, B.C.
 V6C 2T5

T.S.L. REPORT No. : S - 1061 - 1
 T.S.L. File No. : M - 8122
 T.S.L. Invoice No. : 15668

ATTN: B. DEWONCK, J. CHAPMAN

PROJECT: LANCE 4 R-2588

ALL RESULTS PPM

ELEMENT	60551	60552	60553	60554	60555	60556	60557	60558	60559	60560
Aluminum [Al]	2400	9800	15000	12000	12000	9300	2200	9300	5900	8300
Iron [Fe]	10000	22000	30000	25000	22000	18000	5200	69000	110000	24000
Calcium [Ca]	140000	15000	28000	11000	8700	4400	7600	1000	120	57000
Magnesium [Mg]	4200	3500	4600	5200	5900	5200	1400	4700	960	4500
Sodium [Na]	50	90	120	260	180	90	60	150	110	170
Potassium [K]	120	510	1200	1200	800	400	490	880	780	650
Titanium [Ti]	< 1	12	11	110	50	24	8	10	10	130
Manganese [Mn]	1900	410	800	950	950	830	290	290	85	740
Phosphorus [P]	26	400	1400	1000	700	300	160	1100	790	730
Barium [Ba]	150	48	93	470	1100	1300	1100	280	48	80
Chromium [Cr]	6	73	13	27	65	71	90	27	27	33
Zirconium [Zr]	1	3	5	5	3	2	< 1	11	17	8
Copper [Cu]	16	9	20	21	37	150	470	86	83	92
Nickel [Ni]	2	2	< 1	3	3	2	1	1	2	4
Lead [Pb]	2	5	5	4	2	3	2	20	28	4
Zinc [Zn]	26	40	64	52	60	52	12	32	81	29
Vanadium [V]	5	22	30	33	40	31	8	78	55	58
Strontium [Sr]	600	54	96	56	58	53	51	13	3	74
Cobalt [Co]	3	4	6	9	8	7	3	3	1	8
Molybdenum [Mo]	< 2	2	< 2	< 2	< 2	2	< 2	4	20	< 2
Silver [Ag]	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium [Cd]	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Beryllium [Be]	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Boron [B]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Antimony [Sb]	< 5	< 5	< 5	< 5	< 5	5	< 5	20	40	< 5
Yttrium [Y]	3	2	8	8	5	3	1	2	2	7
Scandium [Sc]	< 1	< 1	3	3	3	1	< 1	5	3	9
Tungsten [W]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Niobium [Nb]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Thorium [Th]	< 10	< 10	60	60	< 10	30	< 10	40	40	40
Arsenic [As]	15	5	< 5	10	< 5	< 5	< 5	75	230	10
Bismuth [Bi]	20	< 5	5	5	10	10	15	< 5	< 5	10
Tin [Sn]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lithium [Li]	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Holmium [Ho]	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

DATE : SEP-26-1990

SIGNED :

Bernie Dunn

T S L LABORATORIES

2-302-48TH STREET, SASKATOON, SASKATCHEWAN S7K 6A4
 TELEPHONE #: (306) 931 - 1033
 FAX #: (306) 242 - 4717

I.C.A.P. PLASMA SCAN

Aqua-Regia Digestion

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 306 - 595 HOWE STREET
 VANCOUVER, B.C.
 V6C 2T5

T.S.L. REPORT No. : S - 1061 - 2
 T.S.L. File No. : SE25MD
 T.S.L. Invoice No. : 15668

