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GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE

NORA GROUP

ALBERNI MINING DIVISION      NTS 92F/6

49 Deg. 18'N - 125 Deg. 19'W

Owner: FRANK MILAKOVICH

BY

J. E. L. LINDINGER, P. Geo.

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**23,441**

KAMLOOPS, B. C.  
August 5, 1994

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GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE NORA CLAIM GROUP

SUMMARY

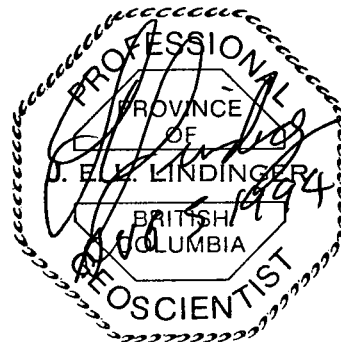
The NORA Group comprise 38 contiguous modified grid and 2 post claims located 37 Km west northwest of Port Alberni, British Columbia. Exploration activity prior to 1898 resulted in the discovery of gold bearing quartz fissure veins some 2 Km east of the claims. Exploration activity has since resulted in the discovery of additional vein, skarn and porphyry copper mineralization in the area.

Pillow and flow basalts that have been intruded by quartz diorite with more mafic and felsic end members comprise the lithologies found to date on the claims. The dominant structural trends are easterly, northwesterly, and northerly trending steeply dipping structures.

Auriferous mineralization in pyritiferous quartz carbonate veins and silicified shears in northwest and east-northeast striking steeply dipping structures adjacent to quartz diorite has been found. Highlights from past programs include 26.6 ppm (0.776 oz/t gold, 910 ppb (0.026 oz/t gold), 75 and 40 ppb gold. Anomalous arsenic is associated with the high gold values.

No significant gold occurrences were located in the 1994 program however several structurally hosted alteration and breccia vein zones with some potential have been located.

Additional geological mapping with rock geochemistry over and surrounding the gold mineralization located during this and past programs is recommended. Drill testing of past geophysical anomalies in deep overburden areas is recommended.



## INTRODUCTION

During early May 1994 a geological mapping and rock geochemical sampling program was completed on part of the Nora Claim Group. The program was comprised brief examinations of soil and geophysical anomalies located by earlier programs. The bulk of the program consisted of road side geological mapping to extend the geological database on the property. The 1994 field work resulted in approximately 50 rock samples being taken of which 33 were sent for analysis. Several areas were mapped and sampled in detail.

This report documents the 1994 field work and subsequent results, conclusions and recommendations. Additional background information was provided from sources cited under Selected References.

## LOCATION AND ACCESS

The Nora Claim Group is located on Vancouver Island 37 kilometers west-northwest of the town of Port Alberni, B.C. The claim group lies within the Taylor River valley some eight kilometers west of the west end of the Taylor Arm of Sproat Lake, at 69 deg. 18'N, 125 deg. 19' W as found on NTS map sheet 92F/6 in the Alberni Mining Division.

Road access to the east, central, and west parts of the claims is provided by Paved Hwy No. 4, the "Island Highway", and by Macmillan Bloedel Logging Mains 505W, 550W and subsidiary logging spurs.

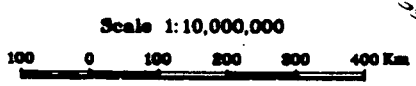
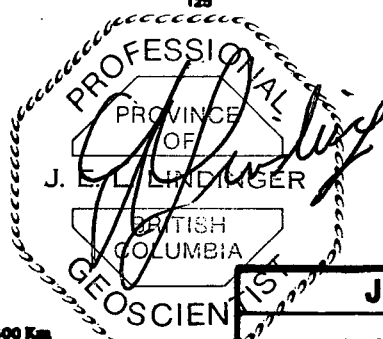
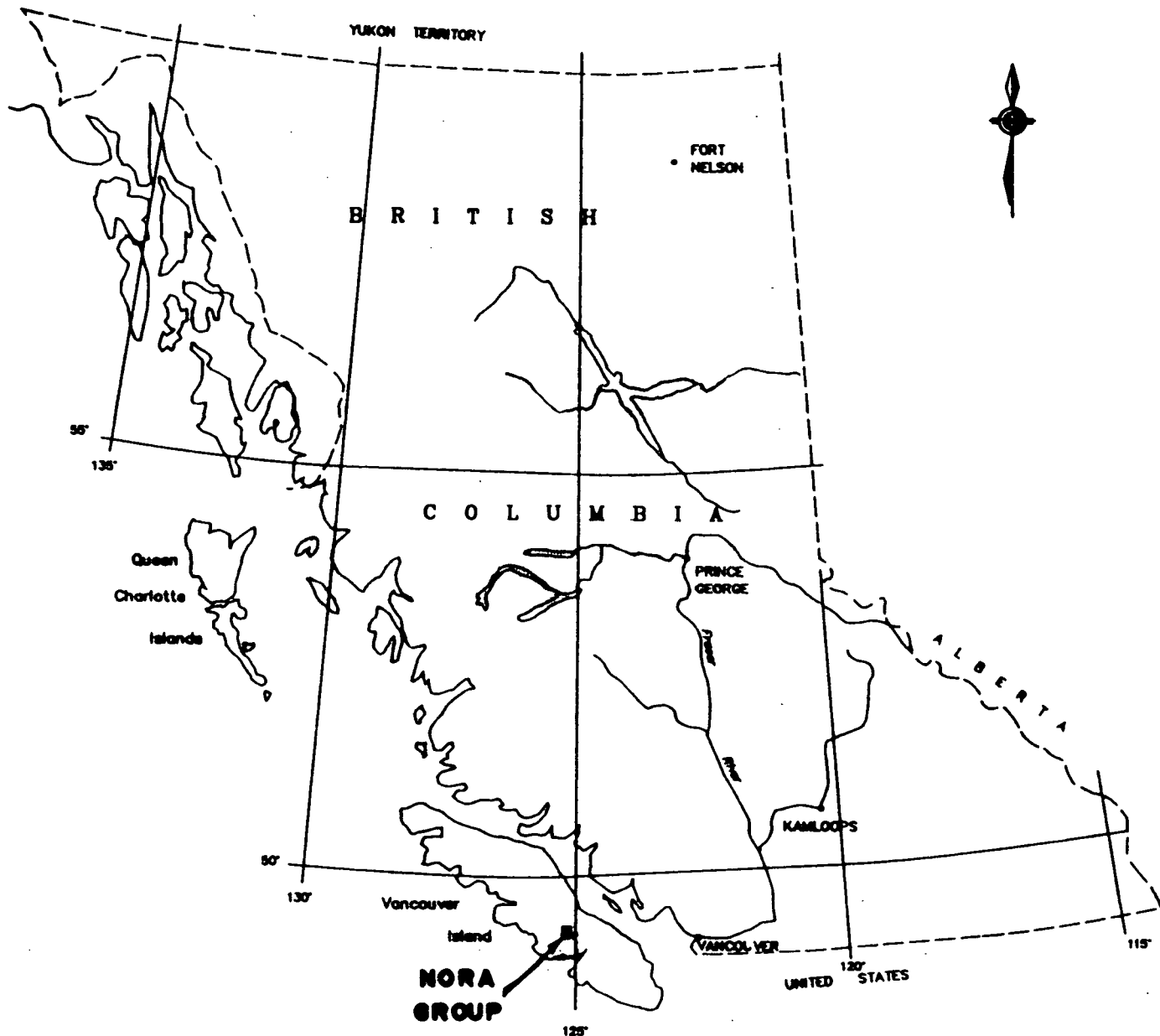
The extreme northeast part of the claims are accessed by Macmillan Bloedel Logging Main 500W which terminates at Doran Lake.

## PROPERTY

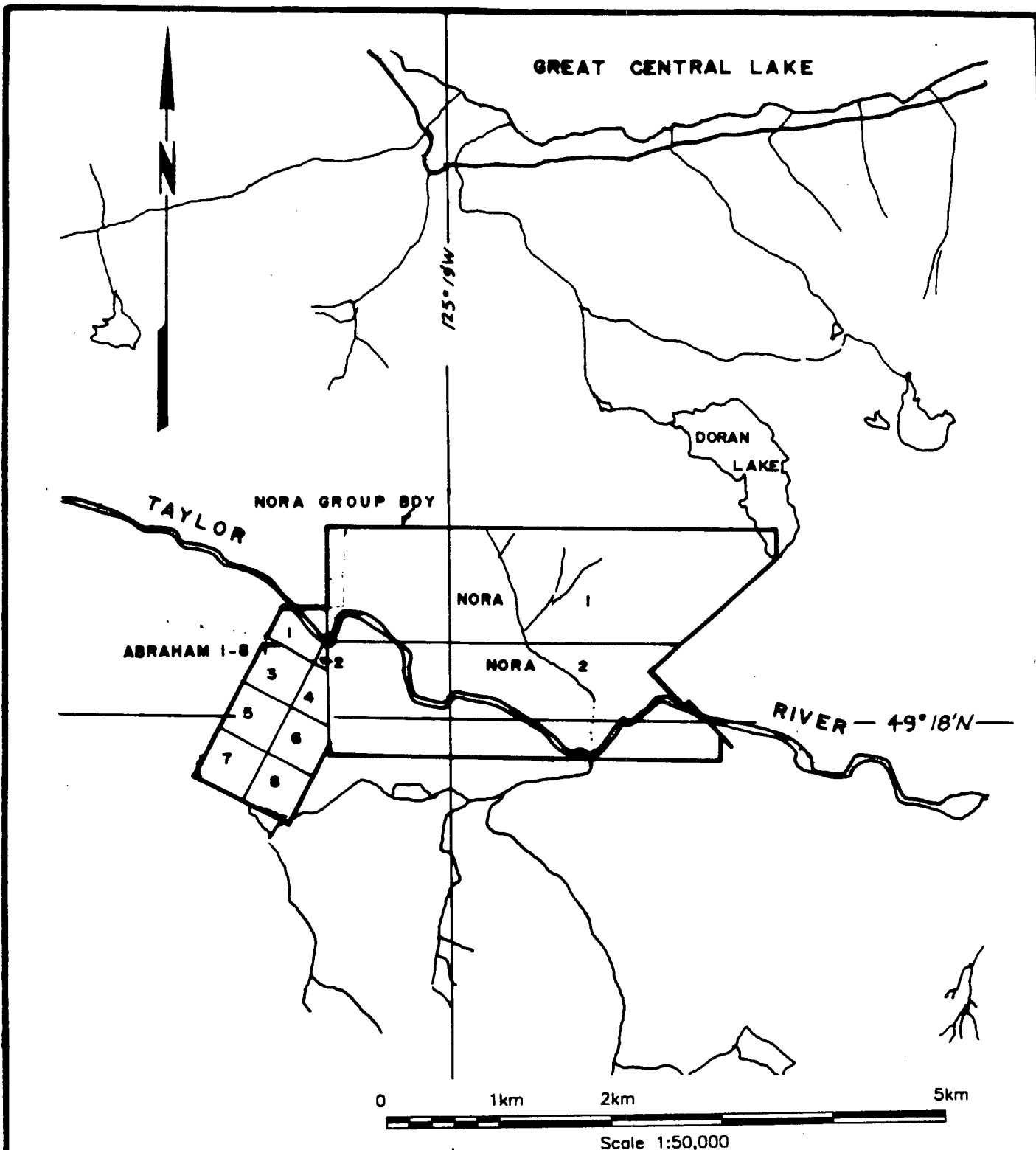
The Nora Claim Group comprises 10 contiguous claims; two modified grid claims and eight 2 post claims totalling 38 units.

Claim Name	Units	Record No.	Record Dates	Expiry Date*
Nora 1	16	1438	May 7, 1982	May 7, 1995
Nora 2	14	1439	May 7, 1982	May 7, 1995
Abraham 1-8	8	1916-1923	Nov. 24, 1983	Nov. 24, 1995

\* On the approval of one years assessment work filed prior to May 7, 1994 for which this Report is a part of.



J. E. L. LINDINGER, P. GEO.				
<b>NORA GROUP</b>				
NTS - 92F/6W				
<b>LOCATION MAP</b>				
SCALE: AS NOTED	DATE: AUG 5 94	N.T.S.	DRAWN BY:	FIGURE: 1



**J. E. L. LINDINGER, P. GEO.**

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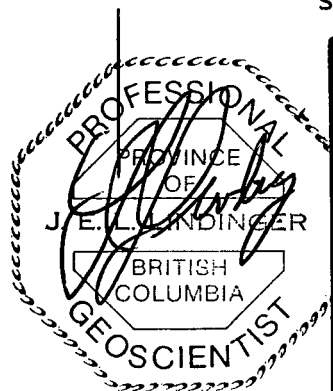
**NORA GROUP**  
 ALBERNI M.D.      NTS - 82F/6W

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**CLAIM MAP**

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**FIGURE 2**      **DATE AUGUST 5, 1994**



## TOPOGRAPHY, CLIMATE and VEGETATION

Topography within the Taylor River valley ranges from flat sediment filled depressions and rocky hummocks and knobs within the Taylor River valley bottom to steep slopes and cliffs on either side of the river. Elevations range from 40 meters where the east flowing Taylor River crosses the east claim boundary to over 700 meters along the north claim boundary.

