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H-N PROJECT

REPORT OF PROCESSING AND ANALYSIS OF FINE TILL  
FRACTIONS OBTAINED FROM A  
REVERSE CIRCULATION DRILL PROGRAM DURING FEBRUARY 1987

HOBLITZELL, NOSEWORTHY AND BLAKELOCK TOWNSHIPS

NTS 32E/5, 42H/8

ESSO MINERALS CANADA  
A DIVISION OF  
ESSO RESOURCES CANADA LIMITED

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April, 1988

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## PART 1

### 1.1 SUMMARY

Heavy mineral concentrates (HMC) from tills from two reverse circulation drilling (RCD) programs on Esso Minerals Canada's claims in Hoblitzell, Noseworthy and Blakelock Townships, Ontario had resulted in low Au assays and insignificant Au grain counts. It was decided to test a finer grain size fraction to determine if very fine gold was present and being lost in conventional HMC preparation. A -10 to +80 and -80 to +250 mesh fraction was made from 105 selected samples of till obtained by RCD. These fractions were processed at two labs by different methods. A conventional HMC was made by Overburden Drilling Management on the -10 to +80 mesh fraction. No visible Au was observed as the sample was processed on a shaking table and no visible Au was observed in a microscope examination of the resulting HMC. The HMC was not assayed. A HMC was made by heavy liquid separation and centrifuging of the -80 to +250 mesh fraction of the 105 selected till samples. This HMC was assayed for Au and six other elements. Four holes had possibly anomalous Au values in reworked tills directly above bedrock. Gold plus six other elements indicated three areas which possibly have an indications of anomalous metal contents which could be derived from a nearby bedrock source.

### 1.2 CONCLUSION

HMC's from overburden samples obtained by RCD on the HN property from 133 drill holes had no significant Au grain counts or Au assays (MacPherson, 1986 and Verville, 1987). A HMC produced from the -10 to +80 mesh fraction of 105 till samples selected as being better or possible tills from a 1986 RCD program (Verville, 1987) had no observed Au grains. A HMC produced by heavy liquid separation and centrifuging of the -80 to +250 mesh fraction from the same 105 till samples produced no significant gold assays.

Six of 105 samples of HMC from the -80 to +250 mesh fraction had 34 to 98 ppb Au while the remainder had 1 to 11 ppb Au. Although these six samples are statistically above background to anomalous they do not appear to indicate a Au dispersion train. They are widely separated and do not correlate with Au in the conventional HMC's from till. It is possible that holes 97, 110, 116 and 124 with elevated Au in the sample interval directly over bedrock may indicate the presence of a nearby bedrock Au source.

The area up-ice from RCD sites 102, 103 and 104 is the only untested area with indications of possibly anomalous Au and associated metals in sandy gravel. If sample 103-2 were

normalized it would be given the highest anomaly rating of all the -80 to +250 mesh till samples. A sample from the adjacent hole, 102-2, also had the highest Au assay (40700 ppb) from conventionally processed tills. However, the sample contained a large abraided Au grain so the analysis may only be reflecting this one grain.

Fine fractions of tills on the HN property indicate that overburden sampling is probably not an effective exploration method for the area. This is due to the relatively thin overburden cover and reworked nature of most of the tills. A Au discovery made in the western portion of the property by diamond drilling in February, 1988 is not indicated by Au or pathfinder elements in any of the till fractions which have been analyzed.

### 1.3 RECOMMENDATIONS

No further RCD programs are recommended for the HN property because of the thin and poorly developed till and the absence of any definite anomalies in the tills.

The area up-ice from RCD sites 102, 103 and 104 is the only untested area with indications of possibly anomalous Au and associated metals in sandy gravel. The source area for this possible group of holes with anomalous values should be determined by diamond drilling.

## PART 2

### 2.1 Property and Location

In 1985, Esso Minerals Canada staked a group of 254 claims in southwestern Noseworthy, southern Hoblitzell and the southeastern corner of Blakelock Township. In 1986, Esso Minerals optioned 24 additional claims in southern Hoblitzell township from Beaverhead Resources Ltd. The property straddles the southern part of the boundary between NTS 42A/8 and 32E/5 (Figures 1 and 2).

The HN property, at the time when the work for this assessment work was done, consisted of 278 claims as listed below:

Noseworthy Township

L-834425-450	26	recorded Jan. 21, 1985
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Hoblitzell Township

L-805900	1	recorded Jan. 21, 1985
L-834451-522	72	recorded Jan. 21, 1985
L-834600	1	recorded Jan. 21, 1985
L-836601-649	49	recorded Jan. 21, 1985
L-842797-802	6	recorded Feb. 12, 1986
L-871799	1	recorded Nov. 4, 1985
L-871975-980	6	recorded Nov. 4, 1985
L-871996-999	4	recorded Nov. 4, 1985
L-872000-031	32	recorded Nov. 4, 1985

Beaverhead Option

L-848104-121	18	recorded Apr. 19, 1985
L-848409-414	6	recorded Jun. 19, 1985

Blakelock Township

L-872250-277	28	recorded Nov. 4, 1985
L-871903-930	<u>28</u>	recorded Nov. 4, 1985

TOTAL	278	
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2.2 Access

The property is accessible by helicopter from Cochrane or LaSarre. In 1985, a winter road was constructed from the end of Abitibi Price's Tomlinson Road to the main property base line and then followed this to the east and west. Drill roads branch off the main road to each individual drill site. In 1986, the winter road was extended into the west half of the property to provide access for the 1987 drill program.

2.3 Topography and Vegetation

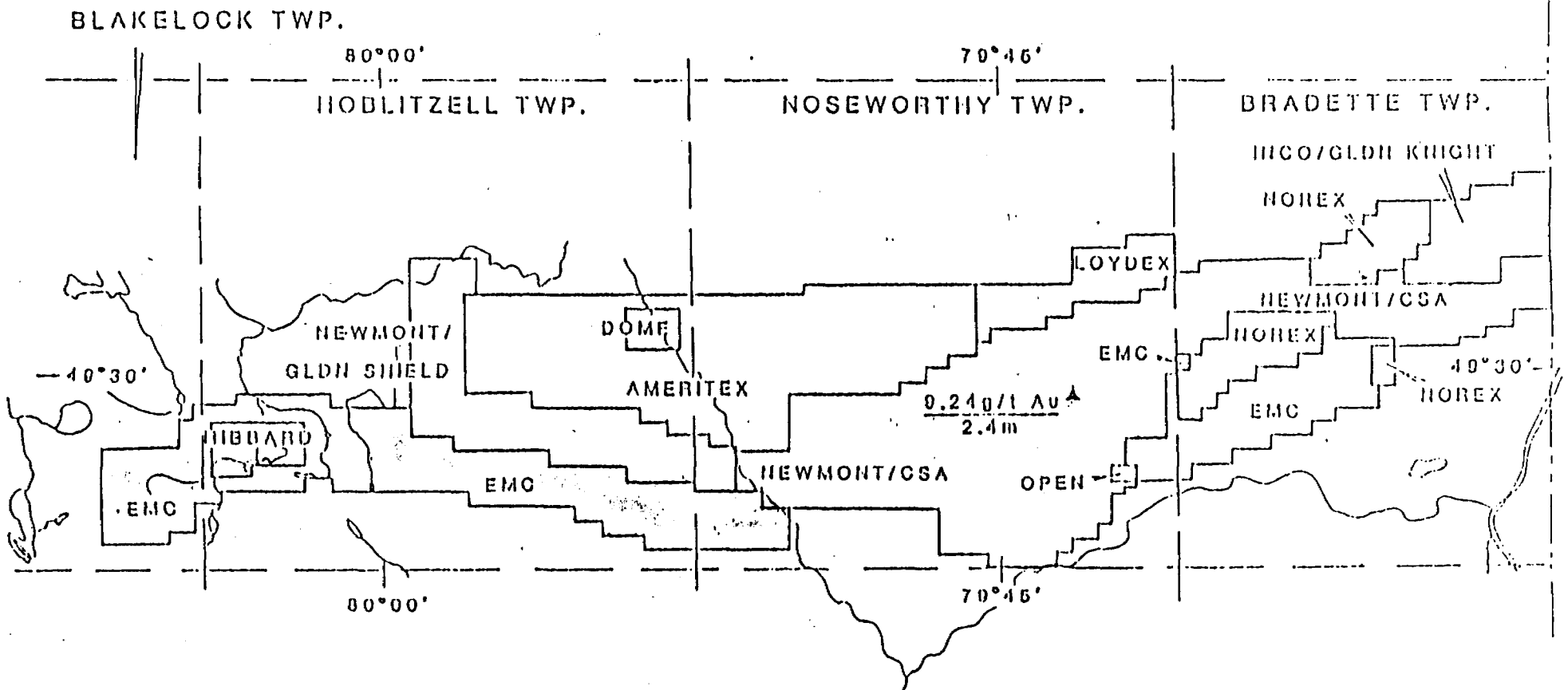
The area is generally flat and poorly drained and hosts several large swamps. Several small outcrops are located in the vicinity of West Porphyry Lake. The entire property is forested, with larger trees occupying the better drained areas along higher sand ridges or small drumlins.

II-N PROJECT  
PROPERTY LOCATION

NTS 32E/5,12

QUEBEC

ONTARIO



0 6 Km

## PART 3

### 3.1. PREVIOUS WORK

Esso Minerals Canada (EMC) conducted a reverse circulation drill program on the HN claim group during the period of February 7 to February 22, 1987. This drill program constitutes part of an exploration program designed to test the gold potential of the sequence of volcanics and related sediments that extend westward from the major gold discoveries made by the Inco-Golden Knight joint venture in northwestern Quebec. The claim group lies directly southwest of several new gold showings discovered by Newmont/CSA.

A total of eighty-two (HN-51 to HN-132) reverse circulation holes were drilled through the overburden and into the bedrock. In each of these holes, samples of basal till and/or gravels, as well as the bedrock chips were collected and variously analyzed for gold and several other elements. This work was reported on and filed for assessment credits (Verville, 1987).

The work was mostly conducted to the west of the previous winter's reverse circulation drilling which was reported on and filed for assessment credits (MacPherson, 1986). However, twelve holes were drilled in 1987 in the area of 1986 reverse circulation drill holes (HN-24 and HN-32) in order to test the continuity of a few elevated gold values obtained from both the basal and lower tills.

### 3.2. 1987 Reverse Circulation Drill (RCD) Program

The drill utilized on this program was furnished by Heath and Sherwood Drilling of Kirkland Lake. It consisted of an Acker head powered by a Longyear 38 drill mounted on a Nodwell. The water tank was mounted on a smaller Nodwell.

Eighty-two holes were drilled for a total length of 1042 meters. Hole depths varied from 2.9m to 36.8m with an average depth of 12.7m.

The drill averaged a little over five holes per day. Moves were short and usually took five to ten minutes. Only one day was lost due to mechanical down time.

Three men comprised the crew on the overburden drill. This included a driller/foreman, a helper and a water hauler.

One geologist and a helper were employed full time at the drill site logging overburden or bedrock chips as they passed through the cyclone, and collecting samples for analysis. Generally, all tills were sampled with the exception of the uppermost Cochrane till, which was only sampled intermittently. The basal gravel was collected where it was interbedded with till, or where there was an absence of basal till. A total of 166 overburden samples were collected during the program. Of these, 67 were lower tills or a mixture of this till and gravel (reworked till), while the remainder were gravel, sand and Cochrane till. Plan maps showing the location of each reverse circulation drill hole and drill logs including detailed overburden sections are included in the 1987 assessment report (Verville, 1987).

### 3.3 Overburden Stratigraphy

The overburden stratigraphy is markedly consistent on a property scale even though there is a certain degree of variability from hole to hole. A generalized section from top to bottom is as follows: humus or muskeg, Cochrane till, clay, sand and silt, gravel, and basal till. Internally there are wide variations in clast size and composition, as is outlined below.

Clay - It usually contains a very small gritty component which in some sections is absent. The typical colour is bluish grey to grey. It's consistency varies from a very poorly compact, greasy blue to a very hard, low water content grey clay. Near the base of the clay section, the gritty component increases to around 5% and a few pebbles and rare cobbles are present.

Cochrane Till - This till layer is relatively late, overlying the basal tills and gravels. It is usually partially oxidized and as a result exhibits a red-brown to beige colour. The clay matrix is gritty, generally containing approximately 10% sand, and it usually makes up about 60% of the total volume of material. The remainder consists of granitic and minor volcanic cobbles and pebbles, as well as up to 10% paleozoic limestone clasts. The latter are relatively common within the Cochrane till but were not identified in the basal tills.

Sand and Silt - Silt and sand form the upper part of a sand-gravel sequence. Silt grades into sand which coarsens down the hole and finally grades into the underlying gravel unit.



In several holes the silty component contains several percent fine flaky pyrite. These are bronze in colour and slightly coarser than the fine quartz-feldspathic silt which hosts it. In several holes, this sand and silt unit is absent and the overlying Cochrane till or clay changes sharply into the underlying gravel unit.