ATTN: B. DEWONCK, J. CHAPMAN

PROJECT: LANCE 4 R-2588

ALL RESULTS PPM

ELEMENT	60561	60562	60563	60564	60565	60566	60567	60568	60569	60570
Aluminum [Al]	1900	1400	8500	2200	1700	5700	13000	1100	320	3900
Iron [Fe]	13000	7500	100000	15000	32000	27000	150000	4600	1100	39000
Calcium [Ca]	1000	540	160	1800	3300	660	2100	1700	220	120000
Magnesium [Mg]	980	140	1300	550	570	1900	5000	160	40	9500
Sodium [Na]	100	60	30	210	260	40	30	50	20	60
Potassium [K]	400	1000	1200	900	1100	1300	210	560	220	540
Titanium [Ti]	5	5	31	9	11	6	23	1	2	< 1
Manganese [Mn]	160	26	250	170	89	36	880	73	31	2800
Phosphorus [P]	270	250	360	670	930	450	290	58	12	120
Barium [Ba]	85	1400	540	760	48	27	11	1900	2000	550
Chromium [Cr]	95	64	130	74	43	51	69	94	19	12
Zirconium [Zr]	3	2	20	4	5	4	44	2	< 1	8
Copper [Cu]	26	12	110	11	9	15	1200	20	4	13
Nickel [Ni]	2	< 1	10	2	3	3	380	9	< 1	1
Lead [Pb]	4	4	45	18	6	9	66	24	3	3
Zinc [Zn]	9	13	22	56	12	19	630	46	7	49
Vanadium [V]	16	4	52	12	13	27	95	3	< 1	27
Strontium [Sr]	5	79	13	16	30	11	5	34	90	330
Cobalt [Co]	1	2	32	5	7	6	310	8	3	11
Molybdenum [Mo]	< 2	2	8	< 2	< 2	< 2	< 2	4	< 2	< 2
Silver [Ag]	< 1	< 1	< 1	< 1	< 1	2	7	< 1	< 1	1
Cadmium [Cd]	< 1	< 1	< 1	< 1	< 1	< 1	5	< 1	< 1	< 1
Beryllium [Be]	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Boron [B]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Antimony [Sb]	< 5	15	15	5	10	10	5	< 5	< 5	20
Yttrium [Y]	< 1	< 1	2	2	3	1	5	< 1	< 1	11
Scandium [Sc]	2	1	9	4	4	3	6	1	< 1	4
Tungsten [W]	< 10	< 10	< 10	< 10	< 10	< 10	20	< 10	< 10	< 10
Niobium [Nb]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Thorium [Th]	< 10	< 10	10	< 10	< 10	< 10	70	< 10	< 10	70
Arsenic [As]	10	35	140	60	95	180	240	5	< 5	< 5
Bismuth [Bi]	< 5	< 5	< 5	< 5	< 5	< 5	< 5	15	15	10
Tin [Sn]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lithium [Li]	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Holmium [Ho]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	10

DATE : SEP-26-1990

SIGNED :



T S L LABORATORIES

2-302-48TH STREET, SASKATOON, SASKATCHEWAN S7K 6A4

TELEPHONE #: (306) 931 - 1033
 FAX #: (306) 242 - 4717

I.C.A.P. PLASMA SCAN

Aqua-Regia Digestion

OREQUEST CONSULTANTS LTD.
 306 - 595 HOWE STREET
 VANCOUVER, B.C.
 V6C 2T5

T.S.L. REPORT No. : S - 1061 - 3
 T.S.L. File No. : SE25MD
 T.S.L. Invoice No. : 15668

