



42H09SE0004 2.11214 HOBLITZELL

010

GEOLOGICAL REPORT ON THE 39  
BEAVERHEAD CLAIM GROUP, 11  
HOBLITZELL TOWNSHIP, 9  
LARDER LAKE MINING DIVISION, 11  
ONTARIO

RECEIVED

FOR

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MINING LANDS SECTION

ESSO MINERALS CANADA 10  
P.O. BOX 290 6  
TIMMINS, ONTARIO 8  
APRIL, 1988 4

BY

*Just  
2-11112*

DANE BRIDGE,  
MARTIN LENTERS AND JOSEPH MacPHERSON 11

DISK.A56



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## APPENDICES

Appendix 1	List of Samples, Assays, Detailed Map
Appendix 2	Statement of Qualifications

## MAPS

Map 1	Geology Map, Beaverhead Property 1:2500
Map 2	Geological Compilation Map 1:10,000

### 1.1 SUMMARY:

During October, 1987, a detailed geology survey was completed on a group of 24 claims located in Hoblitzell Township in the District of Cochrane. The claims are under option from Beaverhead Resources Ltd.

The property is underlain by volcanic and sedimentary rocks. The north edge of the property is underlain by a thick unit of mafic volcanic rocks with minor interbedded felsic and sedimentary rocks. South of the mafic volcanic rocks is a band, perhaps about 800 m thick, of felsic crystal tuffs. This unit thins to about 200 m in the central part of the property and probably pinches out west of West Porphyry Lake. The southern portion of the property is underlain by clastic sedimentary rocks with minor interbedded mafic and felsic volcanic rocks.

The rock strike roughly east-west and dip steeply north. Foliation is approximately parallel to bedding. All rocks have been metamorphosed to amphibolite grade.

An area of mineralization and shearing was found just north of the property boundary in the creek draining West Porphyry Lake. Shear zones at this location contain minor disseminated sulphides and small, irregular quartz veins. The highest assay value obtained was 480 ppb Au.

### 1.2 CONCLUSION:

No gold-bearing structure or mineralization has been identified on the Beaverhead property from this geological mapping survey, or from diamond drilling, reverse circulation drilling or geophysical surveying. Gold values from a 1940 prospecting report on the property could not be duplicated.

### 1.3 RECOMMENDATIONS:

No further work is recommended on the Beaverhead property unless exploration on the surrounding EMC property locates mineralization which could be traced on to the property.

## 2.1 INTRODUCTION:

As part of a larger exploration effort designed to explore for the western (Ontario) extension of the Casa Berardi Break, a property known as the Beaverhead Group (Hibbard claims on Figure 2) was acquired by Esso Minerals Canada (EMC) in October of 1986. The property, located in western Hoblitzell Township is surrounded by EMC's HN group and was acquired in order to fully explore the volcanic/sedimentary belt.

The current geology survey was carried out in late October, 1987 by Dane Bridge, Martin Lenters, Joseph MacPherson and Andre Verville. All 24 claims were covered using a cut grid with lines spaced at 100 metre intervals. Pace and compass and creek traverses were also made off the Beaverhead claims. All rock exposures were examined and tied into the grid and notes were made on the type of extent of overburden and vegetation.

## 2.2 LOCATION AND ACCESS:

The property is located in southwest Hoblitzell Township in NTS 42H/8, District of Cochrane, about 85 km northeast of Cochrane (Figure 1).

The only access to the property is by float plane or helicopter to West Porphyry Lake which is located in the middle of the claim group. Porphyry Creek, which flows into Porphyry Lake, provides good canoe access to the west part of the property. Winter access is provided by drill roads on the EMC claims which are accessed from the south through Tomlinson Township. EMC winter drill roads currently traverse the Beaverhead claim block.

## 2.3 PROPERTY:

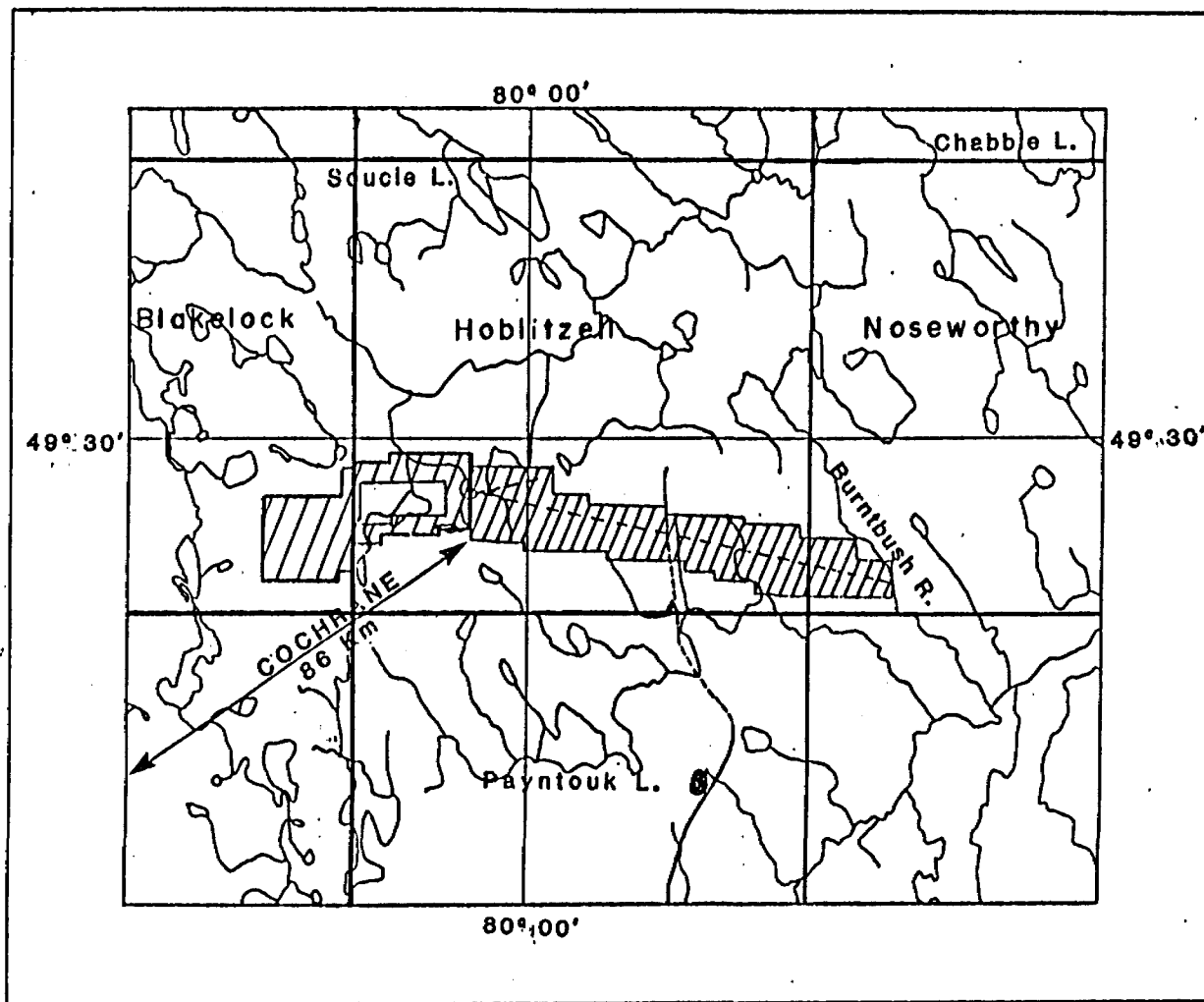
The Beaverhead property (Hibbard claims on Figure 2) consists of 24 contiguous claims:

848104 to 848121 Recorded April 19, 1985

848409 to 848414 Recorded June 17, 1985

These claims are surrounded by EMC's HN claim group which currently consists of 300 claims, excluding the 24 Beaverhead claims, in Noseworthy, Hoblitzell and Blakelock Townships. The property is under option to EMC from Beaverhead Resources Ltd. who have it under option from Maurex Resources Limited.

### LOCATION MAP



SCALE: 1:250,000

- ▲ Camp Jan 15 - Feb 15 /86
- Gravel Road
- - - Winter Road  
Commenced Dec. 6/85
- Gravel Pit  
Used for Helicopter Fuelling Operation

FIGURE 2

H-N PROJECT  
PROPERTY LOCATION

NTS 32E/5,12

QUEBEC

ONTARIO

BLAKELOCK TWP.

80°00'

HOBLOITZELL TWP.

70°46'

NOSEWORTHY TWP.

BRADETTE TWP.