Gravel - This unit is the most common one encountered in the drill holes. It is very complex internally and shows multiple layering with numerous sandy and silty interbeds. The matrix of the gravel section is composed of 20-60% sand and/or silt and the remainder is pebbles, cobbles and boulders. The clasts are usually mainly granitic with minor amounts of mafic volcanic, mafic intrusive and Paleozoic sediments. These gravels also contain several very thin layers of reworked older till. The latter are difficult to sample and are usually contaminated with varying amounts of the host gravel. Near the base of the gravel sections boulder layers are present. In areas where the basal till is absent, these boulders lie directly on bedrock.

Basal Till- The basal till layer is generally thin and is often completely absent. The matrix is grey gritty clay (up to 20% grit) and the clasts are angular and are comprised of sediments, as well as mafic and felsic volcanics. There is also a minor component (<5%) of granitic pebbles and cobbles. Most of the mafic volcanic clasts are black to dark green and unaltered, and the felsic volcanic clasts are often sericitic and schistose. The ratio of matrix to clast material is in order of 30% to 70%.

### 3.4 Discussion of Overburden Analytical Results

HMC's were obtained from the overburden samples collected in each drill hole and these were analysed for gold as well as 10 other elements (Verville, 1987). A table listing all of the significant (greater than 500 ppb) gold values obtained from the HMC's is presented below. This table also lists the depth to bedrock from the bottom of the sample interval.

Sample No.	Depth From (m)	to (m)	Classification	Au ppb	Au grain	Depth to Bedrock (m)
HN-53-1	4.7	5.7	sandy clay	580		0
HN-56-1	5.4	6.3	sandy gravel	1105		0
HN-70-7	18.7	18.9	till	545		1.0
HN-71-1	8.7	10.35	sandy gravel	3315		0
HN-91-1	4.35	4.6	till	6765		1.4
HN-90-2	16.35	16.5	till	12700	600X300	10.6
					abr.	
HN-102-2	16.6	19.2	till/gravel	40700	500X450	2.7
					abr.	
HN-108-1	10.45	11.8	till	665		8.7
HN-112-1	3.2	3.3	sandy gravel	600		0
HN-115-1	6.7	7.5	till	1430		2.2
HN-120-1	3.1	3.7	sandy gravel	2005		0
HN-131-1	9.8	10.4	sandy gravel	645		0

The basal till or lowermost gravel samples are of primary importance in determining the gold potential of the underlying bedrock. The above table lists 6 basal till samples that yielded gold values above 500 ppb. These range from 580 to 3315 ppb Au and are of some significance. Three of these samples (Holes 53, 56, and 71) were obtained in close proximity to one another around Dozer Lake. One other sample (Hole 112) occurs at the western end of the property from a hole that also returned an anomalous gold value from a bedrock chip sample.

The above table also lists 6 overburden samples with gold values above 500 ppb, that were collected somewhat above the basal overburden layer. Three of these (Hole 90=12,700 ppb; Hole 91=6,765 ppb; Hole 102=40,700 ppb) had anomalous gold values, but their occurrence in reworked upper till horizons renders them less useful in determining the gold potential of the bedrock in the immediate up-ice area. These samples suggest that gold mineralization occurs within the bedrock in the general area to the north of the sample locations.

#### PART 4

##### 4.1 INTRODUCTION

This report presents the results of additional processing and analysis of till samples reported by Verville (1987). The costs for sample processing and analysis are being filed for assessment credits.

#### 4.2 WORK DONE AND METHODS

Overburden samples collected in 1987 by RCD were shipped to Overburden Exploration Services in Timmins for conventional processing. After the samples thawed a 4 scoop (about 1 kg) cut was taken from the unprocessed till samples. This 1 kg sample would provide a required 30 to 100 grams of -80 to +250 mesh fraction since about 10% of a till sample is -80 to +250 mesh sized.

Andre Verville selected 105 of the 1 kg, raw till samples as being better tills or possible tills as opposed to gravels. These 105 samples were dried and screened to separate a -80 to +250 and a -10 to +80 mesh fraction.

#### 4.3 The -80 to +250 Fraction

The -80 to +250 mesh fraction was shipped to Min-En Labs in North Vancouver. The samples were weighed (Appendix 1) and placed in a centrifuge with a 3.1 specific gravity liquid. The resulting HMC was washed and dried. It was not separated into magnetic and non-magnetic fractions because the samples were too small. Initial attempts to make a magnetic separation indicated that the magnetic fraction was a very small portion of the HMC. This is confirmed by the negligible magnetic fractions obtained from the -10 to +80 mesh samples (Appendix 3). The weight of HMC is reported (Appendix 1) and the 1% HMC is reported (Appendix 2).

The HMC's were assayed for Au by fire assay and for Ag, As, Ba, Cu, Pb and Zn by ICP (Appendix 2).

#### 4.4 The -10 to +80 Fraction

The -10 to +80 mesh fraction for 105 tills was processed on a shaking table and HMC's were made by heavy liquid separation at Overburden Drilling Management in Nepean, Ontario. The processing flow sheet and results are in Appendix 3. No gold grains were observed during shaking table processing. The HMC's were examined by Dane Bridge using a hand lens and binocular microscope. Neither gold grains nor interesting mineralogy were observed. The samples were not assayed because of the absence of visible gold and because the assays from the -80 to +250 mesh fraction were so low.

#### 4.5 Results and Interpretation of -80 to +250 Fraction

The following table compares the Au contents in samples with 10 to 98 ppb Au in the -80 to +250 fraction with the gold contents in the same sample from conventional till processing. Note that the conventionally processed HMC's have 8 to 183 ppb Au which are background values (Normally 3000 to 5000 ppb Au is considered to be significantly anomalous).

Sample No.	Depth From (m)	To (m)	Classification	Au in -80 to +250 mesh fraction	Au in Conventional 1987 Till Sample	Depth to Bedrock (m)
69-3	15.3	16.2	Sandy gravel	98	155	7.2
76-1	15.4	16.9	Sandy gravel, some coarse gravel	10	52	0
78-1	1.3	3.7	Mainly sandy gravel	11	183	0
97-5	20.8	21.9	Till	42	8	0
102-1	10.9	13.5	Sandy gravel with minor till	46	23	7.4
110-4	23.3	25.4	Sandy gravel	37	260	1.0
116-2	9.8	10.4	Sandy gravel and boulders	60	13	0
124-1	4.4	6.0	Coarse gravel and boulders	34	75	0

The Au values from HMC's for the -80 to +250 fraction have not been normalized to a common sample weight. However, the % HMC is reasonably constant (Appendix 1) so normalizing would not significantly change the gold contents. It could be interpreted that the 8 samples with 10 to 98 ppb Au are above background to anomalous in gold content. The total lack of correlation between elevated gold in the -80 to +250 fraction and background gold in the conventional HMC samples may indicate that fine gold was lost in the conventional shaking table processing of the till samples.

Six of the eight -80 to +250 fractions have elevated gold in samples directly above or 1.0 to 2.1 m above bedrock. These samples may indicate a nearby bedrock source. However, the random distribution of the location of these samples makes this interpretation tenuous. A gold dispersion train can not be determined by isolated samples with elevated gold contents.

The two samples in holes HN-69 and 102 which are at least 7.2 and 7.4 m above bedrock can not be interpreted to be derived from a local bedrock source.

The following table summarizes the analyses of -80 to +250 mesh fraction HMC's from 105 samples. The analyses are in Appendix 2. The number of samples is not adequate for a statistical treatment so a simple interpretation has been made:

Element	Background	Elevated (No. Samples)	Anomalous (No. Samples)
Ag in ppm	0.1 - 1.2	1.4 - 1.7 (3)	2.6 - 4.1 (3)
As in ppm	1 - 14	- - - (0)	- - - (0)
Ba in ppm	9 - 97	102 - 149 (4)	344 (1)
Cu in ppm	1 - 79	96 - 130 (3)	245 - 678 (2)
Pb in ppm	1 - 9	11 - 12 (3)	639 (1)
Zn in ppm	1 - 58	93 (1)	296 - 389 (2)
Au in ppb	1 - 8	10 - 11 (2)	34 - 98 (6)

Two Ag values are anomalous. Three are interpreted to be elevated above the background range.

There are no significant As values above the background range.

One Ba value is anomalous. The four samples interpreted as elevated are probably just the high end of the background range.

Two Cu values are anomalous. The three elevated values are probably just the high end of the background range. However, two of them (75-1 and 76-1) correlate with anomalous Ag, Zn, Pb and Au.

One Pb value is definitely anomalous. The interpretation of 11 and 12 ppb Pb as elevated is questionable. However, the 11 ppb Pb correlates with 98 ppb Au and the highest As and Ba values. One of the 12 ppm Pb samples (103-2) correlates with anomalous Cu and Zn. It is a sample with an extremely low HMC content. If normalized it would also be anomalous in Ag and Au and definitely in Pb. The other Pb with 12 ppm (104-2) is from an adjacent hole.

Two Zn values are anomalous.

If anomalous values for the elements Ag, Cu, Pb, Zn and Au are assigned 2 points and elevated elements are assigned one point, the samples could be given the following ratings:

Hole and Sample No.	Above Background or Anomalous Elements	Rating	Distance from the Bottom of the Sample Interval to Bedrock
69-3	Au, Pb (also As, Ba)	3	7.2 m
75-1	Ag, Cu, Zn	3	3.6 m
75-2	Ag	2	0
76-1	Ag, Au, Cu, Pb, Zn	8	0
78-1	Au, Cu	3	0
80-1	Ag	1	0
96-2	Ag	1	5.5 m
97-5	Au	2	0
102-1	Au	2	7.4 m
103-2	Cu, Pb, Zn *	5	2.3 m
104-2	Pb	1	0
110-4	Au, Ag	3	1.0 m
115-2	Cu	1	0.8 m
116-2	Au	2	0
124-1	Au	2	0

\* Also Ag, As, Ba, Au if normalized for small HMC content

These ratings are plotted on the accompanying RCD hole map. Excluding single, isolated holes, a number of areas with anomalous or elevated values are apparent.

Three holes north east of West Porphyry Lake have ratings of 2 to 8 (75-1, 75-2, 76-1 and 78-1). Au contents are low (10-11 ppb Au) with the ratings being based mainly on Ag, Cu, Pb and Zn. Diamond drilling up-ice from these locations has not indicated any Au or base metal mineralization.

Two adjacent RCD holes (96 and 97) about 800 m west of West Porphyry Lake have ratings of 1 to 2 based on 42 ppb Au in 97-5 and 1.7 ppm Ag in 96-2. The anomalous Au is in sandy gravel directly above bedrock. However, the low ratings and only 1.7 ppm Ag in the adjacent hole make this essentially a single point anomaly.

A small lake about 2.6 km west of West Porphyry Lake has three adjacent holes (102, 103 and 104) with ratings of 1 to 5. Once again this is almost a single point anomaly because 102-1 has 46 ppb Au, 7.4 m above bedrock, and 104-2 has 12 ppm Pb. This leaves only 103-2 with a rating of 5 which could be raised to 9 if the sample was normalized to account for the very low HMC content. No diamond drilling has been done up-ice from this area.

#### 4.6 Results and Interpretations of -10 to +80 Fraction

Conventional processing of the -10 to +80 mesh fraction produced very small HMC's (Appendix 3). Five samples had no measurable HMC and the remaining had 0.1 to 3.6 grams of non-magnetic fraction. No gold grains were observed on the shaking table or during microscopic examination of the HMC. Either the -10 to +80 mesh fraction is an unsuitable sampling media or no gold deposits are present up-ice from the sample collection sites. The HMC's were not assayed because of the small sample size and the absence of significant Au values in the HMC made from the -80 to +250 mesh fraction.

*Don Biny*

#### 4.7 REFERENCES

MacPherson. J.A., 1986

Report for a Reverse Circulation Drill Program, HN Project, Hoblitzell, Noseworthy and Blakelock Townships, Esso Minerals Canada, Timmins, Ontario, filed for assessment work.

Verville, A., 1987

HN Project, Summary Report of a Reverse Circulation Drill Program During February, 1987, Hoblitzell, Noseworthy and Blakelock Townships, Esso Minerals Canada, Timmins, Ontario, filed for assessment work.



APPENDIX 1

Min-En Laboratories Ltd. Original sample weights for 105 samples of -80 to +250 mesh fractions of till and sample weights for the total non-magnetic and magnetic fraction HMC obtained for the sample.

**MIN-EN LABORATORIES LTD.**

Specialists in Mineral Environments

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**Certificate of GEOCHEM**Company: ESSO MINERALS CANADA  
Project: HN  
Attention: D. BRIDGEFile: 72-479/P1  
Date: JUNE 18/87  
Type: HEAVY MINERALWe hereby certify the following results for samples submitted.