The climate is characterized by hot summers and relatively mild winters. Precipitation is high and occurs year round. Annual snowfall accumulations can exceed 3 meters with snow pack remaining in sheltered areas until mid May.

Vegetation is temperate coastal rain forest with Douglas fir, hemlock, balsam and cedar tree species predominating. Alder and cottonwood are common in logged off areas



## WATER AND POWER

Ample water supplies for exploration purposes at all elevations are available from the Taylor river and several permanent streams. Several small lakes along the northern claim boundary provide water resources at higher elevations in that area.

A power line runs adjacent to highway No. 4.

## HISTORY

The B. C. Minister of Mines report for 1899 has a reference to the presence of gold bearing veins in the vicinity of the Nora Group. These veins would be the Morning and Apex veins some two kilometers east of the Nora claims. These veins have since seen intermittent exploration and development resulting in several adits being driven into them.

On an adjacent property to the east of the Nora Claims ongoing exploration since the mid 1970's has resulted in the delineation of several auriferous quartz breccia veins with grades of over 5 g/t over 2 meters and visible gold reporting 420 g/t over 8 cm (Lindinger, 1994).

On an adjacent property to the west of the Nora Group exploration for copper skarn and gold have been completed since 1970 (Sayer 1987). On the Snow Property approximately 4 km west gold bearing quartz veining reporting 1.120 oz/t over 0.62 meters in a drill hole and 1.570 over 4.5 feet (1.2 m) are being developed (Christopher, 1992).

On a property about 10 Km south of the Nora Group copper mineralization related to felsic intrusive stocks has been worked on since the late 1960's (Stephenson 1969).

The 1993 Nora assessment program located diorite hosted gold bearing pyritiferous quartz breccia veins reporting 26.6 g/t (Lindinger 1993).

#### REGIONAL GEOLOGY

Sookochoff 1992 states:

"The regional geology of the area, as presented by J.E. Muller in Open File 463, is stated as being part of the Insular Belt, the Westernmost Major tectonic subdivision of the Canadian Cordillera. The Insular Belt (Island Mountains) is further stated as containing a middle Palaeozoic and a Jurassic Volcanic-plutonic complex, both apparently underlain by gneiss-migmatite terranes and overlain respectively by Permo-Pennsylvanian and Cretaceous clastic sediments. A thick shield of Upper Triassic basalt (the Karmutsen Formation), overlain by carbonate-clastic sediments, separates these two complexes in time and space.

Intruding the pre-Jurassic lithologies including the Karmutsen Formation are the "Island Intrusions" ;

... "batholiths and stocks of granitoid rocks ranging from quartz diorite (potash feldspar less than 10% of total feldspar; quartz 5-20%) to granite (potash feldspar more than 1/3 of total feldspar; quartz more than 20%). They underlie about one quarter of the island's surface..."

"...Muller states the structure of the island is almost entirely dominated by steep faults. Only the flysch-type Pennsylvanian the Jura-Cretaceous sediments and associated thin-bedded tuffs show isoclinal shear folding. Faulting and rifting probably occurred during the outflow of Karmutsen lavas in Late Triassic time, establishing the northerly and westerly directed fault systems affecting Sicker and Vancouver Group rocks...".

#### PROPERTY GEOLOGY

The geology underlying the claim group comprises Upper Triassic Karmutsen Formation tholeiitic rocks, and intruding that sequence, batholiths and stocks of the Jurassic and Cretaceous intermediate to felsic "Island Intrusions".

Government mapping indicates that the northeast and southwest areas of the claims are underlain by intrusive rocks, with the remainder being Karmutsen formation. Mapping completed by Sookochoff 1991, 1992 largely confirms the government mapping. On the Tay property immediately to the east dykes and apophyses of intrusive rocks occur where government mapping indicated only basalts (Lammle, 1988). Immediately west of the claims an east-west striking steeply north dipping limestone bed within the Karmutsen formation containing sporadic copper bearing skarn mineralization is found. This limestone continues eastward onto the Abraham and Nora Claims outcropping where the Macmillan Bloedel 505W logging road crosses the Taylor River on the west central part of the Nora claims (Figure 4d).

These rocks have been subjected to significant faulting. The most dominant structure is the west-northwest striking Taylor River fault which is interpreted cross through the claims at the break in slope on the north side of the Taylor River valley (Figure 3). Numerous subsidiary structures striking predominantly east-west, and northwest. Secondary northeast and north trending dilational structures occur.

The basalts have undergone extensive chloritic alteration with localized zones of epidote, and carbonate flooding (Sookochoff 1991). A distinctive crackle breccia texture within these rocks has been interpreted to be caused by hydro-brecciation during alteration of the basalts (Lammle 1988).

Rock samples of pyritiferous quartz carbonate veins in northwesterly striking structures and other areas of altered rock reporting gold grades to 26.6 g/t has been found (Lindinger 1993).

Several weak to moderate soil and rock anomalies for copper, zinc, lead and arsenic have been located to date. These programs were localized surveys conducted to follow up magnetometer anomalies from earlier programs (Cukor 1983, Cukor 1984). To date no soils samples have returned results above trace for gold. Prior to 1993 most surveys were in areas of deep overburden.

#### REVIEW OF EXPLORATION ON THE NORA GROUP

Exploration activity for skarn related copper mineralization was conducted west of where the Nora claims now exist. Historic mapping suggest that this exploration continued onto the ground now under the Abraham and the west end of the Nora claims

(Stevenson 1970), (Sayer 1987). Since the Nora claims were staked in 1982 and the Abraham claims in 1983, physical work consisting of linecutting, geophysical work consisting of Proton magnetometer surveys (Cukor 1983,1984), and combined geochemical surveys for gold and base metals with reconnaissance geological mapping on anomalous areas derived from the geophysical surveys have been completed on low lying areas within the Taylor River valley (Sookchoff 1991, 1992). Anomalous gold (26.6 g/t) has been analyzed from rock samples taken of vein and sheared wallrock from structures north of the Taylor River Fault at the break in slope on the north side of the Taylor River valley.

#### 1994 EXPLORATION PROGRAM

The author completed a combined geological mapping prospecting and rock geochemical sampling programs on the unmapped roadside and river outcrop exposures. This was due the fact that these easily accessible areas were never previously mapped and that rock cuts along road sides often exposed structures, alteration and mineralization not otherwise visible such as the recent showings found on the new road cuts along the Hwy 4 at the Taylor River crossing:

Control was maintained utilizing airphotos, and topographic maps. Local control was maintained by compass and pace, or hipchain control lines.

A total of 33 rock samples were submitted for geochemical analysis.

A 1:10000 scale geological compilation map of the Nora Claims was

LEGEND

QUATERNARY

PLEISTOCENE AND RECENT

SURFICIAL SEDIMENTS

AVUM ALLUVIUM  
RESI RESIDUAL-MATERIAL DERIVED FROM NEARBY BEDROCK  
TILL GLACIAL TILL - UNDIFFERENTIATED

TERTIARY? AND CRETACEOUS AND/OR JURASSIC  
ISLAND INTRUSIONS

GRDR GRANODIORITE  
TONA TONALITE  
TNFP TONALITE - FELDSPAR PORPHYRY  
DCIT DACITE - UNDIFFERENTIATED  
DAQP DACITE - QUARTZ PORPHYRY  
DAFP DACITE - FELDSPAR PORPHYRY  
DAFH DACITE - FELDSPAR HORNBLLENDE PORPHYRY  
ANFP ANDESITE - FELDSPAR PORPHYRY  
ANHP ANDESITE - HORNBLLENDE PORPHYRY  
DTFP DIORITE - FELDSPAR PORPHYRITIC  
DTFH DIORITE - FELDSPAR-HORNBLLENDE PORPHYRY  
DTHF DIORITE - HORNBLLENDE-FELDSPAR PORPHYRY  
DTHP DIORITE - HORNBLLENDE PORPHYRY  
DIOT DIORITE UNDIFFERENTIATED  
DTSW DIORITE STOCKWORK  
GBBR GABBRO

UPPER TRIASSIC AND OLDER

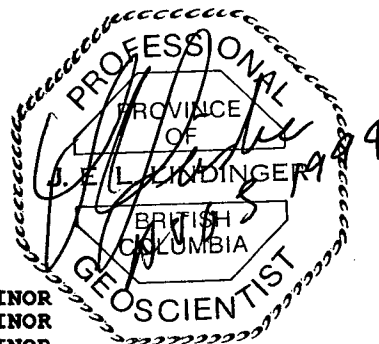
VANCOUVER GROUP  
KARMUTSEN FORMATION  
BAST BASALT - UNDIFFERENTIATED  
PLBT PILLOW BASALT  
LMST LIMESTONE

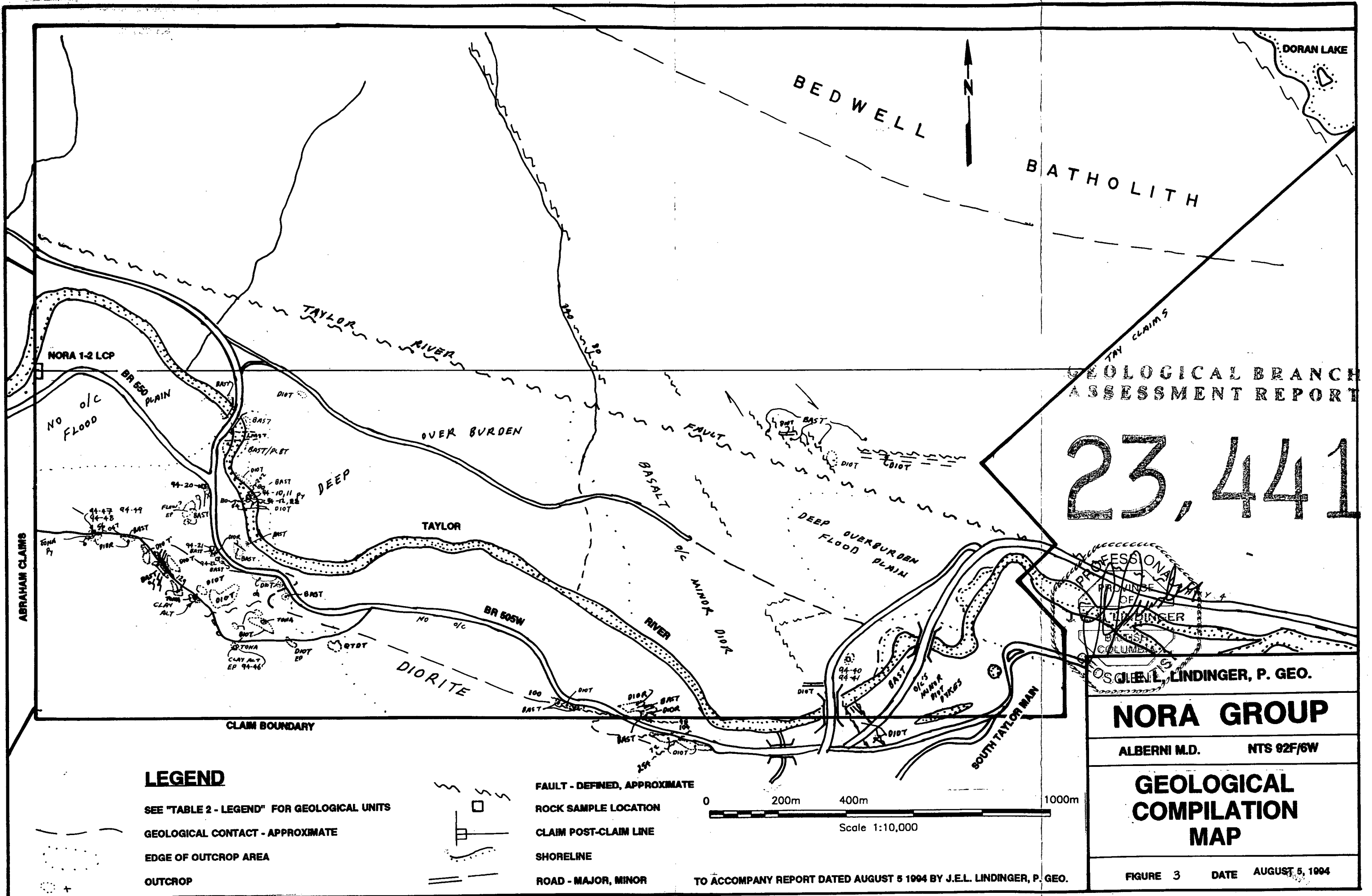
STRUCTURE AND VEINING

FALT FAULT ZONE  
Goug GOUGE ZONE  
SZ SHEAR ZONE  
KFVN POTASSIC FELDSPAR VEIN  
QTVN QUARTZ VEIN  
QTBX QUARTZ BRECCIA (VEIN)  
QTSW QUARTZ STOCKWORK  
QCVN QUARTZ-CARBONATE VEIN  
QCBX QUARTZ CARBONATE BRECCIA  
QCSW QUARTZ CARBONATE STOCKWORK  
QFVN QUARTZ-FELDSPAR VEIN