ATTN: B. DEWONCK, J. CHAPMAN

PROJECT: LANCE 4 R-2588

ALL RESULTS PPM

ELEMENT	60571	60572	60573	60501	60502	60503	60504	60505	60506	60507
Aluminum [Al]	900	2000	1500	8300	630	6400	1200	15000	5500	6600
Iron [Fe]	13000	30000	25000	29000	7400	27000	6200	35000	65000	54000
Calcium [Ca]	17000	2200	3600	2600	140000	6400	140000	27000	9300	1600
Magnesium [Mg]	840	360	860	2600	4500	2700	3400	7100	2600	3300
Sodium [Na]	50	60	40	260	40	190	50	270	600	230
Potassium [K]	340	1500	1600	1000	340	1100	240	900	1900	1700
Titanium [Ti]	2	4	14	12	< 1	9	< 1	48	15	13
Manganese [Mn]	600	76	95	160	1100	130	1600	860	220	200
Phosphorus [P]	260	230	460	1000	< 2	680	44	870	870	920
Barium [Ba]	270	21	23	34	160	33	390	83	180	65
Chromium [Cr]	94	61	35	45	15	17	16	18	13	17
Zirconium [Zr]	4	4	4	4	< 1	4	< 1	8	9	8
Copper [Cu]	13	10	6	27	4	76	10	39	32	36
Nickel [Ni]	7	3	1	3	< 1	9	< 1	4	< 1	< 1
Lead [Pb]	7	6	7	32	< 1	26	< 1	4	25	19
Zinc [Zn]	16	10	7	31	7	16	6	52	18	21
Vanadium [V]	20	7	6	22	1	14	2	78	89	58
Strontium [Sr]	21	6	12	37	670	26	1000	110	67	12
Cobalt [Co]	4	6	7	7	1	9	2	10	2	3
Molybdenum [Mo]	< 2	< 2	< 2	2	< 2	2	< 2	< 2	18	4
Silver [Ag]	< 1	< 1	< 1	1	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium [Cd]	< 1	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Beryllium [Be]	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Boron [B]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Antimony [Sb]	10	5	5	< 5	< 5	5	< 5	5	35	10
Yttrium [Y]	3	< 1	2	6	2	4	3	7	3	2
Scandium [Sc]	3	3	4	2	< 1	3	< 1	7	4	3
Tungsten [W]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Niobium [Nb]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Thorium [Th]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	40	30	30
Arsenic [As]	20	160	180	15	15	35	15	15	140	50
Bismuth [Bi]	10	< 5	< 5	< 5	20	< 5	25	10	< 5	< 5
Tin [Sn]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lithium [Li]	< 5	< 5	< 5	< 5	< 5	< 5	< 5	5	< 5	< 5
Holmium [Ho]	< 10	< 10	< 10	< 10	20	< 10	20	< 10	< 10	< 10

DATE : SEP-26-1990

SIGNED :



T S L LABORATORIES

2-302-48TH STREET, SASKATON, SASKATCHEWAN S7K 6A4
 TELEPHONE #: (306) 931 - 1033
 FAX #: (306) 242 - 4717

I.C.A.P. PLASMA SCAN

Aqua-Regia Digestion

OREQUEST CONSULTANTS LTD.
 306 - 595 HOWE STREET
 VANCOUVER, B.C.
 V6C 2T5

T.S.L. REPORT No. : S - 1061 - 4
 T.S.L. File No. : SE25MD
 T.S.L. Invoice No. : 15668

ATTN: B. DEWONCK, J. CHAPMAN PROJECT: LANCE 4 R-2588

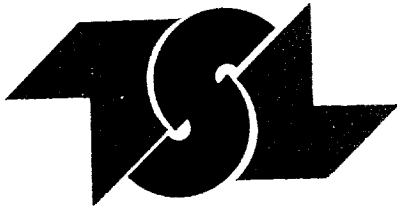
ALL RESULTS PPM

ELEMENT	60508	60509	60510	60511	60512	60513	60514	60515	60516	60517
Aluminum [Al]	7900	11000	26000	13000	16000	2400	670	5200	490	2200
Iron [Fe]	23000	34000	41000	34000	35000	9600	3400	31000	2800	4700
Calcium [Ca]	74000	5500	3900	2000	5200	420	220	640	100	140
Magnesium [Mg]	4300	5000	9300	6200	6800	1400	340	2200	180	190
Sodium [Na]	140	210	160	170	160	60	40	100	20	40
Potassium [K]	740	1300	560	940	970	330	170	2500	220	720
Titanium [Ti]	27	16	350	920	610	39	15	14	3	7
Manganese [Mn]	1100	360	1100	370	530	160	46	56	10	24
Phosphorus [P]	540	1100	910	910	900	130	40	670	56	100
Barium [Ba]	59	54	110	46	83	41	56	37	1000	1900
Chromium [Cr]	25	27	30	26	26	91	150	47	29	34
Zirconium [Zr]	5	5	14	10	11	1	< 1	7	< 1	< 1
Copper [Cu]	39	26	91	49	59	8	5	32	4	5
Nickel [Ni]	2	2	4	2	4	1	4	< 1	< 1	2
Lead [Pb]	6	12	13	10	9	2	1	26	2	4
Zinc [Zn]	30	33	70	50	54	12	5	64	3	4
Vanadium [V]	36	57	120	79	81	16	4	83	6	9
Strontium [Sr]	390	28	17	8	12	2	2	9	77	43
Cobalt [Co]	6	6	13	4	7	3	< 1	3	2	3
Molybdenum [Mo]	4	< 2	< 2	< 2	< 2	< 2	4	6	< 2	4
Silver [Ag]	< 1	< 1	< 1	< 1	< 1	< 1	< 1	4	< 1	< 1
Cadmium [Cd]	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Beryllium [Be]	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Boron [B]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Antimony [Sb]	5	5	5	5	< 5	< 5	< 5	35	< 5	< 5
Yttrium [Y]	6	3	7	2	5	< 1	< 1	1	< 1	< 1
Scandium [Sc]	4	4	14	8	10	2	< 1	7	< 1	1
Tungsten [W]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Niobium [Nb]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Thorium [Th]	50	50	60	40	50	< 10	< 10	< 10	< 10	< 10
Arsenic [As]	35	35	25	230	120	15	5	180	15	20
Bismuth [Bi]	10	< 5	5	< 5	< 5	< 5	5	< 5	10	10
Tin [Sn]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lithium [Li]	< 5	< 5	30	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Holmium [Ho]	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