Sample Number	FLOATED WT GMS	HM WT GMS
HN51-1	381	20.00
HN52-1	90	2.75
HN53-1	50	2.73
HN54-1	103.50	7.08
HN55-1	227	15.19
HN55-2	120	5.98
HN55-3	185	11.00
HN55-4	220	11.24
HN56-1	262	15.74
HN57-1	112	3.31
HN57-2	114	5.96
HN57-3	100	5.17
HN57-4	164	9.23
HN57-5	159	9.42
HN57-6	46	2.67
HN58-1	228	12.54
HN59-1	83	1.88
HN59-2	284	12.64
HN60-1	107	4.89
HN60-2	193	12.63
HN61-1	112	7.85
HN62-1	131	6.49
HN63-1	126	7.06
HN63-2	219	8.87
HN64-1	69	3.57
HN65-1	32	1.81
HN67-1	205	9.46
HN68-1	449	20.93
HN69-1	30	1.05
HN69-2	180	9.34

Certified by

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**Certificate of Geochem**

Company: ESSO MINERALS CANADA  
 Project: HN  
 Attention: D. BRIDGE

File: 72-479/P2  
 Date: JUNE 18/87  
 Type: HEAVY MINERAL

We hereby certify the following results for samples submitted.

Sample Number	FLOATED WT GMS	HM WT GMS
HN69-3	176	12.11
HN69-5	18.54	1.60
HN70-1	92	3.76
HN70-2	136	3.77
HN70-3	123	5.02
HN70-4	46.6	1.97
HN70-6	168	9.36
HN70-8	136	5.07
HN71-1	178	3.54
HN72-1	177	8.42
HN72-2	99.5	4.42
HN73-1	164	6.75
HN74-1	152	6.89
HN75-1	56.8	4.79
HN75-2	212	9.86
HN76-1	110	6.66
HN77-1	471	20.03
HN78-1	135	6.52
HN79-1	94	4.02
HN80-1	120	3.36
HN83-1	204	7.45
HN84-1	212	11.03
HN86-2	145	6.84
HN87-1	71.1	3.36
HN88-2	134	5.43
HN89-2	133	6.34
HN92-1	190	8.50
HN93-1	315	13.20
HN95-1	161	7.82
HN96-1	112	2.54

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Certificate of Geochem

Company: ESSO MINERALS CANADA  
 Project: HN  
 Attention: D. BRIDGE

File: 72-479/P3  
 Date: JUNE 18/87  
 Type: HEAVY MINERAL

We hereby certify the following results for samples submitted.

Sample Number	FLOATED WT GMS	HM WT GMS
HN96-2	129	5.55
HN96-3	42.33	1.47
HN97-2	253	9.82
HN97-4	196	9.55
HN97-5	128	5.42
HN98-2	119	6.16
HN99-4	118	3.63
HN99-5	143	4.22
HN100-1	135	4.19
HN101-1	155	5.11
HN101-2	152	6.38
HN101-3	147	5.91
HN102-1	115	4.72
HN102-2	75.7	2.59
HN103-1	107	4.20
HN103-2	165	0.73
HN104-2	121	7.47
HN105-2	144	7.35
HN106-2	274	11.99
HN107-3	141	7.53
HN108-2	325	16.33
HN110-4	177	9.43
HN113-3	215	10.48
HN114-1	328	10.89
HN114-2	238	9.99
HN114-3	204	8.15
HN114-4	181	8.34
HN115-1	352	12.56
HN115-2	215	12.48
HN116-2	168	14.30

Certified by

MIN-EN LABORATORIES LTD.

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2



PHONE: (604) 814 DR (604) 988-4524

TELEX: VIA USA 7601067 UC

Certificate of Geochem

Company: ESSO MINERALS CANADA  
Project: HN  
Attention: D. BRIDGE

File: 72-479/P4  
Date: JUNE 18/87  
Type: HEAVY MINERAL

We hereby certify the following results for samples submitted.

Sample Number	FLOATED WT GMS	HM WT GMS
HN117-2	211	11.90
HN118-1	259	11.91
HN121-1	215	11.05
HN121-2	171	9.09
HN121-4	227	12.71
HN121-5	218	11.55
HN122-1	82.6	5.54
HN123-1	211	11.54
HN124-1	256	13.67
HN126-1	180	10.24
HN127-1	247	12.58
HN128-1	406	17.89
HN129-1	275	13.99
HN131-1	253	13.01
HN131-2	279	13.22

Certified by \_\_\_\_\_

MIN-EN LABORATORIES LTD.

## APPENDIX 2

Min-En Labs Ltd. Analyses of HMC from -80 to +250 mesh fraction of 105 till samples. These HMC are the combined magnetic and non-magnetic fractions.

Au assays by fire assay. Ag, As, Ba, Cu, Pb and Zn by ICP.

The suffix number following each drill hole number refers to the position of the sample in the drill hole. The higher the number the deeper it is in its respective hole and therefore the closer it is to bedrock. The samples are all plotted on the logs filed by Verville (1987). The distance that the sample occurs above the bedrock surface is shown from samples with significant gold contents in the table in section 4.5.

PROJECT NO: HN

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: 72-479/P14

ATTENTION: D. BRIDGE

(604)980-5814 OR (604)988-4524

\* TYPE HEAVY MINERAL \* DATE: JUNE 2, 1988

(VALUES IN PPM)	AG	AS	BA	CU	PB	ZN	AU-PPB	HMZ			
HN51-1	.4	8	97	16	1	18	3	5.25			
HN52-1	.9	3	24	26	6	23	1	3.06			
HN53-1	1.1	7	51	26	3	24	1	5.46			
HN54-1	.4	1	31	18	1	13	1	6.84			
HN55-1	.5	4	62	22	1	20	1	6.69			
HN55-2	.1	1	25	14	1	7	1	4.98			
HN55-3	.1	1	102	29	2	40	4	5.95			
HN55-4	.5	7	72	26	3	25	5	5.11			
HN56-1	.6	4	87	32	5	35	1	6.01			
HN57-1	.5	3	30	20	1	20	1	2.96			
HN57-2	.4	1	19	11	3	17	1	5.23			
HN57-3	.3	2	18	15	3	20	1	5.17			
HN57-4	.3	1	74	30	5	23	1	5.63			
HN57-5	.6	8	93	32	4	35	1	5.92			
HN57-6	.5	6	150	25	6	26	1	5.80			
HN58-1	.2	6	16	9	2	7	1	5.50			
HN59-1	.8	9	38	20	3	18	1	2.27			
HN59-2	.6	1	43	9	3	10	1	4.45			
HN60-1	.6	2	38	20	4	17	4	4.57			
HN60-2	.4	4	69	12	3	27	1	6.54			
HN61-1	.5	1	19	11	3	11	1	7.01			
HN62-1	.3	7	47	13	5	8	1	4.95			
HN63-1	.1	3	26	6	4	13	1	5.60			
HN63-2	.6	4	107	63	4	26	4	4.05			
HN64-1	.5	1	35	27	3	11	1	5.17			
HN65-1	.4	2	23	9	3	10	1	5.66			
HN67-1	.2	6	23	15	5	20	7	4.61			
HN68-1	.1	5	16	7	3	10	8	4.66			
HN69-1	.3	4	20	1	1	9	2	3.50			
HN69-2	.1	1	21	5	3	12	3	5.19			
HN69-3	.1	14	344	28	11	58	98	6.88			
HN69-5	.1	1	91	24	7	41	1	8.63			
HN70-1	.1	3	17	24	4	14	1	4.09			
HN70-2	.1	6	27	15	3	11	1	2.77			
HN70-3	.1	3	23	15	1	14	1	4.08			
HN70-4	.1	1	17	20	3	18	4	4.23			
HN70-6	.1	1	17	9	1	4	1	5.57			
HN70-8	.1	6	38	21	2	18	1	3.73			
HN71-1	.5	1	49	30	3	25	1	1.99			
HN72-1	.3	5	22	12	1	10	1	4.76			
HN72-2	.3	1	74	69	6	44	1	4.44			
HN73-1	.3	3	54	23	3	21	1	4.12			
HN74-1	.3	6	25	68	2	46	1	4.53			
HN75-1	1.4	1	74	104	5	93	3	8.43			
HN75-2	4.1	6	18	25	5	33	5	4.65			
HN76-1	2.6	6.8	2	149	96	341	639	389	260	10	6.05
HN77-1	.7	2	46	14	5	21	5	4.25			
HN78-1	1.0	3	61	245	246	4	15	11	4.83		
HN79-1	.1	4	21	11	4	5	3	4.28			
HN80-1	1.4	2	51	79	301	2	25	1	2.80		
HN83-1	.1	3	30	30	1	9	4	3.65			
HN84-1	.2	4	18	15	3	4	1	5.20			
HN86-2	.3	2	31	11	5	10	1	4.72			
HN87-1	.1	2	38	19	1	11	1	4.73			
HN88-2	.1	5	12	22	1	10	1	4.05			
HN89-2	.2	3	14	19	8	8	2	4.77			
HN92-1	.6	2	44	37	57	176	6	27	4	4.47	
HN93-1	.1	3	26	20	3	7	1	4.19			
HN95-1	.4	4	13	21	4	7	1	4.86			
HN96-1	.5	4	26	15	2	44	1	2.27			

1105

3315

COMPANY: ESSO MINERALS CANADA

MIN-EN LABS ICP REPORT

ACT:GEO27) PAGE 1 OF 1

PROJECT NO: HN

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: 72-479/P3+4

ATTENTION: D. BRIDGE

(604)980-5814 OR (604)988-4524

\* TYPE HEAVY MINERAL \* DATE: JUNE 2, 1987

(VALUES IN PPM )	AG	AS	BA	CU	PB	ZN	AU-PPB	HMZ
HN 96-2	1.7	4	13	10	2	7	3	4.30
HN 96-3	.1	3	38	34	3	9	1	3.47
HN 97-2	.1	3	15	7	3	14	1	3.88
HN 97-4	.1	1	38	41	5	21	1	4.87
HN 97-5	.7	7	79	29	9	18	42	4.23
HN 98-2	.1	3	55	15	6	16	6	5.18
HN 99-4	.1	2	21	24	2	2	2	3.08
HN 99-5	.3	1	19	23	2	1	5	2.95
HN 100-1	1.0	1	14	9	3	1	1	3.10
HN 101-1	.5	1	19	17	1	2	4	3.30
HN 101-2	1.0	4	42	18	3	3	2	4.20
HN 101-3	1.2	3	46	36	2	11	2	3.89
HN 102-1	.1	2	18	32	5	22	46	4.10
HN 102-2	.8	1	23	18	6	1	3	3.42
HN 103-1	.7	5	22	23	3	21	1	3.93
HN 103-2	.9	8	46	678	12	296	2	.44
HN 104-2	1.2	1 180	41	55	12	16	4	6.17
HN 105-2	.2	3	32	14	3	3	1	5.10
HN 106-2	.4	3	18	33	1	6	1	4.38
HN 107-3	.4	1	25	14	4	8	1	5.34
HN 108-2	.2	3	16	14	4	1	1	5.02
HN 110-4	1.6	4 25	107	91	1	33	37	5.33
HN 113-3	.4	2	52	17	2	11	5	4.87
HN 114-1	.2	3	18	15	2	20	2	3.32
HN 114-2	.4	7	61	13	1	37	7	4.20
HN 114-3	.2	2	22	23	1	25	2	4.00
HN 114-4	.6	1	137	54	7	36	5	4.61
HN 115-1	.1	3	18	7	2	17	2	3.57
HN 115-2	.1	3	56	130	7	38	2	5.80
HN 116-2	.2	5	39	24	2	22	60	8.51
HN 117-1	.1	1	9	13	2	6	1	5.64
HN 118-1	.4	4	39	15	2	14	1	4.60
HN 121-1	.4	3	22	28	2	5	1	5.14
HN 121-2	.5	4	53	26	3	11	3	5.32
HN 121-4	.6	3 159	73	39	3	22	2	5.60
HN 121-5	.6	4 161	61	44	1	34	5	5.30
HN 122-1	.5	4	61	30	3	7	2	6.70
HN 123-1	.4	4	48	27	1	8	2	5.47
HN 124-1	.2	1	26	14	1	15	34	5.34
HN 126-1	.7	7	52	17	2	3	2	5.69
HN 127-3	.1	2	48	22	3	7	1	5.09
HN 128-1	.4	2	42	22	5	7	1	4.41
HN 129-1	.4	2 53	46	41	1	6	1	5.09
HN 131-1	.5	5 49	33	31	2	1	1	5.14
HN 131-2	.5	2	30	15	2	1	1	4.74

10700

1430

avg 4.76%



APPENDIX 3

Overburden Drilling Management Limited processing method and results for 105 HMC's made from -10 to +80 mesh fractions of till samples for the HN project.

OVERBURDEN DRILLING MANAGEMENT LIMITED

107-15 CAPELLA COURT, NEPEAN, ONTARIO K2E 7X1 (613) 226-1771

September 15, 1987

Esso Minerals Canada  
15 Cedar St. N.  
Timmins, Ontario  
P4N 7K4

Attention: Mr. Dane Bridge

Dear Sir:

Re: Sample Series - HN-87 51-1 to 131-02, 105 samples

---

Please find enclosed our laboratory sample logs and heavy mineral concentrates for the sample series referenced above. Also, as per your request, 5 cans containing the -10 reject and M.I. Lights are included as well.

