BRENDA MINES LTD.

1987 Brenda Exploration Program

Assessment Report
FINANCIAL ASSISTANCE FOR MINERAL EXPLORATION
Accelerated Mine Exploration Program
Reference #10963-M17

Volume 1 of 3

To cover the following areas:

1. Brenda Property:
   Osoyoos Mining Division, British Columbia
   Latitude 49° 53'   Longitude 120° 00'
   NTS 92H/16 and 82E/13

2. North Brenda Property: NB 1-7 claims
   Nicola and Osoyoos Mining Divisions, British Columbia
   Latitude 49° 55'   Longitude 120° 00'
   NTS 92H/16 and 82E/13

3. Crescent Lake Property: Travis, Travis 2, Moss 1-6, Head 1-6 Peach 1-8 claims
   Similkameen Mining Division, British Columbia
   Latitude 49° 47'   Longitude 120° 04'
   NTS 92H/16

Report submitted by:

Kerry M. Smith, P.Eng.
Brenda Mines Ltd.

25 February 1988

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1.0 EXECUTIVE SUMMARY

Faced with permanent mine closure in mid-1989, Brenda Mines Ltd. undertook an extensive exploration program during the spring and summer of 1987 to determine whether economic mineralization existed outside the presently designed Brenda open pit, or alternatively, within close vicinity to the existing Brenda mill.

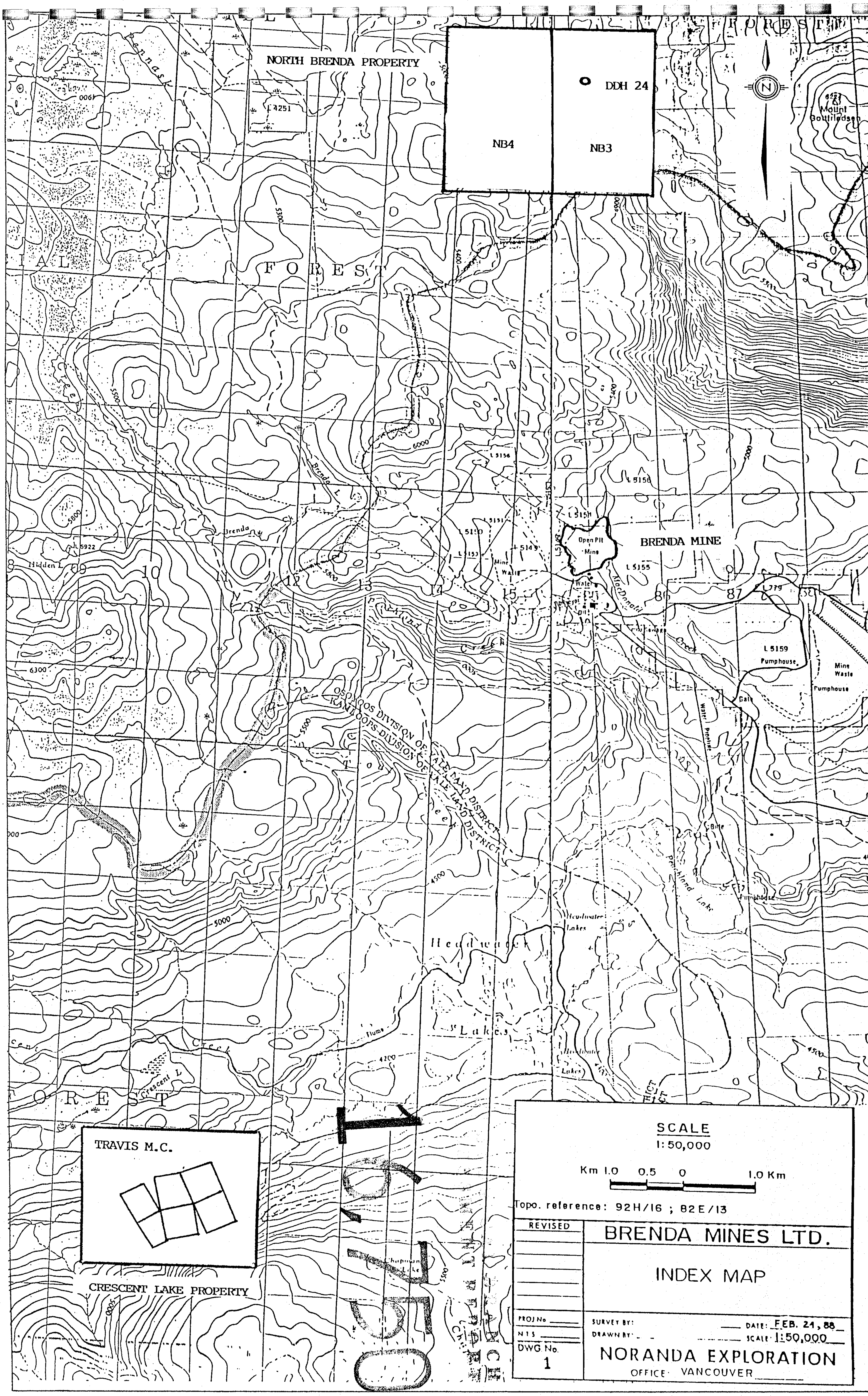
Within the existing pit area, drilling was proposed to more accurately define (and hopefully increase) ore grades to be encountered in the present design pit as well as possibly prove up additional reserves under the present south wall.

In addition, two promising target areas (North Brenda and Crescent Lake properties) close enough to utilize the existing Brenda mill were also evaluated. (See Dwg 1 and 2)

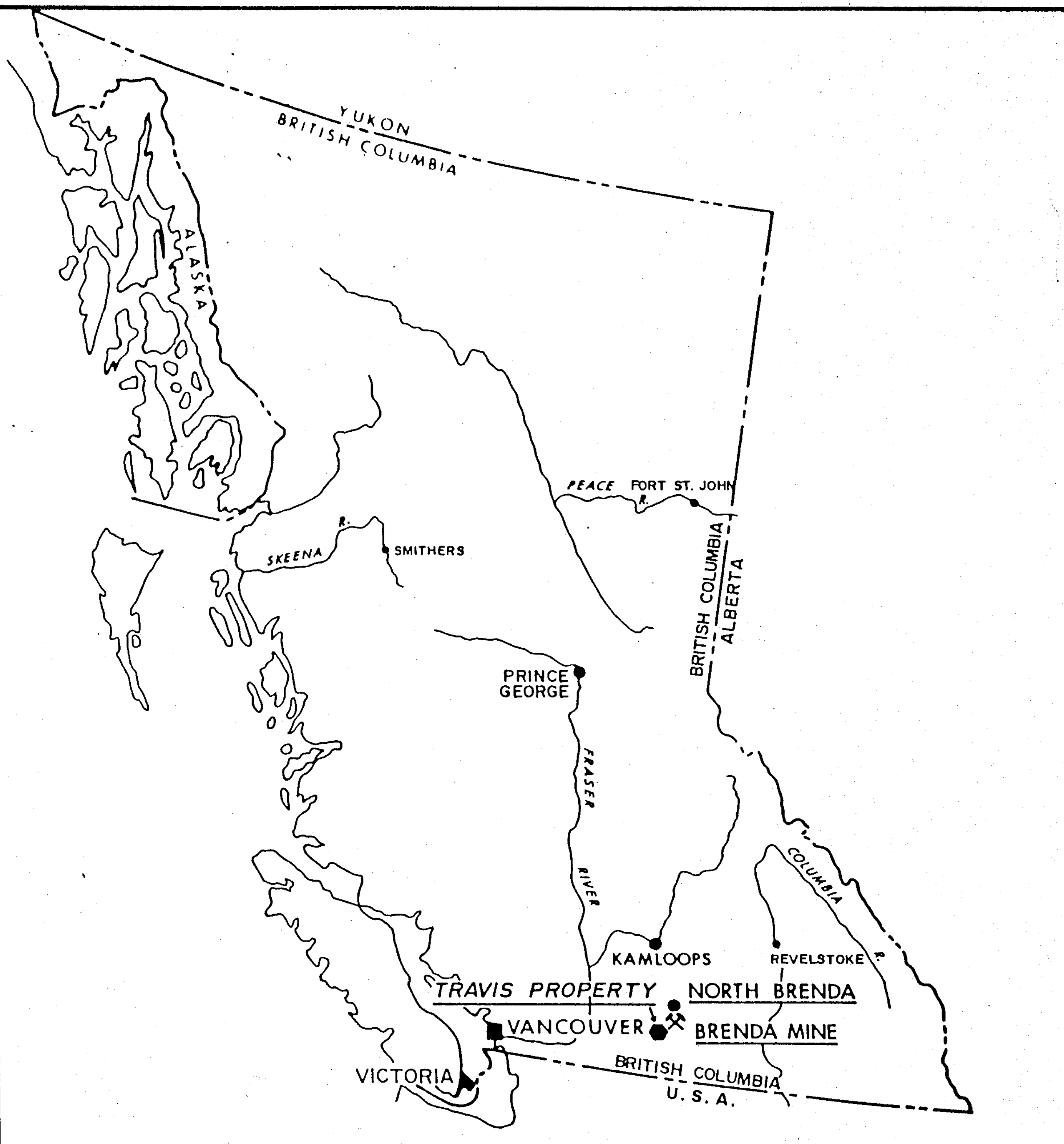
Evaluation included geological, geophysical and geochemical surveys as well as reverse circulation drilling.

Through the efforts of this ambitious program an additional year of ore has been delineated under the south wall in the Brenda pit. Increased ore grades in the present pit (as a result of this drilling) has made marginal south wall material economic.

Drilling at North Brenda and Crescent Lake has conclusively indicated no economic mineralization having open pit potential exists in either claim area.



NORTH BRENDA PROPERTY
DDH 24
NB4
NB3
FOREST
BRENDA MINE
Open Pit Mine
Mine Waste
Pumphouse
OSOYOOS DIVISION OF YALE LAND DISTRICT
KAMLOOPS DIVISION OF YALE LAND DISTRICT
Headwater Lakes
Crescent L
TRAVIS M.C.
CRESCENT LAKE PROPERTY
SCALE
1:50,000
Km 1.0 0.5 0 1.0 Km
Topo. reference: 92H/16 ; 82E/13
REVISED
BRENDA MINES LTD.
INDEX MAP
PROJ No.
NTS
DWG No.
1
SURVEY BY:
DRAWN BY:
DATE: FEB. 24, 88
SCALE: 1:50,000
NORANDA EXPLORATION
OFFICE: VANCOUVER



1Cm = Approx 76 Km

KM 0 76 152 304 KM

1" = 120 Miles

NCI-774

REVISED	
	BRENDA MINES LTD.
	LOCATION MAP
PROJ No.	SURVEY BY R.U. Bruaset DATE October 87
NTS	DRAWN BY J. Serwin SCALE: 1:7,603,200
DWG. No. 2	NORANDA EXPLORATION OFFICE: VANCOUVER

2.0 INTRODUCTION

2.1 Brenda Mine

The Brenda open-pit is located in the southern interior of British Columbia approximately 28 kilometers northwest of Peachland, B.C. Access is via the Brenda Mines Road from the town of Peachland.