DATE : SEP-26-1990

SIGNED :





TSL LABORATORIES

DIV. BURGNER TECHNICAL ENTERPRISES LIMITED

2 - 302 - 48th STREET, EAST
SASKATOON, SASKATCHEWAN
S7K 6A4

☎ (306) 931-1033 FAX: (306) 242-4717

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM OreQuest Consultants Ltd.
306 - 595 Howe Street
Vancouver, B.C.
V6C 2T5

REPORT No.
S1114

SAMPLE(S) OF Silt

INVOICE #: 15633
P.O.: R2579

B. R. LaPeare
Project LANCE 4

	Au ppb
L4101	10
L4102	5
L4103	5
L4104	10
L4105	<5
L4106	15

COPIES TO: B. Dewonck, J. Chapman
INVOICE TO: OreQuest - Vancouver

Sep 26/90

SIGNED Bernie Dunn



T S L LABORATORIES

2-302-48TH STREET, SASKATOON, SASKATCHEWAN

S7K 6A4

TELEPHONE #: (306) 931 - 1033

FAX #: (306) 242 - 4717

I.C.A.P. PLASMA SCAN

Aqua-Regia Digestion

OREQUEST CONSULTANTS LTD.

306 - 595 HOWE STREET

VANCOUVER, B.C.

V6C 2T5

ATTN: B. DEWONCK, J. CHAPMAN

PROJECT: LANCE 4

R-2579

ALL RESULTS PPM

T.S.L. REPORT No. : S - 1114 - 1

T.S.L. File No. : M - B163

T.S.L. Invoice No. : 15786

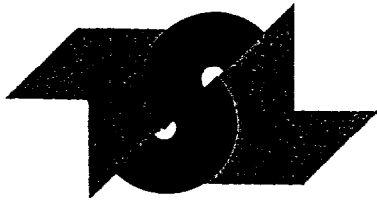
ELEMENT	L4102	L4103	L4104	L4105	L4106
Aluminum [Al]	12000	12000	12000	15000	14000
Iron [Fe]	30000	36000	32000	39000	31000
Calcium [Ca]	5900	3700	4100	3200	6100
Magnesium [Mg]	5500	5300	5400	5100	3300
Sodium [Na]	100	80	90	90	60
Potassium [K]	690	580	710	780	560
Titanium [Ti]	210	300	320	69	56
Manganese [Mn]	920	780	890	1000	1700
Phosphorus [P]	920	950	1100	930	1100
Barium [Ba]	190	160	200	270	250
Chromium [Cr]	13	8	8	12	12
Zirconium [Zr]	5	6	5	8	5
Copper [Cu]	60	62	73	82	97
Nickel [Ni]	5	5	5	13	7
Lead [Pb]	11	9	9	10	49
Zinc [Zn]	60	51	55	76	130
Vanadium [V]	60	83	69	75	56
Strontium [Sr]	28	21	24	24	51
Cobalt [Co]	10	10	11	14	12
Molybdenum [Mo]	< 2	< 2	< 2	< 2	< 2
Silver [Ag]	< 1	< 1	< 1	< 1	< 1
Cadmium [Cd]	< 1	< 1	< 1	< 1	1
Beryllium [Be]	< 1	< 1	< 1	< 1	< 1
Boron [B]	< 10	< 10	< 10	< 10	< 10
Antimony [Sb]	< 5	< 5	< 5	< 5	5
Yttrium [Y]	8	9	10	9	13
Scandium [Sc]	5	6	6	10	4
Tungsten [W]	< 10	< 10	< 10	< 10	< 10
Niobium [Nb]	< 10	< 10	< 10	< 10	< 10
Thorium [Th]	40	30	40	30	20
Arsenic [As]	10	20	15	15	45
Bismuth [Bi]	10	< 5	< 5	< 5	< 5
Tin [Sn]	< 10	< 10	< 10	< 10	< 10
Lithium [Li]	20	20	20	30	25
Holmium [Ho]	< 10	< 10	< 10	< 10	< 10