Should you require any additional information please do not hesitate to contact the undersigned.

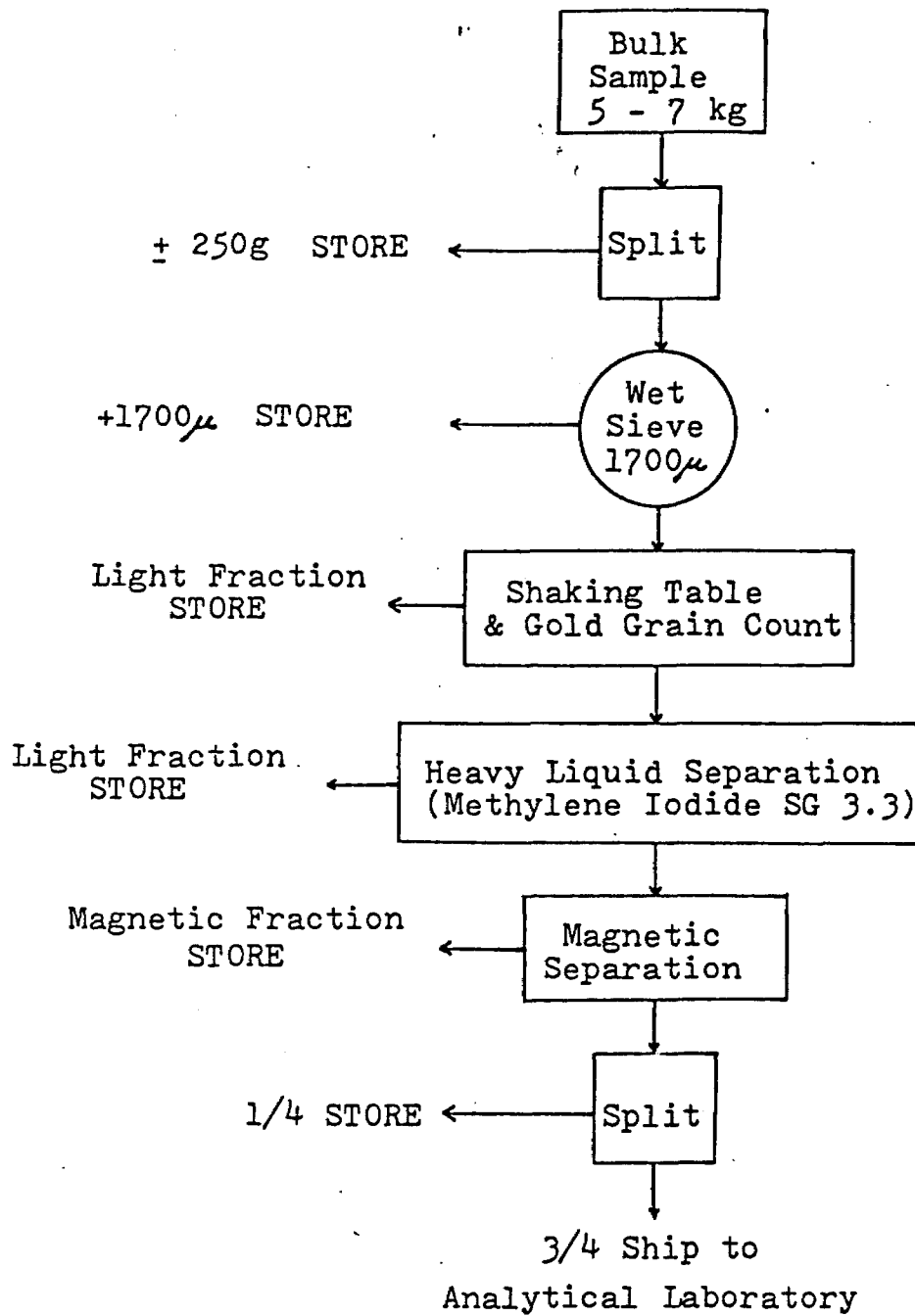
Yours truly,



Martha Edwards  
Data Coordinator

ME:ld  
Enc.

OVERBURDEN DRILLING MANAGEMENT LIMITED  
SAMPLE PROCESSING FLOW SHEET



ESHNISEP.WR1

## OVERBURDEN DRILLING MANAGEMENT LIMITED

TOTAL # OF SAMPLES IN THIS REPORT = 60

## LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET)		WEIGHT (GRAMS DRY)				AU		DESCRIPTION				CLASS			
	TABLE	+10 TABLE	TABLE	M.I. CONC.	NON	NO.	CALC	CLAST	MATRIX							
	SPLIT	CHIPS	CONC	LIGHTS	MAG	MAG	V.G.	PPB	SIZE	%	S/U	SD	ST	CY	COLOR	
									V/S	GR	LS	OT			SD	CY
HN-87																
51-1	204.7	0.0	204.7	61.4	60.4	1.0	0.8	0.2	0	NA						
52-1	348.6	0.0	348.6	81.5	80.7	0.8	0.5	0.3	0	NA						
53-1	287.0	0.0	287.0	95.3	93.5	1.8	1.1	0.7	0	NA						
54-1	466.0	0.0	466.0	112.1	108.9	3.2	2.2	1.0	0	NA						
55-1	213.0	0.0	213.0	89.8	88.6	1.2	0.9	0.3	0	NA						
-2	439.0	0.0	439.0	127.5	126.3	1.2	1.0	0.2	0	NA						
-3	319.5	0.0	319.5	108.7	108.4	0.3	0.2	0.1	0	NA						
-4	396.0	0.0	396.0	127.0	127.0	0.0	0.0	0.0	0	NA						
56-1	383.5	0.0	383.5	82.4	82.4	0.0	0.0	0.0	0	NA						
57-1	356.0	0.0	356.0	128.1	128.1	0.0	0.0	0.0	0	NA						
-2	393.0	0.0	393.0	140.8	140.8	0.0	0.0	0.0	0	NA						
-3	397.5	0.0	397.5	129.0	128.8	0.2	0.1	0.1	0	NA						
-4	353.5	0.0	353.5	94.0	94.0	0.0	0.0	0.0	0	NA						
-5	378.0	0.0	378.0	75.8	75.5	0.3	0.2	0.1	0	NA						
-6	391.0	0.0	391.0	84.6	84.4	0.2	0.1	0.1	0	NA						
58-1	197.5	0.0	197.5	96.8	95.6	1.2	0.9	0.3	0	NA						
59-1	251.0	0.0	251.0	95.2	94.6	0.6	0.3	0.3	0	NA						
-2	348.0	0.0	348.0	135.1	134.1	1.0	0.7	0.3	0	NA						
60-1	437.0	0.0	437.0	111.3	109.2	2.1	1.8	0.3	0	NA						
-2	363.0	0.0	363.0	122.7	120.7	2.0	1.5	0.5	0	NA						
61-1	456.5	0.0	456.5	125.6	124.1	1.5	1.1	0.4	0	NA						
62-1	403.0	0.0	403.0	89.6	88.6	1.0	0.6	0.4	0	NA						
63-1	489.0	0.0	489.0	101.1	99.6	1.5	0.9	0.6	0	NA						
-2	400.5	0.0	400.5	118.3	117.6	0.7	0.3	0.4	0	NA						
64-1	475.0	0.0	475.0	103.3	102.4	0.9	0.6	0.3	0	NA						
65-1	418.5	0.0	418.5	84.5	83.2	1.3	0.8	0.5	0	NA						
67-1	207.0	0.0	207.0	87.7	87.1	0.6	0.4	0.2	0	NA						
68-1	95.3	0.0	95.3	43.6	43.3	0.3	0.2	0.1	0	NA						
69-1	377.5	0.0	377.5	89.7	88.3	1.4	1.0	0.4	0	NA						
-2	405.0	0.0	405.0	101.0	99.7	1.3	0.9	0.4	0	NA						
-3	256.5	0.0	256.5	84.6	83.7	0.9	0.6	0.3	0	NA						
-5	388.6	0.0	388.6	58.0	55.7	2.3	1.5	0.8	0	NA						
70-1	397.0	0.0	397.0	99.6	95.8	3.8	3.6	0.2	0	NA						
-2	372.0	0.0	372.0	117.4	115.7	1.7	1.3	0.4	0	NA						
-3	467.0	0.0	467.0	144.3	142.0	2.3	1.8	0.5	0	NA						
-4	481.8	0.0	481.8	123.0	120.7	2.3	1.9	0.4	0	NA						
-6	408.5	0.0	408.5	93.0	90.7	2.3	1.8	0.5	0	NA						
-8	477.0	0.0	477.0	100.7	98.8	1.9	1.3	0.6	0	NA						
71-1	370.0	0.0	370.0	56.8	55.0	1.8	1.3	0.5	0	NA						
72-1	353.5	0.0	353.5	98.8	97.5	1.3	1.0	0.3	0	NA						
-2	355.0	0.0	355.0	102.3	100.9	1.4	1.1	0.3	0	NA						
73-1	486.5	0.0	486.5	134.8	133.3	1.5	1.2	0.3	0	NA						
74-1	221.0	0.0	221.0	45.3	44.3	1.0	0.7	0.3	0	NA						
75-1	452.0	0.0	452.0	60.8	58.3	2.5	1.6	0.9	0	NA						



ESHN25 R1

OVERBURDEN DRILLING MANAGEMENT LIMITED

TOTAL # OF SAMPLES IN THIS REPORT = 45

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET)		WEIGHT (GRAMS DRY)				AU	DESCRIPTION					CLASS
	TABLE SPLIT	+10 CHIPS	TABLE FEED	TABLE CONC	M.I. LIGHTS	CONC. TOTAL		NON MAG	NO. V.G.	CALC PPB	CLAST SIZE	%	
													SD CY
HN-87													
96-02	335.0	0.0	335.0	59.2	58.4	0.8	0.7	0.1	0	NA			
96-03	332.0	0.0	332.0	85.7	84.4	1.3	0.9	0.4	0	NA			
97-02	281.5	0.0	281.5	77.0	75.9	1.1	0.8	0.3	0	NA			
97-04	421.5	0.0	421.5	111.5	109.7	1.8	1.4	0.4	0	NA			
97-05	477.0	0.0	477.0	95.7	93.7	2.0	1.4	0.6	0	NA			
98-02	378.0	0.0	378.0	105.6	104.1	1.5	1.1	0.4	0	NA			
99-04	457.0	0.0	457.0	125.6	123.3	2.3	1.5	0.8	0	NA			
99-05	489.0	0.0	489.0	133.4	131.3	2.1	1.5	0.6	0	NA			
100-01	320.0	0.0	320.0	101.0	100.1	0.9	0.7	0.2	0	NA			
101-01	373.0	0.0	373.0	155.9	155.0	0.9	0.6	0.3	0	NA			
101-02	432.0	0.0	432.0	67.1	65.8	1.3	1.0	0.3	0	NA			
101-03	483.0	0.0	483.0	106.3	104.9	1.4	0.9	0.5	0	NA			
102-01	431.0	0.0	431.0	77.4	76.0	1.4	1.1	0.3	0	NA			
102-02	543.0	0.0	543.0	129.9	127.4	2.5	1.8	0.7	0	NA			
103-01	348.0	0.0	348.0	72.5	71.3	1.2	1.0	0.2	0	NA			
103-02	520.0	0.0	520.0	100.8	99.6	1.2	1.0	0.2	0	NA			
104-02	444.0	0.0	444.0	106.1	94.6	11.5	10.3	1.2	0	NA			
105-02	384.5	0.0	384.5	72.0	70.8	1.2	1.0	0.2	0	NA			
106-02	410.0	0.0	410.0	77.7	76.1	1.6	1.3	0.3	0	NA			
107-03	517.0	0.0	517.0	78.2	76.5	1.7	1.1	0.6	0	NA			
108-02	314.0	0.0	314.0	66.7	65.0	1.7	1.3	0.4	0	NA			
110-04	371.0	0.0	371.0	97.6	95.1	2.5	2.1	0.4	0	NA			
113-03	455.0	0.0	455.0	67.7	66.4	1.3	1.1	0.2	0	NA			
114-01	329.0	0.0	329.0	59.9	58.9	1.0	0.8	0.2	0	NA			
114-02	403.0	0.0	403.0	71.5	69.9	1.6	1.2	0.4	0	NA			
114-03	534.0	0.0	534.0	126.8	125.4	1.4	1.1	0.3	0	NA			
114-04	442.0	0.0	442.0	87.0	85.1	1.9	1.3	0.6	0	NA			
115-01	298.0	0.0	298.0	56.1	55.4	0.7	0.5	0.2	0	NA			
115-02	424.0	0.0	424.0	75.9	73.1	2.8	1.9	0.9	0	NA			
116-02	483.0	0.0	483.0	171.2	169.1	2.1	1.2	0.9	0	NA			
117-01	369.0	0.0	369.0	72.5	71.5	1.0	0.6	0.4	0	NA			
118-01	362.0	0.0	362.0	28.8	27.9	0.9	0.6	0.3	0	NA			
121-01	457.0	0.0	457.0	76.3	75.4	0.9	0.6	0.3	0	NA			
121-02	505.0	0.0	505.0	96.7	95.6	1.1	0.8	0.3	0	NA			
121-04	474.0	0.0	474.0	96.2	94.4	1.8	1.4	0.4	0	NA			
121-05	355.0	0.0	355.0	81.5	80.3	1.2	0.9	0.3	0	NA			
122-01	376.0	0.0	376.0	84.1	83.2	0.9	0.7	0.2	0	NA			
123-01	434.0	0.0	434.0	73.8	72.3	1.5	1.0	0.5	0	NA			
124-01	294.0	0.0	294.0	75.0	73.9	1.1	0.5	0.6	0	NA			
126-01	171.5	0.0	171.5	71.0	70.7	0.3	0.2	0.1	0	NA			
127-03	358.0	0.0	358.0	86.9	85.4	1.5	1.1	0.4	0	NA			
128-01	257.0	0.0	257.0	65.0	64.2	0.8	0.6	0.2	0	NA			
129-01	359.0	0.0	359.0	58.7	57.7	1.0	0.7	0.3	0	NA			
131-01	401.0	0.0	401.0	68.3	66.9	1.4	1.1	0.3	0	NA			