ALTERATION, MINERALIZATION AND MODIFIERS

CA/Ca/ca	CALCITE	INTENSE/MODERATE/MINOR
CH/Ch/ch	CHLORITE	INTENSE/MODERATE/MINOR
EP/Ep/ep	EPIDOTE	INTENSE/MODERATE/MINOR
AB/Ab/ab	ALBITIZATION	INTENSE/MODERATE/MINOR
QT/Qt/qt	SILICIFICATION	INTENSE/MODERATE/MINOR
BX/Bx/bx	BRECCIATION	INTENSE/MODERATE/MINOR
QC/Qc/qc	QUARTZ/CARBONATE	INTENSE/MODERATE/MINOR
QF/Qf/qf	QUARTZ-FELDSPAR	INTENSE/MODERATE/MINOR
QV/Qv/qv	QUARTZ VEINING	INTENSE/MODERATE/MINOR
SC/Sc/ac	SERICITIZATION	INTENSE/MODERATE/MINOR
CB/Cb/cb	CARBONATE ALT.	INTENSE/MODERATE/MINOR
QK/Qk/qk	QUARTZ K-FELDSPAR	INTENSE/MODERATE/MINOR
CV/Cv/cv	CALCITE VEINING	INTENSE/MODERATE/MINOR
MG/Mg/mg	MANGANESE	INTENSE/MODERATE/MINOR
PY/Py/py	PYRITE	PLUS 5%/2% TO 5%/LESS THAN 2%
AS/As/as	ARSENOPYRITE	PLUS 1%/TRACE TO 1%/TRACE
CP/Cp/cp	CHALCOPYRITE	PLUS 1%/TRACE TO 1%/TRACE
PB/Pb/pb	GALENA	PLUS 1%/TRACE TO 1%/TRACE
MG/Mg/mg	MAGNETITE	PLUS 1%/TRACE TO 1%/TRACE
HM/Hm/hm	HEMATITE	PLUS 1%/TRACE TO 1%/TRACE
CX/Cx/cx	CRACKLE BRECCIA	INTENSE/MODERATE/MINOR
BX/Bx/bx	BRECCIA	INTENSE/MODERATE/MINOR
SW/Sw/sw	STOCKWORK	INTENSE/MODERATE/MINOR





GEOLOGICAL BRANCH  
ASSESSMENT REPORT

23,441

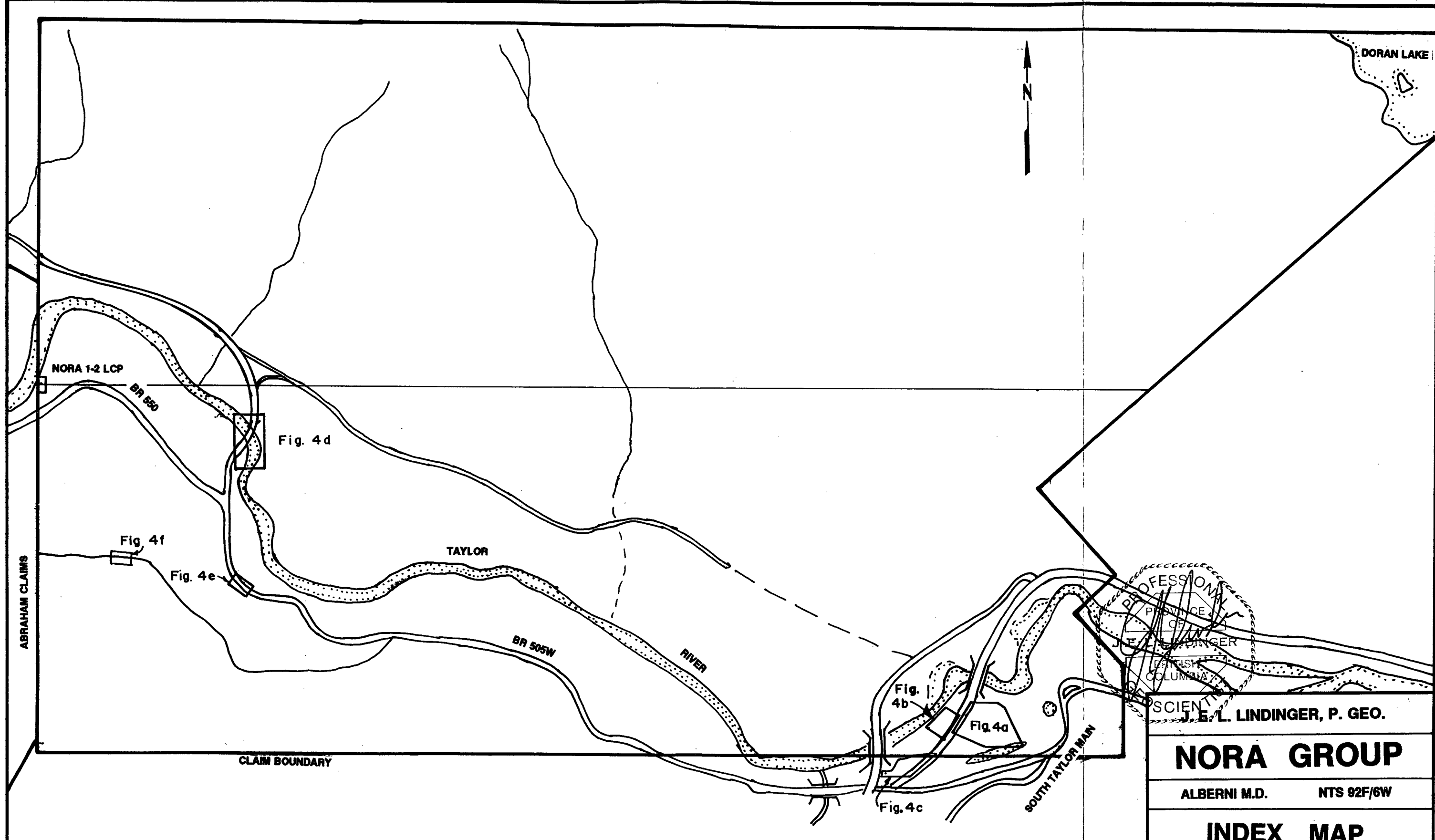
PROFESSIONAL  
J. E. LINDINGER  
COLUMBIA  
OSGIE, LINDINGER, P. GEO.

**NORA GROUP**

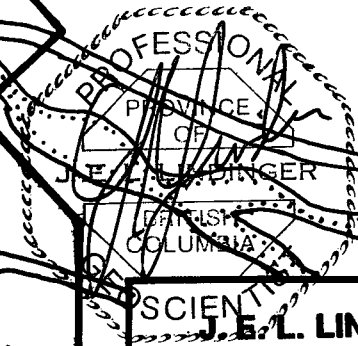
ALBERNI M.D. NTS 92F/6W

**GEOLOGICAL  
COMPILATION  
MAP**

FIGURE 3 DATE AUGUST 5, 1994



DORAN LAKE

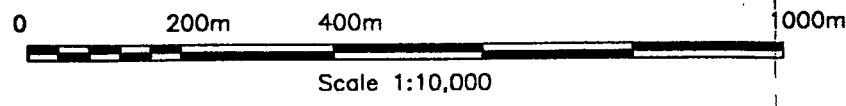


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**NORA GROUP**

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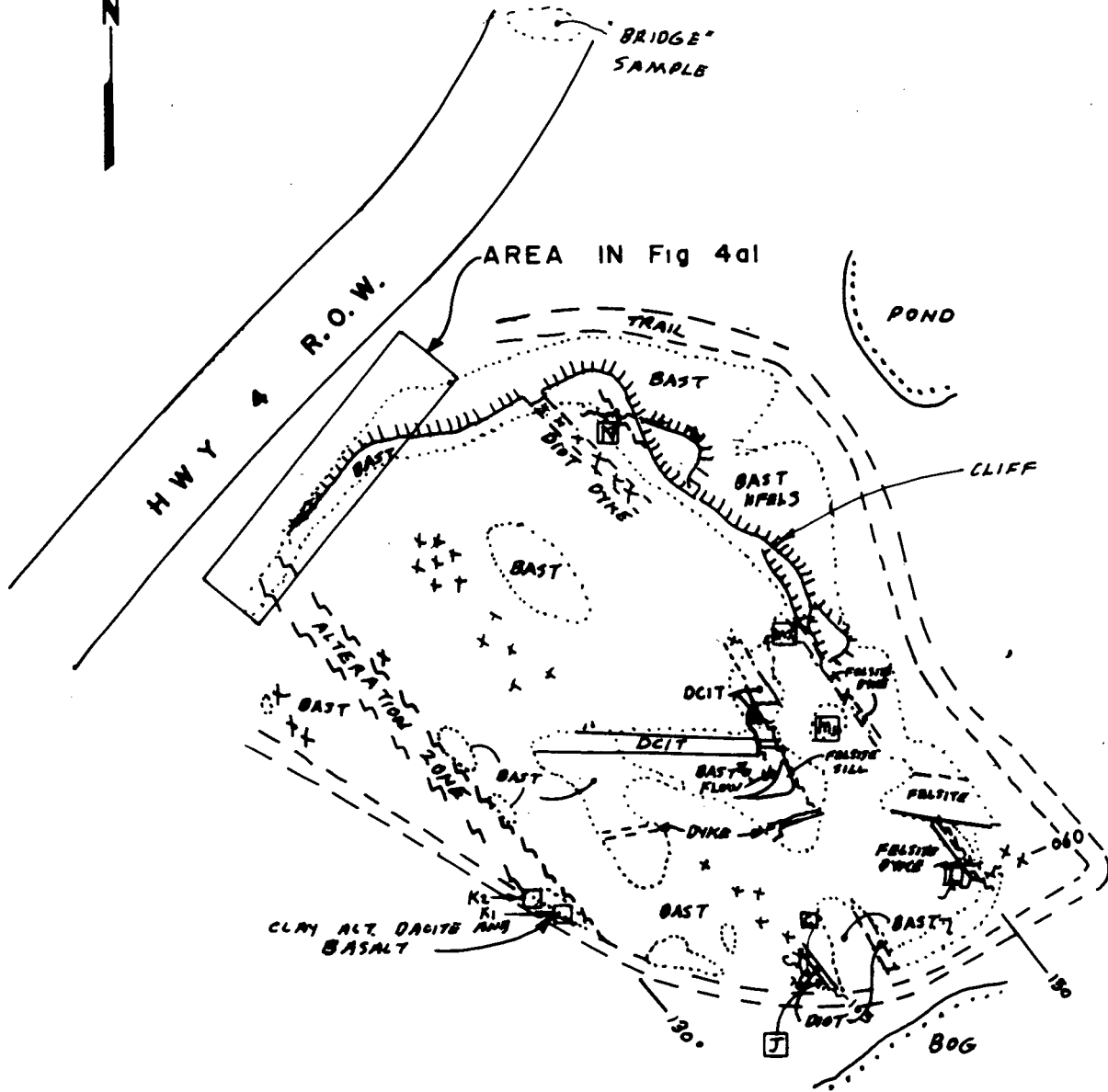
**INDEX MAP**



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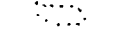



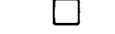


FIGURE 4      DATE      AUGUST 5, 1994

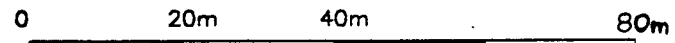




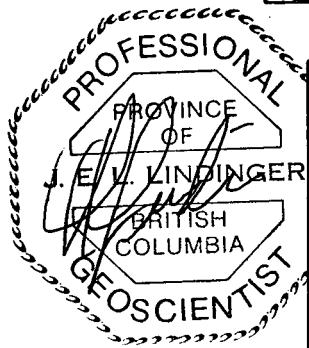
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SEE "TABLE 2 - LEGEND" FOR GEOLOGICAL UNITS