INGO/GLDN KNIGHT

NOREX

LOYDEX

NEWMONT/GSA

NEW MONT/  
GLDN SHIELD

DOME

AMERITEX

EMC

NOREX

49°30'

HIBBARD

0.240/1 Au<sup>+</sup>  
2.4 m

EMC

49°30'

NOREX

EMC

EMC

NEWMONT/GSA

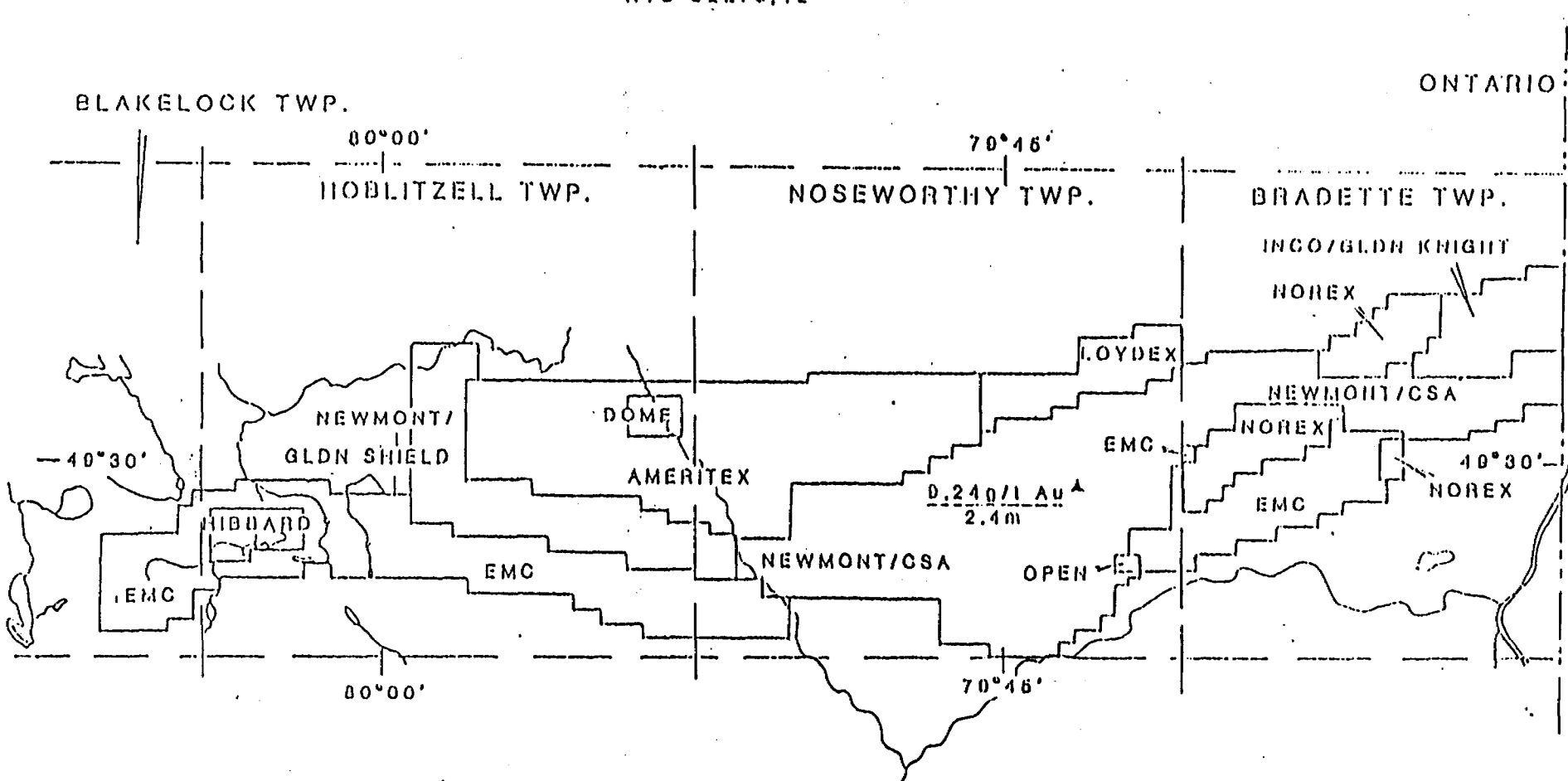
OPEN

80°00'

70°46'

0

5 Km



## 2.4 TOPOGRAPHY AND RESOURCES:

West of West Porphyry lake, the terrain is generally flat and is broken only by occasional low sand ridges. Outcrop areas can usually be found on these ridges. The land is moderately to poorly drained and numerous small swamps and open areas can be found. South of West Porphyry Lake there are several east-west ridges which are composed of sporadic outcrop and sand and gravel.

Water is readily available in West Porphyry Lake and Porphyry Creek which empties into and drains West Porphyry Lake to the north and east.

Timber on the property is generally well spaced and immature. The sand ridges generally host the only areas of mature spruce. Ridges south of West Porphyry Lake have good stands of poplar. Alders and stunted spruce occupy the lower, poorly drained areas.

## 2.5 EXPLORATION WORK ON THE BEAVERHEAD PROPERTY

The geology of the Beaverhead property has mainly been interpreted by airborne and ground geophysics, reverse circulation drilling and diamond drilling.

### 2.5.1 Geophysics

Noranda conducted EM surveying on a six claim block, called Hoblitzell 3-73, located west of West Porphyry Lake in 1974 or 1975. An EM anomaly was located in sedimentary rocks along the north side of Little Porphyry Creek.

Hudson Bay Mining and Smelting conducted EM surveying along the north boundary of the current claims. They detected a conductor which has been drilled by EMC with hole HN-19.

A Dihgem III EM and magnetic survey was flown over the western EMC claims in 1986. It also covered the area of the Beaverhead property. The work and a report by Smith (1986) was filed for assessment credits on the EMC claims. Hodges (1986) reported on Max-Min II and magnetic surveying on the Beaverhead claims and also refers to the 1976 surveying by Hudson Bay Mining and Smelting on part of the current property.

Frequency domain IP surveying in 1987, and time domain IP surveying in 1988 was conducted over most of the claims, commonly on 400 m spaced lines. Numerous IP chargeability anomalies were found and some have been drill tested. IP surveying will not be filed for assessment credits.



### 2.5.2 REVERSE CIRCULATION DRILLING

Reverse circulation drilling was conducted on the property in 1986 and 1987 as part of larger programs on the EMC HN property. The bedrock chips obtained from the drilling has been useful in interpreting the geology of the property. The interpretation of the bedrock chips is shown on Map 2. Descriptions of the chips and overburden stratigraphy has been reported on and filed for assessment credits by MacPherson (1986), Verville (1987) and Bridge (1988).

### 2.5.3 DIAMOND DRILLING

A total of eleven diamond drill holes have been drilled totally or partly within the Beaverhead claims since 1975. Noranda drilled a 76.4 m hole, H-N 75-4, on an EM anomaly in the southwest part of the Beaverhead property in 1975. The hole is filed with data on the Hoblitzell 3-73 property. The approximate location of the hole is on claim 848104 and is shown on Map 1.

There is no record of drilling by Hudson Bay Mining and Smelting after their 1976 EM survey along the north boundary of the current claims. However, it is possible that some drilling was done and not reported.

EMC drilled six holes in 1987 and three in 1988 on the Beaverhead claims. They were drilled on IP or EM anomalies. Drill logs for holes HN-4, 8, 9, 10, 11 and 12 drilled in 1987 have been filed. The logs for 1988 holes HN-19, 20, 21 and 27 will be filed in 1988 or 1989. The locations of the holes are shown on Maps 1 and 2.

### 2.5.4 GEOLOGICAL MAPPING

The Hollinger files owned by EMC contain a prospecting and geology map of an 18 claim block held by T.W. Powell and M.G. Clark in 1940 which is centered on West Porphyry Lake. Powell and Clark located the main outcrop areas currently known on the property. They reported chip samples with up to \$6.45 in Au. These values could not be confirmed or duplicated during the present investigation.

Noranda mapped a six claim block extending west from West Porphyry Lake in 1974. Greywacke was observed along Little Porphyry Creek and a single outcrop of basalt was located north of the creek.

This report presents the outcrops located by EMC and a geological interpretation incorporating mapping, geophysics, diamond drilling and logging of reverse circulation drill chips from bedrock. The 24 Beaverhead claims were traversed on 100 m spaced lines between October 19 and 24, 1987 by Dane Bridge, Martin Lenters, Joseph MacPherson and Andre Verville. All are geologists employed by Esso Minerals Canada. A canoe was used for shoreline and island mapping.

## GENERAL GEOLOGY

The Beaverhead property is located on part of a volcanic/sedimentary belt which extends into Quebec and is believed to host the Inco/Golden Knight deposits. The Casa Berardi Break is also projected through this general area.

Published geology maps of the area have very generalized interpretations due to the paucity of outcrops. Reconnaissance type geological mapping in the area by Thomson (1936), Wilson (1979), and Johns (1982) provide the best published references to the lithologies present. According to these authors Archean age felsic to intermediate metavolcanic rocks conformably overly mafic metavolcanic rocks, and is in turn overlain by clastic metasedimentary rocks. This folded and faulted assemblage of volcanic and sedimentary rocks are intruded by granitic intrusives of Archean age and diabase dykes of Proterozoic age.

## 2.7 PROPERTY GEOLOGY

### 2.7.1 STRATIGRAPHY

Four main rock units can be defined on the Beaverhead property. From the assumed stratigraphically lower unit in the south, progressing upwards to north they are:

Conglomerate: A coarse clastic sedimentary unit characterized by conglomerate or conglomerate horizons in greywacke and arkose occurs from Porphyry Lake to the south shore of West Porphyry Lake. Clastic sedimentary rocks probably occupy most of the area for 2.5 km south of the north shore of Porphyry Lake.