ESHN2SEP.WR1

OVERBURDEN DRILLING MANAGEMENT LIMITED

TOTAL # OF SAMPLES IN THIS REPORT = 45

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET)		WEIGHT (GRAMS DRY)				AU		DESCRIPTION				CLASS					
	TABLE	+10 TABLE	TABLE	M.I. CONC.	CONC.	NON	NO.	CALC	CLAST	MATRIX								
	SPLIT	CHIPS	FEED	CONC	LIGHTS	TOTAL	MAG	MAG	V.G.	PPB	SIZE	%	S/U	SD	ST	CY	COLDR	
											V/S	GR	LS	DT			SD	CY

HN-87  
 131-02 464.0 0.0 464.0 104.4 102.4 2.0 1.5 0.5 0 NA

#### APPENDIX 4

Analyses of HMC's produced by the 1987 RCD program and processing at Overburden Exploration Services Ltd. This information is filed in a report by Verville (1987). It is provided here for comparison with the analyses of 105, -80 to +250 samples from the same drilling program.

Au assays by fire assay. Ag, As, B, Bi, Cu, Mn, Mo, Ni, Sb, and Zn analyses by ICP.



COMPANY: OVERRURDEN EXPLORATIONS  
 PROJECT NO:  
 ATTENTION: J.RICHARD/J.MACPHERSON

MIN-EN LABS ICP REPORT  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 (604)980-5814 DR (604)988-4524

ACT:GEO27) PAGE 1 OF 1  
 FILE NO: 72-242/P1  
 \* TYPE HMC \* DATE: MARCH 7, 1987

(VALUES IN PPM)	AG	AS	B	BI	CU	MN	MO	NI	SB	ZN	WT-SM	W
51-1	1.4	8	5	1	52	277	2	1	1	27	16.09	60
52-1	1.0	23	4	1	79	226	3	15	1	67	1.03	5
53-1	2.2	19	4	2	141	174	2	1	1	29	9.33	600
54-1	1.2	21	2	4	47	271	2	3	1	35	11.56	4
55-1	1.2	5	4	1	67	207	1	1	1	43	11.79	1
55-2	1.2	6	2	1	44	186	1	1	1	37	9.85	1
55-3	.8	17	3	3	165	145	1	43	1	51	10.40	30
55-4	.8	20	3	4	67	122	2	34	2	53	9.80	50
56-1	.6	38	3	10	104	60	8	38	12	47	14.49	10
57-1	.4	11	2	1	87	136	1	1	1	34	7.32	420
57-2	1.0	13	3	1	53	209	1	1	1	47	8.91	1
57-3	1.0	7	3	1	41	179	1	1	1	129	13.96	1
57-4	.5	22	1	1	73	165	9	35	1	70	2.40	1
57-5	1.0	35	5	8	156	145	8	63	10	80	9.73	120
57-6	1.2	16	5	4	99	175	2	26	3	45	4.51	24
58-1	1.0	6	3	1	67	182	1	1	1	20	14.58	1
59-1	1.0	13	2	1	27	256	1	1	1	65	1.84	1250
59-2	1.8	7	6	1	51	348	1	1	1	25	10.12	180
60-1	.1	14	3	1	51	667	2	1	1	51	4.37	550
60-2	1.4	7	4	1	21	224	1	1	1	175	17.36	4
61-1	.6	11	4	1	39	174	1	4	1	30	10.24	1
62-1	.1	25	2	1	25	141	1	11	1	35	4.00	1
63-1	.4	4	2	1	14	147	1	1	1	22	10.78	20
63-2	.4	27	3	1	133	161	3	25	2	57	6.95	1
64-1	1.2	9	4	1	57	188	1	1	1	24	9.77	1
65-1	1.2	3	4	1	16	281	1	1	1	25	9.99	1
<u>66-1</u>	<u>7.2</u>	<u>159</u>	<u>13</u>	<u>40</u>	<u>860</u>	<u>287</u>	<u>30</u>	<u>203</u>	<u>66</u>	<u>1310</u>	<u>8.70</u>	<u>1</u>
67-1	1.6	1	5	1	29	235	1	1	1	61	5.92	12
68-1	1.2	8	4	1	16	268	1	1	1	24	9.09	50
69-1	.6	8	3	1	7	278	1	1	1	21	5.24	1

> 10

> 300

> 1000

> 250

HM - Geochemistry of overburden HMC, conventional HMC  
 of till  
 Page 1 of 6

*J. Fink*

COMPANY: OVERBURDEN EXPLORATIONS  
 PROJECT NO:  
 ATTENTION: J. RICHARD/J. MACPHERSON

MIN-EN LABS ICP REPORT  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 (604)980-5814 OR (604)988-4524

ACT:GEO27) PAGE 1 OF 1  
 FILE NO: 72-242/P2  
 \* TYPE HMC \* DATE: MARCH 7, 1987

(VALUES IN PPM)	AG	AS	B	BI	CU	MN	MO	NI	SB	ZN	WT-BM	W
69-2	1.4	1	6	1	5	144	1	1	1	19	9.54	1
69-3	1.3	7	5	1	149	159	2	66	1	40	9.79	1
69-4	.8	9	5	4	194	153	1	40	1	25	6.98	6
69-5	1.9	1	8	1	48	173	1	1	1	26	9.71	130
70-1	1.6	2	8	4	63	244	2	9	1	104	3.29	2
70-2	1.6	4	4	1	48	212	1	7	1	54	4.68	2
70-3	.8	9	5	1	66	145	1	4	1	35	6.92	1
70-4	1.3	12	6	1	57	183	1	6	1	93	10.57	1
70-5	2.4	16	8	2	37	181	1	13	3	160	2.32	1
70-6	1.1	1	6	1	27	171	1	1	1	19	16.85	2
70-7	1.9	1	7	1	22	61	1	1	1	21	5.00	1
70-8	1.6	9	10	1	20	169	1	27	1	40	4.71	10
71-1	1.9	38	8	10	148	139	8	50	14	55	10.05	14
72-1	1.3	18	9	3	114	135	3	17	2	121	5.83	240
72-2	1.9	37	7	8	228	151	5	41	9	109	9.53	36
73-1	3.5	19	13	6	152	228	3	22	3	62	4.18	5
74-1	1.9	26	6	4	189	233	4	43	5	96	9.77	1
75-1	2.8	74	15	1	57	314	1	1	1	114	3.23	1
75-2	2.2	32	9	6	60	193	6	50	10	78	14.78	1
76-1	6.8	47	14	10	341	545	8	47	10	260	4.53	1
78-1	2.4	23	7	10	746	209	4	30	7	104	11.33	4
79-1	2.4	23	10	9	38	192	8	29	9	44	4.02	1
80-1	2.8	32	10	76	301	271	3	59	2	175	1.55	60
81-1	2.4	1	8	3	32	291	1	1	1	39	4.39	1
82-1	2.8	15	15	3	64	297	3	4	1	46	1.17	1
83-1	1.8	17	9	2	109	286	3	32	1	27	5.79	4
84-1	1.9	7	7	1	20	363	1	1	1	21	16.80	15
85-1	2.1	1	8	1	50	351	1	1	1	22	5.68	1
86-1	1.8	4	6	2	13	240	1	1	1	20	7.03	1
86-2	1.8	9	6	2	40	261	1	1	1	26	9.86	1

HN - Geochemistry of overburden HMC

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*J. Pink*

COMPANY: OVERBURDEN EXPLORATIONS  
 PROJECT NO:  
 ATTENTION: J.RICHARD/J.MACPHERSON

MIN-EN LABS ICP REPORT  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 (604)980-5814 OR (604)988-4524

ACT:6E027) PAGE 1 OF 1  
 FILE NO: 72-242/P3  
 \* TYPE HMC \* DATE: MARCH 7, 1987

(VALUES IN PPM )	AG	AS	B	BI	CU	MN	MO	NI	SB	ZN	WT-GM	W
86-3	2.9	183	19	43	337	39	38	500	82	95	64.11	2
87-1	1.0	13	3	1	46	92	2	23	1	22	10.18	120
88-1	.8	7	9	1	41	108	1	9	1	77	2.93	8
88-2	1.0	6	5	1	62	135	1	2	1	35	11.72	14
89-1	1.1	2	6	1	7	142	1	1	1	38	7.51	1
89-2	1.4	6	2	1	17	175	1	1	1	19	10.67	1
90-1	.8	10	3	2	22	150	1	6	1	44	9.94	1
90-3	1.3	9	6	2	74	134	1	15	1	20	5.49	25
91-1	1.3	13	5	2	40	117	2	16	1	108	6.35	30
92-1	2.1	44	8	8	176	141	6	93	12	70	10.37	1
93-1	1.1	8	6	1	54	178	1	6	1	20	11.60	10
94-1	1.0	23	6	3	30	127	1	15	1	34	9.84	14
95-1	1.1	12	6	2	59	135	2	1	1	19	16.72	12

HN - Geochemistry of overburden HMC  
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COMPANY: OVERBURDEN EXPLORATION

MIN-EN LABS ICP REPORT

ACT:GEO27) PAGE 1 OF 1

PROJECT NO:

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: 72-267/P1

ATTENTION: J. MACPHERSON

(604)980-5814 OR (604)988-4524

\* TYPE ROCK GEOCHEM \*

DATE: MARCH 17, 1987

(VALUES IN PPM)	AG	AS	B	BI	CU	MN	MO	NI	SB	ZN	WT-GM	W-TOT
77-1	3.2	63	28	10	312	126	11	73	21	175	10.29	3
90-2	1.4	10	10	1	59	180	1	12	1	81	9.96	12
90-4	9.0	33	15	3	262	450	3	109	8	116	1.16	120
90-5	2.2	125	18	22	398	4523	23	342	47	595	3.98	4
95-2	1.2	11	6	2	58	197	1	10	1	26	10.38	1
95-3	1.4	12	6	1	53	194	1	18	1	31	7.79	20
96-1	1.6	7	13	1	73	196	1	1	1	77	10.45	14
96-2	1.2	15	5	2	51	143	1	8	1	173	10.01	1
96-3	1.8	17	4	2	135	177	1	28	1	43	9.92	24
97-1	1.4	3	6	1	16	163	1	1	1	23	8.73	90
97-2	1.2	9	4	1	52	181	1	6	1	28	9.51	4
97-3	.6	7	4	1	48	64	1	19	1	26	4.98	36
97-4	1.6	15	7	2	125	188	1	52	1	69	9.39	75
97-5	1.6	27	5	6	56	151	4	30	6	25	11.59	8
98-1	.8	1	3	1	47	192	1	1	1	22	9.92	6
98-2	1.0	26	6	5	85	176	3	31	5	138	10.57	2
99-1	.8	8	3	1	61	161	1	17	1	39	6.80	4
99-2	.8	5	2	5	32	141	1	1	1	20	9.90	18
99-3	.6	8	3	1	28	194	1	1	1	21	10.39	5
99-4	.6	15	6	2	77	175	1	15	1	22	12.38	290
99-5	.6	4	2	1	26	126	1	2	1	26	11.35	550
99-6	.2	13	2	2	25	70	2	35	2	99	10.11	600
100-1	.6	10	3	2	24	172	1	1	1	21	9.83	4
100-2	.6	8	1	1	32	179	1	1	1	42	5.28	1
101-1	1.0	10	4	3	60	260	1	1	1	32	9.94	12
101-2	1.4	25	3	3	76	241	1	1	2	30	9.64	1
101-3	1.6	14	3	6	85	223	1	5	1	23	11.62	1
102-1	1.4	19	3	4	78	210	2	22	2	150	13.98	1
102-2	1.0	16	2	1	29	271	1	1	1	26	8.36	2
102-3	1.0	14	53	3	52	240	13	2	1	65	3.61	1