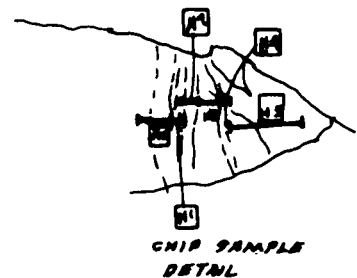
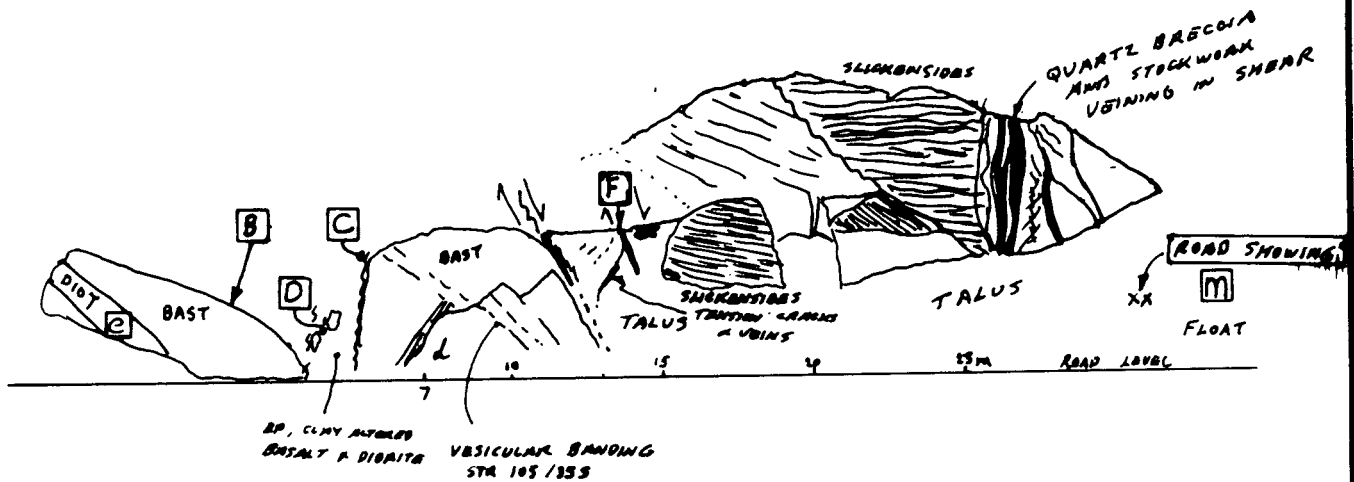
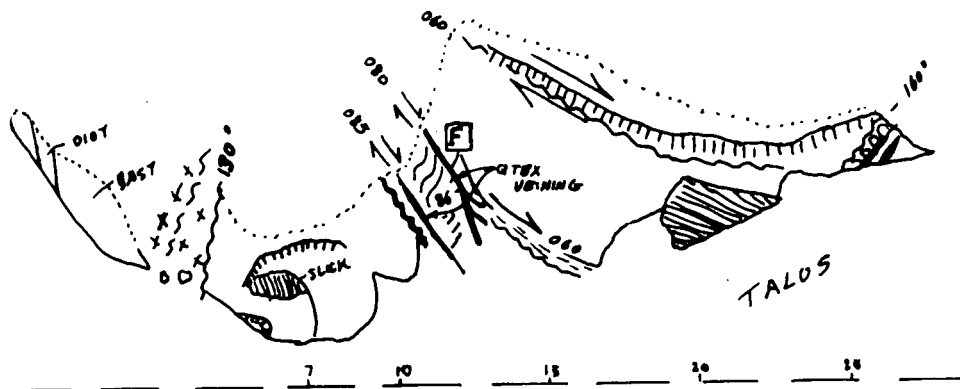
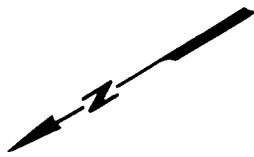
-  GEOLOGICAL CONTACT - DEFINED, APPROXIMATE
-  EDGE OF OUTCROP AREA
-  OUTCROP
-  FAULT - DEFINED, APPROXIMATE
-  ROCK SAMPLE LOCATION
-  CLAIM POST-CLAIM LINE
-  SHORELINE
-  ROAD - MAJOR, MINOR



Scale 1:1000



<b>J. E. L. LINDINGER, P. GEO.</b>
<h1 style="margin: 0;">NORA GROUP</h1> <p style="margin: 0;">NTS - 92F/6W</p>
<b>PLAN DETAIL - GEOLOGY</b>



## LEGEND

SEE "TABLE 2 - LEGEND" FOR GEOLOGICAL UNITS

— GEOLOGICAL CONTACT - DEFINED, APPROXIMATE

--- EDGE OF OUTCROP AREA

○ EAST

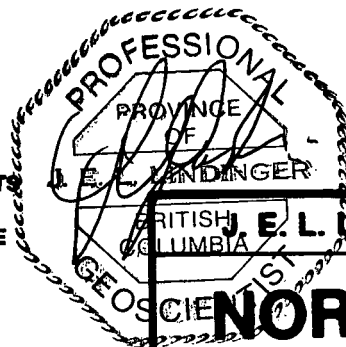
~ FAULT - DEFINED, APPROXIMATE

□ ROCK SAMPLE LOCATION



Scale 1:250

TO ACCOMPANY REPORT DATED AUGUST 5 1994 BY J.E.L. LINDINGER, P. GEO.



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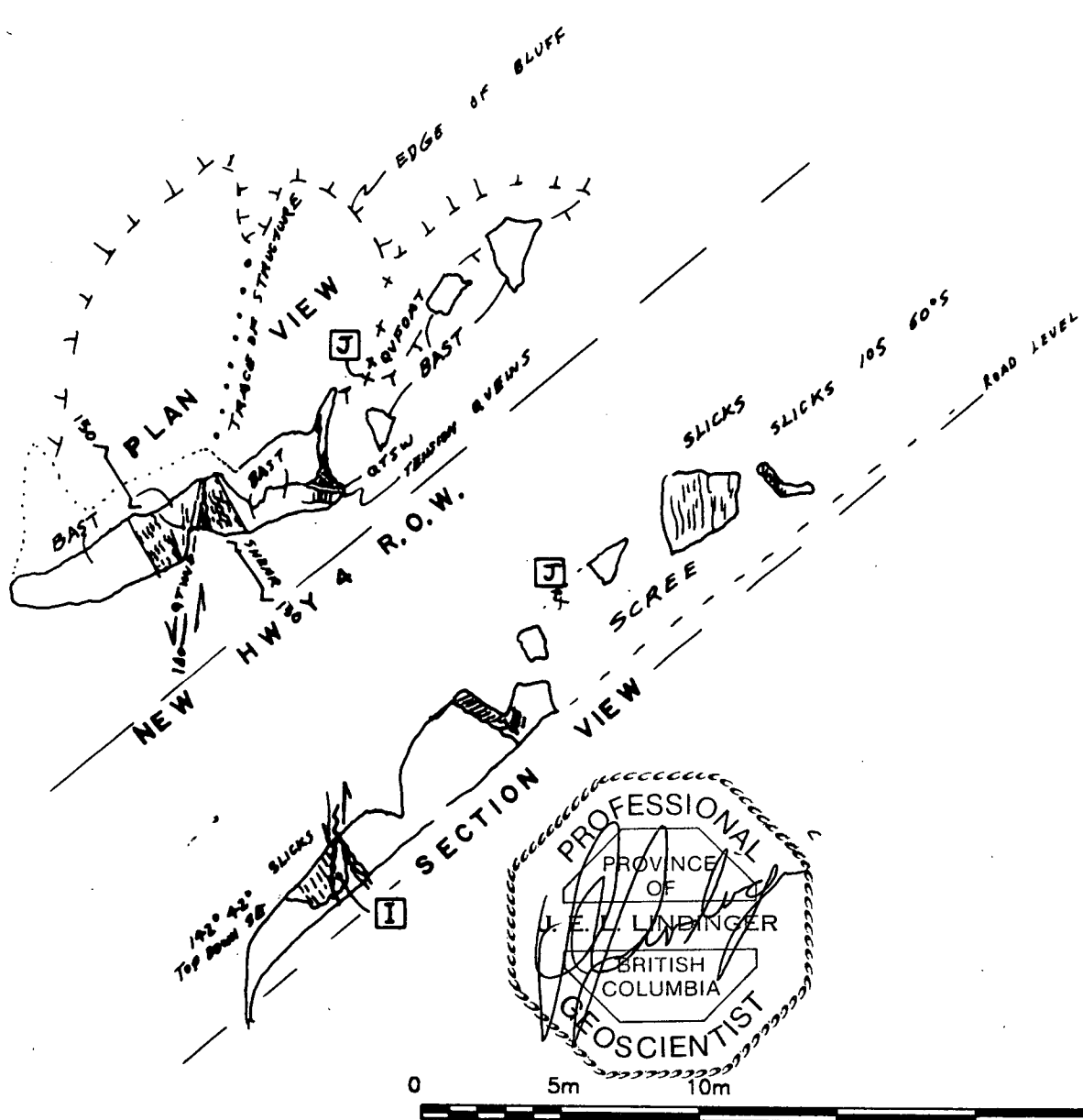
**NORA GROUP**

NTS - 92F/6W

**PLAN DETAIL - GEOLOGY**

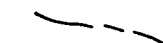




FIGURE 4a1 DATE

AUGUST 5, 1994



**LEGEND**

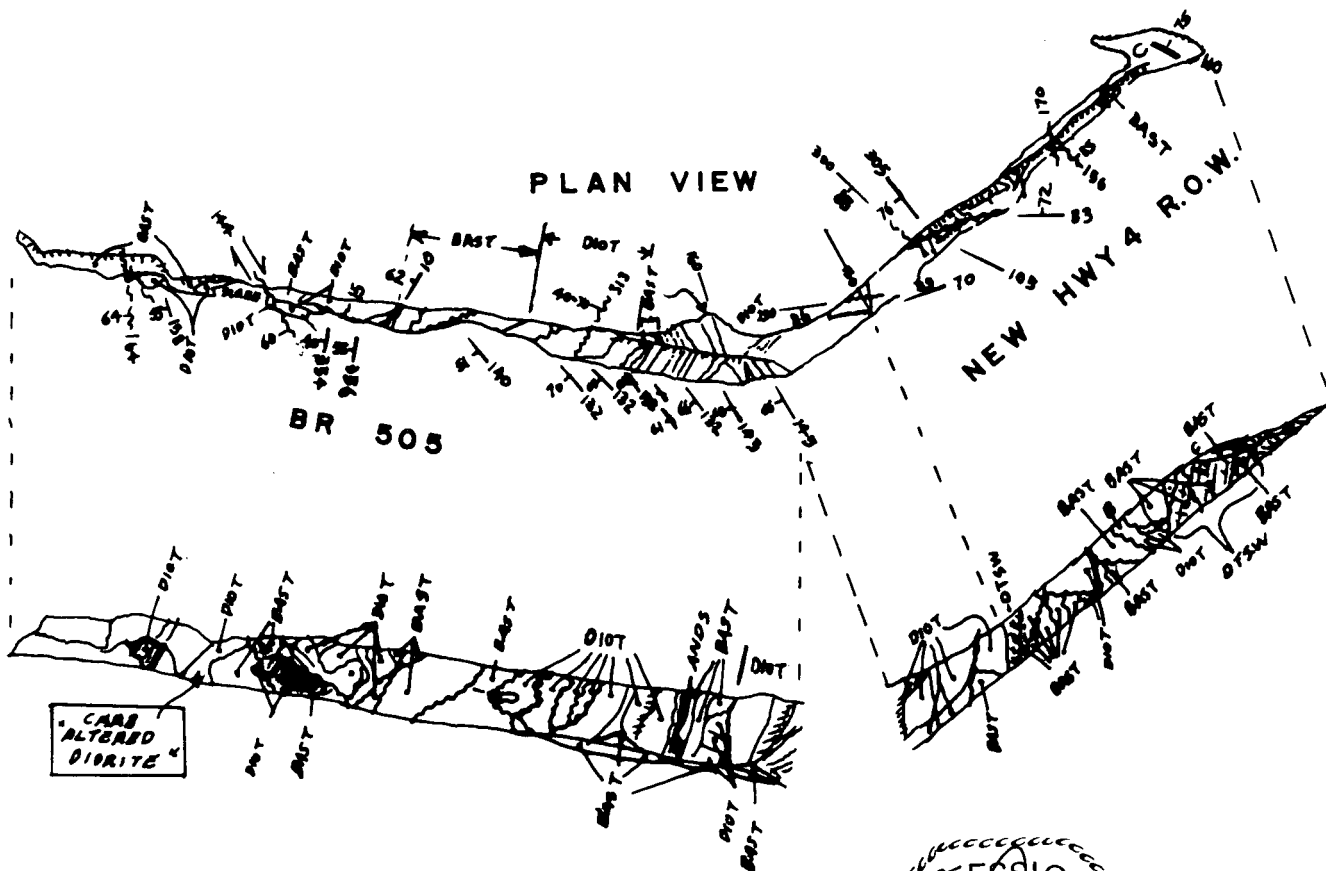
SEE "TABLE 2 - LEGEND" FOR GEOLOGICAL UNITS