The Brenda ore-body was discovered in the late 1930's and in 1967 Noranda assumed management control of the property. Full production began in March 1970. Brenda Mines Ltd. owns and operates the mine which employes 386 persons.

Geological interpretation indicated a possible ore extension under the present south wall. In addition, poor correlation between original diamond drilling and blasthole assays indicated projected ore grades to pit bottom may be underestimated.

The 1987 program was aimed at more accurately estimating in-pit ore grades and determining whether mineable reserves were present under the south wall.

Property

The Brenda mine consists of the following claims:

Type	Number	Ownership	Mining Div.	NTS Maps
2-post	10	Brenda Mines	Osoyoos	92H/16E &
metric grid	7(120 units)	Brenda Mines	Osoyoos	82E/13W
mineral lease	7	Brenda Mines	Osoyoos	

Geology

The Brenda Mine lies within the Brenda Stock, (Carr, 1967, Unit 10) a composite quartz diorite of Jurassic age considered to be part of the much larger Pennask Batholith. The Pennask Batholith, which is near the eastern margin of the Intermontane Tectonic Belt, was emplaced into rocks of the Upper Paleozoic Cache Creek and Chapperon groups on the north and east and into Upper Triassic Nicola Group sedimentary and volcanic rocks on the west.

Chalcopyrite, molybdenite and minor associated pyrite occur mostly in hairline fractures in the target area. More substantial mineralization is associated with quartz veins ranging in width from 3-10 mm. The bulk of the sulphides in the Brenda deposit are controlled by quartz veins ranging from 6 mm to 13 mm in thickness (Soregaroli, 1974).

Alteration in the target area is generally weak. Feldspars are typically hard to the knife blade indicating relatively fresh plagioclase. Also largely fresh are the mafic minerals which are biotite-dominant. Chlorite is practically ubiquitous in hairline fractures. K-spar vein selvages are well developed in margins of quartz veins. In hairline fractures K-spar is often intimately intergrown with chalcopyrite and molybdenite but discrete selvages are not obvious relative to these structures, although etching and staining techniques would probably indicate otherwise. Molybdenite is also present in gouges and slips. In the case of gouge zones, molybdenite, if present, comprises a small portion of the soft dark material. Typically molybdenite in this form occurs in close association with quartz which shows signs of post-mineral disruption. Molybdenum grades tend to be sensitive to the number of gouge zones occurring in a given sample.

Summary of Exploration

A total of 53 reverse circulation holes (5-1/8" diameter) were drilled within the present pit area. Total footage drilled was 5788 meters (18,990 feet). Depths ranged from 91 meters to a maximum of 183 meters deep.

Assaying was conducted by Brenda Mines Ltd. personnel. Compilation and analysis of this data has indicated improved ore grades in the present design pit. In addition, marginal ore was outlined under the present south wall. With improved pit grades, an additional year of ore reserves under the south wall have become economic since better pit grades can economically carry this marginal south wall ore.

2.2 North Brenda

The North Brenda property consists of 81 units in seven contiguous claims adjoining the northern boundary of Brenda Mines property. Original exploration in this area was conducted by Noranda Exploration in the mid-1960's, in conjunction with exploration on the Brenda claims.

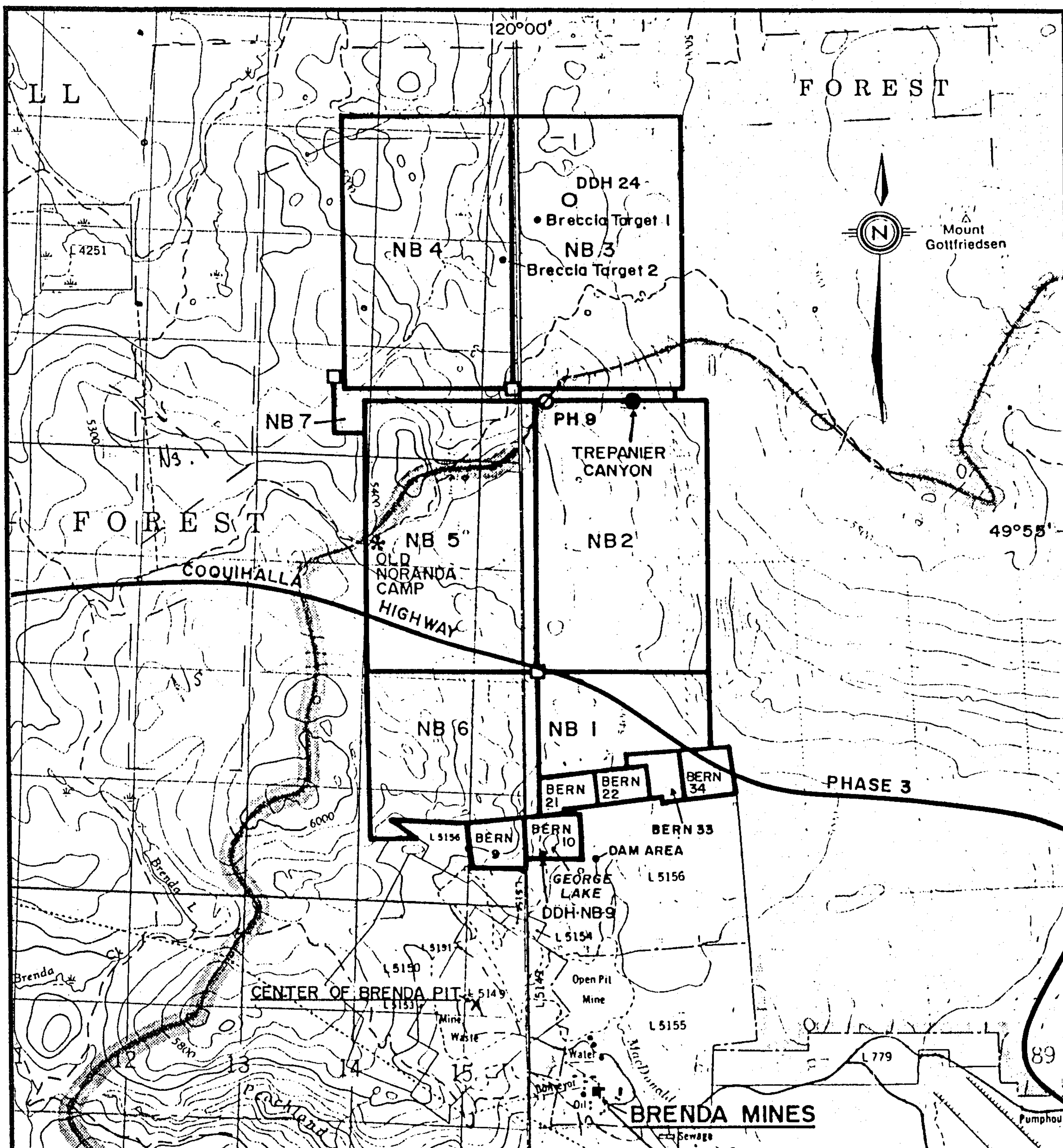
The target area is located approximately eight kilometers north of the Brenda minesite. Access is via public roads from the Brenda mine. In order to allow access for the drill rig, seven kilometers of road upgrading with a D6 dozer and 215 backhoe was necessary. Total road building time required, including drill pad preparation was approximately 2-1/2 weeks.

Property

The North Brenda group consists of 81 units in 7 claims. (See Dwg 3) Pertinent claim information is tabulated below:

Claim	Record	Units	Recorded
NB1	2423	6	May 8, 1986
NB2	2424	15	May 8, 1986
NB3	1676	15	May 8, 1986
NB4	1677	15	May 8, 1986
NB5	2425	15	May 8, 1986
NB6	2426	9	May 8, 1986
NB7	1741	6	Sep. 22, 1986

These claims lie within the Nicola and Osoyoos Mining divisions, NTS 82E/13 and 92H/16.



1:50,000

1000 500 0 1000 2000 Metres

☐ LCP Legal Corner Post

REVISED	BRENDA MINES
	NORTH BRENDA PROJECT
	CLAIM MAP
PROJ. No.	SURVEY BY: R.U. Bruaset DATE: OCT./86
N.T.S.	DRAWN BY: J. Serwin SCALE: 1:50,000
DWG. No. 3	NORANDA EXPLORATION OFFICE: VANCOUVER

NCI-774

Regional Geology (See Dwg 4)

The regional geology of the area explored is treated at length by Carr, 1967. In the area of our 1987 exploration programme, Carr named the plutonic rocks fine quartz diorite and porphyritic quartz diorite. They are viewed as the final phases in the evolution of the Brenda Stock. Carr indicates that two bodies of fine quartz diorite are "connected narrowly at the surface in the vicinity of the Jef. No. 43 showing". The Jef 43 showing is now referred to as the D.D.H. 24 Zone. The fine quartz diorite is indicated to be discordant. Carr noted the occurrence of breccias and K-spar alteration in several places along the contacts of this fine quartz diorite with porphyritic quartz diorite. An association between breccias and contacts is noted at Cananea, Mexico where important deposits of high grade copper have been mined from breccia pipes. The so-called breccia grid of the current programme was laid out under the foregoing consideration of breccia occurrence and mineralization. An interesting aspect of breccias in the porphyry environment is that they may indicate large scale mineralization at depth.

Summary of Exploration

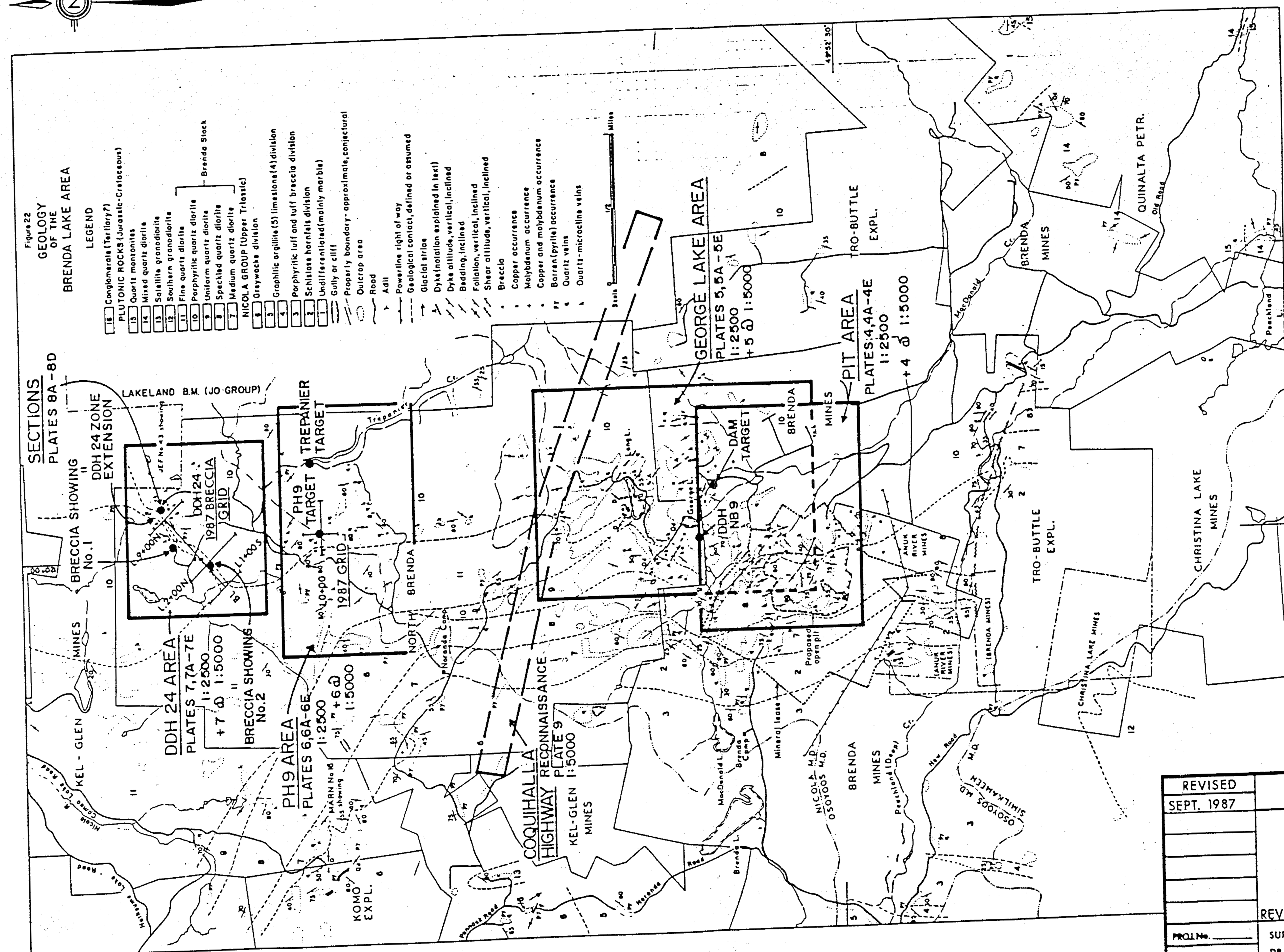
Brenda Mines Ltd. has carried out a systematic exploration programme involving geological, geochemical, geophysical surveys and reverse circulation drilling on the North Brenda property beginning in early June 1987. Targets for the work emerged from a 1986 review of the total North Brenda exploration area. (Bruaset, November 14, 1986). The D.D.H. 24 Zone was identified as the principal area of ore potential. D.D.H. 24 intersected 420 feet @ 0.23% copper. The western extension of this zone had potential for one to two years production at the current Brenda rate. The D.D.H. 24 Zone is situated about 8 km north of the Brenda mill. A second target identified in the 1986 study is the PH 9 Zone. This hole had intersected 80 feet @ 0.34% copper with 0.053% Mo. The objective of this season's work in the PH 9 Zone was to define a drill target with the aid of I.P. and resistivity. A third area of interest investigated in the 1987 programme is a broad area extending south westward and northward from the D.D.H. 24 Zone. This area contains scattered occurrences of breccias, including a small breccia pipe. The area as a whole is favourable for the occurrence of breccia pipes which tend to occur in clusters and occasionally are high grade. Breccia pipes are considered good targets for copper, along with a host of other valuable constituents, such as molybdenum and gold.

A comprehensive programme has been completed on the targets outlined above. The D.D.H. 24 Zone was tested with 9 reverse circulation holes, totalling 723 m. No bulk economic mineralization is indicated. The PH 9 Zone did not yield a drill target with the necessary size potential. Areas to the southwest of the D.D.H. 24 Zone which were subjected to I.P., ground magnetics, geological mapping, multielement soil geochemistry and minor reverse circulation drilling are not now of ongoing interest.

The area lying to the north of the D.D.H. 24 Zone was found to contain only a few outcrops and these are all characterized by fresh, weakly fractured and weak to non-mineralized rock. The soils in this northern area yielded scattered anomalies in copper and molybdenum but these are dispersed and therefore considered as unlikely associates of any significant concentration of economic copper and/or molybdenum.

Exploration completed during 1987 consisted of the following:

Geological mapping	1.3 km^2 area @ 1:2,500
Soil geochemical sampling	218 soils analyzed for Cu, Zn, Pb, Ag, As, Mo and Au
Induced potential and resistivity	8.7 km @ 50 m dipole-dipole array and four separations (Breccia, and PH 9 Grids)
Ground magnetics	5 km (Breccia Grid)
Line cutting	9.6 km chain sawn line (Breccia and PH 9 grids)
Reverse circulation drilling	723 m (2370 ft.) in 9 holes
Misc. grid	5.9 km flagged recon. grid
Main access road, roads to drill sites, and drillsites (D6 Cat, backhoe)	Approx. 7.5 km of road improvement, 9 drillsites.



16,750

After Carr, 1967

REVISED SEPT. 1987	BRENDA MINES
	NORTH BRENDA PROJECT
	GEOLOGY & KEY MAP
	REVISION: 1987 GRIDS ADDED
PROJ.No.	SURVEY BY: R.U. Bruaset DATE: OCT./86
N.T.S.	DRAWN BY: J. Serwin SCALE:
DWG. No. 4	NORANDA EXPLORATION
	OFFICE: VANCOUVER

P.L.A.

2.3 Crescent Lake

The Crescent Lake property, also called the Travis property, is located on the north slope of Mt. Kathleen, about 10 kilometers southwest of the Brenda minesite. Infrastructures are highly developed in the area with primary access from Brenda Mine Road via Headwaters Road and Trout Creek Main.

In the mid-1960's, molybdenite occurrences on the north slope of Mt. Kathleen were encountered by Bren Mac and Brencoll Mines. Between 1979 and 1981, Brenda Mines conducted exploration work consisting of soil geochemical surveys, geophysical surveys, geological mapping and diamond drilling (1000 meters of NQ and BQ core in 10 holes).

Three of these holes encountered marginal molybdenum mineralization over core lengths of up to 75 meters but interest waned in 1982 in the wake of depressed metal prices.

Property

For the purposes of this report, the Travis property consists of the following claims: (See Dwg 5)

Names	Units	Record No.	Date Recorded	Type
Moss 1-6	6	2720 to 2725	Nov. 18, 1986	2-post
Travis	20	2914	May 21, 1987	Mod.Grid
Head 1	7	2978	Aug. 7, 1987	Mod.Grid
Travis 2	20	2979	Aug. 7, 1987	Mod.Grid
Head 2	1	2980	Aug. 7, 1987	2-post
Head 3-6	4	2981 to 2984	Aug. 7, 1987	2-post
Peach 1-8	8	2985 to 2992	Aug. 7, 1987	2-post
22	66			

Claims	Owner
Moss 1 to 6	D.E. Agur
Travis	J.A. Currie
Head 1	Brenda Mines Ltd.
Travis 2	Brenda Mines Ltd.
Head 2	Brenda Mines Ltd.
Head 3 to 6	Brenda Mines Ltd.
Peach 1 to 8	Brenda Mines Ltd.

These claims lie within the Similkameen Mining Division, B.C. NTS 92H/16.

Regional Geology (See Dwg 6)

Regional geological references are Camsell, 1913, Rice 1947, Monger, 1987 and Monger, 198? (in preparation) and GSC Map 1505A (1:2 Million Tectonic Assemblage Map of the Canadian Cordillers).

The Travis is associated with a small granite stock, one of several such intrusions occurring throughout the Princeton map area and referred to as the Otter Intrusions by Rice, 1947. They have the composition of granite or granodiorite but resemble syenites in their pink colour and apparently low quartz. However, abundant quartz usually occurs in the form of microscopic intergrowths with feldspar and this is rarely visible to the naked eye. Feldspar porphyries are abundantly associated with the Otter Intrusions. The Otter Intrusions are indicated to be of Upper Cretaceous age or early Tertiary. Monger reports a 60-65 M.Y. zircon date for the Mt. Kathleen body (Rice, 1947) a short distance south west of the Travis Property.

Otter Intrusions in the Mt Kathleen - Siwash Creek area were emplaced in the Pennask Batholith which is regarded by Monger as possibly as old as Upper Triassic (200 M.Y.). The Pennask Batholith is granodiorite to quartz diorite in composition. The most current regional structural synthesis is that of Monger, 1987. According to the latter, the Travis area underwent compressional tectonics in Early Tertiary time and this was replaced by extensional tectonics in the period 55 to 50 m.a. The Travis prospect lies on the western boundary of Monger's domain of "extreme" Eocene extension. According to Mutschler et al, 1981 granite stockwork molybdenite systems involve emplacement of source plutons generally just prior to, or during extensional structural regimes. Monger's zircon date of the Mt. Kathleen stock probably approximates the age of the Travis intrusions.

<u>Summary of Exploration</u>

Brenda Mines Ltd. has conducted a systematic exploration program consisting of geological mapping, I.P., ground magnetics and reverse circulation drilling.

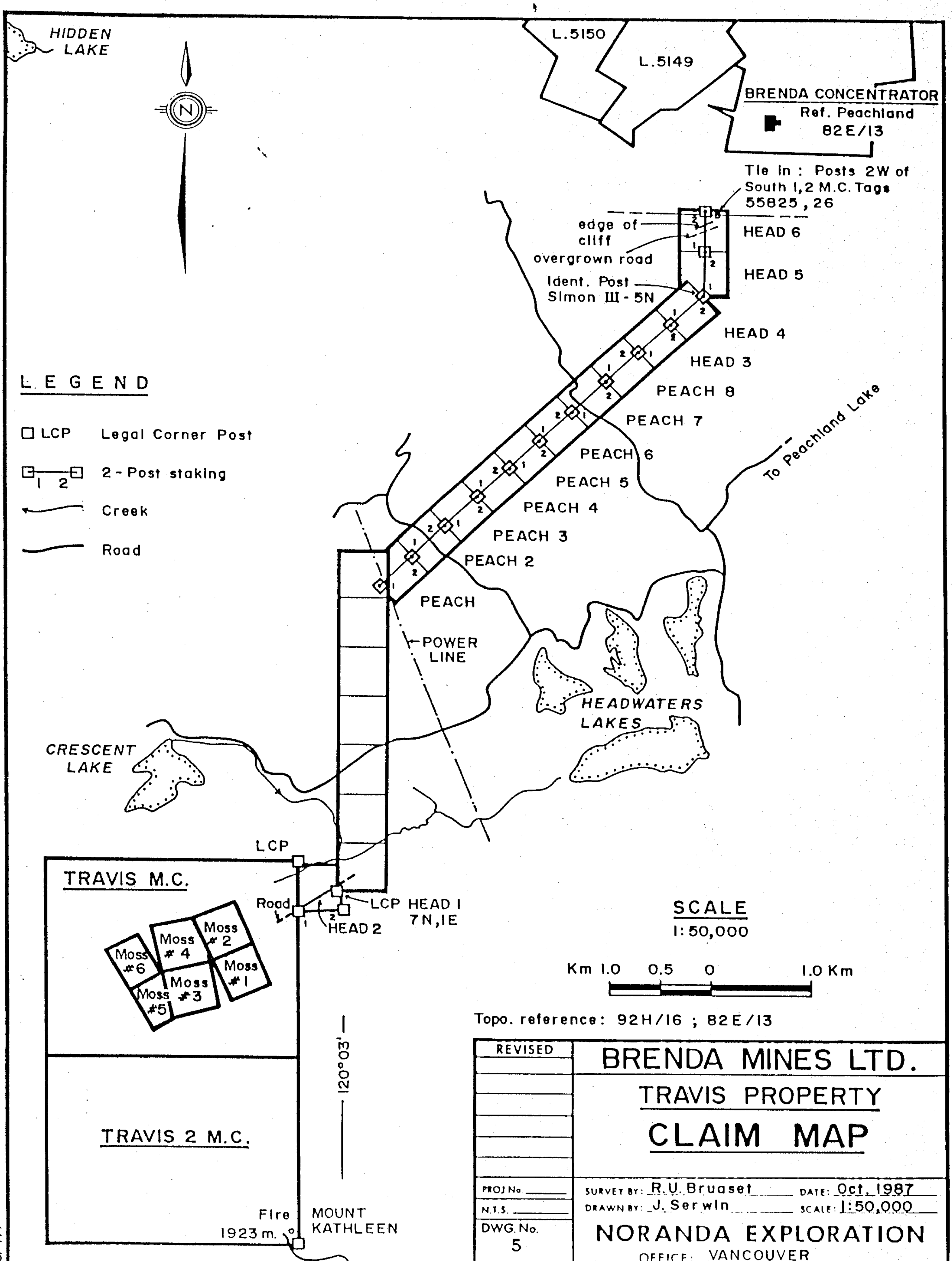
Molybdenite mineralization having open pit potential is not indicated.

However, the definition of a 300 m x 600 m I.P. anomaly of +3% F.E. has been delineated. One drill hole in the center of this anomaly intersected 100 m of 0.03% Mo. Potential for high grade molybdenite mineralization at depth exists in this area, with projected distance to the top of this mineralized zone being approximately 300 meters. Further investigation is not warranted at this time.

A summary of exploration completed during 1987 follows:

Geological mapping	.56 km^2 @ 1:2,500
Rock Petrography	90 samples etched and stained with hydrofluoric acid and sodium cobaltinitrite

	14 samples thin sectioned for analysis
Induced polarization	19 km @ 50 meter dipole-dipole array and 4 separations
Ground magnetics	13 km grid
Reverse circulation drilling	372.5 m (1222 feet) in 4 holes



HIDDEN LAKE
N
L.5150
L.5149
BRENDA CONCENTRATOR
Ref. Peachland
82E/13
Tie in : Posts 2W of
South 1,2 M.C. Tags
55825 , 26
edge of cliff
overgrown road
Ident. Post
Simon III - 5N
HEAD 6
HEAD 5
HEAD 4
HEAD 3
PEACH 8
PEACH 7
PEACH 6
PEACH 5
PEACH 4
PEACH 3
PEACH 2
PEACH
To Peachland Lake
LEGEND
LCP Legal Corner Post
1 2 2 - Post staking
Creek
Road
POWER LINE
HEADWATERS LAKES
CRESCENT LAKE
LCP
TRAVIS M.C.
Road
HEAD 2
LCP HEAD 1
7N,1E
Moss #6
Moss #4
Moss #2
Moss #1
Moss #3
Moss #5
SCALE
1:50,000
Km 1.0 0.5 0 1.0 Km
Topo. reference: 92H/16 ; 82E/13
120°03'
TRAVIS 2 M.C.
Fire
1923 m.
MOUNT KATHLEEN
REVISED
BRENDA MINES LTD.
TRAVIS PROPERTY
CLAIM MAP
PROJ No.
N.T.S.
DWG. No.
5
SURVEY BY: R.U. Bruaset
DATE: Oct. 1987
DRAWN BY: J. Serwin
SCALE: 1:50,000
NORANDA EXPLORATION
OFFICE: VANCOUVER

NCI-774

3.0 DETAILED TECHNICAL DATA AND INTERPRETATION

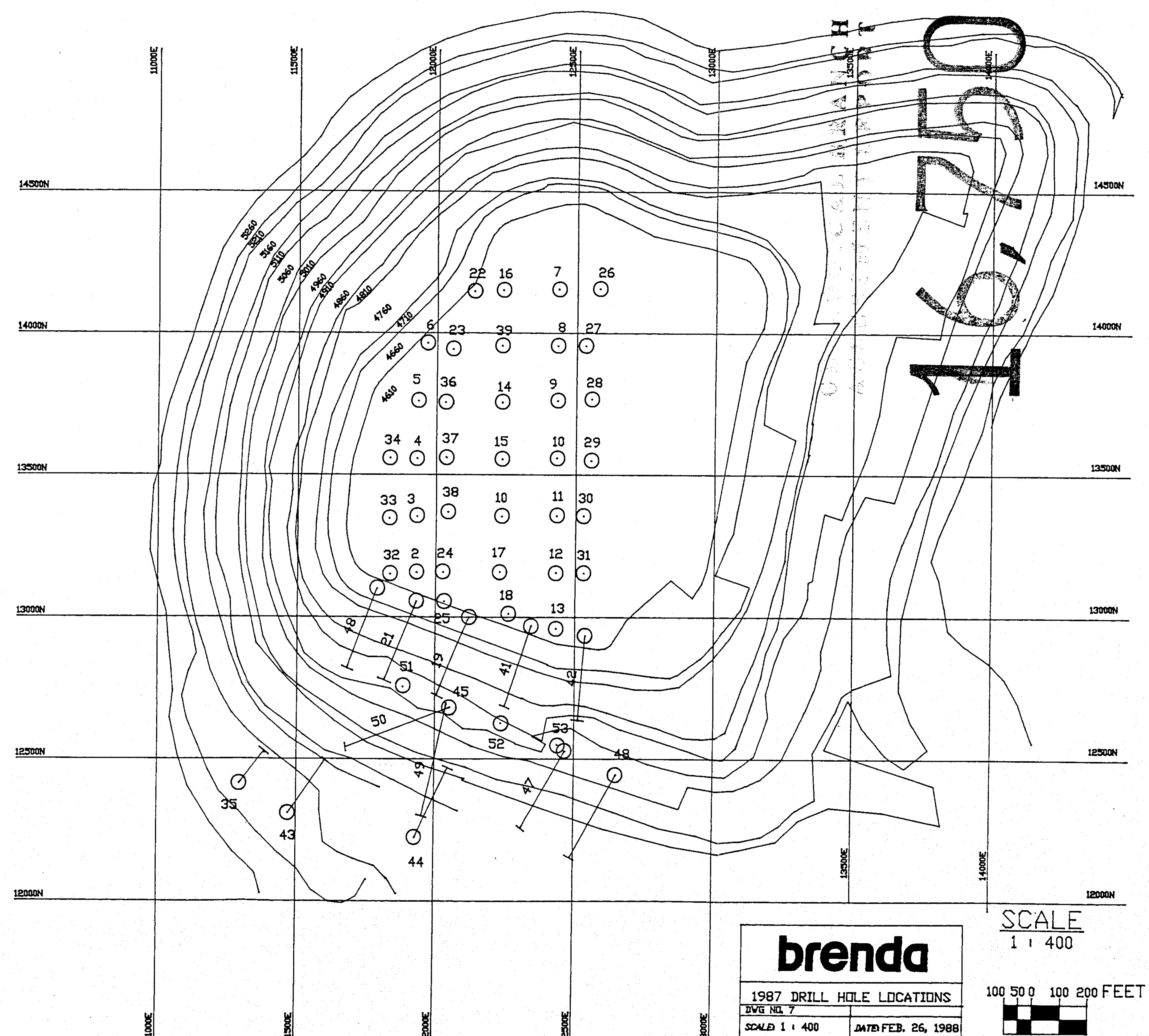
3.1 Brenda Mine

Drill targets within the present pit were laid out on a 61 x 61 meter (200 x 200 foot) square grid with 30 meter (100 foot) incremental step-outs at drill area boundaries. (See Dwg 7) This drill spacing was considered optimal for ore grade confirmation at depth. In addition, vertical and angled holes were drilled under the present south wall to confirm or disprove the presence of additional economic reserves.

Drilling was completed by Western Hydro-Air Drilling of Calgary, using a truck mounted Drill Systems CSR1000 rig, 100 meters (600 feet) of 114 mm (4-1/2 inch) diameter reverse circulation drill pipe and 130 mm (5-1/8 inch) hammer bits. Drilling was carried out on a continuous basis using two crews of two men each. Sample run interval utilized was 1.5 meters (5 feet). Each run was collected, bagged and labeled by the contractor and delivered to Brenda Mines assay lab. Standard analytical procedures were utilized to calculate copper, molybdenum and lead grades for each 1.5 m run.

These values were composited into 15 meter (50 foot) increments (bench height) and input into a geological database for ore reserve calculation.

Ore reserves within the present design pit as well as under the south wall were calculated using the inverse distance squared method of grade estimation. After generation of a block model, an economic analysis indicated improved ore grades to pit bottom in the present pit and an additional year of ore under the south wall. Through this drilling, improved ore grades in the present design pit were confirmed. These improved pit ore grades will allow marginal material in the south wall to be econmically mined.


brenda
1987 DRILL HOLE LOCATIONS
DWG NO. 7
SCALE 1 : 400
DATE FEB. 26, 1988
SCALE
1 : 400
100 50 0 100 200 FEET
11000E
11500E
12000E
12500E
13000E
13500E
14000E
14500N
14000N
13500N
13000N
12500N
12000N

3.2 North Brenda

Geological Survey

Prior to drilling, geological mapping over the target area was undertaken by Mr. R. U. Bruaset, a consulting geologist retained by Brenda Mines to oversee the exploration program. Mapping was conducted over a 1.3 km^2 area at 1:2,500. Porphyry mineralization appears most abundant in and around areas of brecciation. Additional mineralization such as chalcopyrite, pyrite and occasionally molybdenite occur in quartz veinlets.

Geochemical Survey (See Dwg 8)

A total of 218 soil samples were analyzed by Noranda Exploration's Vancouver laboratory for copper, zinc, lead, silver, arsenic, molybdenum and gold.

The reconnaissance grid, consisting of L's 240+00N, 244+00N, 248+00N and 252+00N was sampled at 50 m intervals. Notes on the character of the soil are given in the analytical reports in Appendix 2. Anomalous levels for copper and molybdenum were arbitrarily taken to be >200 ppm for copper and >20 ppm for molybdenum. These were the anomalous levels considered for the Brenda deposit (Bruaset, 1986). For the purposes of the current survey, a second, possible anomalous level, has been set at >150 ppm for copper and >10 ppm for molybdenum. In the reconnaissance area, several anomalous samples were obtained but these are usually one-point anomalies. As sample lines are quite close for reconnaissance level sampling (about 120 m) and because the sample interval is also close (50 m) we have tended to place a low priority on one-sample anomalies in this survey.

In the event of the occurrence of significant amounts of porphyry style mineralization we would expect a larger clustering of elevated values, and this would also apply to any economically significant breccia deposit. Pb, Zn, Ag, Au and As occur at background levels throughout the reconnaissance area. Some of these elements would be regarded as halo elements in the porphyry environment and the low values obtained bode poorly for the overall porphyry potential.

The principal grid i.e., Lines 1+00S to 9+00N was sampled at 25 m intervals. The basis for sampling this grid was to determine precious metal potential, if any. A sample collected at Station 175E on line 3+00N yielded the highest, and only anomalous, gold value in the entire survey. The value is 120 ppb Au. This sample was obtained in a first-pass which involved sampling of Lines 2+00N and 3+00N. Follow-up work failed to enlarge the anomaly. It is noted that none of the other elements for which this sample was analyzed showed any elevated tendency. A strong copper response was obtained on L.2+00N over the local crackle breccia with values for copper up to 500 ppm. Widespread low grade copper mineralization occurs in the vicinity of this anomaly.

Geophysics (See Dwg 9)

Two grids were surveyed with frequency domain I.P. Both surveys utilized 50 m dipole-dipole array and recorded readings to the fourth separation. Frequencies employed were 4 and 0.25 Hz. Frequency effect anomalies obtained in the Breccia Grid area are plotted on Dwg 12. A 400 m long +3% F.E. anomaly occurs along the base line in the north central part of the grid. The strongest F.E.'s in this anomaly occur on the northern edge of the breccia pipe where a reading of 4.7% was obtained. This anomaly probably extends through to Lines 8+00 and 9+00N but is shallow under L.7+00N. R.C.H.8705 tested a showing within the 3.5% F.E. contour. This hole averaged 0.06% copper over 91.5 m. The F.E. over the crackle breccia located on L.2+00N is less than 3%. A plus 3% F.E. anomaly was obtained over the western one third of L.9+00N. We attempted to evaluate the latter by means of mapping and soil sampling but the anomaly was found to be drift covered. Scattered outcrops beyond the anomaly to the grid-west do not contain appreciable amounts of chargeable material.

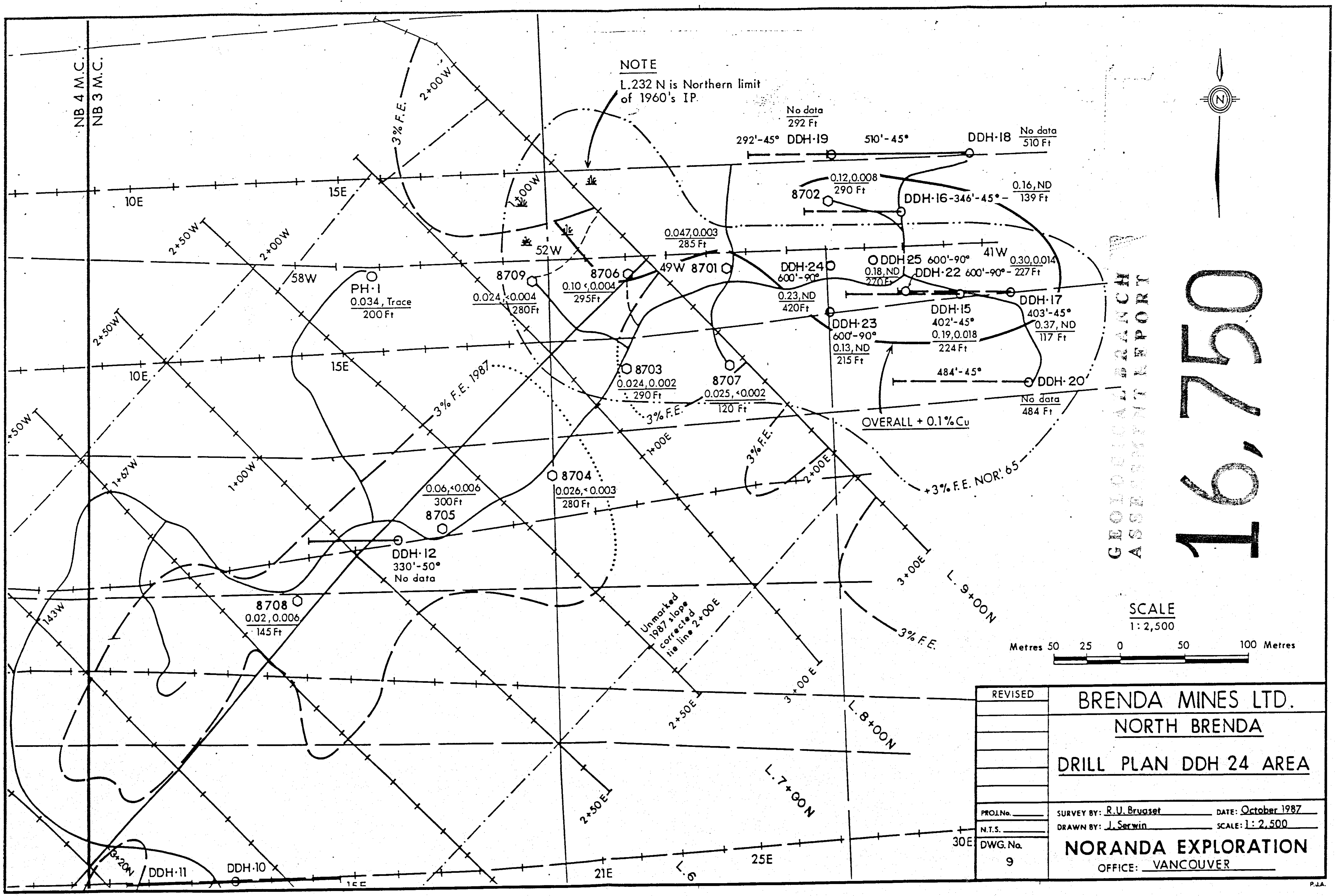
Soil sampling encountered difficulty in obtaining suitable material because of swampy ground. However, a soil sample at 0+50W, slightly beyond the limits of the I.P. anomaly, yielded a highly anomalous value of 1800 ppm Cu and 667 ppm Mo for slightly organic B horizon soil. This soil anomaly, and the I.P., occur in the drainage direction of the D.D.H. 24 Zone. For the sake of completeness we have plotted geochemical data on Dwg 12 showing the total extent of coverage in the northern extension of the soil anomaly. The overall geochemical picture of this area is not encouraging. There is insufficient technical basis to extend the I.P. coverage to the north beyond the present limit at Line 232N.

A strong positive resistivity feature coincides with the crackle breccia on Line 2+00N. This anomaly is probably caused by silica which forms the cement of the breccia. The breccia is 100 m by 150 m. A second crackle breccia occurs on Line 5+00N and again is associated with high resistivity. Other areas of high resistivity occur to the grid north of last crackle breccia but these appear to be unassociated with silicification.

The I.P. survey on the PH 9 grid indicated a weak F.E. anomaly measuring 100 m by 250 m. Ph 9 is located in this anomaly which occurs only on Line 0+00. Because of its small size, we consider this anomaly to be of little interest and not recommended for testing. Several lineaments occur in the area of the I.P. anomaly and it is possible that a narrow zone of associated copper-molybdenum mineralization is causing the anomaly.

Drilling (See Dwg 9)

Nine reverse circulation holes totalling 723 m were drilled by Western Hydro-Air Ltd. Holes range in length from 39.6 m (130 ft.) to 91.5 m (300 ft.). The drill results are contained in Appendix 3. This drilling investigated the western extension of the copper mineralization intersected in D.D.H.24 as well as targets indicated by the 1987 I.P. survey in the area to the south west of the D.D.H.24 Zone. The strongest mineralization occurs within a zone measuring about 200 m by 100 m. All holes in this zone averaged 0.1% Cu, or better. Of the 1987 drill holes, R.C.H.8702 falls within this zone.



REVISED

BRENDA MINES LTD.

NORTH BRENDA

DRILL PLAN DDH 24 AREA

PROJ.No.
N.T.S.
DWG.No. 9

SURVEY BY: R.U. Bruaset DATE: October 1987
DRAWN BY: J. Serwin SCALE: 1:2,500

NORANDA EXPLORATION
OFFICE: VANCOUVER

3.3 Crescent Lake

Geological Survey

Geological mapping at a scale of 1:2500 was completed in an area .75 km x .75 km. This covers the area of principal interest and good exposures were evident in numerous roadcuts.

Approximately 90 rock samples were slabbed, etched and stained in hydrofluoric acid and sodium cobaltinitrite to assess the level of K-feldspathization, which is the hydrothermal alteration most intimately associated with ore at Climax's Henderson Mine (MacKenzie, 1970). This alteration type was found to be present at low intensity. Extensive replacement by K-spar would tend to indicate a well mineralized area in a granite stockwork molybdenite system. Selected samples were then submitted for thin sectioning by Harris Exploration Services. Petrographic work was done primarily as an aid to locating structural position in a standard mineralizing system.

Geological interpretation suggests that the present erosion surface of the deposit corresponds to a structural position within the quartz-sericite-pyrite zone.

Geophysics (See Dwg 10)

A total of 19 kms of frequency domain I.P. was carried out. This was mostly in the form of 50 m dipole-dipole array, however, several lines were also surveyed with 100 m array. All surveying was done to the 4th separation. The 13 km grid was also surveyed with a Unimag total field precision magnetometer. The I.P. and ground magnetic anomalies obtained are summarized on the attached Dwg 10. A substantial I.P. anomaly of elliptical shape (600 x 350 m) is indicated.

Average frequency effects of 3% are considered anomalous. A substantial portion of the I.P. anomaly is characterized by averages of 5%. The most highly mineralized hole to date (C-81-9) was drilled near the centre of the strongest I.P. This hole encountered molybdenite mineralization grading 0.03% Mo over 102.6 m. The pyrite content of this hole is estimated to be 0.25% and occurs mainly in association with fine grained molybdenite in quartz veins. Estimates of overall pyrite in surrounding holes range from 0.1% to 0.2%. Pyrite is the only polarizable material of any consequence in this I.P. anomaly.

The purpose of the magnetic survey was to identify area enriched in magnetite which could be associated with the top of stockwork molybdenite mineralization. Minor disseminated magnetite occurs in these rocks.

Drilling (See Dwg 11)

A total of four reverse circulation holes were drilled by

Western Hydro-Air Drilling Ltd. Holes range from 36.59 m (120 ft.) to 152.44 m (500 ft.) and total 372.56 m (1,222 ft.). Holes #1 and #3 intersected bedrock while the remaining holes were lost in difficult overburden. All but the upper few meters of each hole were drilled wet. The sample interval is 5 feet (1.52 m). In several samples molybdenum contents exceed 0.1%, and most of these occur in R.C.-87-3. The highest value obtained is 1.52 m @ 0.207% Mo in R.C.-87-3. There are no consistent patterns of increasing or decreasing molybdenum content with depth in these holes and the overall molybdenum contents of R.C.-87-1 and 3 are very similar.

Drill hole locations are tabulated in Table 1.

Table 1

1987 Reverse Circulation Drillhole Summary

R.C. Hole 87-	Length m	Length ft	Overburden m	Overburden ft	Coord. 1987 Grid	Hole Location Relative to
1	152.44	500	32.01	(105)	2+72E, 2+30N	2+75E, L.2+00N
2	38.11	125	+38.11	(+125)*	4+53E, 3+00N	4+50E, L.3+00N
3	145.43	477	10.67	(35)	2+18E, 1+44N	2+00E, L.1+00N
4	36.59	120	+36.59	(120)*	4+52E, 2+95N	4+50E, L.3+00N

*Lost in overburden

Geochemistry (See Dwg 12)

This section will contain comments on Mo, Pb, Zn, Cu and Ag soil geochemistry. Also included are references to the above elements in drill samples along with comments about Sn and W.

Pertinent data appear in Appendices 4 and 6 and on Dwg 12.

The most highly mineralized holes, C-81-8 and C-81-9, were collared in the strongest Mo soil anomalies. Zn, Pb and Ag in soil exhibit anomalies which correlate closely with the main molybdenum soil anomaly.

A strong coincident north-northeasterly trending base metal, precious metal, and molybdenum soil anomaly is indicated through the upper roadcut (Dwg 12). There is geological and geophysical support for this trend but no testing has been done to date.

Molybdenum values in soil in excess of 19 ppm are considered anomalous and for lead the corresponding limit is 40 ppm. Within the area of 1981 drilling where overall molybdenum is +0.02% Mo there is a fair correlation between +19 ppm Mo and +40 ppm Pb in soil. The use of the 40 ppm level as threshold is reasonable in view of Levinson, 1980, which indicates global lead in soil typically ranges from 2 to 200 and averages 20 ppm. In considering Pb at the 40 ppm level we find a very prominent lead geochemical anomaly trending in a north-northeasterly direction across practically the entire soil grid. This trend runs through the area of 4+50E of L.4+00S. The dominant structural grain is also north-northeasterly. The lead anomaly extends for 2100 m and runs well beyond the area of 10 ppm Mo in the soil. Slightly elevated Mo in the soil, in the range of 5 to 7 ppm, coincide with the south-southwesterly extension of the lead trend.

Mr. A.R. Pollmer has indicated that during the course of the 1979 reconnaissance soil survey of the Mt. Kathleen area a few very high lead soil values were obtained on the upper north slopes of Mt Kathleen. The location of the high lead samples, and their magnitudes, are not known. In typical granite stockwork molybdenite systems, lead, along with other base metals, tend to concentrate structurally high in the system although galena and sphalerite are also mentioned in the literature as possible constituents of greisens zones (Mutschler et al, 1981).

Copper soil anomalies on the Travis tend to be associated with molybdenum geochemical anomalies. The principal copper anomaly in the survey area occurs low on the hillside and, although it extends somewhat further to the west than the molybdenum anomaly, the strongest portion (+30 ppm Cu) correlates very well with +30 ppm Mo. Copper in the local soils is quite low, generally; very few samples containing greater than 100 ppm copper.

The soil pattern of zinc is similar to lead, copper and molybdenum on the lower hillside in the vicinity of D.D.H.'s C-81-2 and 10. Zinc in soil forms a north-northeasterly trending pattern similar to the lead, and generally coincident. The highest zinc values, are in the range 1037 to 2339 ppm, with a single value of 5094 ppm.

The data on silver in soil is incomplete. Only values ranging from 1 to3 ppm are plotted. Again, the lower hillside in the area of D.D.H. C-81-2 is anomalous. On the upper hillside a general north-northeasterly trending Ag anomaly is indicated and partly coincident with the base metal anomalies noted above.

Drawing 13 shows overall abundances of Mo, base metals and Ag in drill holes. The data has been arbitrarily grouped and categories of high and low averages are shown by symbols on Dwg 13. In geochemical terms, the abundances of molybdenum in these holes range from 100 times to 150 times the average abundance for felsic igneous rocks (2 ppm) given by Levinson, 1980. These levels of molybdenum are highly anomalous and may have significant implication in so far as proximity to better grade mineralization is concerned. A point to be emphasized here is the general lack of molybdenum in rock anomalies in the upper parts of granite molybdenite systems. With the exception of mineralized clasts in breccia pipes or dykes and occasional "leakage" anomalies in major veins, molybdenum values of 10 ppm in rock are rarely encountered farther than 300 m above ore zones (Mutschler at al, 1981).

Copper values are generally lower than molybdenum by a factor of 2, however, the highest values in copper are associated with the highest Mo values. Very low copper content is one of the factors distinguishing a stockwork molybdenite system from a porphyry copper system.

Zinc is the highest in D.D.H.'s 8 and 9. Zn is about 50X the average for felsic ingneous rocks.

Geochemical determinations for tin and tungsten have been made on 50 foot composites for reverse circulation holes RC-87-1 and 3. Tin and tungsten are halo elements in stockwork molybdenite systems. All tin analyses yielded values below a detection limit of 5 ppm. Detection -limit values were generally also obtained for tungsten. Three samples in RC-87-3 gave values for tungsten at, or slightly above the detection level, the highest being 7 ppm. In analytical terms, values at the detection level could be plus or minus 100% of the detection limit; accordingly values for tin and tungsten in this case could range from 0 to 10 ppm. According to Levinson, 1980, tin and tungsten in granites average 3 and 2 ppm, respectively. No detailed data is available on the distribution of tin in stockwork molybdenite deposits. Wallace et al, 1978, referring to Henderson, indicates that tungsten appears to be concentrated in thin discontinuous zones near the top of each lobe of the orebody. The same reference indicates that the greatest concentration of tungsten in the Urad-Henderson area occurs above the western end of the Urad deposit, which is the shallower molybdenite deposit in the Red Mountain complex. Wallace et al, 1978, in comparing the deposits of Red Mountain with those of Climax indicate that tungsten is far more abundant at Climax than at Red Mountain and that instead of decreasing with depth, as apparently at Red Mountain, tungsten increases with depth at Climax.

Based on the above discussion, a projected geological model for the Travis property is based on the deposits of the Red Mountain Area (Henderson, Urad) where the lithological sequence is fairly complete. In the Red Mountain area the existance of certain halo elements such as copper, bismuth, lead, manganese, tungsten, tin and zinc is well documented. Mineral phases such as fluorite, pyrite and molybdenite tend to increase in abundance in the direction of ore. For the Travis property, given the projected distance to this stockwork system from surface, additional exploratory work at this time is not warranted.

FAMEGRNT.W08
KS;GM

4.0 STATEMENT OF COSTS

	Item	Cost
1.	Reverse circulation drilling 6883 meters	$207,171.53
2.	Assaying 4500 rock samples	62,912.45
3.	Geochemical 218 samples	1,961.70
4.	Mineralogical/Petrographic 90 samples	742.00
5.	Geological Supervision	24,073.00
6.	I.P. Survey 27 kilometers	12,350.68
7.	Magnetic Survey 13 kilometer grid	4,631.50
8.	Line cutting	13,894.52
9.	Meals and accommodation	7,518.93
10.	Truck rental	5,723.64
11.	Report preparation	9,085.00
	TOTAL	$350,064.95

FAMECOST.KS
gm

5.0 REFERENCES

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Rice, H.M.A., 1947, Geology and Mineral Deposits of the Princeton Map Area. Memoir 243.

6.0 STATEMENT OF QUALIFICATIONS

I, Kerry Smith, of Kelowna, Province of British Columbia, do hereby certify that:

1. I am a mining engineer residing at 333 Royal Avenue, Kelowna, B.C. V1Y 5L1.

2. I am a graduate of the University of Alberta with a Bachelor of Science degree in Mining Engineering.

3. I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysists of Alberta.

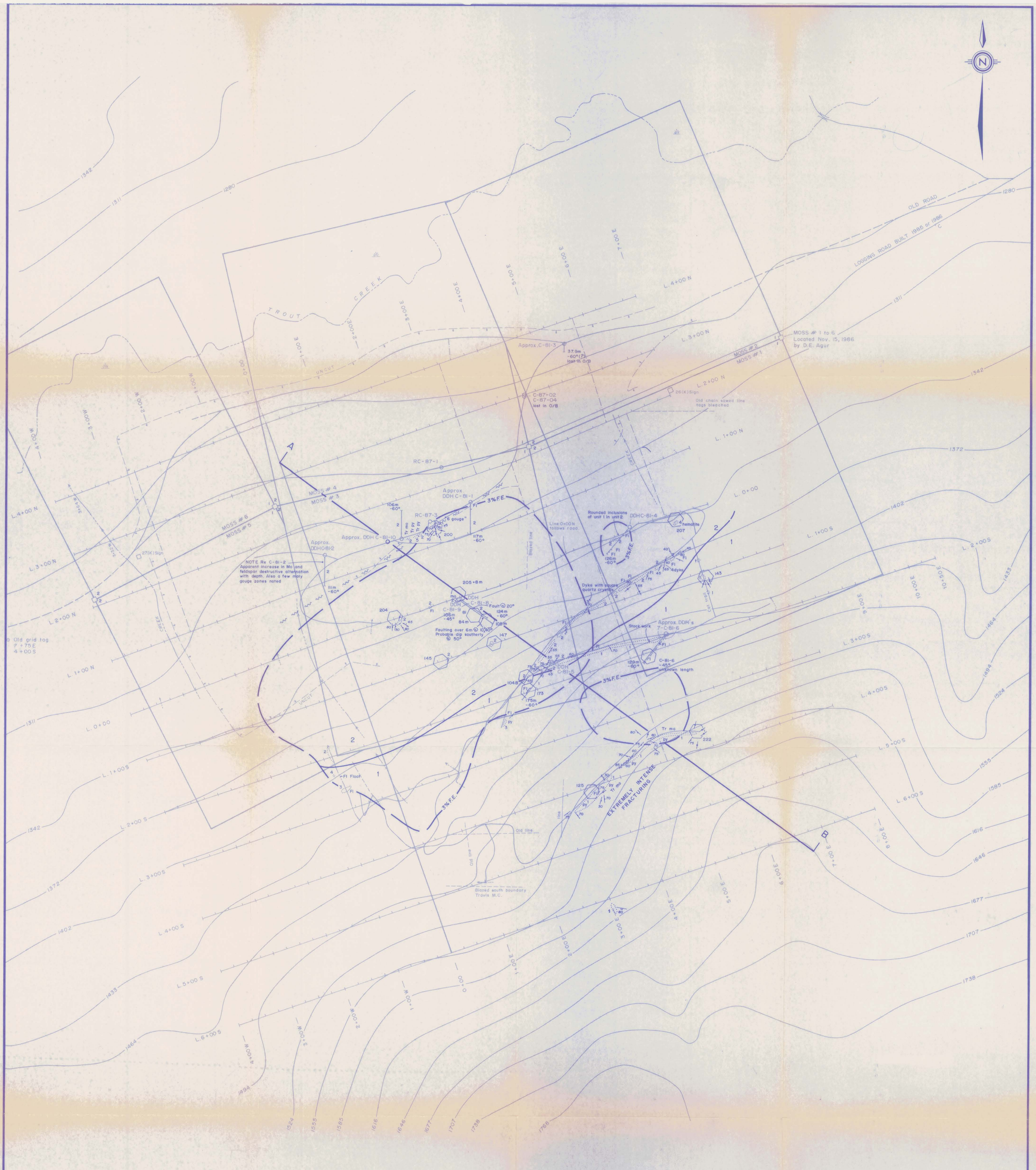
4. This report was prepared under the guidance of Mr. Jim Currie, P.Eng., a member in good standing of the Association of Professional Engineers of British Columbia.

5. I am a full time employee of Brenda Mines Ltd.

Kerry Smith, P.Eng.
BRENDA MINES LTD.

25 February 1988

FAMEQUAL.KS
GM



——·—— Slope corrected tie line

NOTE : Baseline and roads from slope corrected chain and compass traverses. Grid has been tied to road. Topography superimposed on grid using, for control, creeks that have been picket up during grid control traverses.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,750

Part 1 of 3

SCALE
1: 2,500

METRES 50 25 0 50 100 150 200 METRES

LEGEND

CRETACEOUS OR TERTIARY
UPPER CRETACEOUS OR LATER
OTTER INTRUSIONS

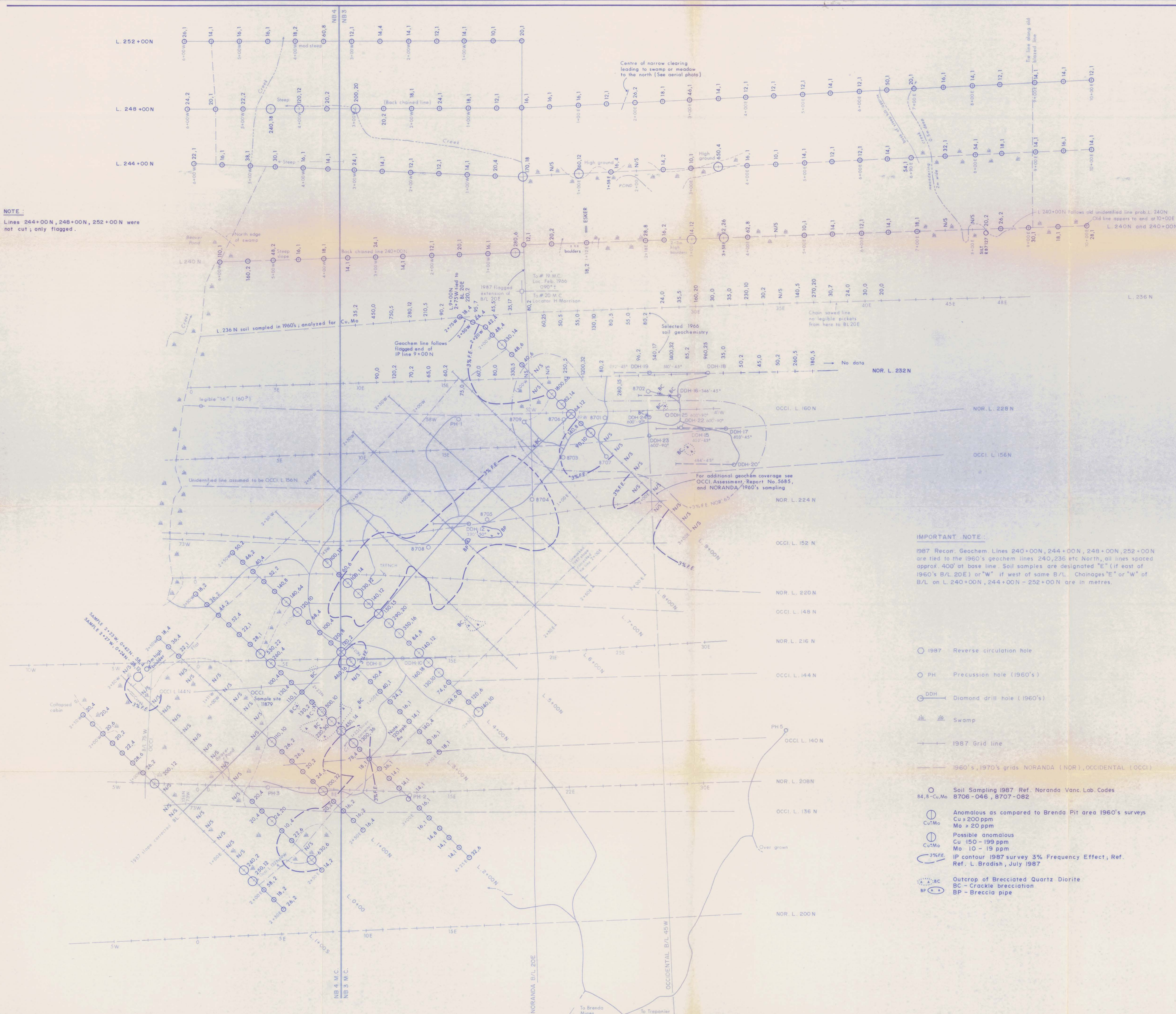
5	Fine grained granite porphyry dyke
4	Quartz syenite
3	Quartz eye porphyry
2	Medium to coarse grained granite
1	Fine to medium grained granite

Fracture
Shearing
Fault
DDH C-81-1 Diamond drill hole
RC-87-1 Reverse circulation hole
Fl Fluorite
200 Thin Section Ref. Harris 1987

Contours in Metres

REVISED	BRENDA MINES LTD.
	TRAVIS PROPERTY
	GEOLOGY
PROJ. No.	SURVEY BY: R.U. Bruaset DATE: October 1987
N.T.S.	DRAWN BY: J. Serwin SCALE: 1:2,500
DWG. No. 6	NORANDA EXPLORATION
	OFFICE: VANCOUVER

NCI - 782

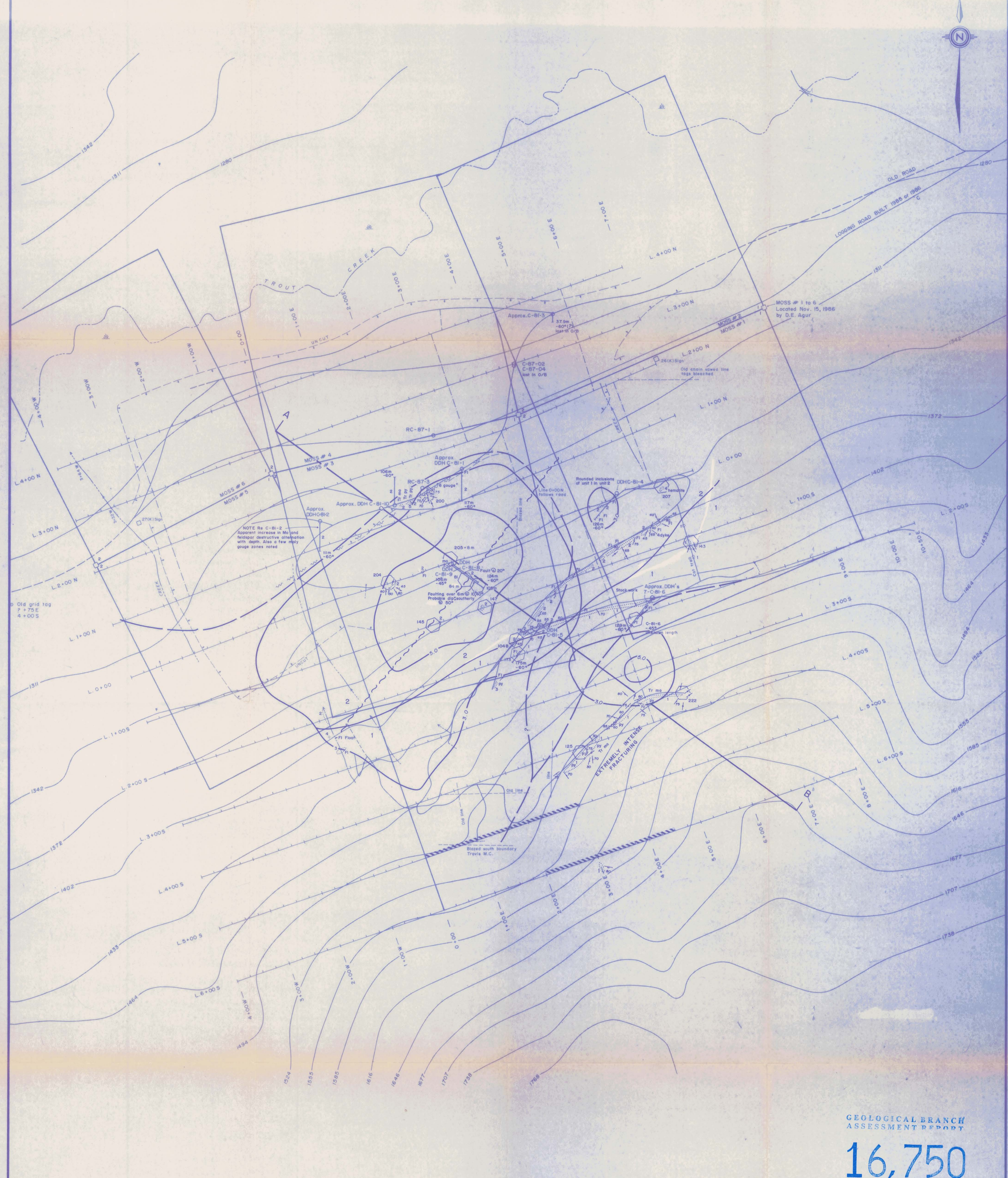


GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,750 part 1 of 3

SCALE
1 : 2,500
METRES 50 25 0 50 100 150 200 METRES

REVISED	BRENDA MINES LTD.
	NORTH BRENDA
	NB 4,5 AREA
	1987 SOIL GEOCHEMISTRY
	(INCLUDING FREQUENCY EFFECT AND BRECCIATION REFERENCES)
PROJ. No.	SURVEY BY: R.U. Bruaset DATE: September 1987
N.T.S.	DRAWN BY: J. Serwin SCALE: 1:2,500
DWG. No. 8	NORANDA EXPLORATION
	OFFICE: VANCOUVER



GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,750

Part 1 of 3

LEGEND

CRETACEOUS OR TERTIARY

UPPER CRETACEOUS OR LATER

OTTER INTRUSIONS

5	Fine grained granite porphyry dyke
4	Quartz syenite
3	Quartz eye porphyry
2	Medium to coarse grained granite
1	Fine to medium grained granite

5.0 % Frequency effect (%) (Filtered contour presentation)

Magnetic break

Magnetics / resistivity contact Ref. L. Bradish, 1987

Fracture

Shearing

Fault

DDH C-81-1 Diamond drill hole

RC-87-1 Reverse circulation hole

Fl Fluorite

200 Thin Section Ref. Harris 1987

IP Anomaly for a = 100 m F.E.'s

Contours in Metres

SCALE
1: 2,500

METRES 50 25 0 50 100 150 200 METRES

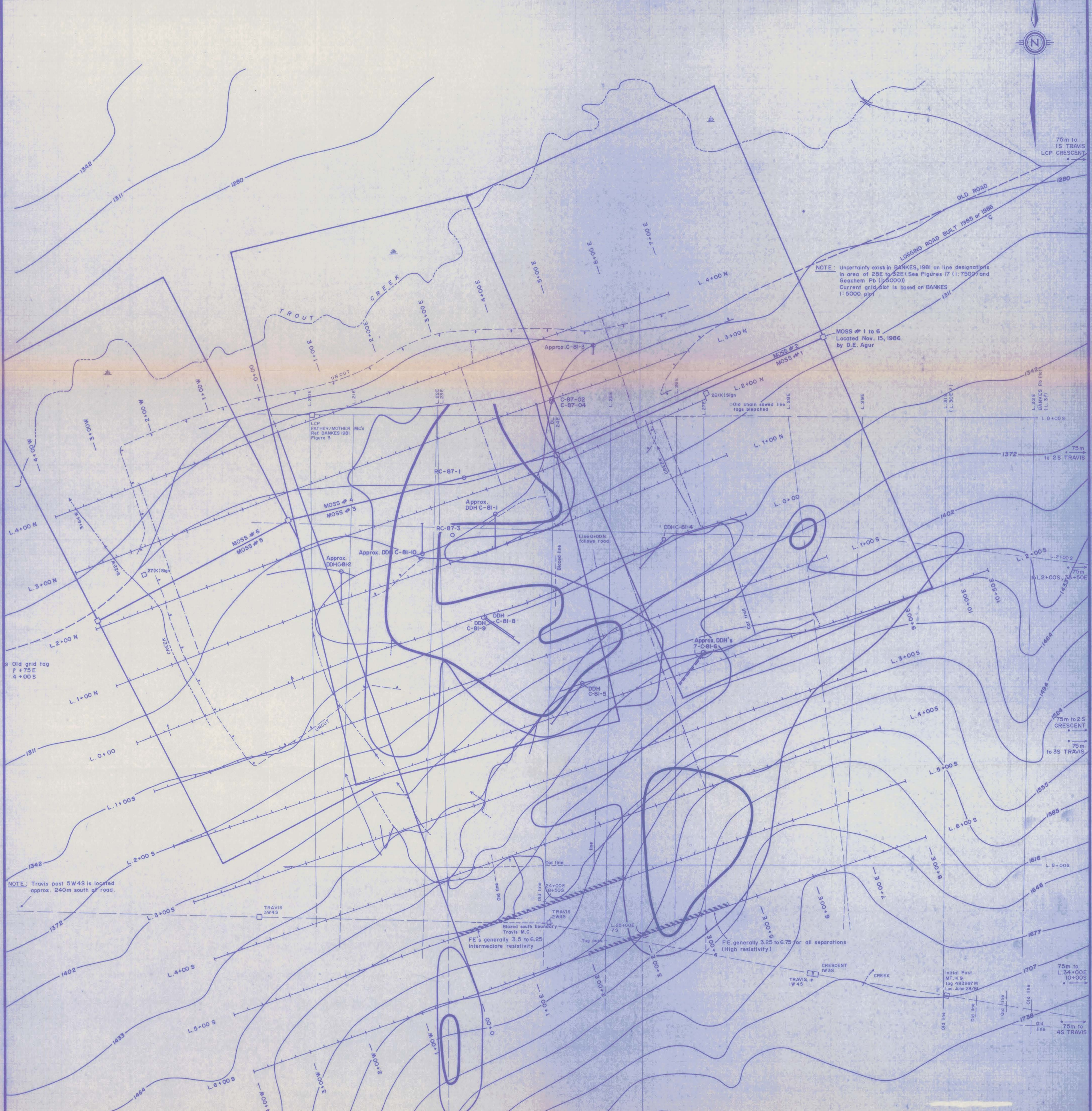
REVISED	BRENDA MINES LTD.
	TRAVIS PROPERTY
	COMPILATION
	GEOPHYSICAL
PROJ. No.	SURVEY BY: R.U. Bruaset DATE: October 1987
N.T.S.	DRAWN BY: J. Serwin SCALE: 1:2,500
DWG. No. 10	NORANDA EXPLORATION
	OFFICE: VANCOUVER

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,750

Part 1 of 3

REVISED	BRENDA MINES LTD.		
	TRAVIS PROPERTY		
	DRILL HOLE LOCATIONS		
PROJ. No.	SURVEY BY: R.U. Brudset	DATE: October 1987	
N.T.S.	DRAWN BY: J. Serwin	SCALE: 1:2,500	
DWG. No. 11	NORANDA EXPLORATION		
	OFFICE: VANCOUVER		



GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,750

Part 1 of 3

SCALE
1:2,500

METRES 50 25 0 50 100 150 200 METRES

LEGEND

> 19 ppm Mo

> 10 - 19 ppm Mo

IP Anomaly for a = 100 m F.E.'s

Contours in metres

REVISED	BRENDA MINES LTD.
	TRAVIS PROPERTY
	GEOCHEMISTRY
	Mo in SOIL
PROJ. No.	SURVEY BY: R.U. Bruaset DATE: October 1987
N.T.S.	DRAWN BY: J. Serwin SCALE: 1:2,500
DWG. No. 12	NORANDA EXPLORATION
	OFFICE: VANCOUVER

TROUT CREEK
OLD ROAD
LOGGING ROAD BUILT 1985 or 1986
MOSS # 1 to 6
Located Nov. 15, 1986
by D.E. Agur
Approx. C-81-3
RC-87-02
RC-87-04
Approx. DDH C-81-1
RC-87-1
RC-87-3
Approx. DDH C-81-10
DDH C-81-4
PROPOSED DDH
DDH C-81-8
DDH C-81-9
DDH C-81-5
Approx. DDH's 7-C-81-6
Blazed south boundary Travis M.C.
CONTOURS IN METRES
WEIGHTED AVERAGES FOR DDH's and R.C.H's ±(Zn, Ag)
0.016, 0.023, 0.007, 0.06, 1.2 / 116 m = Mo, Pb, Cu, Zn (%), Ag (ppm) / length
GEOLOGICAL BRANCH
ASSESSMENT REPORT
16,750
Part 1 of 3
SCALE
1:2,500
METRES 50 25 0 50 100 150 200 METRES
REVISED
BRENDA MINES LTD.
TRAVIS PROPERTY
DRILLING RESULTS
NUMERICAL
PROJ. No.
N.T.S.
DWG. No.
13
SURVEY BY: R.U. Brugset
DATE: October 1987
DRAWN BY: J. Serwin
SCALE: 1:2,500
NORANDA EXPLORATION
OFFICE: VANCOUVER