DATE : OCT-01-1990

SIGNED :

Bernie Dunn

APPENDIX III
ANALYTICAL PROCEDURES



T S L LABORATORIES

DIVISION OF BURGNER TECHNICAL ENTERPRISES LIMITED

2 - 302 - 48th STREET,
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S7K 6A4

☎ (306) 931-1033 FAX: (306) 242-4717

OreQuest Consultants Ltd.
306 - 595 Howe Street
Vancouver, B.C.
V6C 2T5

Jan.9/90

1 - SAMPLE PREPARATION PROCEDURES Rock and Core

- Entire sample is crushed, riffled and the subsequent split is pulverized to -150 mesh.

Soils and Silts

- Sample is dried and sieved to -80 mesh.

2 - FIRE ASSAY PROCEDURES

Geochem Gold (Au ppb) -

A 30g subsample is fused, cupelled and the subsequent dore' bead is dissolved in aqua regia. The solution is then analyzed on the Atomic Absorption.

Assay Gold (Au oz/ton) -

A 29.16g subsample is fused, cupelled and the subsequent dore' bead is parted with a dilute nitric acid solution. The gold obtained is rinsed with DI water, annealed and weighed on a microbalance.

3 - Geochem Silver (Ag ppm) -

A 1g subsample is digested with 5mls of aqua regia for 1 1/2 to 2 hours, then diluted with DI H2O. The solutions are then run on the Atomic Absorption.

Assay Silver (Ag oz/ton) -

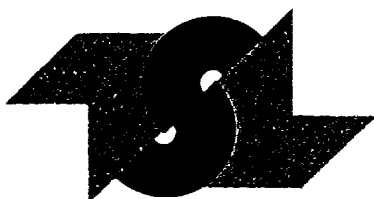
A 2.00g sample is digested with 15mls HCl plus 5mls HNO3 for 1 hour in a covered beaker; diluted to 100mls with 1:1 HCl. The solution is run on the Atomic Absorption.

4 - BASE METALS

Geochem - A 1g subsample is digested with 5mls of aqua regia for 1 1/2 to 2 hours, then diluted with DI H2O. The solutions are then run on the Atomic Absorption.

Assay - A 0.500g sample is taken to dryness with 15mls HCl plus 5mls HNO3, then redissolved with 5mls HNO3 and diluted to 100mls with DI H2O. The solution is run on the Atomic Absorption.

con't...



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DIVISION OF BURGNER TECHNICAL ENTERPRISES LIMITED

2 - 302 - 48th STREET,
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S7K 6A4

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Page 2.

5. ICAP Geochemical Analysis -

A 1g subsample is digested with 5mls of aqua regia for 1 1/2 to 2 hours, then diluted with DI H₂O. The solutions are then run on the ICAP.