-  GEOLOGICAL CONTACT - DEFINED, APPROXIMATE
-  EDGE OF OUTCROP AREA
-  OUTCROP
-  FAULT - DEFINED, APPROXIMATE
-  ROCK SAMPLE LOCATION

<b>J. E. L. LINDINGER, P. GEO.</b>
<h1 style="margin: 0;">NORA GROUP</h1> <p style="margin: 0;">NTS - 92F/6W</p>
<b>PLAN DETAIL - GEOLOGY</b>



### PLAN VIEW



### LEGEND

SEE "TABLE 2 - LEGEND" FOR GEOLOGICAL UNITS

--- GEOLOGICAL CONTACT - DEFINED, APPROXIMATE

..... EDGE OF OUTCROP AREA

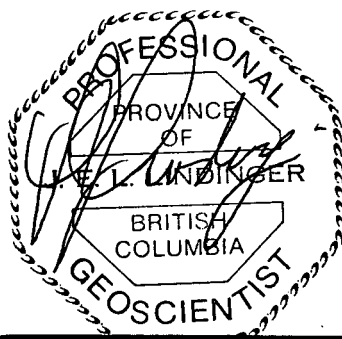
 OUTCROP

~~~~~ FAULT - DEFINED, APPROXIMATE

 ROCK SAMPLE LOCATION



Scale 1:500



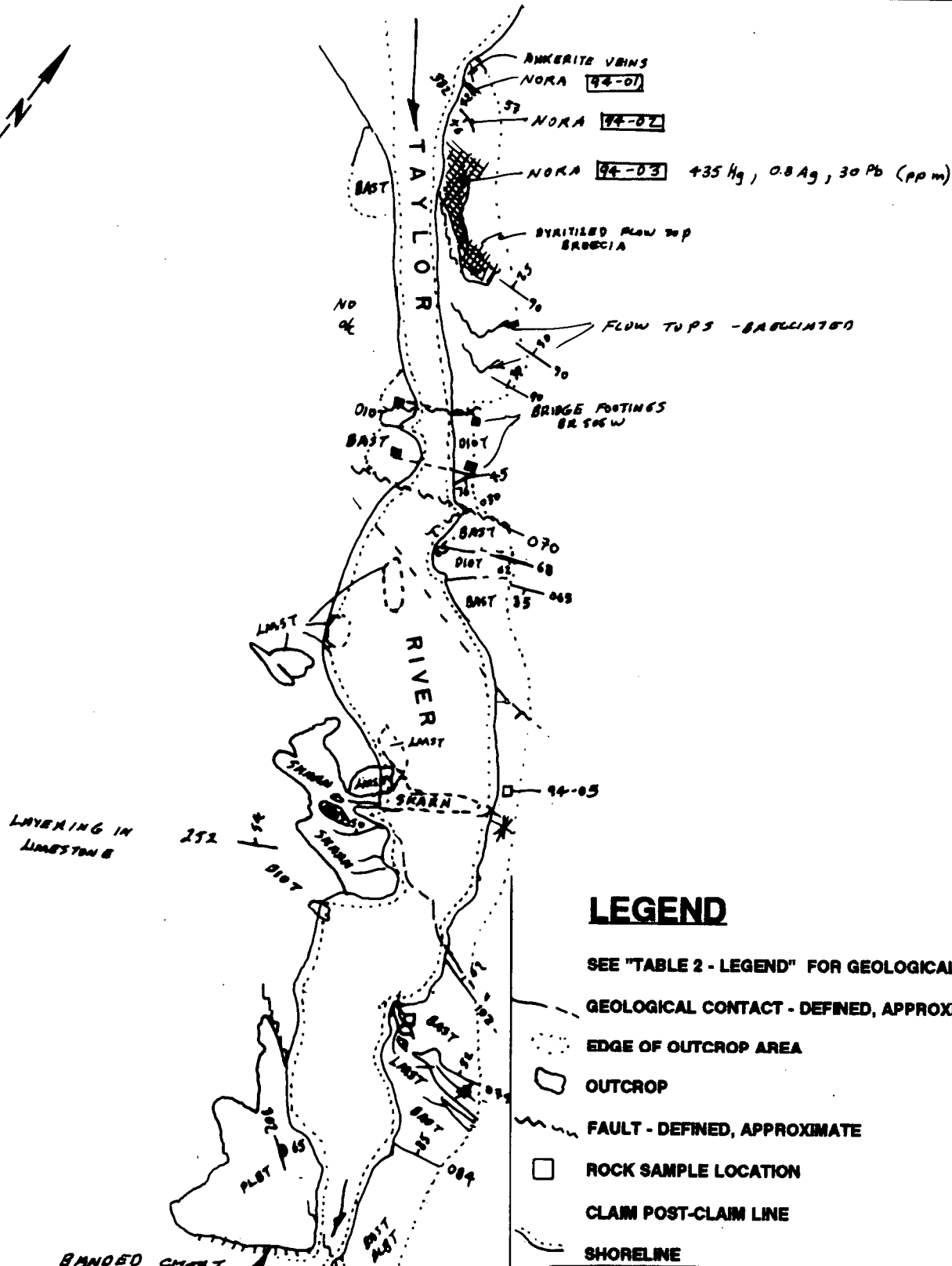
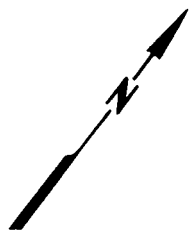
J. E. L. LINDINGER, P. GEO.

## NORA GROUP

NTS - 92F/6W

### PLAN DETAIL - GEOLOGY

FIGURE 4c DATE AUGUST 5, 1994



**LEGEND**

- SEE "TABLE 2 - LEGEND" FOR GEOLOGICAL UNITS
- GEOLOGICAL CONTACT - DEFINED, APPROXIMATE
- EDGE OF OUTCROP AREA
- OUTCROP
- FAULT - DEFINED, APPROXIMATE
- ROCK SAMPLE LOCATION
- CLAIM POST-CLAIM LINE
- SHORELINE

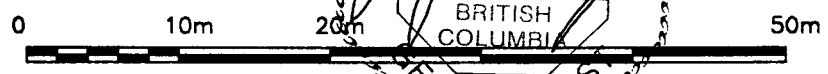
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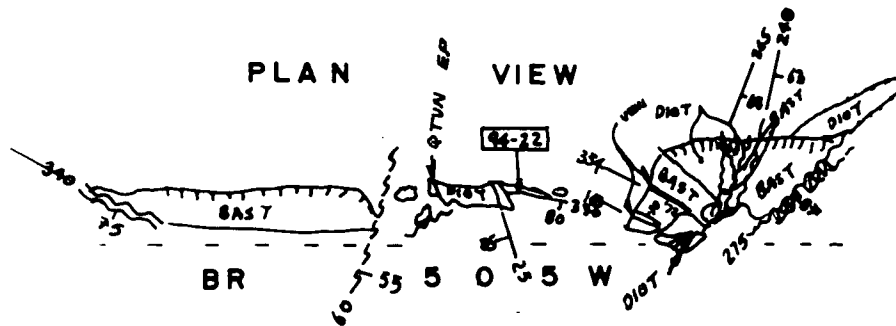
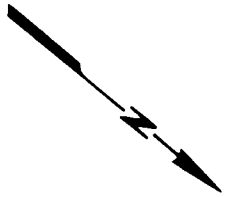
**NORA GROUP**

NTS - 92F/6W

**PLAN DETAIL - GEOLOGY**

FIGURE 4d DATE AUGUST 5, 1994





**SECTION VIEW FACING SW**



**LEGEND**

SEE "TABLE 2 - LEGEND" FOR GEOLOGICAL UNITS

--- GEOLGICAL CONTACT - DEFINED, APPROXIMATE

..... EDGE OF OUTCROP AREA

**OUTCROP**

~~~~~ FAULT - DEFINED, APPROXIMATE

**ROCK SAMPLE LOCATION**

0      10m      20m      50m

Scale 1:500



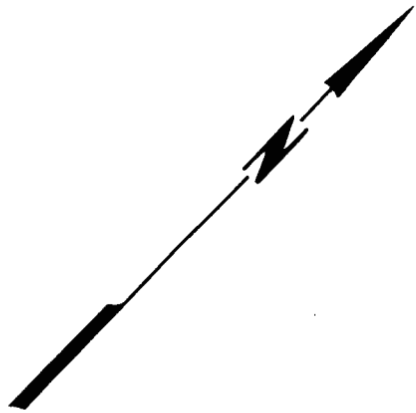
**J. E. L. LINDINGER, P. GEO.**

**NORA GROUP**

NTS - 92F/6W

**PLAN DETAIL - GEOLOGY**

**FIGURE 4e DATE AUGUST 5, 1994**



# LEGEND

SEE "TABLE 2 - LEGEND" FOR GEOLOGICAL UNITS

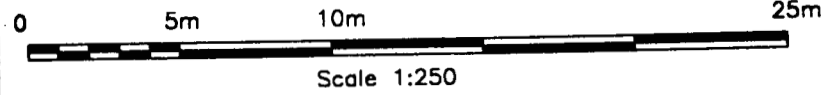
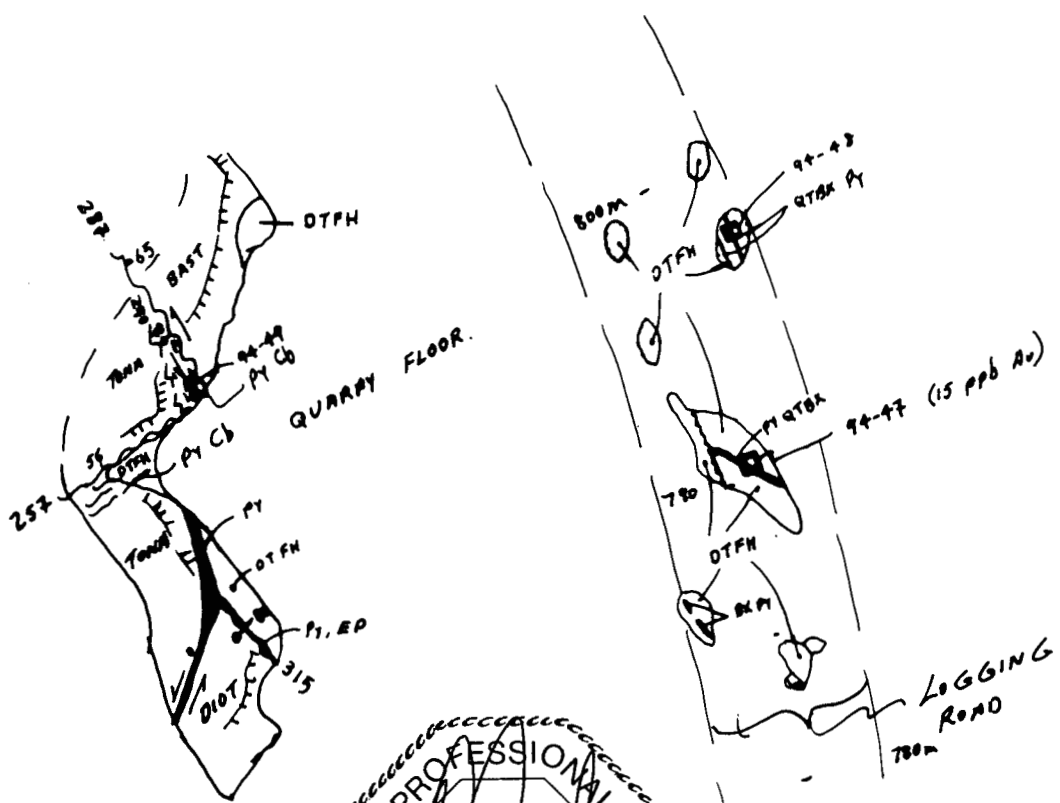
--- GEOLOGICAL CONTACT - DEFINED, APPROXIMATE