Greywacke: The conglomerate unit is overlain by a roughly 1000 m thick unit of greywacke. The greywacke contains interbedded argillite, mudstone, arenite, arkose, felsic crystal tuff and mafic volcanic rocks. Thin bands of disseminated magnetite are common in greywacke and finer-grained clastic rocks.

Felsic Unit: Felsic crystal tuff overlies the greywacke unit. It is 100 to 300 m thick and thickens to possibly 800 m in the area to the east of the property.

Basalt: Mafic volcanic rocks with interbedded felsic tuffs and minor sedimentary rocks overlie the felsic crystal tuff unit and extend for an unknown distance, at least 700 m, to the north. Basalt also occupies the westerly strike extension of the crystal tuff unit and the upper part of the greywacke unit west of West Porphyry Lake.

### 2.7.2 CONGLOMERATE UNIT

The conglomerate unit is polymictic but most clasts are flattened, subrounded clasts, derived from felsic volcanic rocks. Well rounded granitic cobbles occur up to 15 cm in diameter in a groundmass containing abundant variably flattened clasts. The cobbles have failed brittly and are filled with quartz veins that do not extend into the matrix.

A large outcrop area at the north west corner of Porphyry Lake may mark the top of a clastic unit below the conglomerate unit. It consists of arkose (or possibly felsic crystal tuff) with interbedded argillite and chert. Porphyry Lake was probably so named because of the porphyritic appearance of the arkose.

### 2.7.3 GREYWACKE UNIT

The greywacke unit is extremely variable in composition, and includes interbedded sections of both felsic and mafic volcanic rocks. It is difficult to separate arenite, arkose, greywacke, and conglomerate from felsic volcanic rocks in RCD chips. Magnetic and EM patterns in the north west portion of the property had lead to the interpretation of folding in the area. However, a fold pattern with an easterly vergence may be due to a wedge of mafic volcanic rocks in the greywacke unit separating magnetic high trends.

Magnetic is abundant in the unit but no true iron formation occurs. Multiple thin bands of disseminated magnetite are the cause of distinct magnetic high axes within the greywacke unit.

#### 2.7.4 FELSIC UNIT

The felsic volcanic rocks are mainly quartz-feldspar crystal tuffs. They are characterized by minor to 30% plagioclase and lesser blue quartz phenocrysts in a well foliated, quartz-sericite groundmass. Magnetic is common in the felsic tuffs. Thin disseminated bands of magnetic occur giving the felsic tuffs a much higher magnetic background than the mafic volcanics to the north.

Pyrite is also abundant in the felsic tuffs. IP anomalies that have been drilled are caused by 1 to 15% disseminated pyrite. The disseminated pyrite appears to form discontinuous horizons throughout the felsic tuffs which may indicate primary bedding. Due to the pyritic horizons and the thin bands of disseminated magnetite, the felsic tuffs are interpreted to be waterlain or possibly epiclastic.

The felsic tuffs are poorly exposed in the bed of the creek draining West Porphyry Lake on claim 848113. In outcrop they have been at times identified as porphyry or grits due to the distinct quartz phenocrysts or grains.

#### 2.7.5 BASALT

The mafic volcanic rocks are exposed in one outcrop in the northwest part of the property and in the creek just north of claim 848113. The mafic volcanics have been logged in holes in the northwest portion of the property and in holes on L0 north of the property. They are mainly massive, fine to medium-grained amphibolites with little primary texture. Fine to coarse metamorphic amphibole is common. Fine-grained foliated sections are common which are biotitic. They may be mafic tuffs, mafic sedimentary rocks, interflow sedimentary rocks or zones of minor shearing.

The basalts are relatively non-magnetic compared to the felsic and greywacke units which have disseminated magnetite laminations. The basalts occupy a broad area of flat magnetic response north of strong magnetic high trends in the underlying units.

#### 2.7.6 INTRUSIVE ROCKS

Minor dykes of quartz diorite or quartz diorite porphyry occur in holes 27 (L8+00W, L+50N on the Beaverhead claims) and in hole 18 (just north of claims at L4+00E, 6+00N). No other intrusive rocks have been observed on or immediately adjacent to the property. A diabase dyke is inferred from magnetics about 800 m west of the west claim boundary.

## 2.8 METAMORPHISM

All rock units are metamorphosed to amphibolite facies. The clastic sedimentary rocks are biotite-rich. The mafic volcanic rocks contain minor to abundant metamorphic amphibole, minor disseminated almandine garnet and clots and patches of epidote-garnet-quartz.

## 2.9 STRUCTURE

The clastic sedimentary rocks are weakly to moderately foliated at  $260^{\circ}$  to  $270^{\circ}$  with  $50^{\circ}$  to  $85^{\circ}$  N dips. Clasts in greywacke are 5 to 10 times wider than they are thick so are highly flattened. The most northerly outcrop on Map 1 has an almost gneissic texture. Mineral segregation has formed cherty, quartzo-feldspathic bands and biotite-amphibole bands.

A well developed joint set occurs in outcrops along the southeast shore of West Porphyry Lake. The joints are orientated at  $010^{\circ}$  to  $345^{\circ}$  and dip  $85^{\circ}$  E. They are commonly weakly silicified or filled with quartz veins. The maximum jointing intensity has joints spaced 2 to 6 cm apart. The joints appear to be a single set, and may be orientated at right angles to a fold axis which would parallel the observed foliation.

Most primary sedimentary structures have been destroyed by amphibole-grade metamorphism and the foliation. Possible crude grading in conglomerate outcrops indicates tops to the north. There is no direct outcrop evidence of small or large scale folding. However, magnetics and electromagnetics could indicate folding with an amplitude of 700 m in the west part of the property.

One shear zone was found in old trenches in Porphyry Creek. Detailed geology of this area is shown in Figure 3. The shear is 10 m wide and occurs in basalt. Orientation appears to be  $255^{\circ}/80^{\circ}$  N, but the shear is exposed in only one trench. The location correlates closely with a 2 km, linear, airborne electromagnetic anomaly.

## 2.10 MINERALIZATION

The only sulphide mineralization in the map area was found in the trenches (Figure 3 and 4) about 50 m north of the Beaverhead claims. Trace to locally 5% pyrite-pyrrhotite occurs in basalt with quartz veining in or adjacent to shears in basalt. Only trace sulphides occurred in quartz veins.

Trace to 2% quartz veins occurs in most outcrops on the Beaverhead claims. The veins are short and discontinuous

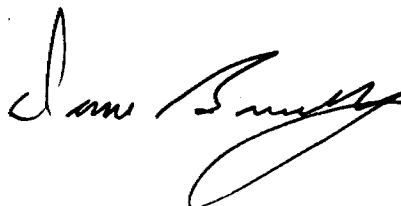
often filling joints. They contain no sulphides, but locally contain minor white feldspar so maybe related to intrusive rocks.

Gold values from rock samples were trace except in shear zones in the mafic unit located north of Beaverhead claim block (Figure 3). A grab sample of sheared basalt with minor quartz veining in trench B at the north contact of the mafic unit assayed 0.006 - 0.008 oz/ton Au (sample JM-35, Appendix 1). However, a 2 m chip across the whole shear as exposed assayed trace to 0.001 (sample JM-34).

A 4.7 m chip sample in trench A in sheared basalt at the south contact of the mafic unit assayed 0.001 to 0.014 oz/ton Au (Sample JM-30).

A description of assay samples with values and trench maps are in Appendix 1.

Newmont-Consolidated C.S.A. has discovered gold associated with quartz-sulphide veining in shears in altered dacite about 6.5 km east of Beaverhead claims. The mineralized shear is between two magnetic highs. The northerly high is due to basalt and the southerly one is due to a pyrrhotite-bearing iron formation. Airborne geophysics flown by Dighem for EMC and ground magnetics by Newmont indicate that the stratigraphic section containing the mineralized shear strikes onto the Beaverhead claims probably in claim 848119.