6. Heavy Mineral Concentrates -

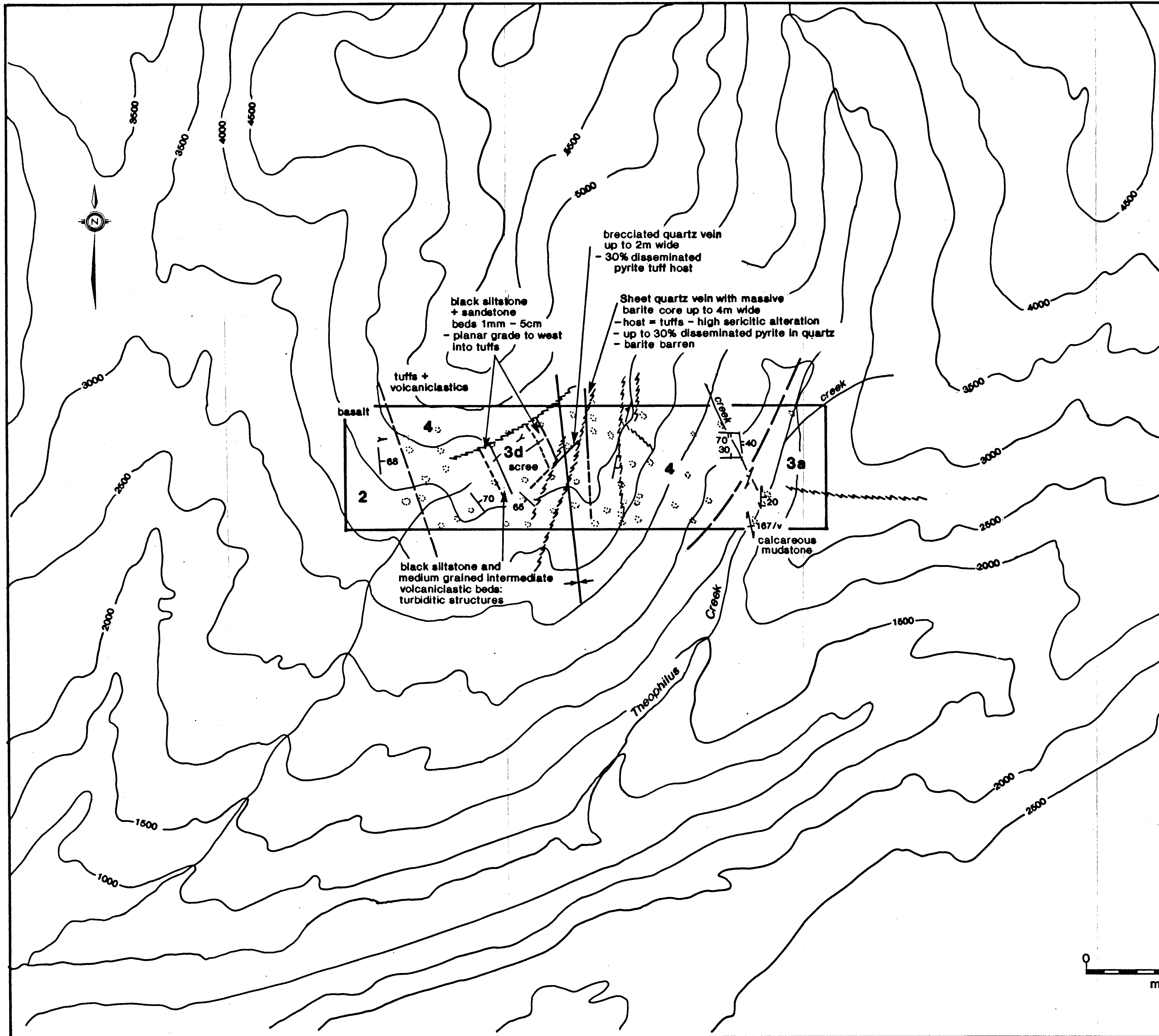
The sample is initially wet sieved through -1700 micron, then placed on a shaker table. A heavy liquid separation is performed, Methylene Iodide, (S.G. - 3.3); diluted to give a S.G. of 2.96. The heavies were then analyzed for Au by Fire Assay plus an ICAP Scan.

Yours truly,

A handwritten signature in cursive script that reads "Bernie Dunn". The signature is written in black ink and is positioned above the typed name.