..... EDGE OF OUTCROP AREA

 OUTCROP

~~~~~ FAULT - DEFINED, APPROXIMATE

 ROCK SAMPLE LOCATION



|                              |                     |
|------------------------------|---------------------|
| J. E. L. LINDINGER, P. GEO.  |                     |
| <b>NORA GROUP</b>            |                     |
| NTS - 92F/6W                 |                     |
| <b>PLAN DETAIL - GEOLOGY</b> |                     |
| FIGURE 4f                    | DATE AUGUST 5, 1994 |

completed (Figure 3). Also several detailed maps of mapped and sampled areas were completed (Figures 4 to 4f).

## GEOLOGY

Lithologic units found from mapping and aided from previous reports are Upper Triassic Karmutsen pillow basalts, flows and breccias. Intruding these rocks are plagioclase (hornblende) (quartz) (biotite) diorites of the "Island Intrusions". No pre-Karmutsen lithologies have been observed.

The Karmutsen basalts observed were dark green to black vesicular to massive cryptocrystalline to fine and medium grained augite plagioclase porphyry. Pillow basalts were the most common form observed on the north side of the Taylor River Fault. Pillows ranged from 0.2 to 0.8 M in diameter and usually had irregular ovoid shapes. Porphyritic varieties had phenocrysts ranging from 0.5 to 3 mm for augite and 0.5 to 1.5 mm for plagioclase. and comprise up to 12 percent of the rock for each mineral. Vesicles observed comprised less than 4 percent of the rock, were ovoid ranging from 3 to 10 mm long and were either empty calcite or quartz filled. Quartz filled vesicles tended to occur in areas of higher metamorphic grade. Observed tops were up.

The Karmutsen basalts mapped in the Taylor river lowlands appeared to be in part augite plagioclase flows, with heavily vesicled layers. Primary structures were obtained at two recently mapped locations. Flow top breccias mapped at exposures in the Taylor River valley at the BR505 crossing has 90 deg. strikes with 25 to 30 deg. north dips. The second location is an exposure of vesicular flow basalt near the new bridge crossing on Hwy 4. Here a measurement of 285 deg. strike and 35 deg. south



dip was taken.

Limestone was mapped near the BR 505 bridge crossing the Taylor River at the west part of the Nora Claims. The limestone appears to conformably overly in part basalt flows. Exposures are complicated by deformation and at least two diorite dykes forming calc-silicate and skarn pods where they intrude the limestone. several sulphide showings were located mapped and sampled.

Intruding the Karmutsen Basalts and limestone are many stocks, dykes and sills of the dioritic "Island Intrusions". The southeastern part of the Bedwell Batholith is interpreted to cover the northeastern part of the claims. Several dykes strike roughly east-west and northwest ranging from less than 0.2 meters to over 8 meters in width. They are generally hornblende plagioclase with minor biotite and quartz porphyritic quartz diorite. Hornblende occurs as black dark greyish green subhedral to anhedral prisms ranging in size from 2 to 8 mm long and comprises 3 to 20 percent of the rock. Hornblende is often partly to completely altered having chloritized rims. Plagioclase forms subhedral but generally anhedral grains ranging in size from 1 to 6 mm averaging 4 mm and comprises 20 to 80 percent averaging 40 % of the rock. On weathered surfaces plagioclase invariably weathers recessively indicating that plagioclase has been sausseritized to some degree. Fresh surfaces of diorite also react weakly with 10 percent HCl due to innumerable hairline calcite filled fractures. Biotite ranges from trace to 7 percent occurring as black to dark green chloritized specks to thin 8 mm books in coarser grained diorites. Quartz is usually an interstitial component in diorite.

There are two much more felsic intrusive variants mapped. The first is a highly altered extremely siliceous (80% quartz) porphyritic feldspar tonalite? (Rock 93-39) The feldspar phenocrysts have been altered to recessive easily weathered clay-sericite-epidote masses. The remainder of the rock is essentially granular quartz.

The second variant of felsic intrusive is near the rest area on Hwy 4 , in 1993 and several km west on an abandoned logging road in 1994 (Fig 4f). This is a pale green-grey white weathering quartz eye-plagioclase porphyry. The relict 2 to 5 mm plagioclase phenocrysts comprise 15 to 25 % of the rock have been replaced with recessive easily weathered clays and sericite and possibly ankerite. The plagioclase phenocrysts are within a granular (1-2 mm) silicious groundmass consisting of essentially quartz. A pale green colour to fresh surfaces is probably due to microscopic interstitial sericite within the silicious matrix.

The third variant is a finer grained dioritic rock. Known exposures are found near the Taylor River Bridge and in the Figure 4f area several km west. Minute 0.5 to 1.2 mm euhedral needles of relict hornblende comprising less than 0.5 percent and minute anhedral to subhedral 0.4- 0.8 mm clay altered plagioclase? phenocrysts comprising another 20 percent of the rock in a leucocratic sugary textured quartzo feldspathic groundmass. These rocks may be compositionally and visibly very similar to the "dacite porphyry" found associated with the Tay fissure vein (Lindinger 1994), and silicious intrusive rocks associated with the "Vent" porphyry copper occurrence 10 Km south of the claims (Stevenson, 1969).

Fault bounded exposures of intensely carbonate altered diorite

are exposed in new rock cuts at the intersection of BR 505 with the new Hwy 4 right of way (Figure 3, 4c). This rock is a leucocratic very fine grained relict hornblende porphyry. It has been completely pervasively invaded by calcite. Late stage crystalline calcite gash veinlets often occur.

Contact relationships with Karmutsen rocks range from indistinct, sharp, and faulted. The Karmutsen rocks are hornfelsed to a very hard black very fine grained biotitic rock adjacent to these intrusive bodies, forming resistant ridges. Commonly the intrusive rocks weather more recessively than the hornfels resulting in felsenmeer trails of intrusive rocks through large outcrops of resistant hornfels. These dykes strike from 075 to 100 deg., usually steeply north dipping, and at 135-165 deg. also steeply dipping. Several mapped areas showed that diorite was forcibly injected into open joints and fractures where the two dominant trends crossed resulting in stair stepped dykes, and blocks. One east-west fault contact mapped had several sawtooth diorite-basalt segments with subvertical SW and NE striking contacts.

#### Structure.

The dominant structure on the claims is the 110 deg. striking Taylor River fault. This structure occurs at the break in slope on the north side of the Taylor River. Another parallel structure occurs on the south side of the Taylor River again occupying the break in slope. Numerous sub-parallel structures are found throughout the claims. A secondary structural trend is a northwest striking as is seen from several prominent air photo lineaments and mapped structures. Several locations were

mapped where the secondary trend has offset the primary trend with apparent right lateral slip. Vertical displacements could not be determined, however observed slickensides have shallow plunges. Weaker structural sets trending north and northeast have been determined from air photo analysis and confirmed previous information (Lammle 1988 pp8:6-8:8). In addition rare flat faults have been mapped.

Structures hosting alteration and mineralization discovered in the 1994 program conform the previous descriptions.

#### Alteration and Mineralization.

Every observed rock type has undergone sausseritic alteration to some degree. This is evident in basaltic rocks as relict plagioclase grains readily weather to clay minerals, and weak to intense chloritization of the mafic groundmass. Augite and hornblende are commonly altered with chloritized rims. Biotite has been altered to chlorite. Basalts that have been moderately to intensely altered react weakly to moderately with 10% Hcl. Numerous open fractures, and anastomosing tension gashes indicate high fluid pressures during metamorphism. These have been described as steam explosions, (Lammle 1988, p8-2). Basalts mapped in the Taylor River lowlands exhibit apparent broad westerly striking zones of crackle brecciated sausseritized rock. Also major structures of any orientation exhibit a marked increase in chloritization of basalt with sheared basalt displaying anastomosing chloritic shears with many open fractures. A marked decrease of feldspathic grains along altered structures may indicate plagioclase destruction had or was occurring during movement with the migration of the materials (epidote, calcite, albite, sericite, etc. away from areas of

deformation where fluid flow tended to be focused.

Pillow basalts usually have interpillow apical spaces filled with an outer rim of ankerite, with epidote-quartz-ankerite, white quartz with calcite and finally calcite with sulphides in the core. The apical spaces in higher grade metamorphic areas usually contain pyrite with minor chalcopyrite cores.

Flow basalts have vesicles filled with quartz and to a minor extent carbonate minerals.

All intrusive rocks observed contain plagioclase and biotite and to a lesser degree hornblende that has undergone sausseritic alteration. However evidence of degassing (hydrofracturing) and ductile shear was not generally evident. One location containing fractured intrusive rock is the highly siliceous "tonalitic" appearing rock (rock 39). Broken quartz vein material was incorporated in this fractured rock

A very dark black with a brownish tinge hornfels occurs adjacent to intrusive contacts. This colouring is probably due to fine felted biotite within the hornfels. Here also feldspar grains are markedly absent probably due to driving off of the alteration minerals during hornfelsic alteration.

Overprinting the sausseritic and hornfelsic alteration are structurally hosted quartz-carbonate veins with or without sulphides. These veins are largely confined to structures striking easterly, northwesterly and random flat faults. There is a marked increase in vein mineralization proximal to intrusive contacts within hornfelsed basalts. Multi-episodic quartz breccia vein mineralization occurs in linear shear, joint and

fracture fillings. Some of the delicate vein textures noted ie cockscomb and boxwork quartz veining imply a late tensional stage of vein emplacement.

Pyrite as finely disseminated grains are found in hornfelsed basalts. Pyrite has been found as discrete grains in altered diorite, possibly as part of a halo of late stage quartzo-potassic veining described earlier. Pyrite as veinlets and stringers within faults, fractures and quartz veins are common near intrusive contacts. No other sulphide minerals were noted in the outcrops mapped. However several pieces of pillow basalt float with attached apical infillings containing late stage pyrite and chalcopyrite were observed. Several occurrences of quartz breccia veining containing basalt breccia fragments in quartz vein were mapped. In skarnified limestone occurrences pyrite tends to form lensoid pods.

Chalcopyrite was noted within structures in carbonate altered diorite in the Taylor River (Figure 3 - sample ZZ).

Gold mineralization associated with pyritiferous quartz-carbonate veining within northwest, west and northeast striking steeply northdipping structures have been found on the Nora claims. These rocks are usually moderately anomalous for arsenic, mercury, copper and lead.

#### GEOCHEMICAL SURVEY

Rock samples taken were relatively fresh, and clean. Rock type, alteration, mineralization and any other distinguishing

characteristics were noted (APPENDIX I: ROCK SAMPLE DESCRIPTIONS).

At the laboratory the samples were dried then crushed to 100% passing -10 mesh using jaw and cone crushers with a 250 gram subsample taken then ring pulverized to -140 mesh.

30 gm subsamples were digested with 3 ml HCL-HNO -H 0 (aqua regia) relative proportions 3-1-2 respectively for one hour at 95 deg. C then diluted to 10 ml with distilled water. Gold analysis was made by acid leach and atomic absorption from a 10 gm sub-sample. The detection limit for gold using this method is 5 ppb.

Also a 11 element pathfinder package was used. The Pathfinder Package included silver, arsenic, bismuth, cadmium, copper, molybdenum, lead, antimony, selenium, and zinc with results reported in parts per million (ppm) and mercury in parts per billion. The pathfinder package has analytical techniques optimized for each element.

Whole rock analyses was completed on 4 selected samples.

#### EXPLORATION RESULTS

With the exception of samples 94-21, and 94-22 which reported 10 and 30 ppb gold respectively and were taken some 400 meters south of the BR505 bridge crossing on the Taylor River no samples were above threshold detection limits for gold. No significant silver was located. Anomalous mercury was found associated with pyritized frow top breccia at the Br505 bridge crossing over the

### CONCLUSIONS

A program of geological mapping, prospecting, and rock sampling along road side and river rock exposures was completed. Only 2 samples reported greater than threshold gold. These are located about 400 meter south of the BR505 crossing of the Taylor River near the west side of the Nora 2 Claim. Several other structural zones of pyritiferous quartz breccia vein mineralization reported very weak anomalies for arsenic, copper and lead.

### RECOMMENDATIONS

The multi-ounce gold occurrences found on properties west and east of the Nora Group and the 26.6 gm find in 1993 indicate that high grade gold occurs throughout the area usually associated with topographically recessive structural zones covered by a masking blanket of glacial till.

Future work comprising geological mapping and prospecting with rock sampling and strategic soil sampling should be completed on the Nora Claim group, specifically north of the projected strike of the Taylor River Fault in steep terrain where a; the most significant mineralization has been found to date, b; a where favourable geological environment containing numerous intrusive bodies and structures are interpreted.

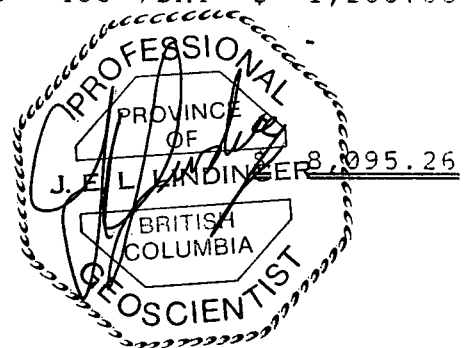
The areas containing significant gold mineralization should be mapped and sampled in detail.

Geophysical anomalies specifically magnetometer lows in deep overburden covered areas should be drilled and tested.



## STATEMENT OF EXPENDITURES

|                      |      |         |               |             |
|----------------------|------|---------|---------------|-------------|