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2410 Scale 1:31,680

**APPENDIX 1**

**List of samples and analyses**

**Geological sketch map of trench area  
north of West Porphyry Lake**

**Plan of detail trench A**



Min-En Laboratories Ltd.  
Fire Assays

Sample Number	AU G/TONNE	AU OZ/TON
901	.01	0.001
902	.02	0.001
903	.01	0.001
904	.01	0.001
905	.01	0.001
906	.04	0.001
907	.01	0.001
908	.01	0.001
909	.07	0.002
910	.03	0.001
911	.01	0.001
912	.26	0.008
913	.01	0.001
914	.01	0.001
915	.01	0.001
916	.01	0.001
917	.02	0.001
918	.01	0.001
920	.01	0.001
921	.01	0.001
922	.01	0.001
923	.01	0.001

**Bell-White Analytical Laboratories Ltd.**  
**Fire Assays**

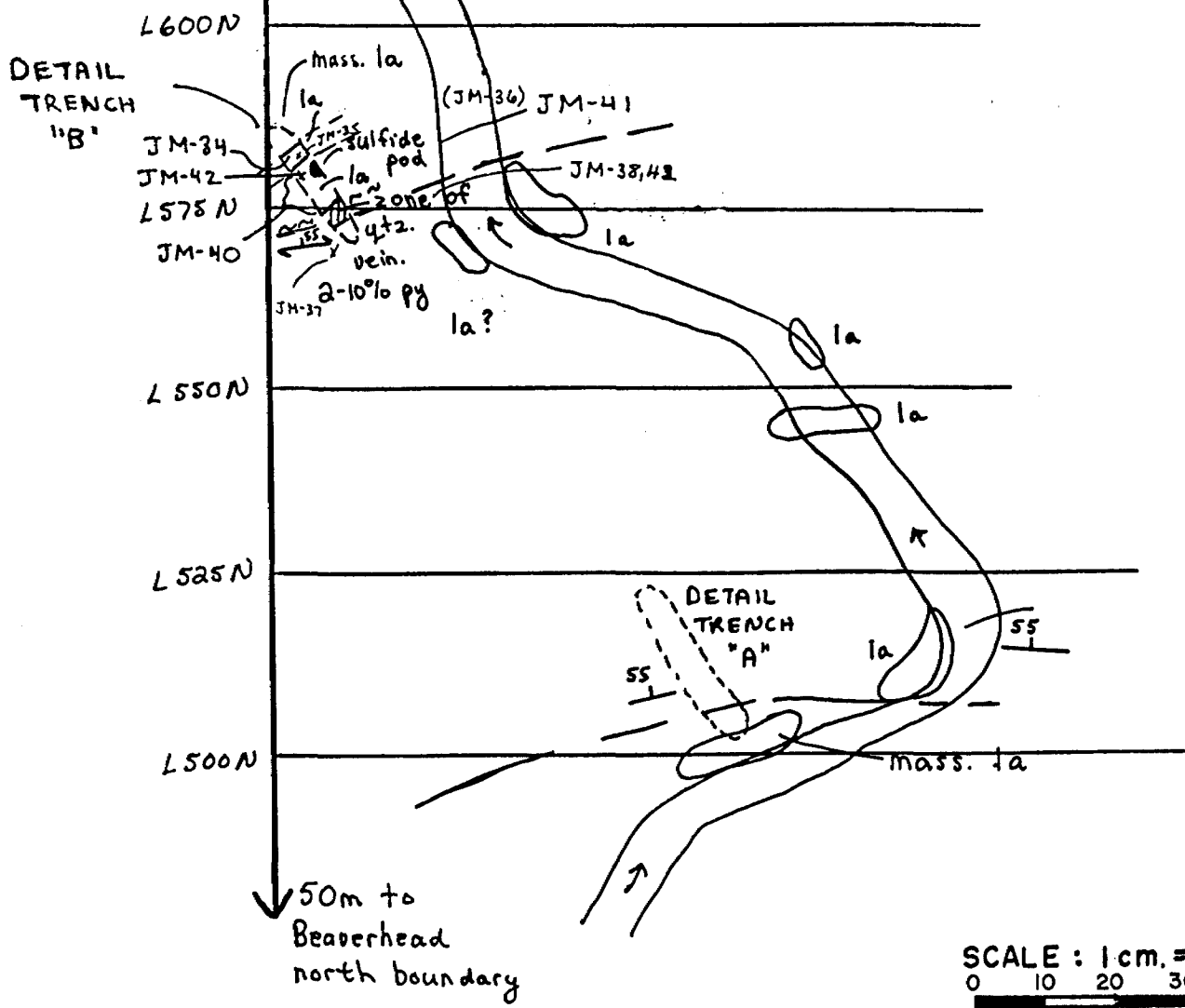
<u>Sample No.</u>	<u>Oz. Gold</u>
0901	Trace
2	Trace
3	Trace
4	Trace
5	0.002*
6	Trace
7	0.014
8	0.002*
9	Trace
0910	0.002*
1	Trace
2	0.006
3	Trace
4	Trace
5	0.008
6	0.002*
7	Trace
8	Trace
0920	Trace
1	Trace
2	0.002*
3	Trace

\* Estimated

50-310  
50  
270  
2b, gneissic

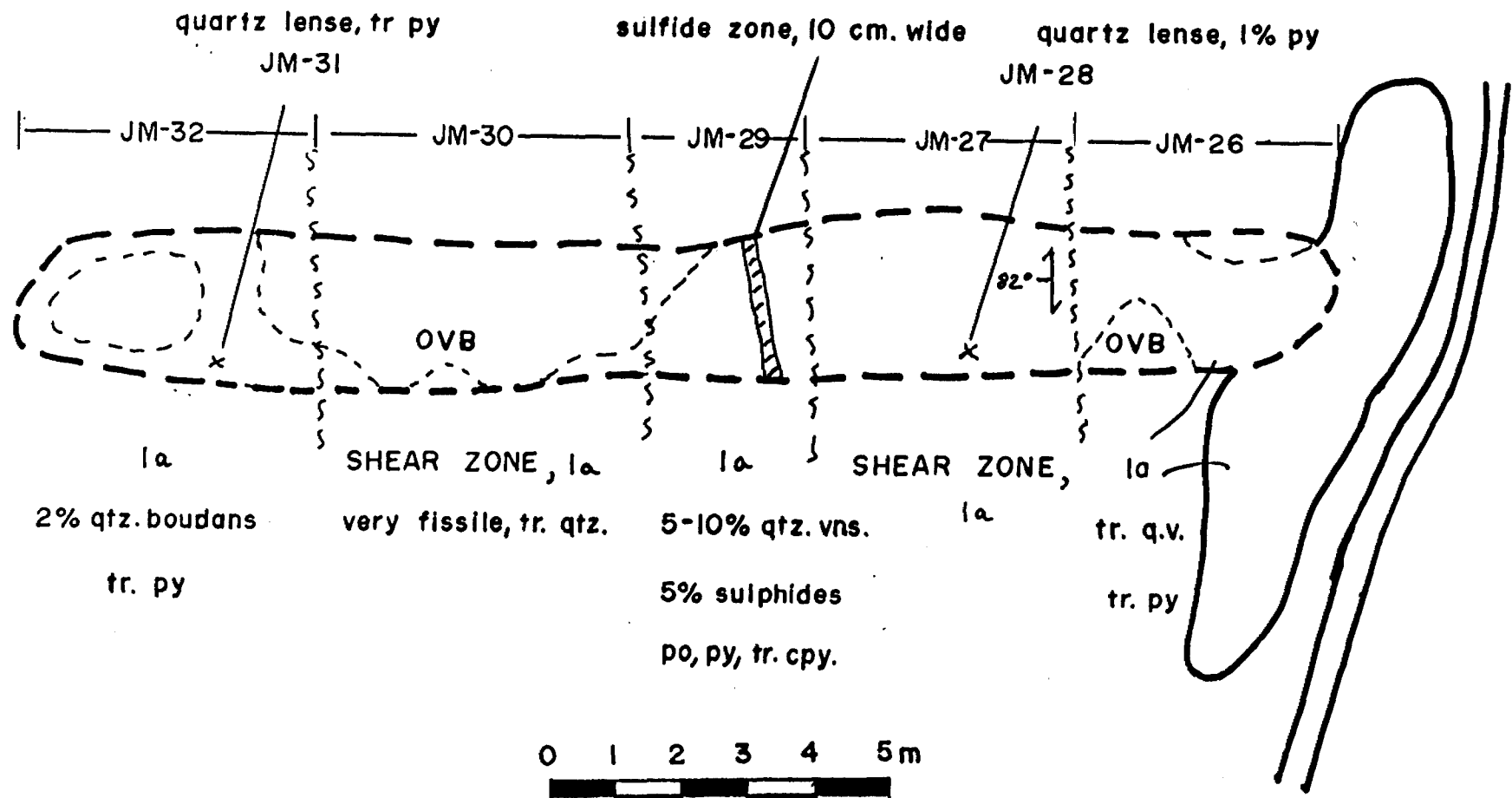
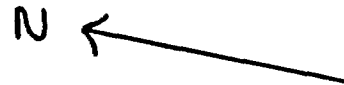


# GEOLOGICAL SKETCH OF TRENCHED AREA NORTH OF W. PORPHYRY L.



SCALE : 1cm. = 10m.  
0 10 20 30 40 m.

# PLAN OF DETAIL TRENCH "A"



**STATEMENT OF QUALIFICATIONS**

**I, Dane Bridge, of 205 Cherry Street, Timmins, Ontario  
certify that:**

**I am a graduate in Geology of the University of  
Manitoba with a B.Sc Hons. in 1969 and a M.Sc in 1972.**

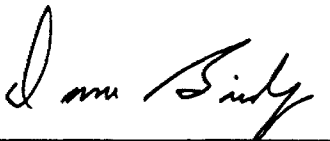
**I have been practicing my profession continuously since  
graduation**

**I am a member of the Geological Association of Canada.**

**I have no interest in the properties or securities of  
Coniagas Mines Limited nor Beaverhead Resources Ltd.**

**I have supervised all phases of exploration on the HN  
property**

**Dated April, 1988**

  
**Dane Bridge**

DOCUM  
W98C  
Min



42H09SE0004 2.11214 HOBLITZELL

900

Geological #273 2.11214 Hoblitzell Township ✓

Claim Holder(s): Esso Resources Canada Limited  
Prospector's Licence No.: T-872

Address: P.O. Box 4029, Terminal A, Toronto, Ontario M5W 1K3

Survey Company: Esso Minerals Canada  
Date of Survey (from & to): 19 Day 10 Mo. 87 Yr. to 24 Day 10 Mo. 87 Yr. Total Miles of line Cut: ✓

Name and Address of Author (of Geo-Technical report): Dane Bridge, Box 290 Timmins, Ontario P4N 7N6

Credits Requested per Each Claim in Columns at right

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Man Days Complete reverse side and enter total share	Geophysical	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	20
	Geochemical	
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	Days per Claim
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
L	848104		L	848414	
	848105				
	848106				
	848107				
	848108				
	848109				
	848110				
	848111				
	848112				
	848113				
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	848117				
	848118				
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	848120				
	848121				
	848409				
	848410				
	848411				
	848412				
	848413				

RECEIVED  
JUN 1 1988  
MINING LANDS SECTION

7/12/88  
12:30  
2-1988  
12/12/88

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures \$ [ ] + 15 = Total Days Credits [ ]

Instructions  
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected columns at right.