HN - Geochemistry of overburden HMC

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COMPANY: OVERBURDEN EXPLORATION

MIN-EN LABS ICP REPORT

ACT:GEO27) PAGE 1 OF 1

PROJECT NO:

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: 72-267/P2

ATTENTION: J.MACPHERSON

(604)980-5814 OR (604)988-4524

\* TYPE ROCK GEOCHEM \* DATE: MARCH 17, 1987

(VALUES IN PPM )	AG	AS	B	BI	CU	MN	MO	NI	SB	WT-GM	W-TOT
103-1	.4	16	4	1	92	145	2	29	4	10.83	4
103-2	.8	2	5	1	66	236	1	1	1	10.32	6
103-3	.8	358	5	4	142	233	3	105	6	4.64	50
104-1	.8	17	5	1	80	258	1	8	1	8.57	1
104-2	2.0	180	15	30	179	136	34	223	72	27.49	1
105-1	1.0	17	7	1	48	310	1	1	1	13.95	1
105-2	1.8	29	5	4	108	335	2	13	3	11.16	14
106-1	1.2	18	4	6	498	238	2	12	2	2.08	5
106-2	2.2	10	4	1	86	296	1	1	1	12.76	28
107-1	.6	22	3	4	169	298	3	21	4	8.97	1
107-2	1.6	13	5	4	62	206	1	3	1	5.39	12
107-3	.6	12	3	1	36	231	1	6	1	10.53	1
108-1	1.6	11	5	2	86	378	1	1	1	8.52	2
108-2	1.8	10	5	3	92	387	1	1	1	13.02	1
110-1	3.8	69	7	14	252	229	13	99	21	9.74	16
110-2	2.0	10	6	3	96	401	1	1	1	4.66	7
110-3	4.6	86	9	18	146	156	21	142	27	3.17	60
110-4	5.0	75	9	16	126	217	18	138	24	9.97	1
111-1	1.4	23	4	3	49	391	4	22	2	6.71	1
111-2	1.4	14	4	4	145	270	3	13	1	2.46	500
112-1	1.8	20	5	2	65	264	2	1	1	2.41	40
113-1	1.4	4	4	1	54	273	1	1	1	2.11	1
113-2	1.6	10	2	2	136	306	1	1	1	6.24	4
113-3	1.2	21	4	4	68	219	3	42	4	10.41	1
114-1	1.0	12	5	2	54	297	1	1	1	16.20	1
114-2	1.0	17	2	3	64	284	1	5	1	9.97	1
114-3	1.4	16	78	1	48	352	1	1	1	9.89	1
114-4	1.0	30	3	5	107	239	4	41	6	10.32	6
115-1	1.0	12	3	1	49	263	1	4	1	11.29	5
115-2	1.0	24	3	6	325	149	4	30	6	14.00	1

HN - Geochemistry of overburden HMC

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COMPANY: OVERBURDEN EXPLORATION  
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 ATTENTION: J. MACPHERSON

MIN-EN LABS ICP REPORT  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 (604)980-5814 DR (604)988-4524

ACT:GEO27) PAGE 1 OF 1  
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 DATE: MARCH 17, 1987

(VALUES IN PPM)	AG	AS	B	BI	CU	MN	MO	NI	SB	ZN	WT-GM	W-TOT
116-1	.8	7	3	1	11	285	1	1	1	37	3.32	5
116-2	1.0	19	2	4	92	181	1	34	1	44	9.55	3
117-1	.6	6	4	1	78	227	1	1	1	27	17.72	1
118-1	1.2	10	4	2	42	212	1	6	1	23	14.22	1
119-1	.8	14	4	1	16	271	1	1	1	53	3.71	8
120-1	1.4	12	6	1	16	200	1	1	1	25	9.38	20
121-1	1.0	11	2	2	40	156	1	8	1	20	12.20	5
121-2	1.2	21	4	4	125	187	1	25	2	23	9.96	12
121-3	1.6	100	4	6	167	136	5	88	9	39	8.78	1
121-4	1.2	159	6	9	107	189	7	109	14	135	9.98	1
121-5	.8	161	5	9	141	164	9	102	18	61	9.63	7
121-6	2.4	76	5	7	108	204	6	75	11	88	3.06	13
122-1	2.0	33	13	4	147	227	3	69	5	41	9.95	1
123-1	2.4	19	3	2	84	233	2	20	2	26	10.00	1
124-1	.6	4	2	1	14	211	1	1	1	20	9.39	24
125-1	1.4	30	3	6	168	201	2	60	3	28	9.24	1
125-2	1.0	31	3	5	99	286	2	35	5	48	8.43	360
126-1	1.4	14	20	2	30	212	1	4	1	21	9.89	4
127-1	.8	8	3	2	14	188	1	1	1	19	9.85	1
127-2	.4	23	11	1	49	195	3	29	4	123	6.08	1
127-3	.8	21	4	7	85	171	1	24	1	26	9.96	17
128-1	1.6	23	4	3	89	162	2	37	4	70	9.79	1
129-1	1.6	53	187	7	132	161	7	65	11	44	9.90	1
130-1	1.2	18	2	3	62	193	1	25	3	26	7.69	12
130-2	1.6	14	3	1	34	304	2	1	1	25	6.76	16
131-1	1.8	49	4	9	152	282	7	54	11	29	10.22	1
131-2	5.0	18	3	3	49	319	1	12	1	25	13.84	8
132-1	1.2	7	1	1	39	303	1	1	1	37	3.21	6

HN - Geochemistry of overburden HMC

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COMPANY: OVERBURDEN EXPLORATIONS  
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MIN-EN LABS ICP REPORT  
705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
(604)980-5814 DR (604)988-4524

ACT:6E027) PAGE 1 OF 1  
FILE NO: 72-242/P1A  
\* TYPE HMC \* DATE: MARCH 7, 1987

(VALUES IN PPM ) AU-PPB

51-1	300
52-1	6
53-1	580
54-1	31
55-1	12
55-2	11
55-3	50
55-4	41
<u>56-1</u>	<u>1105</u>
57-1	390
57-2	7
57-3	3
57-4	67
57-5	27
57-6	26
58-1	72
59-1	72
59-2	192
60-1	25
60-2	4
61-1	5
62-1	35
63-1	325
63-2	179
64-1	34
65-1	14
66-1	410
67-1	104
68-1	40
69-1	9

Gold in HMC  
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*J. Fair*

COMPANY: OVERBURDEN EXPLORATIONS  
PROJECT NO:  
ATTENTION: J. RICHARD/J. MACPHERSON

MIN-EN LABS ICP REPORT  
705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
(604)980-5814 OR (604)988-4524

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FILE NO: 72-242/P2A  
\* TYPE HMC \* DATE: MARCH 7, 1987

(VALUES IN PPM ) AU-PPB

69-2	18
69-3	155
69-4	18
69-5	181
70-1	34
70-2	70
70-3	85
70-4	12
70-5	28
70-6	48
70-7	545
70-8	470
71-1	3315
72-1	178
72-2	35
73-1	79
74-1	53
75-1	30
75-2	143
76-1	52
78-1	183
79-1	290
80-1	89
81-1	25
82-1	108
83-1	115
84-1	8
85-1	23
86-1	123
86-2	340

Gold in HMC  
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*J. MacPherson*



COMPANY: OVERBURDEN EXPLORATIONS  
PROJECT NO:  
ATTENTION: J.RICHARD/J.MACPHERSON

MIN-EN LABS ICP REPORT  
705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
(604)980-5814 DR (604)988-4524

ACT:6E027) PAGE 1 OF 1  
FILE NO: 72-242/P3A  
\* TYPE HMC \* DATE: MARCH 7, 1987

(VALUES IN PPM ) AU-PPB

86-3	10
87-1	89
88-1	42
88-2	83
89-1	98
89-2	114
90-1	3
90-3	52
91-1	6765
92-1	67
93-1	23
94-1	8
95-1	113

Gold in HMC

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COMPANY: OVERBURDEN EXPLORATION  
PROJECT NO:  
ATTENTION: J. MACPHERSON

MIN-EN LABS ICP REPORT  
705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
(604)980-5814 OR (604)988-4524

ACT:6E027) PAGE 1 OF 1  
FILE NO: 72-267/P1A  
\* TYPE ROCK GEOCHEM \* DATE: MARCH 17, 1987

(VALUES IN PPM) AU-PPB

77-1 190

90-2 12700

1 large abraded grain 600 x 300 x 100

90-4 48

90-5 30

95-2 72

95-3 59

96-1 8

96-2 96

96-3 13

97-1 7

97-2 122

97-3 17

97-4 12

97-5 60

98-1 101

98-2 220

99-1 9

99-2 60

99-3 35

99-4 11

99-5 8

99-6 37

100-1 78

100-2 240

101-1 5

101-2 430

101-3 295

102-1 23

102-2 40700

1 large abraded grain 500 x 250 x 100

102-3 125

Gold in HMC  
Page 4 of 6

COMPANY: OVERBURDEN EXPLORATION

PROJECT NO:

ATTENTION: J. MACPHERSON

(VALUES IN PPM ) AU-PPB

103-1	12
103-2	102
103-3	43
104-1	31
104-2	32
105-1	12
105-2	35
106-1	55
106-2	225
107-1	65
107-2	15
107-3	265
108-1	665
108-2	36
110-1	450
110-2	35
110-3	270
110-4	260
111-1	55
111-2	235
112-1	600
113-1	36
113-2	153
113-3	215
114-1	6
114-2	50
114-3	112
114-4	205
115-1	<u>1430</u>
115-2	25

MIN-EN LABS ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

(604)980-5814 OR (604)988-4524

ACT:GEO27) PAGE 1 OF 1

FILE NO: 72-267/P2A

\* TYPE ROCK GEOCHEM \* DATE: MARCH 17, 1987

Gold in HMC

Page 5 of 6

PANY; OVERBURDEN EXPLORATION

PROJECT NO:

ATTENTION: J. MACPHERSON

(VALUES IN PPM ) AU-PPB

116-1	31
116-2	13
117-1	29
118-1	114
119-1	73
120-1	2005
121-1	205
121-2	35
121-3	113
121-4	485
121-5	116
121-6	159
122-1	490
123-1	72
124-1	75
125-1	49
125-2	15
126-1	103
127-1	70
127-2	29
127-3	35
128-1	29
129-1	32
130-1	27
130-2	10
131-1	645
131-2	57
132-1	38

MIN-EN LABS ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

(604)980-5814 OR (604)988-4524

\* TYPE ROCK GEOCHEM \*

ACT:GEO27) PAGE 1 OF 1

FILE NO: 72-267/P3A

DATE: MARCH 17, 1987

Gold in time  
page 5 of 6

APPENDIX 5

Confirmation of expenditures by Esso Minerals Canada on the HN property re this assessment report, copies of supporting invoices, and statement of qualification of the author.



ESSO MINERALS CANADA

120 ADELAIDE STREET WEST, P.O. BOX 4029, STATION "A"  
TORONTO, ONTARIO M5W 1K3  
(416) 968-5200

S. B. MacEACHERN  
Regional Exploration Manager

April 18, 1988

File: 16.77.B02

Mining Lands Section  
Ministry of Northern Development  
and Mines  
Room 6610, Whitney Block  
Parliament Building  
Toronto, Ontario  
M7A 1W3

Attention: Mr. T. Soobrian

Dear Sir:

Re: Assessment Report by D. Bridge on  
Esso Minerals Canada, H-N Project

I certify that the following invoices have been paid and that the following personnel worked on the H-N project during 1987 and 1988:

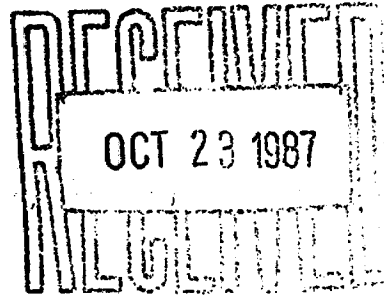
Overburden Drilling Management Invoice 1087088, October 6, 1987	\$ 3,137.50
Min-En Laboratories Ltd. Invoice 4406C, June 2, 1987	4,121.25
G. Harron, District Geologist, Toronto, interpretation and supervision, 2 days @ \$390.00	780.00
D. Bridge, Senior Area Geologist, Timmins, interpretation and report writing, 5 days @ \$325.00	1,625.00
Andre Verville, Contract Geologist, Timmins, sample selection, reporting and drafting, 2 days @ \$175.00	350.00
Total expenditures relating to the processing and analysis of fine till samples	10,013.75

Yours truly,

R. Civello  
Accountant

RC:zr  
LRC0418.1

1688 302



OVERBURDEN DRILLING MANAGEMENT LIMITED  
107-15 CAPELLA COURT, NEPEAN, ONTARIO, K2E 7X1  
TELEPHONE: (413) 226-1771/1774

TO: ESSO MINERALS CANADA  
Box 290  
637 Algonquin Blvd. E.  
Timmins, Ontario  
P4N 7N6

DATE: October, 06, 1987

ATTENTION: Mr. Dane Bridge

RE: Laboratory Services HN-87 series  
Invoice # 1087088

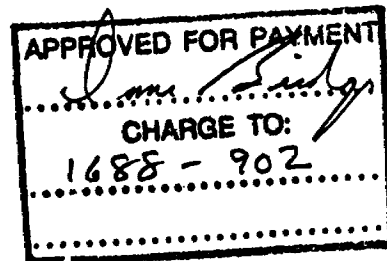
Laboratory Services:

105 overburden samples @	\$29.50	3097.50	
2 pannings (0-20 grains)@	\$20.00	40.00	
			\$3,137.50

INVOICE TOTAL

\$3,137.50  
=====

*Nancy Averill*  
Nancy Averill  
General Manager



INVOICE

MIN-EN LABORATORIES LTD.  
705 WEST 15TH STREET  
NORTH VANCOUVER, B.C.  
CANADA V7M 1T2

INVOICE No 4406C

DATE: JUNE 2/87

PHONE: (604) 980-5814 OR 988-4524  
TELEX: 04-352828

TO : ESSO MINERALS CANADA LTD.  
TIMMINS, ONT.