Bernie Dunn

BD/vh



LEGEND

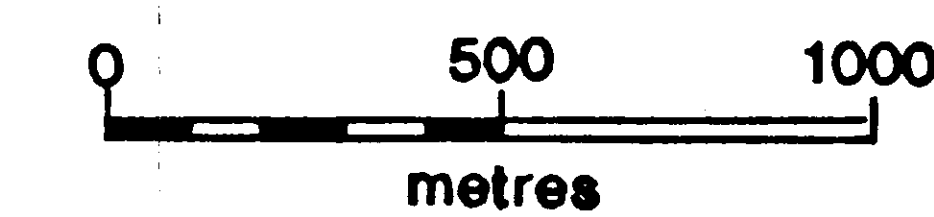
JURASSIC
Lower to Middle Jurassic

- 4 MIDDLE VOLCANIC UNIT**
 - a Green and minor maroon andesite pyroclastic rocks
 - b Feldspar + hornblende andesite porphyry
 - c Black siltstone
 - d Maroon siltstone, sandstone, and conglomerate
- 3 MIDDLE SEDIMENTARY UNIT**
 - a Black siltstone
 - c Green and purple volcanic breccia with minor siltstone, sandstone, and conglomerate
 - d Interbedded siltstone, sandstone, wacke, and polymictic pebble conglomerate
- 2 MAFIC VOLCANIC UNIT**
 - a Olivine porphyry basalt flows
 - b Augite porphyry basalt flows and pillowed flows
 - c Basaltic pyroclastic rocks
 - d Basaltic conglomerate
- 1 LOWER SEDIMENTARY UNIT**
 - a Black siltstone, argillite, shale
 - b Black wacke, sandstone, limestone

SYMBOLS

- Geological contact (approximate)
- ~ Fault/shear (approximate)
- / Bedding
- / Foliation
- + Syncline
- Y Younging
- o outcrop

A.R.21060



OREQUEST

SANTA MARINA GOLD LTD.

Figure 4
LANCE 4 PROJECT
PROPERTY GEOLOGY
British Columbia
NTS 103P/11

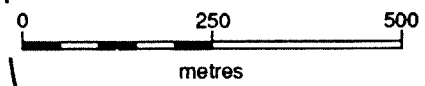
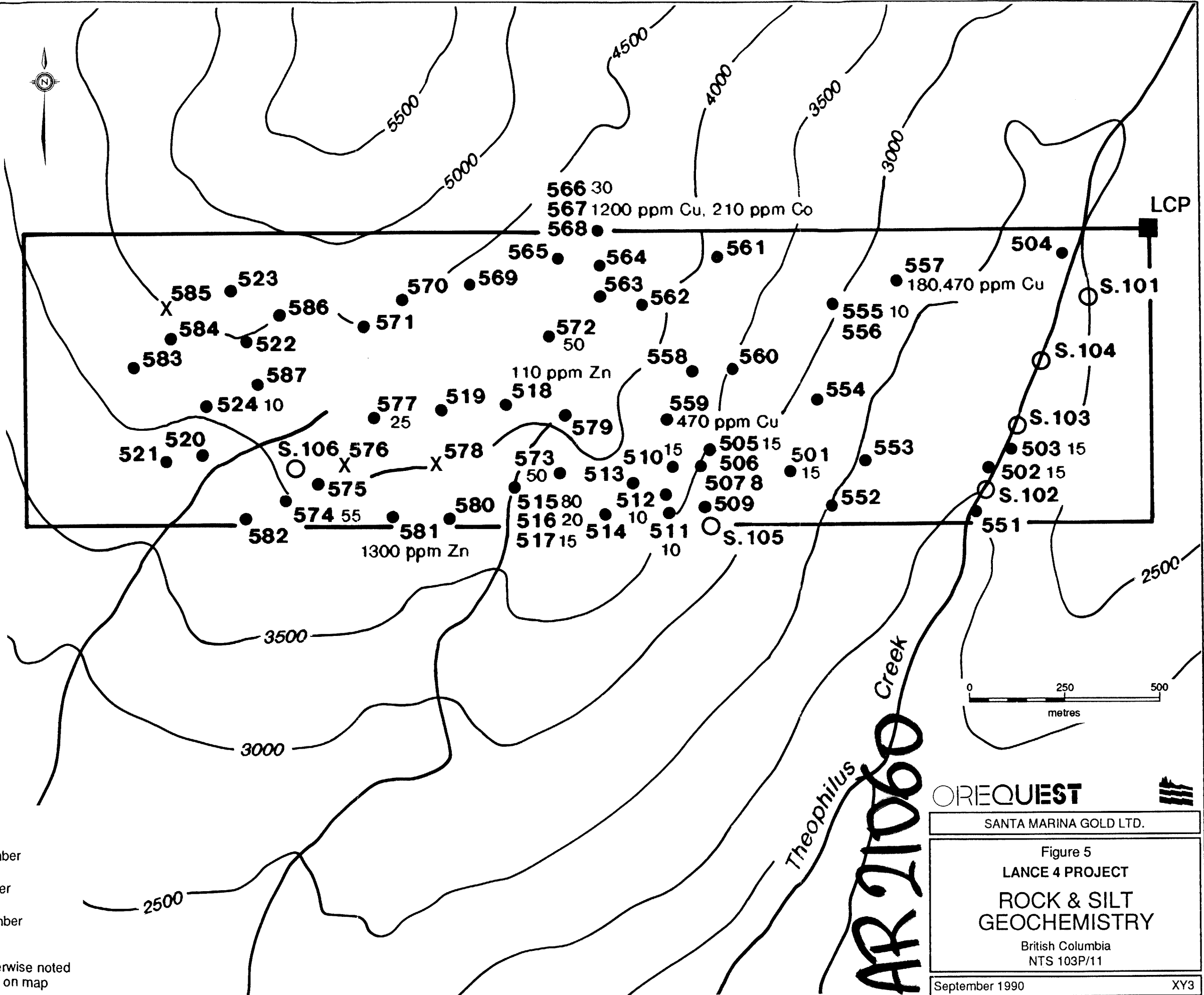
September 1990 XY3