Total number of mining claims covered by this report of work. 24

Date: May 9, 1988  
Recorded Holder or Agent (Signature): [Signature]

For Office Use Only

Total Days Cr. Recorded: 480  
Date Recorded: May 20/88  
Date Approved as Recorded: [Signature]  
Mining Recorder: M.G. W...  
Branch Director: [Signature]

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying: Dane Bridge, Esso Minerals Canada, Box 290 Timmins, Ontario P4N 7N6

Date Certified: May 11, 1988  
Certified by (Signature): [Signature]



Ontario

Ministry of  
Northern Development  
and Mines

Ministère du  
Développement du Nord  
et des Mines

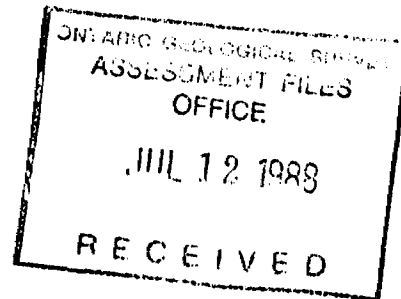
June 22, 1988

Your file: W8808-223  
Our file: 2.11214

Mining Recorder  
Ministry of Northern Development and Mines  
4 Government Road East  
Kirkland Lake, Ontario  
P2N 1A2

Dear Sir:

Re: Notice of Intent dated June 6, 1988  
Geological Survey  
submitted on Mining Claims L 848104 et al  
in the Township of Hoblitzell



The assessment work credits, as listed with the above-mentioned Notice of Intent, have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours sincerely,

W.R. Cowan, Manager  
Mining Lands Section  
Mines & Minerals Division

Whitney Block, Room 6610  
Queen's Park  
Toronto, Ontario  
M7A 1W3

Telephone: (416) 965-4888

AB AB:p1  
Enclosure

cc: Mr. G.H. Ferguson  
Mining and Lands Commissioner  
Toronto, Ontario

Resident Geologist  
Kirkland, Ontario

Esso Resources Canada Limited  
P.O. Box 4029  
Terminal "A"  
Toronto, Ontario  
M5W 1K3



Recorded Holder <b>Esso Resources Canada Limited</b>
Township <del>XXXX</del> <b>Hoblitzell</b>

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
<b>Geophysical</b> Electromagnetic _____ days Magnetometer _____ days Radiometric _____ days Induced polarization _____ days Other _____ days  Section 77 (19) See "Mining Claims Assessed" column Geological <u>16.6</u> days Geochemical _____ days  Man days <input type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/>  <input checked="" type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	L 848104 to 21 inclusive 848409 to 14 inclusive

**Special credits under section 77 (16) for the following mining claims**

**No credits have been allowed for the following mining claims**

not sufficiently covered by the survey       insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geological - 40; Geochemical - 40; Section 77(19) - 60.

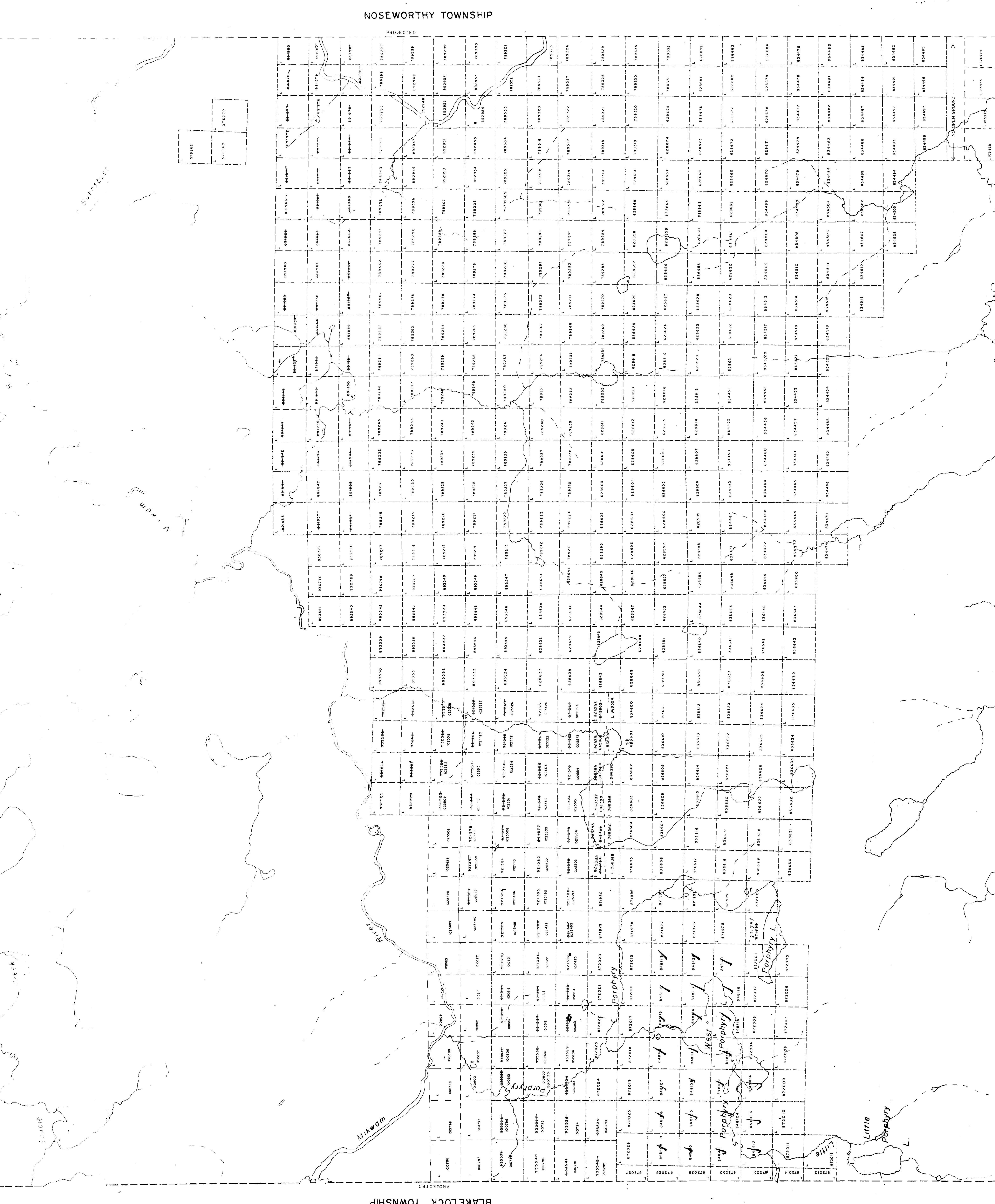


<p>HIGHWAY AND ROUTE NO. ●●●●</p> <p>TRAILES ——</p> <p>SURVEYED LINES ————</p> <p>UNSUBDIVIDED LINES - - - -</p> <p>LOT LINES AND CLAWETS - - - -</p> <p>RAILWAY AND RIGHT-OF-WAY ——+——</p> <p>UTILITY LINES ——+——</p> <p>NON-PRECINCT, STREAM ~~~~~</p> <p>RESERVATION, MINING RIGHTS ~~~~~</p> <p>RESERVATION, COMPOSITE PLAIN ~~~~~</p> <p>ORIGINAL SHORELINE ~~~~~</p> <p>MINES OR MINING X X X X</p> <p>TELEPHONE WIRE, POETRY - - - -</p>	<p><b>DISPOSITION OF CROWN LANDS</b></p> <p>TYPE OF DOCUMENT SYMBOL</p> <p>PATENT SURFACE &amp; MINING RIGHTS ●</p> <p>SURFACE RIGHTS ONLY ●</p> <p>MINING RIGHTS ONLY ●</p> <p>1978 SURFACE &amp; MINING RIGHTS ●</p> <p>MINING RIGHTS ONLY ●</p> <p>1978 SURFACE &amp; MINING RIGHTS ●</p> <p>MINING RIGHTS ONLY ●</p> <p>1978 SURFACE &amp; MINING RIGHTS ●</p> <p>MINING RIGHTS ONLY ●</p> <p>1978 SURFACE &amp; MINING RIGHTS ●</p> <p>MINING RIGHTS ONLY ●</p>
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**AREAS WITHDRAWN FROM DISPOSITION**