| GEOLOGICAL FIELDWORK | 7    | MANDAYS | \$ 400 /DAY   | \$ 2,800.00 |
| GEOLOGICAL ASSISTANT | 5    | MANDAYS | \$ 250 /DAY   | \$ 1,250.00 |
| FIELD ASSISTANT      | 1    | MANDAY  | \$ 134 /DAY   | \$ 133.75   |
| TRANSPORTATION       | 1100 | Km      | \$ 0.37 /km   | \$ 407.00   |
| GAS                  |      |         |               | \$ 130.00   |
|                      | 2    | TOLL    | \$ 10 TRIP    | \$ 20.00    |
|                      | 2    | FERRY   | \$ 28.50 TRIP | \$ 57.00    |
|                      | 2    | DAYS    | \$ 30 /DAY    | \$ 60.00    |
|                      | 5    | DAYS    | \$ 50 /DAY    | \$ 250.00   |
| TOTAL TRANSPORTATION |      |         |               | \$ 924.00   |
| FIELD SUPPLIES       |      |         |               | \$ 20.00    |
| ANALYSES             |      |         |               | \$ 1,127.51 |
| DRAFTING             | 2.5  | DAYS    | \$ 200 /DAY   | \$ 500.00   |
| OFFICE SUPPLIES      |      |         |               | \$ 140.00   |
| REPORT               | 3    | DAYS    | \$ 400 /DAY   | \$ 1,200.00 |
| TOTAL EXPENDITURES   |      |         |               | \$ 8,095.26 |



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- Cukor, V. May 1983: Nora Group: Assessment Report on Ground Magnetic Survey.
- Christopher P.A. July 1992: Geological and geochemical Assessment Report on the Snow White Property. Assessment Report #22443.
- Lammle C.A.R. December 1988: 1988 Exploration Program: Tay gold Project.
- Lindinger, J.E.L. April 1993: Geological and Geochemical Report on the Nora Group. Assessment Report.
- Lindinger, J.E.L. July 1994: 1994 Phase 1 Diamond Drill Program on the Tay Main (East) Zone and Slide Zone with A Summary of Economic Potential on the Tay Property.
- Sookochoff L. June 1991: Geological and Geochemical Assessment Report for Frank Milakovich on the Nora Claim Group.
- Sookochoff, L. June 1992: Geological and Geochemical Assessment Report for Frank Milakovich on the Nora Claim Group.
- Stevenson W.G. May 1969: "Geological and Geochemical Report on the Vent Claims". B. C. Assessment report #1902.
- Stevenson W.G. Nov 12 1970: Geological, Geochemical and Geophysical Report on the Tes 3, 4, 7-20 Mineral Claims. B.C. Assessment Report #2699.

CERTIFICATE OF QUALIFICATIONS

I, Leo J. Lindinger, hereby do certify:

I am a graduate of the University of Waterloo (1980) and hold an honours Earth Sciences degree.

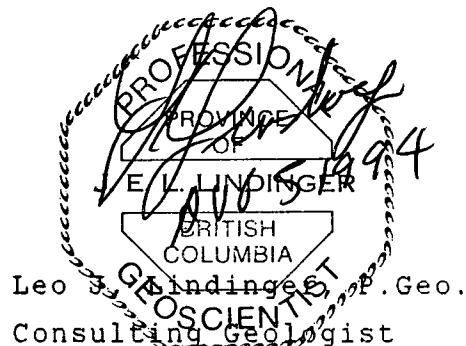
I have been practising my profession continually for the past 13 years.

I am a fellow of the Geological Association of Canada (1987).

I am registered as a Professional Geoscientist with the Association of Professional Engineers and Geoscientists of the Province of British Columbia (1992).

The information presented in this report was a result of field work performed in March and April 1993, with additional information provided from Selected References.

I have no interest, financial or otherwise in the Nora Claim Group.




**STATEMENT OF QUALIFICATIONS**

I, Ian A. Lyn, hereby do certify that:

I am a graduate of the University of Toronto (1978) and hold a BSc. degree in Specialist Geology.

I have been practising my profession as an exploration and mine geologist for the past 15 years, including several gold properties and mines throughout western Canada.

I have no direct or indirect interest, financial or otherwise in the Nora Property, nor do I expect to receive any.



**Ian A. Lyn  
May 9, 1994**

## APPENDIX I

## ROCK SAMPLE DESCRIPTIONS

| SPEC#<br>SAMP# | REFERENCE<br>FIGURE | SAMPLE DESCRIPTION                                                                                                                                                                                                          | SIGNIFICANT<br>ANALYSES              |
|----------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| B<br>131151    | 4A1                 | Grey melanocratic fine grained vesicular basalt. Vesicles calcite and quartz filled.                                                                                                                                        | Hg 85 ppb<br>Zn 112 ppm<br>Pb 16 ppm |
| C<br>131152    | 4A1                 | Grey bleached basalt and diorite clast vein breccia. Vein material is a greenish sucro-sic to chalcedonic faintly flowbanded choro-feldspathic material. Late tensional quartz breccia veinlets hosting limonitic staining. |                                      |
| D              | 4A1                 | Green and maroon mottled sheared, altered intrusive rock and basalt. Basalt vesicles filled with quartz. Numerous late stage quartz calcite tension gashes.                                                                 |                                      |
| E              | 4A1                 | Green grey mottled medium grained hornblende feldspar porphyry. Intensely chlorite calcite altered, hornblende to chlorite and feldspars to calcite and clay.                                                               |                                      |
| F<br>131153    | 4a1                 | Quartz breccia veining in sheared and silicified basalt.                                                                                                                                                                    | Hg 70 ppb<br>Cu 122 ppm              |
| H              | 4a1                 | Maroon altered and sheared and hornfelsed brittle basalt. Quartz calcite chlorite breccia veins and later tensional quartz pyrite fracture veins.                                                                           |                                      |

|              |     |                                                                                                                                                                                                                                              |                                      |
|--------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| H1<br>131154 | 4A1 | Dark grey maroon fine grained sheared hornfelsed basalt with late stage open lensoid fractures and frothy flow top breccia or web veining. Whole Rock indicates silica and iron enrichment with sodium and calcium depletion.                |                                      |
| H2<br>131155 | 4A1 | Green and maroon sheared altered vesicular basalt. Random quartz filled vesicles common. Numerous quartz calcite tension fractures. Whole Rock indicates silica, potassium, titanium enrichment and sodium, magnesium and calcium depletion. | Cu 150 ppm                           |
| H3<br>131156 | 4A1 | Dark maroon melanocratic epidote chlorite calcite altered sheared basalt.                                                                                                                                                                    | Cu 291 ppm                           |
| H4<br>131157 | 4A1 | as H2                                                                                                                                                                                                                                        | As 10 ppm<br>Cu 669 ppm<br>Pb 12 ppm |
| H5<br>131158 | 4A1 | as H2                                                                                                                                                                                                                                        | Zn 100 ppm                           |
| I<br>131159  | 4B  | White multiphased banded quartz calcite ankerite vein. Early white phase brecciated by green sericitic +/-sulphide. Wall rock is dark green basalt grading to narrow pyritic argillic sheared rock.                                          | Cu 125 ppm                           |
| J<br>131160  | 4B  | Melanocratic grey-purple sheared chloritic basalt with late stage epidote calcite chlorite pyrite shear zones.                                                                                                                               | Cu 104 ppm                           |

|              |    |                                                                                                                                                                                                                                                                 |            |
|--------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| K            | 4A | Limonitic weathered dark grey green fine grained feldspar hornblende porphyry diorite hosting calcite epidote breccia zone. Vein comprises about 10% of the rock. Triangular frags to 2 X 1 cm.                                                                 |            |
| K1<br>131161 | 4A | Medium grey mottled fine to medium grained clay altered diorite. Feldspars altered to clay-calcite. Late stage pyrite calcite fracture veining throughout.                                                                                                      |            |
| K2<br>131162 | 4A | Pale grey intensely altered and crackle brecciated diorite. Numerous open space fillings. Similar to "Road Showing"                                                                                                                                             | Cu 165 ppm |
| L<br>131163  | 4A | Crackle brecciated shear zone in altered basalt or intrusive rock altered to a melanocratic brown green fine grained schistose rock. Breccia zones contain tensional epidote calcite limonitic weathered 3 cm by 0.5 cm anastomosing and lensoid breccia veins. |            |
| M            | 4A | Buff green fine grained feldspar porphyry dacite. Moderately chlorite altered. Weak conjugate calcite quartz stockwork veins.                                                                                                                                   |            |
| N            | 4A | Quartz calcite chlorite breccia veins in maroon sheared altered brittle basalt. Late open tensional fractures contain quartz pyrite veinlets.                                                                                                                   |            |

|                                                  |     |                                                                                                                                                                                                                                                                                                                                  |                         |
|--------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Bridge<br>131165                                 | 4A  | Melanocratic fine grained massive vesticular basalt. Numerous 2 to 6 mm lensoid vesicles filled with quartz. 1% random euhedral 0.5 to 1 mm pyrite grains and in late stage quartz epidote calcite veinlets. Whole Rock indicates a gabbro with high iron.                                                                       | Cu 261 ppm              |
| "Road<br>Sho-<br>wing"<br>131164                 | 4A1 | Pale grey to tan sintery multistage breccia veining. Numerous fracture fillings. Groundmass appears to be at times very fine grained feldspar porphyry. Unit contains frags to 4 cm across and is very recessive. Whole Rock indicates quartz, potassium, and titanium enrichment with sodium, calcium and phosphorus depletion. | Cu 104 ppm<br>Pb 10 ppm |
| "Carb<br>alte-<br>red<br>dio-<br>rite"<br>131166 | 4c  | Leucocratic very fine grained intrusive textured "dioritic rock". Rock has been extensively carbonitized with calcite replacing most of the matrix. Random late stage calcite vaining. Associated with and invariably in fault contact with hornfelsed brittle melanocratic basalt.                                              |                         |
| 94-01<br>131167                                  | 4d  | Ocher weathering tan ankerite veinlets in flow basalt.                                                                                                                                                                                                                                                                           |                         |
| 94-02<br>131168                                  | 4d  | as 94-01                                                                                                                                                                                                                                                                                                                         | Cu 530 ppm<br>Pb 12 ppm |



|                 |    |                                                                                                                                                                                                                                 |                                                                  |
|-----------------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| 94-03<br>131169 | 4d | Melanocratic very fine grained vesicular flow top basalt. Moderately carbonate altered, reacts well with 10% HCl. Numerous pyritic calcite fracture veins perpendicular to flow and as clots and vesicle replacements.          | Hg 435 ppb<br>Ag 0.8 ppm<br>As 13 ppm<br>Cu 143 ppm<br>Pb 30 ppm |
| 94-05           | 4d | Grey skarnified limestone breccia. Extremely variable textures and grain size ranging from fine felted limestone to medium grained grey marble. Numerous isolated grains and clots of pyrite in late silicate coated fractures. |                                                                  |
| 94-10<br>131170 | 4d | Quartz chlorite epidote breccia zones. Resembles quenched, brecciated pillow margin filled with metamorphic quartz and calc silicate minerals 2.5 cm thick. Grades into limestone.                                              | Hg 75 ppb<br>As 12 ppm<br>Cu 208 ppm<br>Pb 10 ppm<br>Zn 144 ppm  |
| 94-11<br>131171 | 4d | Hornblende porphyritic diorite intruding limestone resulting in a leucocratic feldspathic stockwork in a mottled grey green calc-silicate groundmass. Random pyrite clots and aggregates in late fractures.                     | As 12 ppm<br>Pb 14 ppm                                           |
| 94-12<br>131172 | 4d | Mesocratic grey fine grained fine grained feldspar hornblende porphyry in contact with limestone. Leucocratic silicate stockwork zone intruding chloritized limestone. Random pyrite pods in "potassic" alteration zones.       | Mo 10 ppm                                                        |

|                                      |    |                                                                                                                                                                                                                                                    |                                                   |
|--------------------------------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| 94-14<br>131173                      | 4d | Pale grey leucocratic quartz eye feldspar hornblende porphyry tonalite. 15% chlorite altered hornblende and 10 % isolated quartz eyes to 4 mm in grey feldspathic groundmass. Numerous late stage tension fractures.                               | Cu 125 ppm                                        |
| River<br>Lime-<br>stone              | 4d | Grey marble and limestone containing lensoid clots of fine to coarse grained pyrite. Grey laminated chlorite green weathering very fine grained limestone is brecciated by 2-3 mm grey crystalline marble. Sulphides as late stage mineralization. |                                                   |
| ZZ<br>NORA<br>grid<br>3+10S<br>0+60W | 4  | Mesocratic medium grained diorite hosted pods of epidote pyrite chalcopyrite veining. Mesocratic epidote calcite altered host rock with hornblende replaced by epidote and interstitial calcite.                                                   |                                                   |
| 94-20<br>131174                      | 3  | Melanocratic grey-green medium grained intensely chloritized and sheared basalt.                                                                                                                                                                   | Cu 288 ppm<br>Zn 210 ppm                          |
| 94-21<br>131176                      | 3  | White wavy interbanded multiphased quartz chlorite epidote pyrite veins in melanocratic basalt hosted shear zone. Vein laminations average 5 mm thick. Late stage brittle fracture veining.                                                        | Au 10 ppb<br>Hg 105 ppb<br>Cu 319 ppm             |
| 94-22<br>131175                      | 3  | Melanocratic fine grained basalt with sheared areas containing pods and disseminations of pyrite in tensional fractures.                                                                                                                           | Au 30 ppb<br>As 10 ppm<br>Cu 102 ppm<br>Pb 12 ppm |

|                 |    |                                                                                                                                                                                                                                                                  |                        |
|-----------------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 94-40<br>131177 | 3  | Mesocratic bleached basalt hosting feldspathic "intrusive" appearing veining. Late stage quartz veining with cockscomb openings. Limonitic weathering on all surfaces.                                                                                           | Mo 11 ppm              |
| 94-41<br>131178 | 3  | Melanocratic sheared chlorite altered basalt.                                                                                                                                                                                                                    | As 8 ppm<br>Zn 132 ppm |
| 94-46<br>131179 | 3  | Mesocratic mottled medium grained feldspar hornblende porphyry. Hornblende extensively chlorite altered and feldspars clay altered along fractures and shears.                                                                                                   |                        |
| 94-47<br>131180 | 4f | Melanocratic highly chlorite altered very fine grained feldspar hornblende porphyry with locally intense pyrite stockwork veining.                                                                                                                               | Au 15 ppb<br>Pb 14 ppm |
| 94-48<br>131181 | 4f | Mesocratic very fine grained feldspar hornblende porphyry with locally intense pyrite stockwork. Pyrite clots to to 3 cm long by 1 cm wide. Wallrock bleached chlorite altered with slight epidote alteration.                                                   | Pb 12 ppm              |
| 94-49<br>131182 | 4f | Leucocratic grey fine grained epidote feldspar hornblende porphyry diorite. Numerous shears filled with Kspar? +/- quartz? veining with disseminated pyrite grains in wallrock. Pyrite grains within late veining and as hornblende or other mafic replacements. |                        |
| 131183          |    | Grey clay and carbonate altered diorite and tonalite near soil anomaly (Sookchohoff 1992)                                                                                                                                                                        |                        |

---

APPENDIX II

CERTIFICATES OF ANALYSES



ASSAYING  
GEOCHEMISTRY  
ANALYTICAL CHEMISTRY  
ENVIRONMENTAL TESTING

10041 E. Trans Canada Hwy., R.R. #2, Kamloops, B.C. V2C 2J3 Phone (604) 573-5700  
Fax (604) 573-4557

**CERTIFICATE OF ANALYSIS ETK 94-311**

LEO LINDINGER  
P.O. BOX 1216  
KAMLOOPS, B.C.  
V2C 6H3

June 22, 1994

33 ROCK samples received June 13, 1994


| ET #. | Tag #  | Au<br>(ppb) | Hg<br>(ppb) |
|-------|--------|-------------|-------------|
| 1     | 131151 | <5          | 85          |
| 2     | 131152 | <5          | 35          |
| 3     | 131153 | <5          | 70          |
| 4     | 131154 | <5          | 30          |
| 5     | 131155 | <5          | 25          |
| 6     | 131156 | <5          | 30          |
| 7     | 131157 | <5          | 20          |
| 8     | 131158 | <5          | 20          |
| 9     | 131159 | <5          | 15          |
| 10    | 131160 | <5          | 20          |
| 11    | 131161 | <5          | 20          |
| 12    | 131162 | <5          | 20          |
| 13    | 131163 | <5          | 40          |
| 14    | 131164 | <5          | 20          |
| 15    | 131165 | <5          | 25          |
| 16    | 131166 | <5          | 10          |
| 17    | 131167 | <5          | 20          |
| 18    | 131168 | <5          | 20          |
| 19    | 131169 | <5          | 435         |
| 20    | 131170 | <5          | 75          |
| 21    | 131171 | <5          | 40          |
| 22    | 131172 | <5          | 30          |
| 23    | 131173 | <5          | 20          |
| 24    | 131174 | <5          | 40          |
| 25    | 131175 | 30          | 30          |
| 26    | 131176 | 10          | 105         |
| 27    | 131177 | <5          | 15          |
| 28    | 131178 | <5          | 20          |
| 29    | 131179 | <5          | 25          |
| 30    | 131180 | 15          | 55          |

LEO LINDINGER ETK 94-311

| ET #. | Tag #  | Au<br>(ppb) | Hg<br>(ppb) |
|-------|--------|-------------|-------------|
| 31    | 131181 | <5          | 35          |
| 32    | 131182 | <5          | 15          |
| 33    | 131183 | <5          | 45          |

FAX @:374-6369

XLS/Lindinger

  
**ECO-TECH LABORATORIES LTD.**  
Frank J. Pezzotti, A.Sc.T.  
B.C. Certified Assayer



ASSAYING  
GEOCHEMISTRY  
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10041 E. Trans Canada Hwy.. R.R. #2, Kamloops. B.C. V2C 2J3 Phone (604) 573-5700  
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**CERTIFICATE OF ANALYSIS ETK 94-311**

LEO LINDINGER  
P.O. BOX 1216  
KAMLOOPS, B.C.  
V2C 6H3

June 29, 1994

33 ROCK samples received June 13, 1994

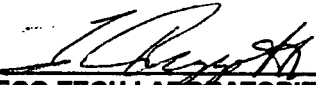
| ET #. | Tag #  | Ag<br>(ppm) | As<br>(ppm) | Bi<br>(ppm) | Cd<br>(ppm) | Cu<br>(ppm) | Mo<br>(ppm) | Pb<br>(ppm) | Sb<br>(ppm) | Se<br>(ppm) | Zn<br>(ppm) |
|-------|--------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1     | 131151 | <.2         | 4           | <.1         | 0.1         | 81          | 2           | 16          | <.2         | <.2         | 112         |
| 2     | 131152 | <.2         | 6           | 0.1         | <.1         | 48          | 4           | 6           | <.2         | <.2         | 60          |
| 3     | 131153 | <.2         | 2           | <.1         | 0.1         | 122         | 4           | 10          | <.2         | <.2         | 91          |
| 4     | 131154 | <.2         | 9           | 0.1         | <.1         | 77          | 3           | 8           | <.2         | <.2         | 60          |
| 5     | 131155 | <.2         | 3           | 0.2         | <.1         | 150         | 3           | 6           | <.2         | <.2         | 14          |
| 6     | 131156 | <.2         | 2           | <.1         | 0.1         | 291         | 3           | 6           | <.2         | <.2         | 16          |
| 7     | 131157 | <.2         | 10          | 0.1         | 0.1         | 669         | 2           | 12          | <.2         | <.2         | 80          |
| 8     | 131158 | <.2         | 1           | 0.3         | <.1         | 92          | 2           | 6           | <.2         | <.2         | 100         |
| 9     | 131159 | <.2         | 1           | 0.1         | <.1         | 125         | 5           | 4           | <.2         | <.2         | 36          |
| 10    | 131160 | <.2         | 6           | 0.1         | <.1         | 104         | 4           | 4           | <.2         | <.2         | 54          |
| 11    | 131161 | <.2         | 7           | 0.1         | 0.1         | 48          | 1           | 6           | <.2         | <.2         | 90          |
| 12    | 131162 | <.2         | 1           | 0.2         | <.1         | 165         | 7           | 6           | <.2         | <.2         | 10          |
| 13    | 131163 | <.2         | 8           | 0.1         | <.1         | 52          | 5           | 2           | <.2         | <.2         | 95          |
| 14    | 131164 | <.2         | 2           | 0.1         | <.1         | 104         | 5           | 10          | <.2         | <.2         | 30          |
| 15    | 131165 | <.2         | 4           | 0.1         | <.1         | 261         | 2           | 6           | <.2         | <.2         | 52          |
| 16    | 131166 | <.2         | 3           | 0.1         | <.1         | 8           | 4           | 4           | <.2         | <.2         | 17          |
| 17    | 131167 | <.2         | 4           | <.1         | 0.1         | 6           | 3           | 4           | <.2         | <.2         | 42          |
| 18    | 131168 | <.2         | 1           | 0.1         | 0.1         | 530         | 3           | 12          | <.2         | <.2         | 82          |
| 19    | 131169 | 0.8         | 13          | <.1         | 0.1         | 143         | 6           | 30          | 0.2         | <.2         | 94          |
| 20    | 131170 | <.2         | 12          | 0.2         | <.1         | 208         | 7           | 10          | <.2         | <.2         | 144         |
| 21    | 131171 | <.2         | 12          | 0.1         | <.1         | 76          | 7           | 14          | <.2         | <.2         | 76          |
| 22    | 131172 | <.2         | 9           | 0.2         | 0.1         | 99          | 10          | 8           | <.2         | <.2         | 80          |
| 23    | 131173 | <.2         | 2           | 0.2         | <.1         | 125         | 4           | 8           | <.2         | <.2         | 72          |
| 24    | 131174 | <.2         | 9           | 0.1         | 0.1         | 288         | 5           | 10          | <.2         | <.2         | 210         |
| 25    | 131175 | <.2         | 10          | 0.1         | <.1         | 102         | 2           | 12          | <.2         | <.2         | 73          |
| 26    | 131176 | <.2         | 7           | 0.1         | <.1         | 319         | 4           | 8           | <.2         | <.2         | 75          |
| 27    | 131177 | <.2         | <.1         | <.1         | <.1         | 19          | 11          | 2           | <.2         | <.2         | 12          |
| 28    | 131178 | <.2         | 8           | 0.1         | 0.1         | 24          | 4           | 8           | <.2         | <.2         | 132         |
| 29    | 131179 | <.2         | 6           | 0.1         | <.1         | 8           | 4           | 8           | <.2         | <.2         | 45          |
| 30    | 131180 | 0.2         | 5           | 0.2         | <.1         | 6           | 6           | 14          | <.2         | <.2         | 86          |

LEO LINDINGER ETK 94-311

June 29, 1994

| ET #. | Tag #  | Ag<br>(ppm) | As<br>(ppm) | Bi<br>(ppm) | Cd<br>(ppm) | Cu<br>(ppm) | Mo<br>(ppm) | Pb<br>(ppm) | Sb<br>(ppm) | Se<br>(ppm) | Zn<br>(ppm) |
|-------|--------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 31    | 131181 | <.2         | 6           | <.1         | <.1         | 10          | 6           | 12          | <.2         | <.2         | 52          |
| 32    | 131182 | <.2         | 4           | 0.1         | <.1         | 20          | 5           | 6           | <.2         | <.2         | 21          |
| 33    | 131183 | 0.2         | 3           | 0.1         | <.1         | 5           | 4           | 10          | <.2         | <.2         | 57          |

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**CERTIFICATE OF ANALYSIS ETK 94-311R**

LEO LINDINGER  
P.O. BOX 1216  
KAMLOOPS, B.C.  
V2C 6H3

June 22, 1994

33 ROCK sample received June 13, 1994

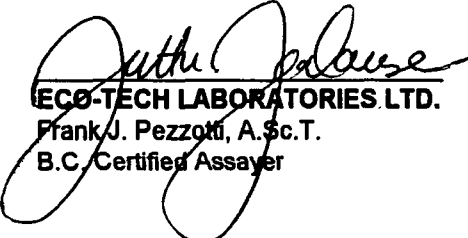
| ET #. | Tag #  | BaO  | P2O5 | SiO2  | MnO  | Fe2O3 | MgO  | Al2O3 | CaO   | TiO2 | Na2O | K2O  | L.O.I. |
|-------|--------|------|------|-------|------|-------|------|-------|-------|------|------|------|--------|
| 4     | 131154 | 0.01 | 0.10 | 66.04 | 0.22 | 12.27 | 2.17 | 12.16 | 0.20  | 1.10 | 0.08 | 1.56 | 4.09   |
| 5     | 131155 | 0.04 | 0.15 | 67.22 | 0.05 | 4.66  | 1.21 | 15.87 | 0.83  | 1.82 | 0.05 | 4.37 | 3.74   |
| 14    | 131164 | 0.04 | 0.07 | 69.75 | 0.12 | 7.41  | 1.72 | 13.16 | 0.12  | 1.10 | 0.16 | 2.59 | 3.75   |
| 15    | 131165 | 0.06 | 0.13 | 48.41 | 0.18 | 11.21 | 5.70 | 12.80 | 10.22 | 1.38 | 2.76 | 0.24 | 6.92   |

**QC/DATA:**

**STANDARDS**

|      |      |      |       |      |       |       |       |       |      |      |      |      |
|------|------|------|-------|------|-------|-------|-------|-------|------|------|------|------|
| MRG1 | 0.01 | 0.45 | 59.91 | 0.32 | 6.29  | 3.05  | 12.16 | 7.89  | 0.09 | 4.11 | 3.87 | 1.84 |
| SY2  | 0.03 | 0.07 | 39.16 | 0.17 | 17.93 | 13.42 | 8.25  | 14.42 | 3.51 | 0.65 | 0.01 | 2.40 |

Note: Values expressed in percent

  
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