FILE No: 72-479  
PROJECT: HN

ATTENTION D. BRIDGE

QTY DESCRIPTION	UNIT PRICE	AMOUNT
105 HM FLOTATION PREP	25.00	2625.00
105 HM - 6 ELEMENT TRACE ICP	4.50	472.50
105 HM - AU FIRE	6.75	708.75
105 SEIVING SAMPLES	3.00	315.00
	* TOTAL	4121.25

THESE ARE PROFESSIONAL SERVICES AND ARE PAYABLE WHEN RENDERED.  
OVER 30 DAYS 2% INTEREST PER MONTH WILL BE CHARGED.



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.

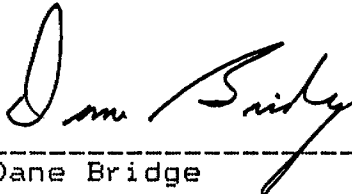
I have been practising continuously since graduation.

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 19, 1988

  
-----  
Dane Bridge



Ministry of  
Northern Development  
and Mir

Geophysical-Geological-Geochemical  
Technical Data Statement

File \_\_\_\_\_



TO  
FA  
42H08NE0014 2.11112 BLAKELOCK  
900  
TECHNICAL REPORTS MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Geochemical, Analysis of Reverse Circulation Drill Samples

Township or Area Hoblitzell, Noseworthy, Blakelock Twp.

Claim Holder(s) Esso Resources Canada Ltd.  
T-872

Survey Company Esso Minerals Canada

Author of Report Dane Bridge

Address of Author Box 290 Timmins, Ontario P4N 7N6

Covering Dates of Survey February 07-22, 1987  
(linecutting to office)

Total Miles of Line Cut \_\_\_\_\_

**MINING CLAIMS TRAVERSED**  
List numerically

(prefix) (number)

..... See attached list .....

If space insufficient, attach list

**SPECIAL PROVISIONS**  
**CREDITS REQUESTED**

DAYS  
per claim

ENTER 40 days (includes  
line cutting) for first  
survey.

ENTER 20 days for each  
additional survey using  
same grid.

- Geophysical
  - Electromagnetic \_\_\_\_\_
  - Magnetometer \_\_\_\_\_
  - Radiometric \_\_\_\_\_
  - Other \_\_\_\_\_
- Geological \_\_\_\_\_
- Geochemical \_\_\_\_\_

**AIRBORNE CREDITS** (Special provision credits do not apply to airborne surveys)

Magnetometer \_\_\_\_\_ Electromagnetic \_\_\_\_\_ Radiometric \_\_\_\_\_  
(enter days per claim)

DATE: April 22/88 SIGNATURE: Dane Bridge  
Author of Report or Agent

Res. Geol. \_\_\_\_\_ Qualifications on this file

Previous Surveys

File No.	Type	Date	Claim Holder

TOTAL CLAIMS 41

OFFICE USE ONLY

**GEOPHYSICAL TECHNICAL DATA**

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations \_\_\_\_\_ Number of Readings \_\_\_\_\_  
Station interval \_\_\_\_\_ Line spacing \_\_\_\_\_  
Profile scale \_\_\_\_\_  
Contour interval \_\_\_\_\_

**MAGNETIC**

Instrument \_\_\_\_\_  
Accuracy – Scale constant \_\_\_\_\_  
Diurnal correction method \_\_\_\_\_  
Base Station check-in interval (hours) \_\_\_\_\_  
Base Station location and value \_\_\_\_\_  
\_\_\_\_\_

**ELECTROMAGNETIC**

Instrument \_\_\_\_\_  
Coil configuration \_\_\_\_\_  
Coil separation \_\_\_\_\_  
Accuracy \_\_\_\_\_  
Method:  Fixed transmitter  Shoot back  In line  Parallel line  
Frequency \_\_\_\_\_  
(specify V.L.F. station)  
Parameters measured \_\_\_\_\_

**GRAVITY**

Instrument \_\_\_\_\_  
Scale constant \_\_\_\_\_  
Corrections made \_\_\_\_\_  
\_\_\_\_\_  
Base station value and location \_\_\_\_\_  
\_\_\_\_\_  
Elevation accuracy \_\_\_\_\_

**INDUCED POLARIZATION  
RESISTIVITY**

Instrument \_\_\_\_\_  
Method  Time Domain  Frequency Domain  
Parameters – On time \_\_\_\_\_ Frequency \_\_\_\_\_  
– Off time \_\_\_\_\_ Range \_\_\_\_\_  
– Delay time \_\_\_\_\_  
– Integration time \_\_\_\_\_  
Power \_\_\_\_\_  
Electrode array \_\_\_\_\_  
Electrode spacing \_\_\_\_\_  
Type of electrode \_\_\_\_\_

**SELF POTENTIAL**

Instrument \_\_\_\_\_ Range \_\_\_\_\_

Survey Method \_\_\_\_\_

Corrections made \_\_\_\_\_

**RADIOMETRIC**

Instrument \_\_\_\_\_

Values measured \_\_\_\_\_

Energy windows (levels) \_\_\_\_\_

Height of instrument \_\_\_\_\_ Background Count \_\_\_\_\_

Size of detector \_\_\_\_\_

Overburden \_\_\_\_\_

(type, depth - include outcrop map)

**OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)**

Type of survey \_\_\_\_\_

Instrument \_\_\_\_\_

Accuracy \_\_\_\_\_

Parameters measured \_\_\_\_\_

Additional information (for understanding results) \_\_\_\_\_

**AIRBORNE SURVEYS**

Type of survey(s) \_\_\_\_\_

Instrument(s) \_\_\_\_\_

(specify for each type of survey)

Accuracy \_\_\_\_\_

(specify for each type of survey)

Aircraft used \_\_\_\_\_

Sensor altitude \_\_\_\_\_

Navigation and flight path recovery method \_\_\_\_\_

Aircraft altitude \_\_\_\_\_ Line Spacing \_\_\_\_\_

Miles flown over total area \_\_\_\_\_ Over claims only \_\_\_\_\_

GEOCHEMICAL SURVEY - PROCEDURE RECORD

Numbers of claims from which samples taken. Refer to list of 41 claims on the first page of this form.

Total Number of Samples 105

Type of Sample Overburden, till (Nature of Material)

Average Sample Weight 1 kg prior to processing

Method of Collection reverse circulation drilling

Soil Horizon Sampled

Horizon Development

Sample Depth as in logs

Terrain flat

Drainage Development poor

Estimated Range of Overburden Thickness 0-30 m

SAMPLE PREPARATION

(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis

General Heavy mineral concentrates were made from -10 to +80 mesh and -80 to +250 mesh till samples by drying, screening and conventional till processing and by drying screening and centrifuging with heavy liquids respectively.

ANALYTICAL METHODS

Values expressed in: per cent, p. p. m., p. p. b. with checkboxes

Chemical symbols: Cu, Pb, Zn, Ni, Co, Ag, Mo, As (circle)

Others Ba, Au

Field Analysis (tests)

Extraction Method

Analytical Method

Reagents Used

Field Laboratory Analysis

No. (tests)

Extraction Method

Analytical Method

Reagents Used

Commercial Laboratory (105 samples tests)

Name of Laboratory Min-En Labs

Extraction Method acid digestion

Analytical Method fire assay and ICP

Reagents Used aquaregia

General



*Lands Management* Mining Act 2/11/82

Name of Survey(s) **Processing and Analysis of Till from Reverse Circulation Drilling** Township or Area **Noseworthy 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) **07 Day 02 Mo 87 Yr. 22 Day 02 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	Geophysical	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
Airborne Credits	Geophysical	Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	- Electromagnetic	
	- Magnetometer	
	- Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
	834425	20			
	834426	20			
	834427	20			
	834428	20			
	834429	20			
	834430	20			
	834431	20			
	834432	20			
	834433	20			
	834434	20			
	834435	20			
	834436	20			
	834437	20			
	834438	20			
	834439	20			
	834440	20			
	834441	20			
	834442	20			

Expenditures (excludes power stripping)

Type of Work Performed **Assays on Reverse Circulation Drilling**

Performed on Claim(s) **Samples**

**41 claims on attached list**

**request 37 days on each of 18 claims**

Calculation of Expenditure Days Credits

Total Expenditures **\$ 10,013.75** ÷ **15** = **667.6** Total Days Credits

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

Date **April 21, 1988** Recorded Holder or Agent (Signature) *Dane Bridge*

Total number of mining claims covered by this report of work. **18**

For Office Use Only

Total Days Cr. Recorded **360** Date Recorded **May 4/88** Mining Recorder *W. G. Wiermeier*

Date Approved as Recorded **12 May 88** Branch Director *W. G. Wiermeier*

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 **April 21, 1988** Certified by (Signature) *Dane Bridge*

MINING CLAIMS TRAVERSED

L- 834425	L- 836606	L- 848104	L- 871905	L- 872031
834426	836607	848107	871908	872257
834430	836608	848112*	871909	872261
834431	836609	848113	871913	872265
834504	836610	848117	871916	872269
834505	836617	848118	871976	
834506	836618	848119	871977	
834510	836629	848120	871998	
		848410		
		848411		
		848412		
		848413		

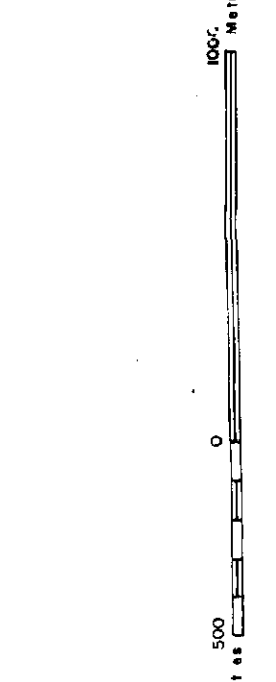
**LEGEND**

HIGHWAY AND ROUTE NO.	SYMBOL
TRAILS	○
SURVEYED LINES	—
UNSURVEYED LINES	- - -
LOTS, MINING CLAIMS, PARCELS ETC.	□
BOUNDARY	□
MINING CLAIMS ETC.	□
RAILWAY AND RIGHT OF WAY	—
UTILITY LINES	—
NON-PERMANENT STREAM	—
FLOODING OR FLOODING RIGHTS	—
RESERVATIONS OR COMPOSITE PLAN	—
ORIGINAL SHORELINE	—
MARSH OR MUSKEG	—
MINES	—
TRAVERSE MONUMENT	—

**DISPOSITION OF CROWN LANDS**

TYPE OF DOCUMENT	SYMBOL
PATENT SURFACE & MINING RIGHTS	○
MINING RIGHTS ONLY	○
LEASE SURFACE & MINING RIGHTS	○
MINING RIGHTS ONLY	○
ORDER IN COUNCIL	○
RESERVATION	○
CANCELLED	○
SAND & GRAVEL	○

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 1, 1900, ARE NOT SUBJECT TO THIS ACT. SUCH PARCELS ARE NOT SHOWN ON THIS MAP.