Sample No.	Type	Cu (ppm)	Ag (ppm)	Au (ppb)
60501	rock grab	27	<1	15
60502	rock grab	4	<1	15
60503	rock grab	76	<1	15
60504	rock grab	10	<1	5
60505	rock grab	39	<1	15
60506	rock grab	32	<1	<5
60607	rock grab	36	<1	<5
60508	rock grab	39	<1	<5
60509	rock grab	26	<1	5
60510	rock grab	91	<1	15
60511	rock grab	49	<1	10
60512	rock grab	59	<1	10
60513	rock grab	8	<1	5
60514	rock grab	5	<1	5
60515	rock grab	32	4	80
60516	rock grab	4	<1	20
60517	rock grab	5	<1	15
60518	rock grab	65	1	5
60519	rock grab	15	<1	<5
60520	rock grab	41	<1	5
60521	rock grab	51	<1	<5
60522	rock grab	17	<1	<5
60523	rock grab	95	<1	<5
60524	rock grab	32	<1	10
60551	rock grab	16	<1	<5
60552	rock grab	9	<1	<5
60553	rock grab	20	<1	<5
60554	rock grab	21	<1	<5
60555	rock grab	31	<1	10
60556	rock grab	150	<1	180
60557	rock grab	470	<1	<5
60558	rock grab	86	<1	<5
60559	rock grab	83	<1	<5
60560	rock grab	92	<1	<5
60561	rock grab	26	<1	<5
60562	rock grab	12	<1	<5
60563	rock grab	110	<1	<5
60564	rock grab	11	<1	<5
60565	rock grab	9	<1	5
60566	rock grab	15	<1	30
60567*	rock grab	1200	<1	<5
60568	rock grab	20	<1	<5
60569	rock grab	4	<1	<5
60570	rock grab	13	<1	<5
60571	rock grab	13	<1	<5
60572	rock grab	10	<1	50
60573	rock grab	6	<1	50
60574	rock grab	4	<1	55
60575	rock grab	9	<1	<5
60576	rock grab, float	14	<1	<5
60577	rock grab	7	<1	25
60578	rock grab, float	15	<1	<5
60579	rock grab	35	<1	<5
60580	rock grab	5	<1	<5
60581**	rock grab	14	<1	5
60582	rock grab	32	<1	5
60583	rock grab	8	<1	<5
60584	rock grab	69	<1	<5
60585	rock grab, float	5	<1	<5
60586	rock grab	50	<1	5
60587	rock grab	4	<1	<5
S101	silt	-	-	10
S102	silt	-	-	5
S103	silt	-	-	5
S104	silt	-	-	10
S105	silt	-	-	<5
S106	silt	-	-	15

* Also 210 ppm Cobalt
 ** Also 130 ppm Zinc

LEGEND

- X 585 Float sample location and number
- S.101 Silt sample location and number
- 501 Rock sample location and number (all numbers prefixed by 60)
- 30 Results in ppb Au unless otherwise noted
Results ≤5 ppb Au not plotted on map



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Figure 5
 LANCE 4 PROJECT
 ROCK & SILT
 GEOCHEMISTRY

British Columbia
 NTS 103P/11

September 1990 XY3

AR 21060