M.R.O. - MINING RIGHTS ONLY	●
S.R. - SURFACE RIGHTS ONLY	●
M.R.S. - MINING AND SURFACE RIGHTS	●

Description      Crown No.      Date      Character      Fee



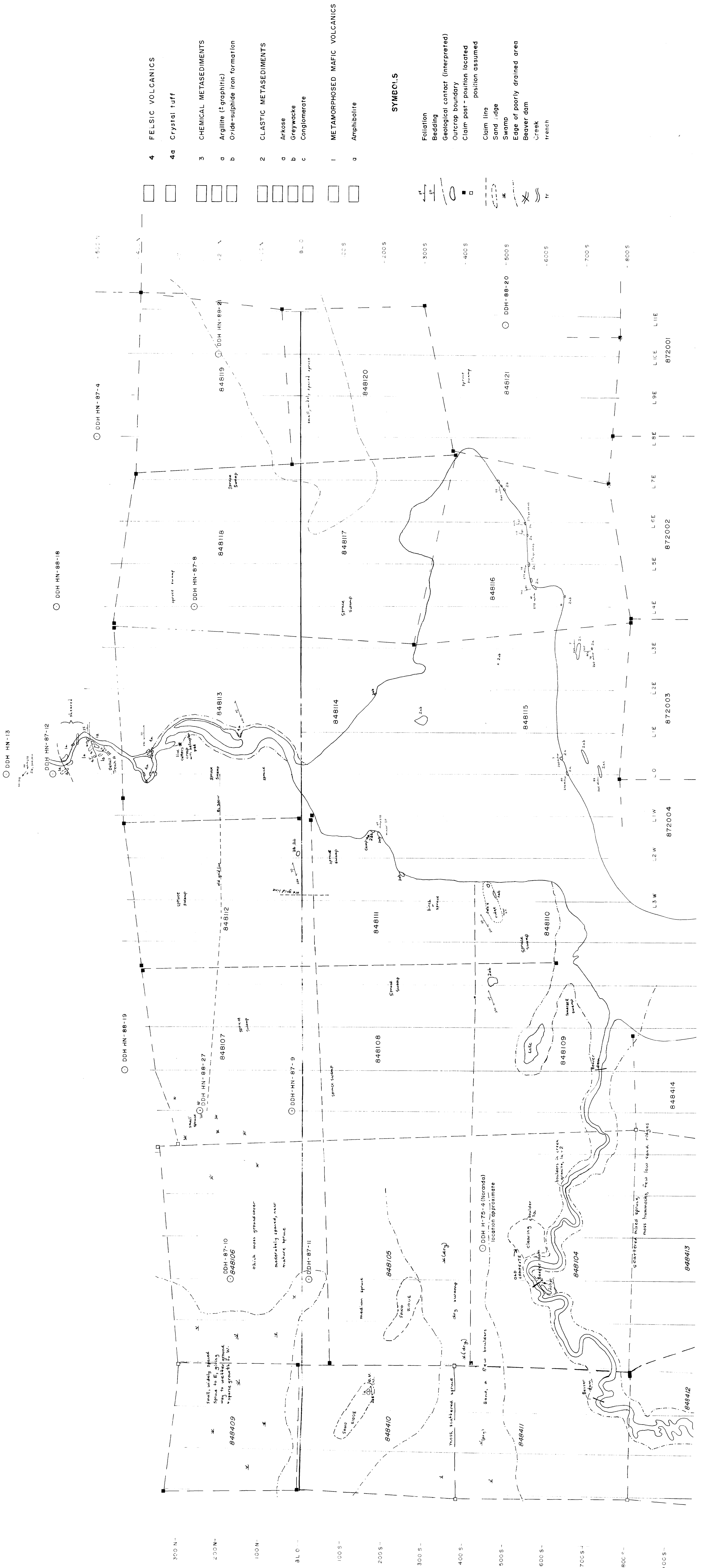
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DATE OF ISSUE  
APR 14 1988  
LANDS & MINES SERVICE  
MINISTRY OF NATURAL RESOURCES

TOWNSHIP  
**HOBLITZELL**  
M.R. ADMINISTRATIVE DISTRICT  
**COCHRANE**  
MINING DIVISION  
**LARDER LAKE**  
LAND TITLES / REGISTRY DIVISION  
**COCHRANE**

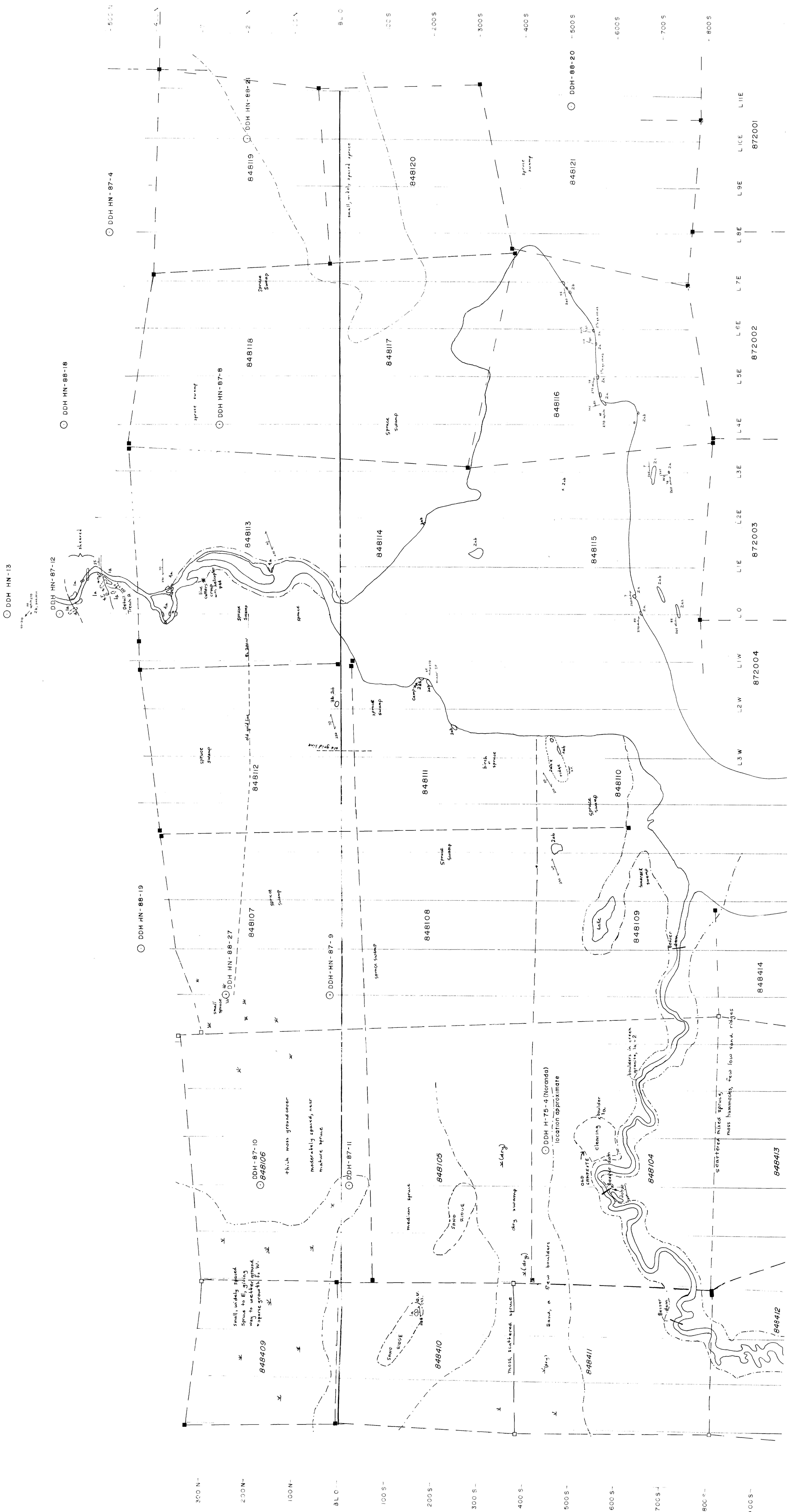
Ministry of  
Natural  
Resources  
Ontario