**NOTICE OF FORESTRY ACTIVITY**  
 THIS TOWNSHIP / AREA FALLS WITHIN THE  
 PRODUCE FALLS MANAGEMENT UNIT  
 AND MAY BE SUBJECT TO FORESTRY OPERATIONS  
 AND/OR FORESTRY PLANNING. IF YOU ARE  
 INTERESTED IN THE AREA, PLEASE  
 CONTACT AT:  
 2000 MAIN ST.  
 COCHRANE, ONT.  
 P.O. BOX 100  
 P.O. BOX 100  
 P.O. BOX 100  
 P.O. BOX 100

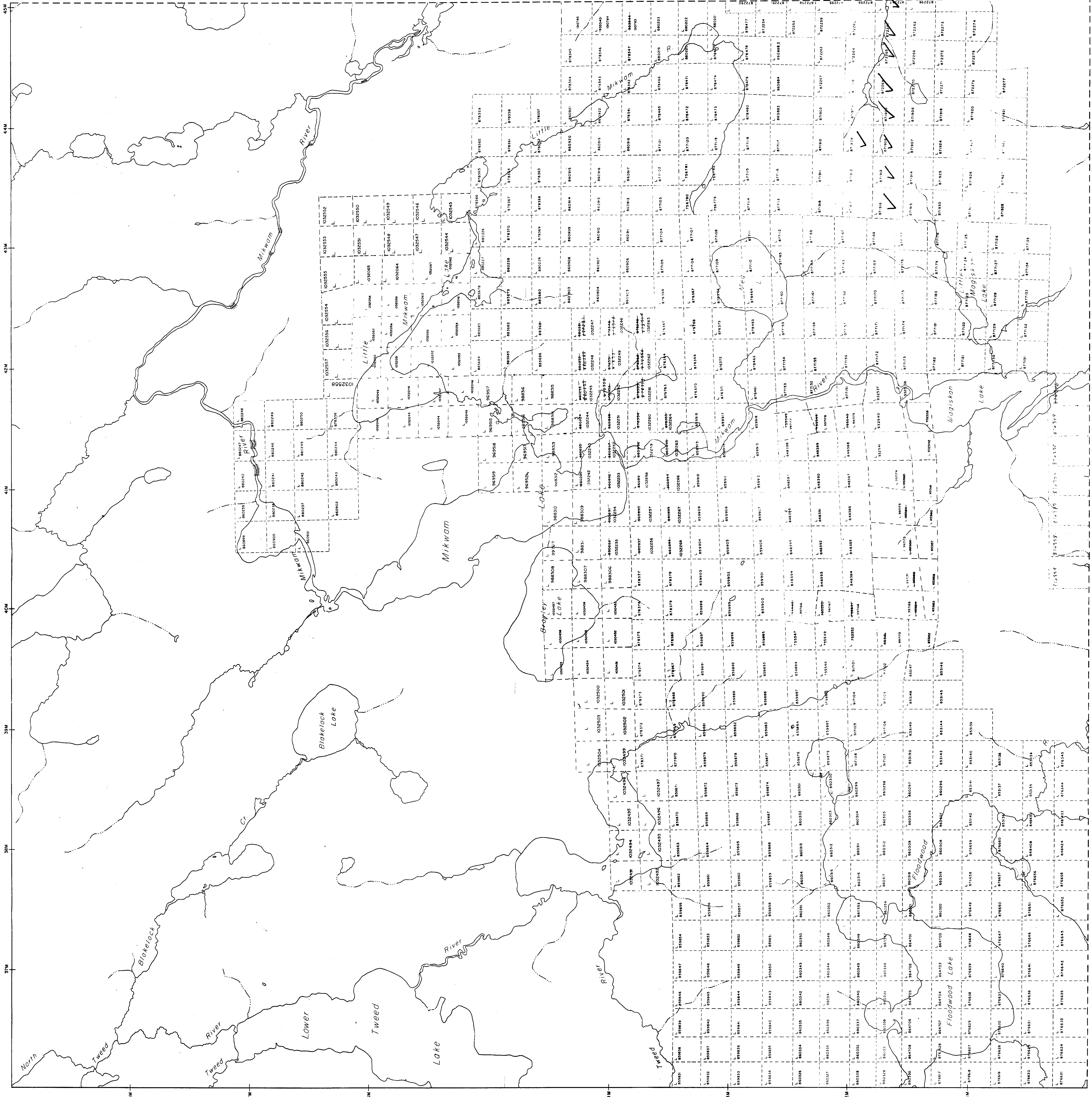
**BLAKELOCK**  
 M.N.R. ADMINISTRATIVE DISTRICT  
**COCHRANE**  
 MINING DIVISION  
**LARDER LAKE**  
 LAND TITLES / REGISTRY DIVISION  
**COCHRANE**

Ministry of  
 Northern Development  
 Natural  
 Resources  
 and Mines  
 Ontario

9111 OCTOBER/1986

G-3474

**HOBLOITZELL TOWNSHIP**

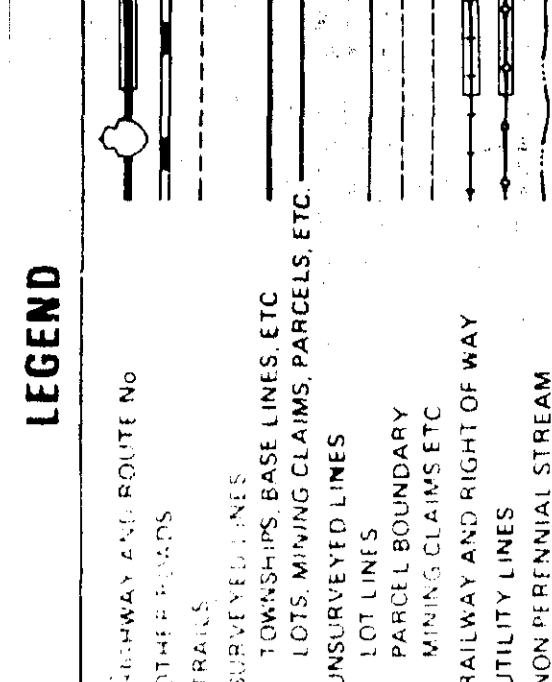


**TWEED TOWNSHIP**

**AREAS WITHDRAWN FROM DISPOSITION**

Description	Order No.	Date	Disposition	File
AREA - MINING RIGHTS ONLY				
SR.O. - SURFACE RIGHTS ONLY				
MR.S. - MINING AND SURFACE RIGHTS				







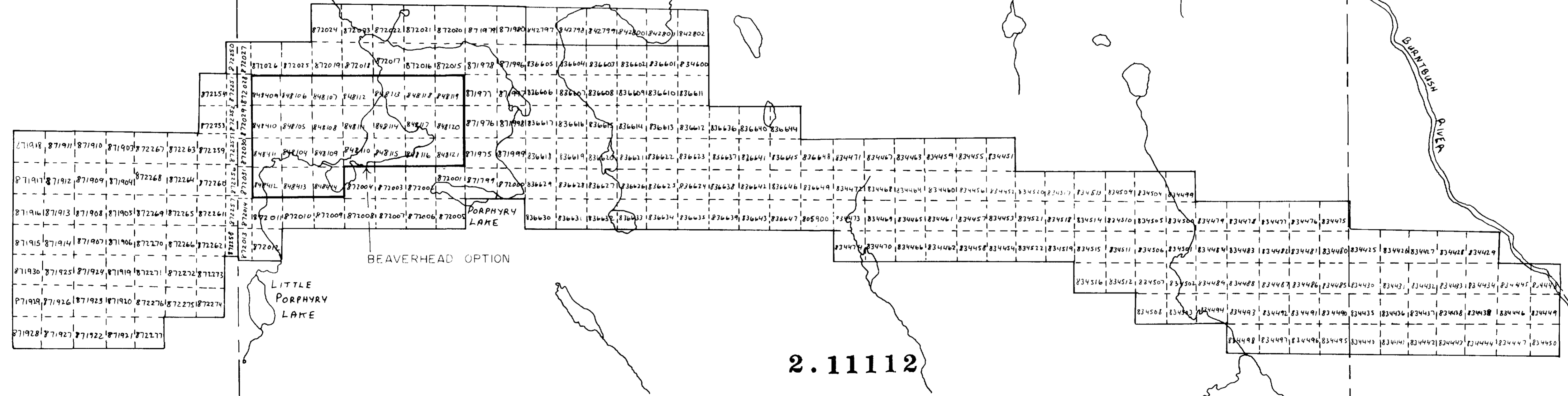
BLAKELOCK TWP.

HOBLITZELL TWP.

NOSEWORTHY TWP.

MIKWAM RIVER

BURNBUSH RIVER

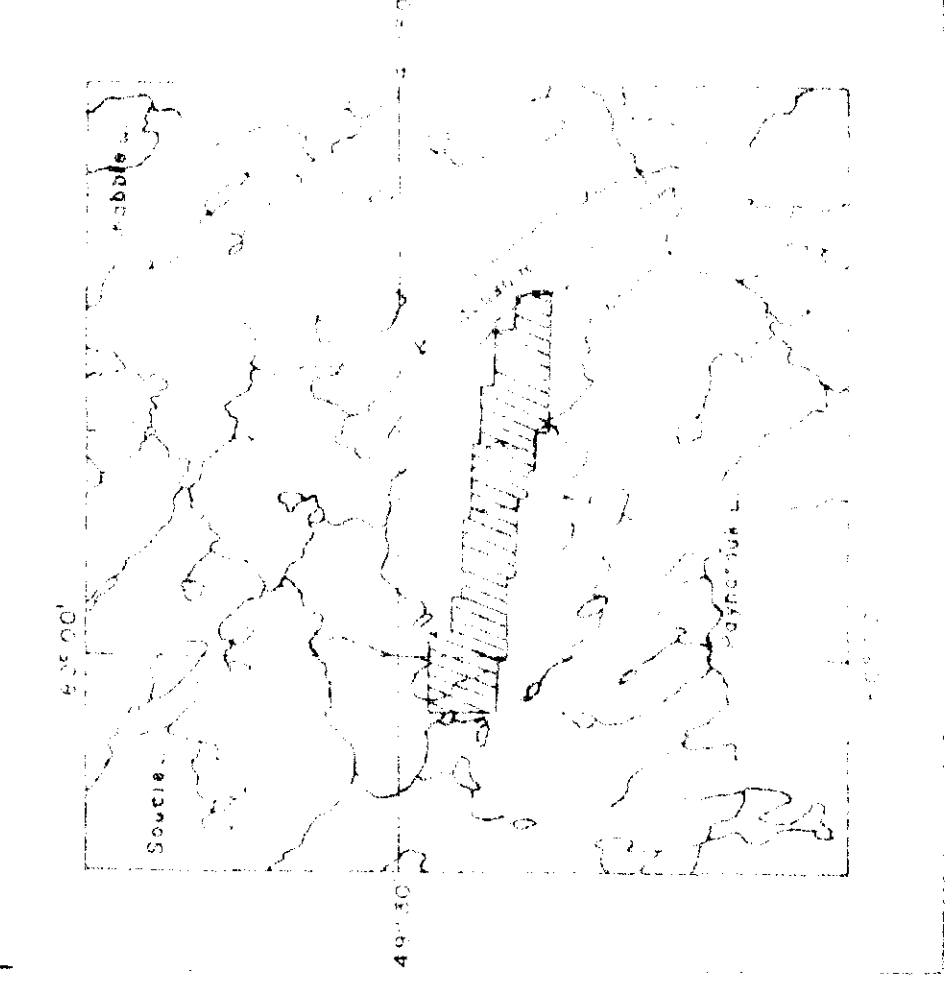


2.11112

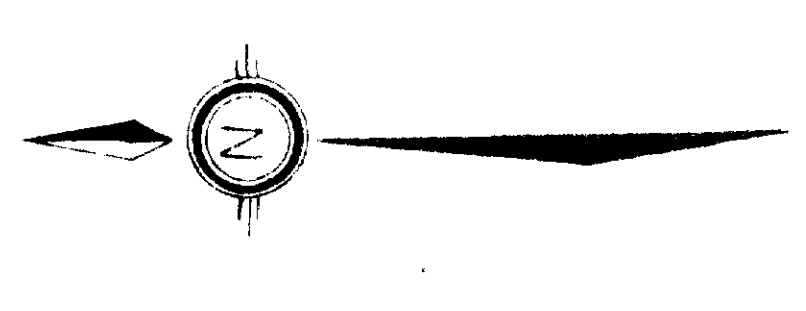
H-N PROJECT  
CLAIM MAP  
SCALE: 1 inch = 1/2 mile



LOCATION MAP



SCALE 1:250,000



BURNTBUSH RIVER

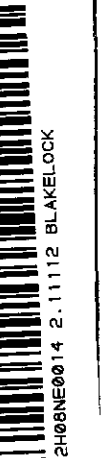


3 Anomaly rating of -80 to +250 mesh till fractions  
 34 ppb Au  
 78 - 1 hole and sample number  
 2m sample height above bedrock

2.11112

ESKO MINERALS CANADA  
 DIV. OF ESKO RESOURCES CANADA LIMITED  
 PROJECT: H-N PROSPECT  
 GEOLOGY AND  
 R/C DRILL SITES

ACCOUNT NO. 1877	FILE NO.	TITLING
DRAWN BY	DATE	N.T.S.
DWG NO.	MAP NO.	3.2E
	SCALE	1:10000



240



3 anomaly rating of -80 to +250 mesh till fraction  
 34 ppb Au  
 78-1 hole and sample number  
 2 m sample height above bedrock

ESSO MINING CORPORATION

HN (WEST) 2.11112  
 CLAIMS AND DRILL HOLE LOCATIONS  
 1986-87 DIAMOND DRILLING AND  
 REVERSE CIRCULATION DRILLING  
 MFL, JMP 1877 1  
 APR '88 42H/8 32E/5 APRIL '87