May 19 OCTOBER 1986  
**G-3513**

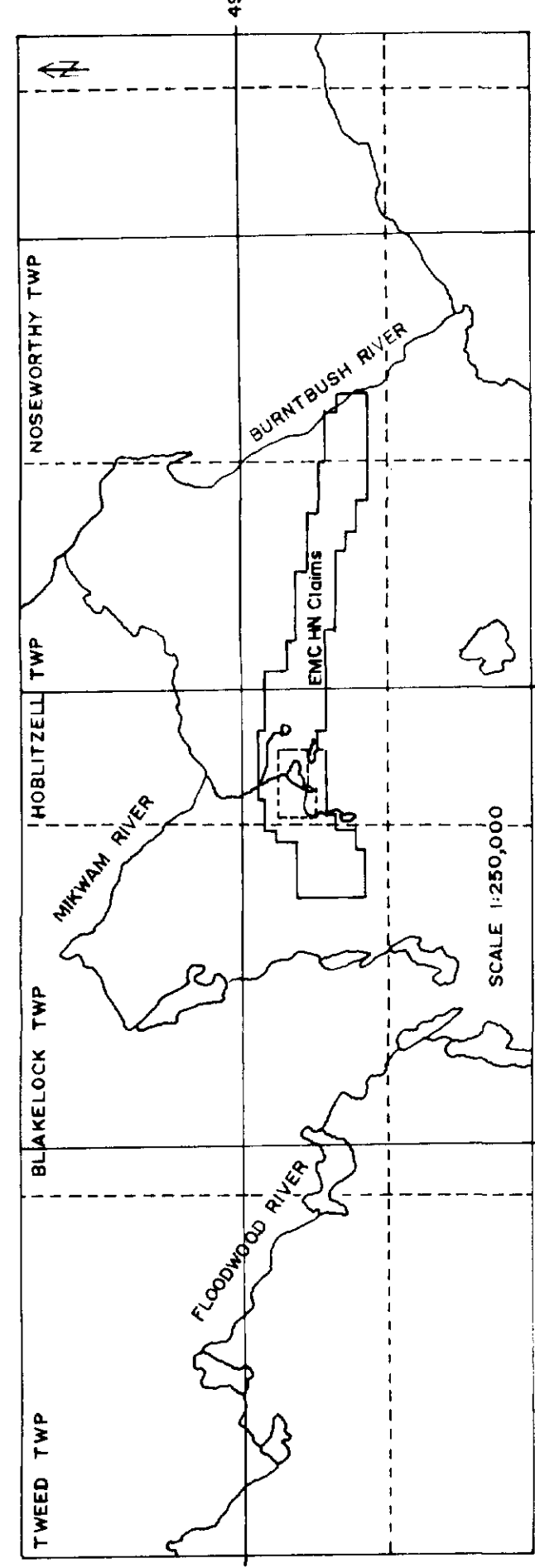


- 4 FELSIC VOLCANICS
- 4a Crystal tuff
- 3 CHEMICAL METASEDIMENTS
- a Argillite (± graphitic)
- b Oxide-sulphide iron formation
- 2 CLASTIC METASEDIMENTS
- a Arkose
- b Greywacke
- c Conglomerate
- 1 METAMORPHOSSED MAFIC VOLCANICS
- a Amphibolite

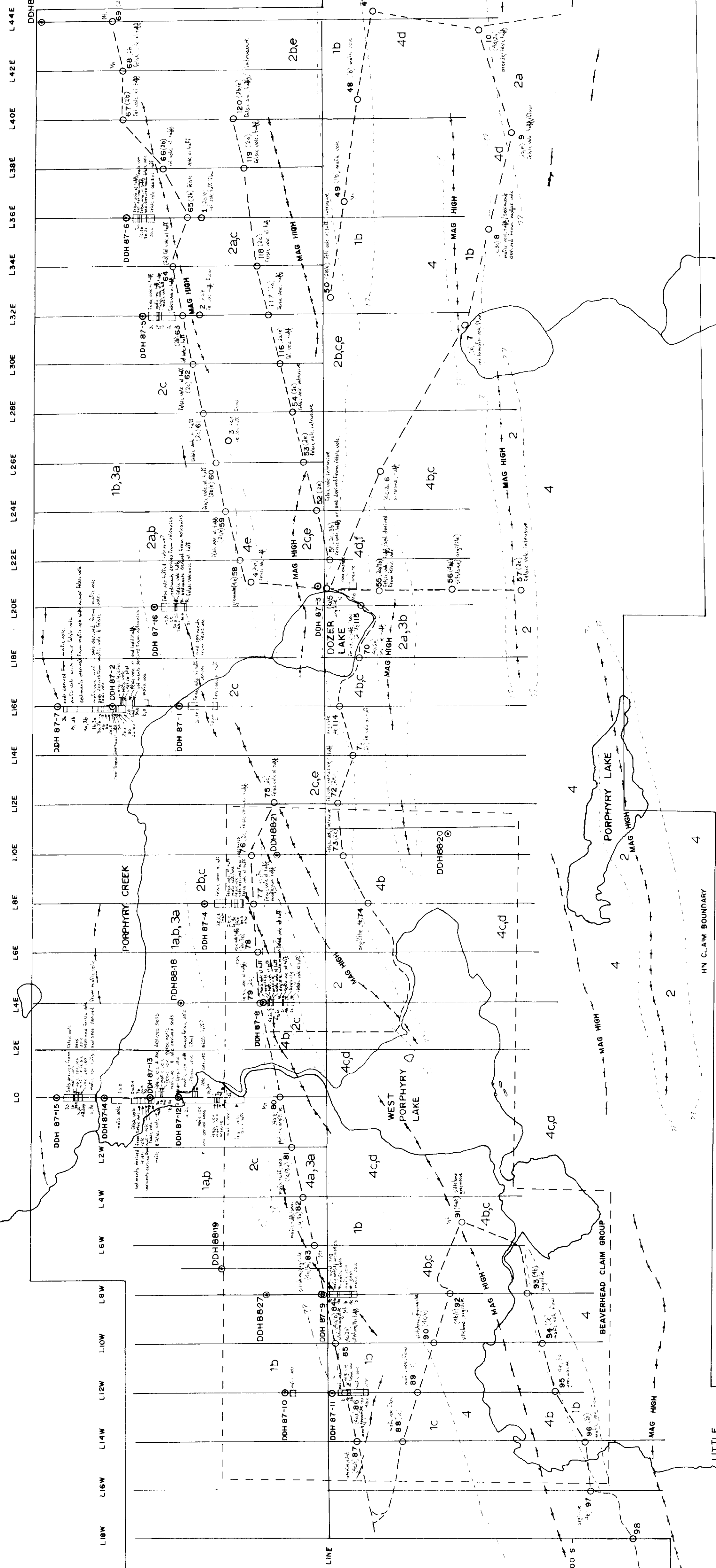
- SYMBOLS**
- Foliation
  - Bedding
  - Geological contact (interpreted)
  - Outcrop boundary
  - Claim post - position located position assumed
  - Claim line
  - Sand ridge
  - Swamp
  - Edge of poorly drained area
  - Beaver dam
  - Creek
  - trench



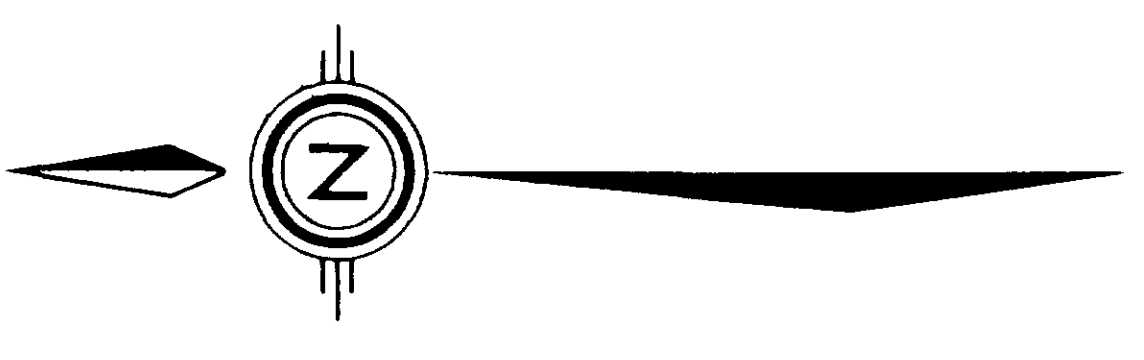
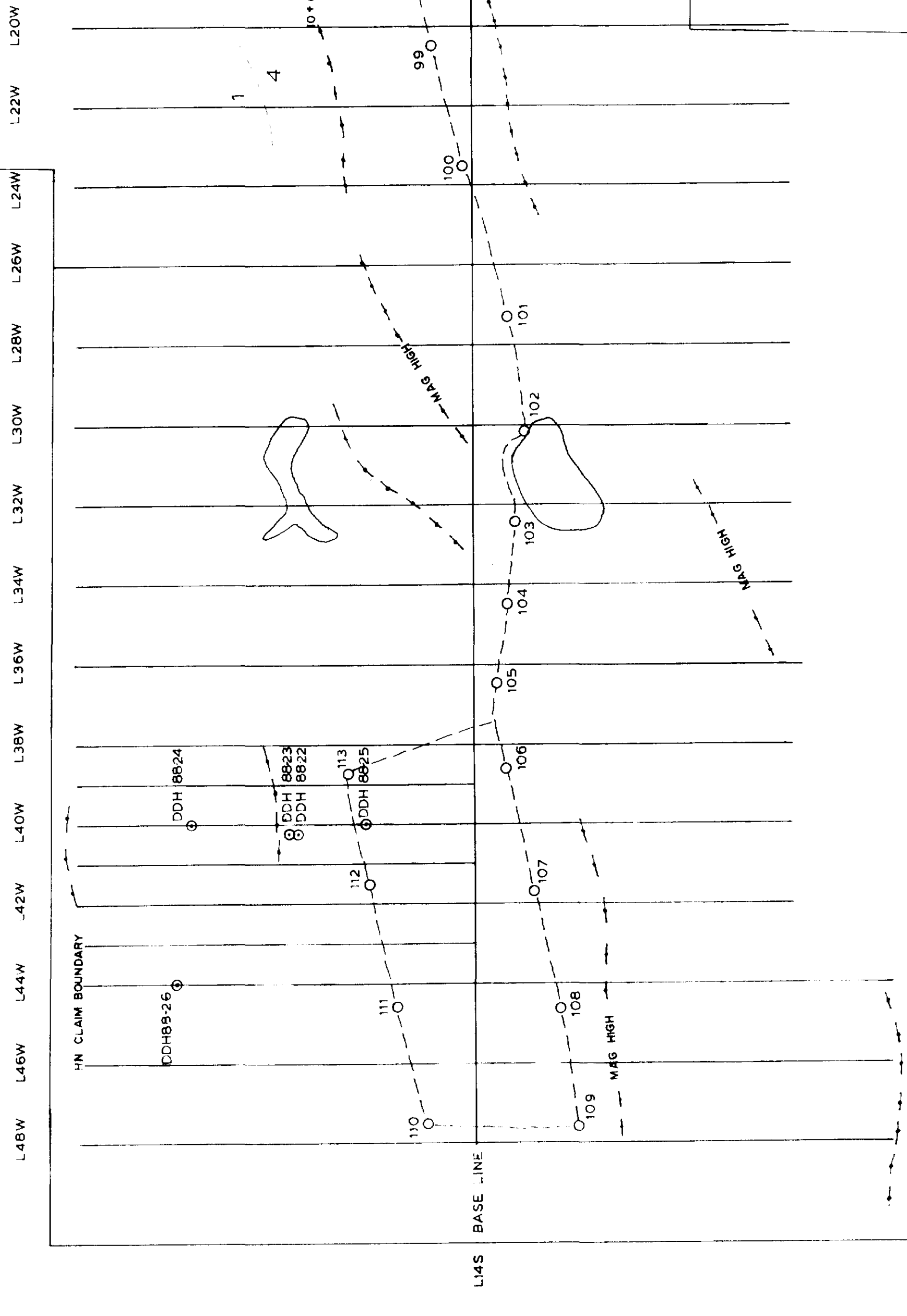
LOCATION MAP



CENTRAL GRID

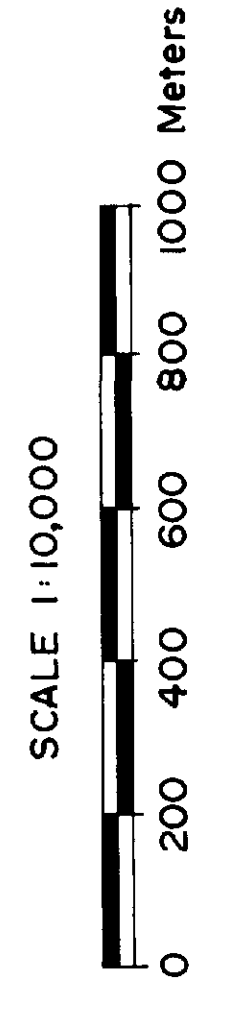


WEST GRID



MAP 2 2.11214

<b>ESSO MINERALS CANADA</b> A DIVISION OF ESSO RESOURCES CANADA LIMITED	
PROSPECT: HN	FILE NO: _____
SUBJECT: Geological Map Completion of Outcrop, Diamond Drill Hole and Reverse Circulation Drill Hole Bedrock Samples	DWG NO: _____
SURVEY BY: _____	SCALE: 1:10,000
DRAWN BY: MHL	NTS
REVISED BY: MHL	DATE: APRIL 1988



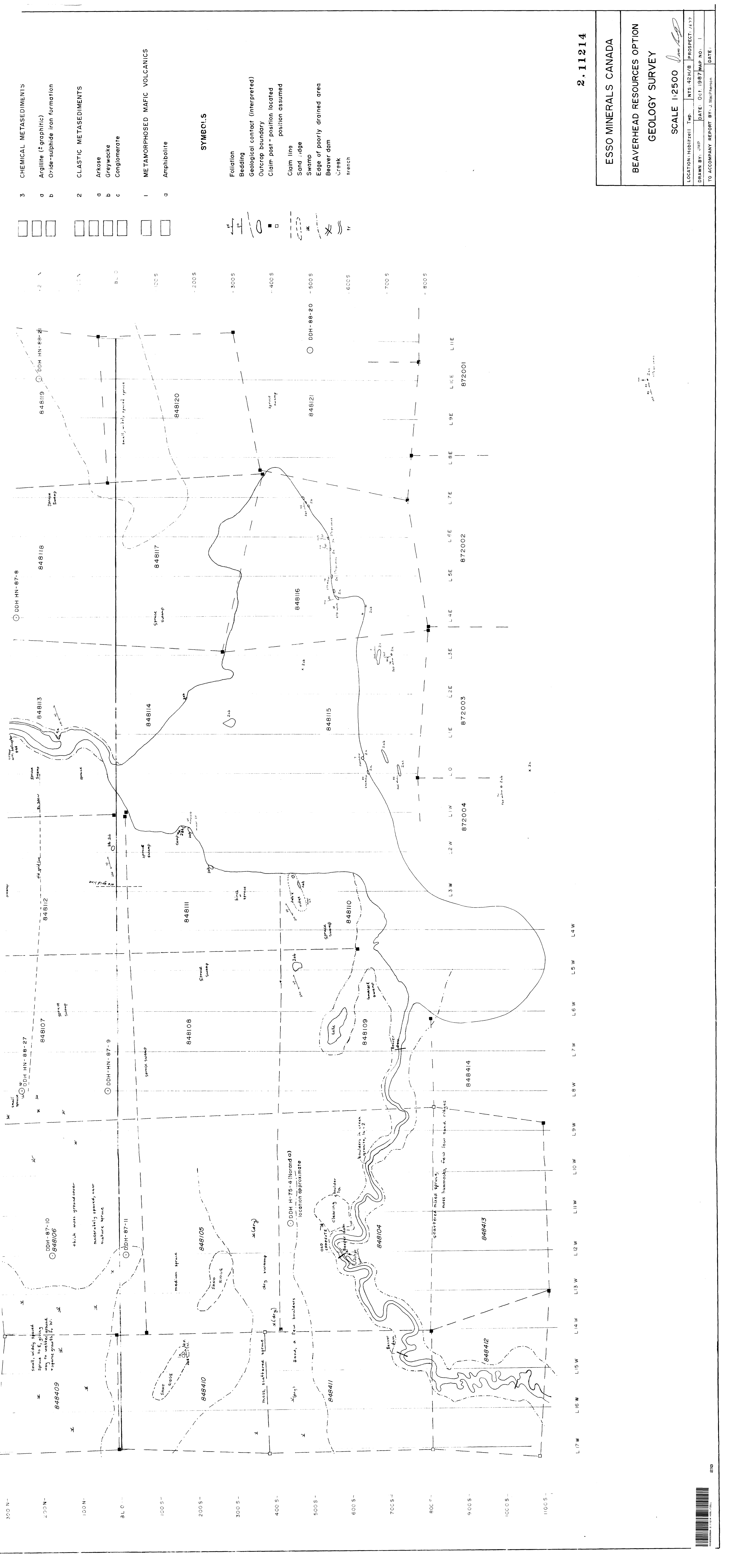
SYMBOLS

- 93 O Reverse Circulation Drill Hole (Vertical)
- DDH 87-3 Diamond Drill Hole (Inclined - Geology projected to surface)
- MAG HGH Subarea Magnetic High Axis
- Geological Contact (Assumed)
- Car Road
- H-N Claim Boundary
- Beaverhead Claim Group

- 6 Diabase Dykes
  - a Diabase Dyke
- 5 Intermediate to Mafic Intrusives
  - a Feldspar Porphyry Dyke
  - b Quartz Diorite intrusive
- 4 Metasediments
  - a Iron Formation
  - b Argillite
  - c Shale
  - d Greywacke
  - f Conglomerate
- 3 Volcanic-Derived Metasediments (Waterlain Pyroclastics)
  - a Mafic
  - b Felsic
- 2 Felsic Metavolcanics
  - a Massive, aphanitic Ash tuff
  - b Feldspar crystal tuff
  - c Feldspar - Quartz crystal tuff
  - d Lapilli Tuff / Pyroclastic breccia
  - e Flow (extrusive) / Intrusive
- 1 Mafic Metavolcanics
  - a Tuff
  - b Massive, fine grained
  - c Coarse grained, amphibole porphyroblasts







- 3 CHEMICAL METASEDIMENTS**
- a Argillite (± graphitic)
  - b Oxide-sulphide iron formation
- 2 CLASTIC METASEDIMENTS**
- a Arkose
  - b Greywacke
  - c Conglomerate
- 1 METAMORPHOSED MAFIC VOLCANICS**
- a Amphibolite

**SYMBOLS**

- Foliation
- Bedding
- Geological contact (interpreted)
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- trench

2.11214

ESSO MINERALS CANADA

BEAVERHEAD RESOURCES OPTION

GEOLOGY SURVEY

SCALE 1:2500

LOCATION: HADDIFIELD Twp. NTS 42H/8 PROSPECT: 437

DRAWN BY: JNP DATE: Oct. 1987 MAP NO. 1

TO ACCOMPANY REPORT BY: J. MacPherson DATE:

