



42H09SE0006 22 HOBLITZELL

010

DIAMOND DRILLING

TOWNSHIP: HOBLITZELL

REPORT NO: 22

WORK PERFORMED FOR: Esso Resources Canada Ltd.

RECORDED HOLDER: Same as Above [xx]  
: Other [ ]

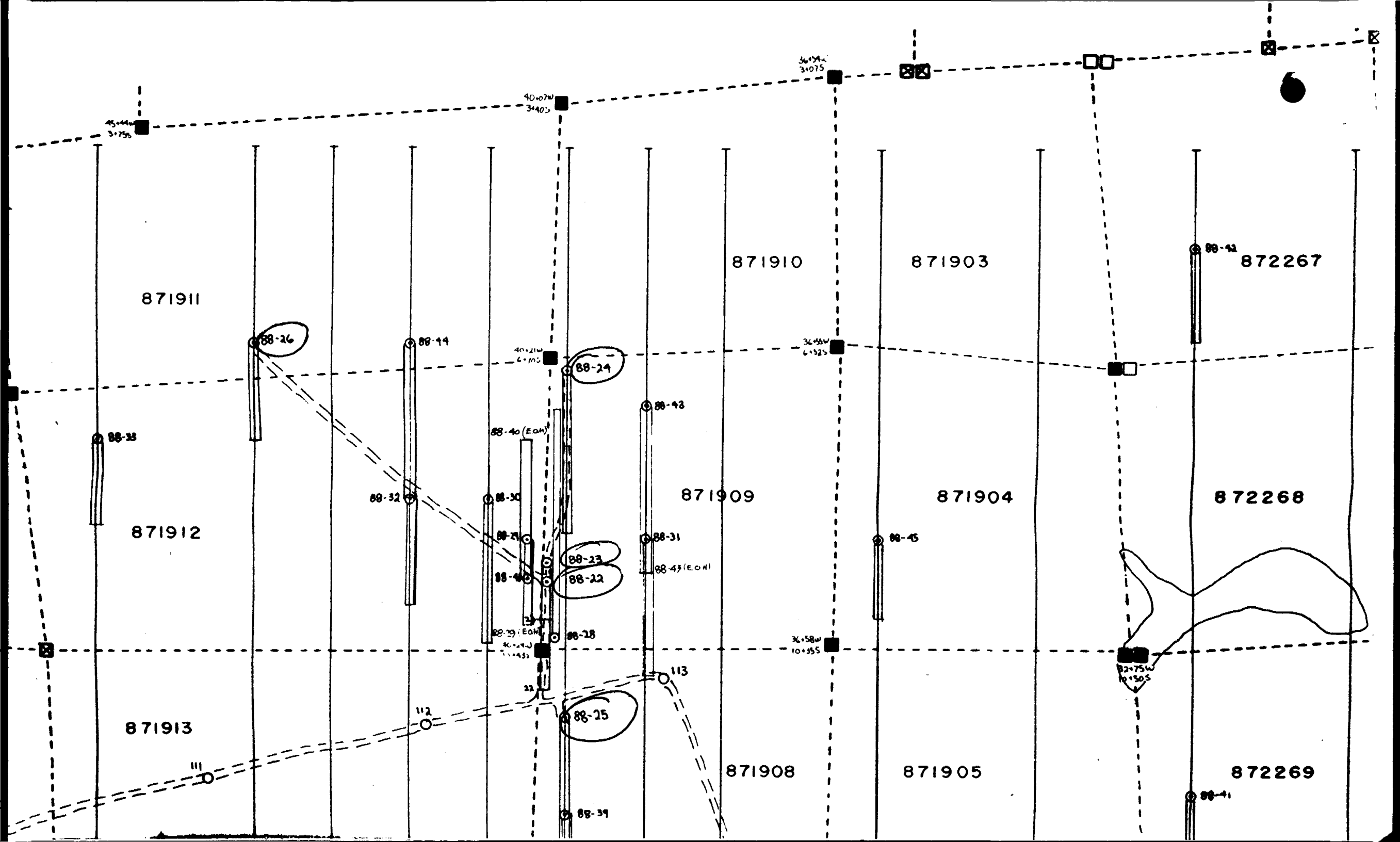
<u>Claim No.</u>	<u>Hole No.</u>	<u>Footage</u>	<u>Date</u>	<u>Note</u>
L 968393	HN88-17	136.06m	Jan/88	(1)
L 872017	HN88-18	151.22m	Jan/88	(1)
L 872019	HN88-19	166.46m	Jan/88	(1)
L 848121	HN88-20	139.02m	Jan/88	(1)
L 848119	HN88-21	123.75m	Jan/88	(1)
L 848106	HN88-27	154.23m	Jan/88	(1)

NOTES: (1) W8908-147, date filed Aug/89

HN PROJECT (1677)  
1988 DIAMOND DRILL HOLES

Drill Hole Number	Drill Hole Location (Westing, Northing)		Attitude (Azimuth/Dip)	Depth (Metres)	Claim
HN88-17A	L44+00E,	11+85N	180° -46°	<del>22.0</del> <sup>not claimed</sup> Abandoned in DB	968395
HN88-17	L44+00E,	11+60N	180° -50°	<del>135.1</del> <sup>not claimed</sup>	968395
HN88-18	L 4+00E,	6+00N	180° -44°	151.2	872017 496.06
HN88-19	L 7+00W,	4+35N	180° -45°	166.5	872019 546.25
HN88-20	L10+75E,	5+00S	180° -43°	139.0	848121 456.03
HN88-21	L10+00E,	2+00N	180° -45°	123.8	848121 406.16
HN88-22A	L40+26W,	9+53S	180° -45°	<del>18.3</del> <sup>not claimed</sup> Abandoned in Bedrock	<del>871909</del>
HN88-22	L40+26W,	9+53S	182° -48°	202.7	871909
HN88-23	L40+26W,	9+30S	180° -62°	128.6	871909
HN88-24	L40+00W,	6+85S	183° -48°	282.2	871909
HN88-25	L40+00W,	11+25S	180° -45°	233.5	871908-
HN88-26	L44+00W,	6+50S	180° -46°	175.6	871911-
HN88-27	L 8+00W,	2+50N	180° -48°	154.2	848106
TOTAL				1932.7 metres (6348.8 feet)	5765.4'

Excluding holes not counted: 175.13 m  
= 5765.4' + 727.4 from W 8908.093



ESSO MINERALS. CANADA  
SUMMARY DRILL LOG

Project Name: HN

Hole Number: HN88-17

Project Number: 1677

Logged By: M.H. Lenters

NTS: 32E/5

Date: February, 1988

Location: L44+00E, 11+60N

Claim Number: 968393 (new)

Azimuth: 180° Dip: -50°

Length (m): 136.06

PURPOSE: Test IP anomaly on L44E at 11+00N

From (m)	To (m)	Description	Gold Assays (g/tonne)
0.00	41.10	Overburden (Vertical Depth = 31.5 metres)	
41.10	65.75	Interbedded Quartz-Feldspar Crystal Tuffs and Minor Ash Tuffs Light greenish grey, weakly sericitic, well foliated tuffs, generally containing abundant feldspar grains and minor blue quartz eyes. Minor to 5% quartz and calcite veining, 2 to 7% finely disseminated pyrite.	0.01 to 0.18
65.75	85.17	Interbedded Feldspar Crystal Tuffs and Metasediments Dark grey-green, fine grained, weakly magnetic, well foliated chlorite-silica-plagioclase schistose metasediments, interbedded with medium grey-green, well foliated tuffs containing abundant feldspar crystals and minor blue quartz eyes. Foliation at 50 to 60° to the core axis. Minor to moderate amount of quartz veining, 1 to 3% pyrite.	0.01 to 0.12
85.17	96.08	Interbedded Feldspar Crystal Tuffs and Metasediments, Including Minor, Banded Iron Formation Horizons As above, with metasediments containing minor, thin, weakly to moderately magnetic, well laminated, magnetite-bearing chert horizons.	0.02 to 0.21
96.08	135.06	Interbedded Felsic Metavolcanic Lapilli Tuffs and Feldspar Crystal Tuffs, with Minor Metasediment Medium to dark grey-green to green-grey, moderately well foliated tuffs, locally containing abundant feldspar crystals and minor blue quartz eyes. Lapilli tuffs contain abundant, well flattened volcanic fragments. Minor quartz veining, 1 to 5% pyrite.	0.01 to 0.14
	135.06	END OF HOLE	

ONTARIO GEOLOGICAL SURVEY  
ASSESSMENT FILES  
OFFICE  
MAY 14 1989  
RECEIVED

Hobbitz

H-N PROJECT (Ont. 77)

ESSO MINERALS CANADA  
DIAMOND DRILL RECORDHole: HH88-17  
Page: 1Drilled by: Atlas Drilling Limited  
Hole Size: BQ  
Core Size: BQ  
Casing: Casing removedAzimuth: 180  
Dip: -50Claim No: L-968393  
Grid: Central  
Easting: L44+00E  
Northing: L11+60N  
Elevation: LevelStarted: Jan. 21, 1988  
Finished: Jan. 23, 1988

## Acid Tests:

Depth Az. Dip  
135.06 -49.0

Purpose: Test IP Anomaly on L44E at 10+85N

Logged by: M.H.Lenters  
Date logged: February 1988  
Logging Method: Log II  
Measurement System: MetricLength: 135.06Metres  
Vert. Proj: 102.5 Metres  
Hor. Proj: 87.75Metres  
Ovb. Depth: 31.5 metres

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
.00 41.10	OVERBURDEN										
.00 18.00	Sand with gravel seams.										
18.00 22.00	Boulders.										
22.00 36.00	Silt and clay.										
36.00 41.10	Basal till (with gravel and boulders).										
41.10 56.50	QUARTZ-FELDSPAR CRYSTAL TUFF										
	Interbedded Quartz-Feldspar Crystal Tuffs and Ash Tuffs.	NS	41.10	56.50	15.40	n/a	n/a	n/a	2-7%		
	Light slightly greenish grey, to medium slightly blueish grey with a mottled colouring due to colour banding in finer ash sections, and white feldspar grains in crystal tuff sections.	205	41.10	42.45	1.35	.03	.50	n/a	2%		
	Most of the unit has a slightly wavy banded, tuffaceous texture containing variable amounts of feldspar crystals (2 to 50%), and minor (2 to 5%), blue quartz eyes. The feldspar grains are subhedral, white, and generally 1 to 3 mm, but up to 5 mm in size. The quartz eyes are ovoid and occasionally form elongate blebs. The finer ash groundmass between the larger light coloured crystals is generally dark in colour giving the unit a mottled appearance.	206	42.45	42.75	.30	.17	1.30	n/a	5-10%		
		207	42.75	44.00	1.25	.10	.80	n/a	3-5%		
		208	44.00	45.27	1.27	.16	.70	n/a	3-4%		
		209	45.27	46.75	1.40	.10	.80	n/a	2-3%		
		210	46.75	47.41	.66	.16	1.60	n/a	5-7%		
		211	47.41	48.15	.74	.15	1.70	n/a	5%		
		212	48.15	49.50	1.35	.15	1.70	n/a	5-7%		
		213	49.50	50.00	.50	.08	.70	n/a	3-5%		
		214	50.00	51.00	1.00	.07	.50	n/a	3-5%		



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	sericitic horizons. Abundant very finely disseminated pyrite. Section is moderately calcitic.										
47.41 56.50	Mottled, light to medium grey, quartz-feldspar crystal tuff and ash tuff. Generally contains 1 to 3%, 1 to 2mm, blue quartz eyes, and small (1 to 10cm) patches with abundant (10 to 50%) feldspar crystals. Section has a wavy banded appearance that is enhanced by thin (hairline), discontinuous streaks and laminae of light creamy buff coloured sericite that generally parallels schistosity. 5%, small (1mm to 5cm), irregular grey quartz and calcite veining, patches as well as schistosity parallel veins that are somewhat boudinaged. Larger (5 to 10cm) vein patches occur between 47.75 and 47.85, 48.10 and 49.15, as well as 51.55 and 51.60 metres. 3 to 7% finely disseminated pyrite, and some coarse (1/2 to 1mm) pyrite cubes. The fine pyrite appears to be orientated in bands parallel to the schistosity and the coarser pyrite often occurs near quartz veining and patches. Minor folding noted at 51.80m, but most of unit only exhibits a weak wavyiness along the planar schistosity surfaces.										
56.50 62.20	<b>QUARTZ-FELDSPAR CRYSTAL TUFF</b> Well sheared section of light to medium grey, quartz-feldspar crystal-poor tuffs, consisting mostly of larger (1/4 to 1/2mm) ash material with a few sections having some feldspar crystals and minor (2 to 3%) amounts of blue, ovoid quartz eyes. Shearing is concentrated along numerous thin (1mm to several cm), generally foliation parallel zones, but also in some planar zones at an angle to the foliation. They are soft, clay-rich, and are very calcitic, and constitute 20 to 30% of the section between 56.50 and 59.80. Below this the unit is slightly more competent with a few thin broken sections of core between 61.20 and 62.20. Well developed foliation at 50 to 60 degrees to the core axis. Unit contains several large (2 to 10cm) quartz veins, as well as minor (2%), irregular, quartz veinlets and pods throughout. Foliation tends to	WS	56.50	62.20	5.70	n/a	n/a	n/a	2-4%		
		220	56.50	57.00	.50	.05	1.50	n/a	2-3%		
		221	57.00	58.54	1.54	.01	1.10	n/a	2-4%		
		222	58.54	59.76	1.22	.02	1.00	n/a	2-4%		
		223	59.76	61.20	1.44	.02	.90	n/a	2-3%		
		224	61.20	62.20	1.00	.01	.90	n/a	3-4%		

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION SIL	CARB	SER
	swirl around some irregular quartz pods. Upper section (56.50 to 57.00) contains two 10cm, irregular quartz veins at both ends, with a rusty stained section of moderately silicified tuffs between. The veining contains minor pyrite, traces of chalcopryite and numerous sericitized and silicified wallrock fragments. Small (1cm) quartz bleb at 61.00 metres has 3 mm chalcopryite bleb. 2 to 4% finely disseminated pyrite throughout, with some as coarser (1 to 2mm) cubes. Unit is well broken with numerous, soft, shear seams where rock has broken down into clay minerals.										
62.20 64.30	ASH TUFF / FINE LAPILLI TUFF (MINOR QUARTZ EYES) Mostly a well foliated, light to medium grey fine lapilli ash tuff. Unit contains 2 to 3%, small (2 to 3mm), ovoid, blue quartz eyes. Thin, salmon pink coloured feldspar flood zone between 62.80 and 62.85. Minor quartz pods and pockets with some sericite, calcite and chlorite, often enclosed in thin zones of tuffs with a swirled foliation. Well developed foliation at 60 to 65 degrees to the core axis. Unit locally exhibits good wispy laminated tuffaceous texture below 63.00. Moderately calcitic with some thin (1 mm), white lenses of calcite. 2 to 5% finely disseminated pyrite, sometimes concentrated along foliation parallel laminae. Relatively competent core with 5 to 25 cm breakage, mainly along the plane of foliation.	NS 225 226	62.20 62.20 63.00	64.30 63.00 64.30	2.10 .80 1.30	n/a .03 .02	n/a .60 1.00	n/a n/a n/a	2-4% 2-4%		V.WK
64.30 65.75	QUARTZ-FELDSPAR CRYSTAL TUFF Medium grey, quartz-feldspar crystal tuff containing 2 to 3%, blue, ovoid quartz eyes, and 40 to 60% subhedral, white, small (2 to 3 mm), feldspar crystals. Weak foliation at 60 to 70 degrees to the core axis. Minor quartz and calcite pods, irregular veining and lenses, including a 3 cm patch of very light pinkish orange calcite, as well as a small quartz vein with minor chalcopryite between 64.60 and 64.70. One thin (3mm), irregular, green chloritic band near 65.15m.	NS 101	64.30 64.30	65.75 65.75	1.45 1.45	n/a .07	n/a n/a	n/a n/a	3-5%		









Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
85.17 85.42	CHERTY, BANDED IRON FORMATION The overlying interbedded sequence of metasediments derived from mafic volcanic material (volcaniclastics), and quartz/feldspar crystal and fine lapilli tuffs gradationally changes into a weakly banded silica magnetite iron formation, and this is the first of these bands. This unit has a more pronounced magnetite banding than in the overlying metasediments. The magnetite bands are variably coloured in greys, greens, whites and salmon pink, and are hard (cherty) and competent. This thin unit is not as well banded or magnetic as the larger underlying unit. Foliation orientated at 60 to 70 degrees to the core axis, parallel to bedding.	229	85.17 85.42	.25	.02	1.40	n/a	4-5%			
85.42 85.45	QUARTZ-FELDSPAR CRYSTAL TUFF As above.	NS	85.42 85.45	.03	n/a	n/a	n/a	3-5%			
85.45 86.45	UNDIFFERENTIATED METASEDIMENTS (MAFIC COMPOSITION) As above.	NS	85.45 86.45	1.00	n/a	n/a	n/a	3-4%			
86.45 86.95	QUARTZ-FELDSPAR CRYSTAL TUFF As above.	NS	86.45 86.95	.50	n/a	n/a	n/a	3-4%			
86.95 88.60	FINE-GRAINED, SCHISTOSE METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS Dark green, fine (1/2 to 1mm) grained chlorite, amphibole, plagioclase composition. Weakly foliated at 55 to 75 degrees to the core axis. Minor epidote alteration and quartz and calcite pods and lenses. Minor reddish coloured (stained) mineral surrounding quartz veinlets/lenses.	NS	86.95 88.60	1.65	n/a	n/a	n/a	3%			
88.60 88.70	CHERTY, BANDED IRON FORMATION Light grey to white, 2 to 3 mm, cherty bands separated by hairline width	NS	88.60 88.70	.10	n/a	n/a	n/a	5%			

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	pyritic laminae.											
88.70 89.20	QUARTZ-FELDSPAR CRYSTAL TUFF As above, but containing a thin (88.93 to 88.98) horizon of mafic volcanic derived sediment. Foliation orientated at 70 degrees to the core axis.	NS	88.70 89.20	.50	n/a	n/a	n/a	2-3%				
89.20 96.08	CHERTY, BANDED IRON FORMATION Medium to light grey-green and green-grey, with numerous white, peach and salmon pink coloured cherty bands giving the unit a laminated/banded appearance. Bands are hairline to several mm, and rarely 1 cm, wide and parallel the foliation orientation. Most of the unit is not a good IP, but consists of lapilli tuff and metasediment with thin (1 to 10mm), magnetite rich horizons, and discontinuous boudinaged light grey cherty bands. Locally the latter appear to be stretched pebbles giving sections a lapilli tuff appearance. Much of the matrix material within these zones is mafic volcanic derived metasediments with a dark green chloritic composition. Throughout much of the unit are thin zones with light vari-coloured cherty bands and darker steely grey magnetic bands. The former have pencil sharp band contacts but the latter have more diffuse contacts. Foliation is gonyoid at 50 to 60 degrees to the core axis, but is locally swirled or folded. Unit contains minor calcite pods and discontinuous lenses (1 to 2 by 3 to 5mm), as well as somewhat larger quartz veining and podding. Several percent pyrite occurs throughout the unit as fine wispy, foliation subparallel blebs. These tend to concentrate on certain horizons forming pyritic laminations. Core is hard, and moderately competent with 5 to 50 cm breakage.	NS	89.20 96.08	6.88	n/a	n/a	n/a	3-6%				
		115	89.20 90.20	1.00	.01	n/a	n/a	3-4%				
		116	90.20 91.20	1.00	.01	n/a	n/a	3-4%				
		117	91.20 92.20	1.00	.03	n/a	n/a	3-6%				
		230	92.20 93.20	1.00	.21	1.70	n/a	3-5%				
		231	93.20 94.70	1.50	.04	1.00	n/a	4-6%				
		232	94.70 96.08	1.38	.19	.80	n/a	3-4%				
96.08 111.60	ASH TUFF / FINE LAPILLI TUFF (MINOR QUARTZ BYES) Light to medium grey, massive to moderately banded, lapilli and	NS	96.08 111.60	15.52	n/a	n/a	n/a	3-6%	WK-MOD			WK-MOD

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	feldspar-quartz crystal tuff. Very few sections contain significant feldspar crystals, but most sections contain occasional to a few percent, blue, ovoid quartz eyes.	118	96.08	97.48	1.40	.01	n/a	n/a	4-6%		
	Unit has a wavy foliated tuffaceous texture, with foliation orientated at 60 to 70 degrees to the core axis.	233	97.48	99.00	1.52	.03	n/a	n/a	3-5%		
	Pelsic lapilli are all well flattened into thin (1 to 5mm) bands.	234	99.00	100.40	1.40	.08	n/a	n/a	4-7%		
	The rock is relatively hard and generally exhibits a weak pervasive silicification and sericitization that is locally intense.	235	100.40	101.40	1.00	.06	n/a	n/a	3-5%		
	Some sections exhibit a weak albitization, particularly in zones with a salmon pink colour.	236	101.40	102.44	1.04	.03	n/a	n/a	5-7%		
	Intense sericitization occurs between 109.40 and 109.60.	237	103.85	104.80	.95	.09	n/a	n/a	7-10%		
	Silicified sections have a fine, granular sugary appearance.	238	107.00	108.54	1.54	.03	n/a	n/a	6-8%		
	Locally, very light apple green sericite-epidote occurs in thin crackle fractures.	239	108.54	109.10	.56	.01	n/a	n/a	3-5%		
	Minor (3 to 5%) coarse, white quartz blebs, lenses, veins and spheroids from 1 to 20 mm in size form irregular patches throughout the unit. Foliation often swirls or is folded around quartz pods.	240	109.10	110.00	.90	.08	n/a	n/a	5-6%		
	Pyrite is common (3 to 6%) throughout as fine disseminations forming wispy laminae that are often concentrated on foliation planes.	241	110.00	111.60	1.60	.02	n/a	n/a	2-3%		
	108.54 109.10 Salmon pink, albitized, feldspar crystal tuff with some thin (1 mm), black magnetite laminae orientated subparallel to foliation.										
	Unit is relatively competent, generally with 10 to 50 cm breakage subparallel to foliation.										
111.60 113.90	UNDIFFERENTIATED METASEDIMENTS (MAFIC COMPOSITION)										
	Dark grey to dark grey-green, and moderately banded parallel to foliation at 60 degrees to the core axis.	NS	111.60	113.90	2.30	n/a	n/a	n/a	2-5%	WEAK	
	Unit generally has a chloritic, mafic volcanic metasediment appearance, but also includes a few, thin (1 to 5cm), hard, cherty bands with a lighter grey to creamy or salmon pink colour. The latter colour also has minor associated epidote in crackle fractures.	242	111.60	112.70	1.10	.01	n/a	n/a	2-4%		
	Unit is very magnetic, and contains abundant thin, black magnetite laminae 2 to 3%, irregular, wispy calcite blebs (1 to 2cm, by 3 to 10cm) and irregular quartz pods, lenses, and veins that are generally subparallel	243	112.70	113.90	1.20	.11	n/a	n/a	3-5%		

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION SIL CARB SER
	to foliation. Fine to medium (1 mm) grained pyrite occurs as disseminations that are generally concentrated along foliation planes. Relatively competent core with 10 to 40 cm breakage, generally at low angles to foliation/bedding.								
113.90 114.50	QUARTZ-FELDSPAR CRYSTAL TUFF Dark grey with slight greenish to orange hue, hard and massive with minor blue quartz eyes and vague outlines of subhedral feldspar crystals evident across the unit. Unit contains very little pyrite which is uncharacteristic of the felsic volcanics in this hole. Very weak foliation orientated at 70 degrees to the core axis. Unit has a pervasive silicified appearance, giving it an intrusive dyke appearance.	244	113.90 114.50	.60	.02	n/a	n/a	MINOR	
114.50 115.90	UNDIFFERENTIATED METASEDIMENTS (MAFIC COMPOSITION) Dark green-grey moderately foliated at 60 to 70 degrees to the core axis. Very chloritic, and contains abundant (10%) irregular patches of whitish calcite-rich lenses/bands that are flattened in the plane of foliation producing a thin (1 to 5mm), wispy, discontinuous networking. Numerous, thin (2 to 10mm), black, moderately magnetic, foliation parallel bands that contain abundant finely disseminated magnetite. These bands have diffuse contacts. 1 to 3%, fine to medium (1 mm) grained pyrite. Competent core, generally with 20 to 50 cm breakage.	245	114.50 115.90	1.40	.03	n/a	n/a	1-3%	
115.90 119.55	QUARTZ-FELDSPAR CRYSTAL TUFF Medium, slightly bluish grey, massive unit with weak foliation at 65 to 75 degrees to the core axis. 3%, large (2 to 3mm), blue quartz eyes and 40 to 60%, white, subhedral plagioclase crystals in fine grained, wispy laminated felsic volcanic matrix.	NS 246	115.90 119.55 115.90 116.90	3.65 1.00	n/a .02	n/a n/a	n/a n/a	2-4% 2-4%	

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	2 to 4% finely disseminated pyrite. Minor calcite often as very small grains (0.1 mm) adjacent to the edge of plagioclase crystals. Very competent core, generally with 30 to 100 cm breakage parallel to foliation, or along the occasional joint at 25 degrees to the core axis.										
119.55 126.22	ASH TUFF / FINE LAPILLI TUFF (MINOR QUARTZ BYES) Medium grey with lighter and darker banding parallel to foliation at 60 to 65 degrees to the core axis. Interbedded ash to fine lapilli tuff with 1 to 3 mm particles now all well flattened into the plane of foliation producing a wavy tuffaceous appearance. Locally larger flattened fragments that were probably originally 1 to 2 cm in size are discernable as contrasting compositional banding. Abundant (5%) quartz blebs and pods form 1 to 3mm by 2 to 10mm ovoids parallel to the foliation. 2% Quartz veinlets, often occurring with calcite and epidote as irregular, 0.5 to 3 cm wide veins and patches. Foliation often swirls or is folded adjacent to quartz veins. 3 to 5%, fine, wispy pyrite that is elongated in the plane of foliation. Unit appears weakly sericitic throughout, particularly along fractures parallel foliation. Moderately competent core, generally with 5 to 25 cm breakage.	NS 119.55	126.22	6.67	n/a	n/a	n/a	3-5%			
126.22 134.45	UNDIFFERENTIATED METASEDIMENTS (MAFIC COMPOSITION) Interbedded felsic volcanic lapilli tuff and mafic volcanic derived metasediments. Felsic volcanic lapilli tuffs are much like those in the overlying unit although they contain many more sections with larger (0.5 to 5cm) lapilli that are now flattened into lensoidal bands. Most sections have a wavy tuffaceous appearance with bedding and foliation orientated at 55 to 70 degrees to the core axis. Foliation is locally swirled or weakly contorted. These sections generally exhibit a very weak pervasive silicification and weak sericitization, that is locally intense producing thin, pyritic quartz-sericite schist bands. Generally 2 to 5%	NS 126.22 119 129.20 120 132.00	134.45 130.20 133.00	8.23 1.00 1.00	n/a .02 .01	n/a n/a n/a	n/a n/a n/a	2-4% 5-7% 2-4%	WEAK		- WK-MOD





Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	Contains 5%, quartz blebs/veins, often with minor amounts of a red coloured mineral. This mineral forms small (0.25 mm) spheroids and may be an iron stained carbonate mineral or possibly a small poikiloblastic garnet.										
134.45 135.06	ASH TUFF / FINE LAPILLI TUFF (MINOR QUARTZ EYES) Light greenish grey to greenish white, well weathered, crumbly quartz-sericite schist with 5 to 7% finely disseminated pyrite. Well developed wavy foliation orientated at 50 to 60 degrees to the core axis. Core is very vuggy, soft and crumbly, and possibly occurs near a small fault that has allowed some weathering of this unit. However, there is no gouge or other evidence of a fault zone in this section of core. 135.06 (443 feet) end of hole.	121	134.45 135.06	.61	.14	n/a	n/a	5-7%	WK-MOD	-	MOD

ESSO MINERALS CANADA  
SUMMARY DRILL LOG

Project Name: HN

Hole Number: HN88-18

Project Number: 1677

Logged By: M.H. Lenters

NTS: 42H/8

Date: February, 1988

Location: L4+00E, 6+00

Claim Number: 872017

Azimuth: 180° Dip: -44°

Length (m): 151.22

PURPOSE: Test IP Anomaly on L4E at 5+25N

From (m)	To (m)	Description	Gold Assays (g/tonne)
0.00	9.15	Overburden (Vertical Depth = 6.4 metres)	
9.15	10.00	Mafic Metavolcanic Dark green, fine grained, with weak foliation at 70° to the core axis. Minor quartz veining. Minor pyrite.	0.02
10.00	73.87	Metasediments With Minor, Thin Intrusive Dykes Medium to dark green to brown, fine grained, chloritic to biotitic, phyllitic to schistose with foliation 60 to 70° to the core axis. Generally appears to be metasediments but could include metavolcanics. Minor quartz and calcite veining. Minor pyrite. Also cut by a few, thin (10 to 50 cm), silicified and quartz veined, leucocratic feldspar porphyry dykes, locally containing minor pyrite and galena.	0.01 to 0.05
73.87	91.10	Interbedded Sequence of Sulphide-Poor to Massive Sulphide (PY), Sulphide (PY & PO) Carbonate and/or Silica Facies Iron Formation, Black Argillite and Minor Metasediment Well bedded and foliated at 50 to 75° to the core axis, but locally contorted. 3 to 20% pyrrhotite and pyrite, but locally up to 70% sulphides.	0.01 to 0.20
91.10	108.58	Coarse-Grained Clastic Metasediments (Metaconglomerate) Well flattened, granule to pebble metaconglomerate with abundant, thin, psammitic arenite interbeds. Minor quartz veining. Minor pyrite.	Not Assayed
108.58	151.22	Felsic Metavolcanic Quartz Crystal and Lapilli Tuff Medium grey, well foliated with 5 to 10% ovoid, blue quartz eyes and abundant flattened lapilli fragments. 2 to 3% quartz veining. Minor pyrite.	Not Assayed
	151.22	END OF HOLE	

ONTARIO GEOLOGICAL SURVEY  
ASSESSMENT FILES  
OFFICE

MII 14 1989

RECEIVED



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
10.00 11.00	LOST CORE Core barrel mismatch.										
11.00 40.30	SILTSTONE Very fine grained, with an irregular laminated/banded to patchy appearance due to a subtle grading between grey-green and brown colour bands. Colour changes are gradational, never complete (partial), and very patchy reflecting differences in the amount of biotite (brown) and chlorite (green). Locally an interbanding/lamination is apparent that parallels the foliation. Foliation at 60 to 70 degrees to the core axis is well defined by the orientation of micaceous minerals. Unit breaks well along cleavage surfaces that parallel the foliation orientation. 5 to 7%, white, quartz-calcite laminae, veinlets (up to 0.5cm), and patches. Laminae and veinlets are often subplanar and orientated parallel to the foliation. Very thin (hairline), laminae tend to be discontinuous, and composed of calcite. Locally the veining occurs as small, irregular branching blebs, that are often surrounded by a swirled foliation, occasionally exhibiting tight minor folds. A few, thin (1 to 10cm) bands contain abundant (10%), fine (0.25 to 0.50mm), rounded garnet poikiloblasts as buckshot type, individual grains, in foliation parallel bands, showing no apparent preference for either the chlorite or biotite dominant rock type. The garnet bands constitute only about 1% of the unit with no garnets apparent outside the few thin bands where they are common. No reason or compositional distinction, is apparent that could account for the selective banding. Locally, coarse (1 to 2mm), dark green chlorite forms thin (1 to 10mm) bands that crosscut foliation, or intrude as veins parallel to the foliation/cleavage orientation. Unit contains a few zones with several thin (1 to 3mm), light grey silica-bands that appear to have been sandy interbeds/laminae. Cleavage surfaces have a phyllitic to slightly schistose appearance. Unit does not appear to have any visible disseminated sulphides, but contains several zones with minor to several percent sulphides as	NS	11.00	40.30	29.30	n/a	n/a	n/a	2%PO		
		123	22.00	23.00	1.00	.02	n/a	n/a	2%		
		124	26.00	27.00	1.00	.05	n/a	n/a	3-4%PO		
		125	27.00	28.00	1.00	.03	n/a	n/a	4-6%PO		
		126	31.50	32.00	.50	.01	n/a	n/a	4-6%PO		

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER

foliation parallel blebs, bands and stringers. Pyrrhotite is the most common (80%), with lesser amounts of pyrite in bands/stringers. The two sulphides seem to form separate bands that rarely occur together. Minor chalcopyrite occurs locally with the pyrrhotite. The sulphides also form a few larger (0.5 to 1cm) patches that occur adjacent to a few of the larger quartz veins/patches.

Sulphides are not evenly distributed through the section. They are rare above 22 metres, and constitute about 2% of the unit below 22 metres, with local concentrations as indicated in the sections sampled for assay. Unit is relatively competent, generally with breakage parallel to the foliation and 25 to 100 cm spacing.

Lower contact is gradational.

#### 40.30 42.20 PSAMMITIC ARENITE

(Similar to the overlying unit, but slightly coarser grained). Mostly a fine quartzose-feldspathic arenite with a medium golden brown colour due to minor amounts of biotite. Only very locally is there any green chlorite colour, generally in finer grained silty sections.

Unit contains abundant (5 to 7%) calcite laminae, and small (1 to 5mm) quartz +/- calcite veinlets. The former are often planar and discontinuous, often orientated parallel to the foliation, but more commonly they form irregular, flattened veining networks and patches accounting for 5 to 10% of the unit.

Unit also contains several (2 to 20mm), coarse, white quartz veins, as well as several (2 to 10cm), foliation/bedding parallel quartz arenite/pebble beds that are partially amalgamated into a grainy looking, mottled quartz bands. These bands contain (1 to 3mm) quartz grains/granules.

A single, 2 x 4 cm, round quartz pebble occurs within brown arenite.

Bedding and foliation are parallel and distinct at 65 to 70 degrees to the core axis. Minor folding of the foliation is evident surrounding some quartz vein blebs.

Pyrite is disseminated throughout the entire section, particularly the coarser sections, where it accounts for 4 to 7, and locally 10%, of the unit. The large quartz vein blebs occasionally contain large (up to 2

MS	40.30	42.20	1.90	n/a	n/a	n/a	3-5%
127	40.30	41.35	1.05	.01	n/a	n/a	3-5%
128	41.35	42.20	.85	.02	n/a	n/a	2-4%

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	<p>cm) pyrite masses, often as cubic crystals. Unit is relatively competent, generally with 20 to 50 cm breakage parallel to foliation, as well as along quartz vein contacts (the latter often exhibits minor grinding of core). Lower contact is gradational.</p>										
42.20 45.90	<p>SILTSTONE (Identical to unit between 11.00 and 40.30 metres). Very fine grained, laminated/bedded with patches/bands of green, chloritic and brown biotitic compositions, often changing across sharp to indistinct bedding/foliation planes. Bedding/foliation is orientated at 65 to 70 degrees to the core axis. Contains numerous, thin (hairline to 1mm), discontinuous, foliation parallel, white calcite laminae, as well as several larger (2 to 20mm) quartz veins. The latter consist of coarse milky to greyish white quartz, with few inclusions or impurities that are generally orientated parallel to foliation. One small (20 cm wide) zone exhibits 2 to 3%, fine (0.25 to 0.5mm) garnet poikiloblasts. Minor amounts of disseminated pyrrhotite and pyrite, with visible amounts of coarser pyrrhotite and pyrite occurring around a few quartz veinlets/blebs. Competent core, generally with 50 to 100 cm breakage parallel to foliation Upper and lower contacts are gradational.</p>	NS	42.20	45.90	3.70	n/a	n/a	n/a			MINOR
45.90 52.20	<p>PSAMMITIC ARENITE (Identical to unit between 40.30 and 42.20, but including a thin porphyry dyke zone). Medium golden brown to dark greyish brown colour. Grades from a very fine, well laminated siltstone/sandstone to medium (1 mm) grained, light golden brown quartzose-feldspathic arenite with abundant (5 to 10%) pyrite. 50.00 51.15 Feldspar Porphyry Dyke. Section contains mostly coarse, white quartz and lesser feldspar phenocrysts in a contorted and</p>	NS	45.90	52.20	6.30	n/a	n/a	n/a			2-4%
		129	45.90	46.35	.45	.02	1.20	n/a			2-3%
		130	46.35	47.50	1.15	.01	1.20	n/a			10%
		131	47.50	48.50	1.00	.03	1.10	n/a			1-2%
		132	48.50	50.00	1.50	.02	1.20	n/a			3-5%/PO
		133	50.00	51.15	1.15	.01	.60	n/a			2%/PO
		134	51.15	52.20	1.05	.03	1.00	n/a			4-6%/PO

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	<p>metamorphosed silicified feldspar porphyry dyke, as suggested by a few, thin better preserved sections. The central part of this dyke appears to have annealed into an indistinct milky white quartz vein. The dyke contains numerous irregular wallrock fragments, as well as 2 to 4% disseminated pyrite and pyrrhotite. The included wallrock fragments are golden brown in colour and are calcitic. Upper contact is sharp at 30 to 40 degrees to the core axis. Lower contact is sharp at 25 degrees to the core axis.</p> <p>Unit contain 5 to 10%, irregular, wispy branching, and flattened white calcite throughout, much like the overlying units. The unit also contains 2 to 3%, small (2 to 10mm), elongate quartz blebs.</p> <p>Well developed bedding, subparallel to foliation.</p> <p>Foliation varies slightly, but is generally orientated at 45 to 60 degrees to the core axis, with several folded and microfaulted (offset bedding) zones.</p> <p>Relatively competent core, generally with 10 to 100 cm breakage.</p> <p>Upper and lower contacts are gradational into finer grained siltstones.</p>										
52.20 - 68.35	PSAMMITIC ARENITE										
	<p>Mottled to banded, medium grey-green to brown silty arenite, to very fine grained arenite.</p> <p>Foliation is moderately well developed at 60 to 70 degrees to the core axis, due to alignment of biotite and chlorite.</p> <p>Bedding is not readily evident due to a homogeneous nature of the unit, but where beds are apparent, due to contrasting grain size, they appear to parallel the foliation/cleavage orientation.</p> <p>Unit contains several patchy zones of white, irregular silica banding that are often intensely swirled and folded. These do not appear to indicate folded bedding. This patchy veining/banding is not as common (possibly constituting 3 to 5%), or as evenly distributed as in the above unit. These zones appear to be concentrated in 1 to 50 cm bands, and then absent in bands of similar width throughout the unit.</p> <p>Minor dark green, coarse grained, small (2 to 10mm), irregular, crosscutting chlorite veins, that are often associated with small</p>	NS	52.20	68.35	16.15	n/a	n/a	n/a	0.5%		
		135	54.75	55.75	1.00	.01	.50	n/a	1%PO		



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	coarse, white calcite veins/pods. No quartz veining (apart from the patchy pervasive network intergrowths noted above) occurs within the unit. 0.5 to 1% disseminated pyrrhotite and pyrite, commonly near silica-calcite patches. A few, thin (hairline to 3mm), subplanar calcite veinlets orientated parallel to foliation. These cut across the irregularly folded calcite-silica patches/bands. Core is competent with 20 to 100 cm breakage, generally along cleavage surfaces. Upper and lower contacts are gradational.										
68.35 73.87	PSAMMITIC ARENITE (Same as arenite unit between 45.90 and 52.20, including several porphyry dykes). Arenite is medium grey-green to medium golden brown, very fine to fine grained, well bedded/laminated generally at 55 to 65 degrees to the core axis. Colour changes are somewhat mottled, and do not strictly follow bedding/foliation bands. Unit is calcitic, with 3 to 5%, irregular wispy lenses of white calcite, as is typical in other sections of the overlying clastic metasediments. Unit also contains 2 to 3%, thin (1 to 5mm), subplanar and foliation parallel, quartz/calcite veinlets. The coarser (fine grained) arenites tend to be brown and contain 0.5 to 1%, and locally up to 5%, disseminated to network veined, pyrrhotite and pyrite. The very fine grained, silty arenites exhibit the grey-green/brown colour, and contain only minor amounts of disseminated sulphides. The arenite is intruded by several small (10 to 100cm), feldspar porphyry dykes that are moderately to intensely silicified, and weakly sericitized. The dykes contain 15 to 35%, irregular quartz veining, generally orientated at 60 to 70 degrees to the core axis. Original composition of the dykes is similar to those encountered in the western part of the claim group. It appears to be a biotitic (5%), feldspar porphyry with a quartz dioritic to granodioritic composition. The dykes are weakly foliated at 55 to 70 degrees to the core axis, with irregular	NS	68.35	73.87	5.52	n/a	n/a	n/a	0.5-1%		
		136	68.35	69.12	.77	.01	.90	n/a	1%/PO		
		137	69.12	69.72	.60	.02	.20	n/a	1-2%		
		138	69.72	71.00	1.20	.02	.60	n/a	MINOR		
		139	71.00	72.10	1.10	.03	.40	n/a	1-2%		
		140	72.10	73.37	1.27	.01	1.00	n/a	0.5%/PO		
		141	73.37	73.87	.50	.02	.80	n/a	2-3%/PO		





Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	calcite network veining. 4 to 8% finely disseminated pyrite and pyrrhotite, and a few, scattered larger grains. Laminated/bedding at upper contact orientated at 65 degrees to the core axis. Thin black argillite interbed between 78.17 and 78.23 exhibits folded laminations. Relatively competent core.										
78.65 79.93	Black graphitic argillite and green-grey siltstone. Black argillite is well laminated and has several polished, graphitic cleavage surfaces. The slightly graphitic sections contain 1 to 2% very finely disseminated pyrrhotite and pyrite. Foliation/lamination orientated at 65 to 80 degrees to the core axis. One 3 to 7 cm wide argillite band exhibits a broad, open folding along a 20 cm section of core. Siltstone is grey-green, and appears slightly siliceous containing several, small silica blebs (0.5 to 1cm), and 5%, irregular, branching/wispy calcite, that forms foliation parallel networking patches. Section contains minor pyrite. Competent core, and conformable contacts at 70 degrees to the core axis.										
78.65 78.90	Argillite.										
78.90 79.30	Siltstone.										
79.30 79.47	5 to 7 cm wide folded argillite bed.										
79.47 79.93	Siltstone.										
79.93 85.95	<b>CARBONATE- AND/OR SILICA-SULPHIDE FACIES IRON FORMATION</b>										
	Silica-carbonate-sulphide beds.	NS	79.93	85.95	6.02	n/a	n/a	n/a	MINOR		
	Medium slightly brownish grey, with a few slightly greenish grey zones.	148	79.93	81.10	1.17	.02	1.20	n/a	15%/PO		
	Mostly very fine to fine grained, and well bedded/laminated silica-carbonate (calcite +/- iron carbonate) beds, that are highly reactive to HCl.	149	81.10	81.85	.75	.02	1.20	n/a	12%/PO		
	Abundant fine, as well as coarser, pyrite and pyrrhotite.	150	81.85	82.20	.35	.03	1.10	n/a	MINOR		
	Planar bedding/laminations sections generally orientated at 50 to 70 degrees to the core axis, but locally the unit is folded and contorted.	151	82.20	83.20	1.00	.02	1.20	n/a	6%/PO		
	Grey-green beds contain much less carbonate and sulphides in the sections between 81.85 and 82.20, as well as between 83.20 and 84.60.	152	83.20	84.60	1.40	.02	1.00	n/a	MINOR		
		153	84.60	85.95	1.35	.01	1.20	n/a	15%/PO		

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	<p>A reddish brown carbonate? mineral is locally present in the carbonate rich sections, including the one between 80.90 and 81.00. Core is competent. Upper and lower contacts are conformable. Upper contact is orientated at 65 degrees to the core axis, and lower contact is orientated at 80 degrees to the core axis.</p>										
85.95 - 86.50	<p>CARBONATE- AND/OR SILICA-SULPHIDE FACIES IRON FORMATION Semi-massive sulphide band. 50 to 70%, massive, fine to medium grained, shiny pyrite with intermixed light grey silica-carbonate and black argillite. Both of the latter exhibit lamination/banding at 65 to 75 degrees to the core axis with the pyrite occurring as an overgrowth. Competent core. Upper contact is sharp at 70 degrees to the core axis. Lower contact is sharp at 50 degrees to the core axis.</p>										
		NS	85.95	86.50	.55	n/a	n/a	n/a	50-70%		
		154	85.95	86.50	.55	.16	1.70	n/a	50-70%		
86.50 - 87.55	<p>CARBONATE- AND/OR SILICA-SULPHIDE FACIES IRON FORMATION Silica-carbonate-sulphide, and semi-massive sulphide bands. Well broken unit, similar to above two units, containing light brown-grey silica-carbonate with 10 to 25% pyrite, as well as semi-massive (50 to 75%) crystalline pyrite. Locally this unit contains a few broken argillite fragment zones 5 to 20 cm in width, and at least one core fragment with brecciated massive sulphide surrounded by interstitial argillite material. Core is well fractured and broken.</p>										
		NS	86.50	87.55	1.05	n/a	n/a	n/a	40-50%		
		155	86.50	87.55	1.05	.05	2.20	n/a	40-50%		
87.55 - 88.90	<p>CARBONATE- AND/OR SILICA-SULPHIDE FACIES IRON FORMATION Semi-massive to massive sedimentary sulphide band. Dark earthy brown, sooty pyrite (pyrite is not crystalline as in the overlying units). Pyrite appears to be extremely finely intermixed with argillite (mud) material, locally exhibiting a 0.5 to 1 cm colloform growth pattern. These zones appear to consist, more or less, entirely of</p>										
		NS	87.55	88.90	1.35	n/a	n/a	n/a	60-75%		
		156	87.55	88.90	1.35	.20	3.60	n/a	60-75%		



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION SIL CARB SER
108.58 151.22	<p>material. The conglomerates contain no sulphides as is common in the overlying silica carbonate beds.</p> <p>Unit is reactive to HCl and contains 5%, irregular, small quartz and calcite blebs, pods, and wispy, discontinuous, flattened network veining. Quartz veining is locally boudinaged into discontinuous blebs.</p> <p>Unit includes several, thin to thick (1cm to 1m), purplish grey, well sorted, coarse (0.5 to 1mm) grained, psammitic arenite horizons, and several streaky banded and purplish pastel coloured, cherty horizons that are generally 1 to 10 cm wide.</p> <p>Below 94 metres, the unit is, more than less, planar bedded and includes distinctive sedimentary textures. Foliation/bedding is orientated at 70 to 80 degrees to the core axis.</p> <p>Above 94 metres, the unit is more contorted, sedimentary features are not as distinct, and the unit is more reactive to HCl.</p> <p>Unit includes minor amounts of pyrite.</p> <p>Bedding is parallel to the foliation orientation at 70 to 80 degrees to the core axis, and exhibits sharp to gradational, conformable changes.</p> <p>Unit is moderately competent with 5 to 20 cm breakage, generally parallel to bedding/foliation.</p> <p>ASH TUFF / FINE LAPILLI TUFF (MINOR QUARTZ EYES)</p> <p>Quartz-eye lapilli tuff.</p> <p>Medium grey, with extremely well developed black wispy, nonparallel tuffaceous texture.</p> <p>Very homogeneous, unmistakable quartz-eye tuff unit.</p> <p>5 to 10%, opal blue, 2 to 5 mm, ovoid quartz eyes orientated parallel to the foliation direction.</p> <p>Unit contains very few feldspar crystals, but seems to be composed mainly of small (&lt;3 mm), flattened lapilli and ash tuff material.</p> <p>Foliation is well developed at 70 to 80 degrees to the core axis.</p> <p>Unit contains minor amounts of finely disseminated pyrite.</p> <p>2 to 3% quartz blebs/veins often containing minor chlorite. The blebs/veins are 0.5 to 1.5 cm wide and irregularly pinched or boudinaged. Occasionally they form complete veins that parallel the foliation orientation. Locally the tuff adjacent to quartz veins exhibit</p>	MS 108.58	151.22	42.64	n/a	n/a	n/a	MINOR	

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER

a weak salmon pink colour.

Unit is weakly magnetic due to very small disseminated magnetite grains.

Locally, the unit includes a few, thin (0.1 to 1cm) clay or gouge/crush zones that parallel foliation.

Unit is moderately competent with 3 to 20 cm breakage, generally parallel to foliation.

Unit contains two, thin mafic volcanic horizons between 124.42 and 124.45 orientated at 75 degrees to the core axis, and between 128.80 and 129.15 orientated at 70 degrees to the core axis.

Lower part of unit contains some finer, more wavy banded, tuffaceous sections containing smaller, almost flattened, blue quartz eyes.

151.22 (496 Feet) End of Hole.



ESSO MINERALS CANADA  
SUMMARY DRILL LOG

Project Name: HN **ONTARIO GEOLOGICAL SURVEY ASSESSMENT FILES OFFICE** Hole Number: HN88-19  
 Project Number: 1677 **RECEIVED** Logged By: M.H. Lenters  
 NTS: 42H/8 **1111 14 1989** Date: February, 1988  
 Location: L7+00W, 4+35N Claim Number: 872019  
 Azimuth: 180° Dip: -45° Length (m): 166.46

PURPOSE: Test coincident IP anomaly and EM conductor on L7W between 3+50 and 3+75N

From (m)	To (m)	Description	Gold Assays (g/tonne)
0.00	18.45	Overburden (Vertical Depth = 13.0 metres)	
18.45	52.20	Intermediate Metavolcanics Medium to dark grey-green to green-grey, fine grained, moderately foliated at 70 to 80° to the core axis. Local, purplish grey siliceous zones, and minor amphibole porphyroblasts. Minor (3 to 5%) quartz veining. 1 to 6% pyrrhotite and pyrite.	0.01 to 0.04
52.20	56.60	Cherty, Pyritic Argillite Brecciated graphitic argillite and dark blue-grey silica, adjacent to small fault zone (55.50 to 56.10 m). Well fractured, locally vuggy and containing 2 to 10% finely crystalline pyrite	0.01 to 0.05
56.60	62.20	Interbedded Pyritic Silica-Carbonate Beds and Contorted, Siliceous Argillite Creamy brown, medium crystalline, massive silica-carbonate beds containing 5 to 6% pyrite; and black, well laminated, sheared and contorted argillite horizons containing 5 to 15% finely disseminated pyrite and minor pyrrhotite.	0.01 to 0.06
62.20	67.10	Fine-Grained, Siliceous Metasediments Dark grey, well laminated, magnetitic, cherty siltstones and psammitic arenites. Foliation at 70 to 80° to the core axis. 1 to 5% coarse pyrite and pyrrhotite.	0.01
67.10	71.75	Intermediate Metavolcanics As above, but with less (1 to 2%) sulphides.	0.01 to 0.02
71.75	78.33	Interbedded Pyritic, Cherty Metasediments, Silica Bands and Argillite Light to medium purple to brownish grey, well laminated, but intensely contorted, cherts containing abundant, small (1 to 20 mm) amoeboid silica patches and larger blue-grey black, silica bands, as well as interbeds of black, slightly graphitic argillite. Generally moderately magnetic, containing 5 to 10% pyrrhotite and minor pyrite as disseminations and laminations in sediments and fracture fillings in silica bands.	0.01 to 0.21
78.33	118.60	Intermediate Metavolcanics As above, but containing much less sulphides (minor pyrite).	0.01
118.60	120.40	Psammitic Arenite Medium brown, fine grained, weakly foliated at 80° to the core axis. Minor (3 to 5%) calcite and quartz veins and patches. Minor pyrite.	Not Assayed

From (m)	To (m)	Description	Gold Assays (g/tonne)
120.40	130.10	Intermediate Metavolcanics As above, with minor pyrite.	Not Assayed
130.10	166.46	Intercalated Fine-grained Clastic Metasediments and Felsic to Intermediate Metavolcanics. Light to medium brownish grey to green-grey, well laminated and/or foliated (at 60 to 75° to the core axis) plagioclase-silica-chlorite +/- biotite schists. 3 to 5% calcite patches, and minor quartz and calcite veining. Minor disseminated pyrite.	0.01
	166.46	END OF HOLE	

H-N PROJECT (Ont. 77)

ESSO MINERALS CANADA  
DIAMOND DRILL RECORD

Role: HN88-19  
Page: 1

Drilled by: Atlas Drilling Limited  
Hole Size: BQ  
Core Size: BQ  
Casing: Casing Removed

Azimuth: 180  
Dip: -45

Claim No: L-872019  
Grid: Central  
Basting: 7+00W  
Northing: 4+75N  
Elevation: Level

Started: Jan. 28, 1988  
Finished: Jan. 29, 1988

Acid Tests:  
  
Depth Az. Dip  
166.46 -43.0

Purpose: Test IP & EM Anomalies on L7W at 3+50N

Logged by: M.H.Lenters  
Date logged: February 1988  
Logging Method: Log II  
Measurement System: Metric

Length: 166.46Metres  
Vert. Proj: 116 Metres  
Hor. Proj: 120 Metres  
Ovb. Depth: 13.0 Metres

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
.00 18.45	OVERBURDEN											
.00 14.00	Sand and gravel.											
14.00 15.20	Cobbles (mostly granitic).											
15.20 16.40	Large mafic volcanic boulder, or bedrock block.											
16.40 18.45	Basal till.											
18.45 52.20	SCHISTOSE MAFIC METAVOLCANIC WITH AMPHIBOLE PORPHYROBLASTS											
	Medium to medium-dark, slightly purplish grey to green-grey, fine grained, fairly homogeneous unit.	NS	18.45	52.20	33.75	n/a	n/a	n/a	0.5-5%			
	Moderately well developed foliation (phyllitic to schistose appearance on foliation surfaces) at 75 degrees to the core axis.	159	25.20	26.22	1.02	.04	n/a	n/a	MINOR			
	No observable original textures are apparent within the unit. The slightly purplish hue and medium green-grey colouring, and hardness suggest a fine silica component and possible siltstone origin, but no bedding/laminations or other sedimentary textures are evident.	160	37.00	38.00	1.00	.01	n/a	n/a	0.5%/PO			
	Locy the vague banding within the unit appears more like flow banding.	161	38.00	39.00	1.00	.01	n/a	n/a	0.5%/PO			
	Above 40m the unit is generally slightly darker coloured, locally contains thin zones with small (0.1mm), vague, plagioclase grains, has a	162	39.00	40.00	1.00	.02	n/a	n/a	0.5-1%			
		163	40.00	41.46	1.46	.02	n/a	n/a	2-3%/PO			
		164	41.46	43.00	1.54	.01	n/a	n/a	2%			
		165	43.00	44.50	1.50	.04	n/a	n/a	3-5%/PO			
		166	44.50	45.50	1.00	.01	n/a	n/a	5-6%/PO			
		167	45.50	47.00	1.50	.01	n/a	n/a	4-5%/PO			
		168	47.00	48.20	1.20	.02	n/a	n/a	4-5%/PO			



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	As (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SBR
	Locally the more siliceous sections exhibit weak laminations, suggesting a cherty sedimentary deposit, but most are massive and except for the colour appear more like silica veins.										
	White quartz vein with abundant graphitic argillite inclusions occurs between 55.75 and 55.90.										
	Two small clay gouge seams recovered from 55.95 to 55.98, and 56.07 to 56.10 at top of a small fault zone.										
	Below the lower gouge seam, is a broken section of well laminated argillite containing no silica fragments. The wavy bedding lamination is orientated at 65 degrees to the core axis.										
	Lower contact is orientated at 70 degrees to the core axis.										
	52.20 52.80 Well banded, sooty brown argillite, and silica-argillite that is moderately contorted and brecciated.										
	52.80 53.66 Blue-grey, massive silica band, locally brecciated and filled by (15 to 20%) black argillite.										
	53.66 55.25 Black graphitic argillite that is extremely contorted, brecciated and contains (25 to 30%) large, angular blue-grey silica fragments.										
	55.25 55.50 Contorted black argillite.										
	55.50 56.10 Fault zone. Contorted black argillite in fault zone with 10 to 30%, small (<1 cm), rotated, angular breccia fragments, as well as two small recovered clay gouge zones from 55.95 to 55.98, and 56.07 to 56.10. Section also includes a late, white, irregular quartz vein with numerous graphitic argillite wallrock fragments that cuts through (and subparallel to) the fault zone.										
	56.10 56.60 Well laminated, pyritic, cherty argillite, with no massive silica fragments.										
56.60 62.20	CARBONATE- AND/OR SILICA-SULPHIDE FACIES IRON FORMATION										
	Interbedded silica-carbonate-pyrite beds and contorted siliceous argillite.	NS	56.60	62.20	5.60	n/a	n/a	n/a	3-4%		
	Silica-carbonate-pyrite beds are very homogeneous, fine to medium crystalline (grained), and have the appearance of a well sorted arenite.	178	56.60	57.70	1.10	.02	n/a	n/a	10-12%		
	These have a medium tan to olive grey-brown colour, are moderately reactive to HCl, hard, and contain 5 to 6%, finely disseminated pyrite,	179	57.70	58.76	1.06	.01	n/a	n/a	5-7%		
		180	58.76	59.76	1.00	.06	n/a	n/a	10-15%		
		181	59.76	60.76	1.00	.01	n/a	n/a	7-10%		

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	and no veining or other impurities. These beds are not foliated, and are broken along fracture surfaces orientated at 40 to 50 degrees to the core axis. Above have distinct bedding contacts with black, well laminated argillite and siltstone, generally with irregular, very wavy bedding laminations that are in part siliceous and in part sulphide horizons. This unit also exhibits less distinct transitions from the silica-carbonate-pyrite beds into argillite/siltstone. A few, large (1 to 5cm), siliceous pods/patches occur within the unit. 5 to 17% finely disseminated pyrite, occurring mostly in the silica-carbonate-sulphide beds, as well as some pyrrhotite and/or magnetite in argillite/siltstone beds. Silica-carbonate-pyrite horizons are hard and competent with breakage along fractures. Argillite/siltstone unit is well broken parallel to the foliation orientation, and along fractures. Interbed contacts within the unit are gradational to sharp, and often wavy and irregular (nonplanar). Upper contact is sharp at 70 degrees to core axis. Lower contact is sharp at 60 degrees to core axis. 56.60 57.60 Homogeneous, medium crystalline (grained), medium olive-brown silica-carbonate-pyrite bed. 57.60 62.20 Interbedded and intermixed silica-carbonate-pyrite and argillite-siltstone.	182	60.76	62.20	1.44	.03	n/a	n/a	7-10%			
62.20 67.10	SILTSTONE This unit is similar to the one between 71.75 and 78.33. These two units are separated by a silicified felsic volcanic unit that is similar to the over and underlying felsic to intermediate volcanic units. Interbedded, well laminated cherty siltstones, and fine grained arenites. The former locally appear like BIP. Sediments consist mainly of medium to dark grey as well as black, wavy laminated, cherty siltstones in 5 to 25 cm thick beds, often separated by coarser siltstone to arenite beds. The finely laminated siltstone beds are generally magnetic, and may	NS	62.20	67.10	4.90	n/a	n/a	n/a	1-6%			
		183	62.20	63.20	1.00	.01	n/a	n/a	3-5%/PO			
		184	63.20	64.65	1.45	.01	n/a	n/a	3-5%/PO			
		185	64.65	65.35	.70	.01	n/a	n/a	1-2%/PO			
		186	65.35	66.00	.65	.01	n/a	n/a	4-6%/PO			
		187	66.00	67.10	1.10	.01	n/a	n/a	1-2%/PO			

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER

contain fine magnetite in the thin, black laminations, but they all also contain minor fine pyrrhotite that may totally account for the magnetism. The unit includes several brownish laminations/bands that are due to biotite.

Laminations are generally orientated at 75 to 80 degrees to the core axis. They are subplanar, and often chaotic over short intervals with intense microfolding.

Fine grained arenite beds are medium, slightly brownish grey, very hard and not calcitic. Locally they contain 5 to 10%, very small (1mm), blue quartz grains that are only slightly larger than the 0.5 to 1 mm grain size of the sections. These beds are well sorted siliceous, homogeneous, and generally grade into the finer laminated siltstones. Arenite beds have a moderately well developed foliation orientation at 70 to 75 degrees to the core axis, but exhibit no recognizable bedding. They contain minor amounts of small (1mm) garnet porphyroblasts.

Unit contains abundant, finely disseminated, as well as coarser blebs of pyrrhotite within both the siltstone and arenite.

5%, Irregular, swirled silica blebs and patches, often with associated coarser pyrrhotite, and large (1 to 10cm) patches of finely crystalline pyrite.

#### 67.10 71.75 SCHISTOSE MAFIC METAVOLCANIC WITH AMPHIBOLE PORPHYROBLASTS

Slightly purplish to greenish grey, aphanitic to fine grained volcanic. Massive with a weak to moderate foliation at 70 to 80 degrees to the core axis. Grain size is mainly evident as dark green, 1 to 2 mm amphibole porphyroblasts?, generally occurring in a purplish siliceous aphanitic matrix. Minor amounts of large (1 to 4mm), generally oblong pinkish, poikiloblastic garnet porphyroblasts occur in clusters throughout the unit.

3 to 5% Irregular, banded/patchy, light coloured calcite and silica-calcite zones.

Unit includes a few, thin (5 to 10cm), laminated siltstone horizons typical of the adjacent units.

Unit contains no major veining.

Generally mixed disseminated sulphides (py and po), but includes a few,

NS	67.10	71.75	4.65	n/a	n/a	n/a	1-2%
188	67.10	68.10	1.00	.02	n/a	n/a	1%/PO
189	68.10	69.50	1.40	.02	n/a	n/a	1-2%/PO
190	69.50	70.75	1.25	.01	n/a	n/a	1%/PO
191	70.75	71.75	1.00	.01	n/a	n/a	2-3%/PO





Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
78.33 94.50	<b>SCHISTOSE NAPIC METAVOLCANIC WITH AMPHIBOLE PORPHYROBLASTS</b> Pale to medium grey-green to green-grey with darker sections exhibiting a minor to moderate (1 to 5%) amount of dark green, 1 to 3 mm, amphibole porphyroblasts in a finer grained, hard, massive, weak to moderately foliated matrix. Unit includes minor zones (5 to 20cm wide) of cherty flow banded felsic volcanic or chert. Foliation generally planar, with no folding, at 75 to 80 degrees to the core axis. Locally the unit has a slight wavy, tuffaceous laminated appearance. Unit contains a few slightly browner sections with fine biotite, however thin (hairline), wispy, discontinuous, foliation parallel biotite laminae are common throughout the unit. Unit contains the occasional band with minor amounts of small to medium (1 to 4mm), round, light pink garnet porphyroblasts. Relatively abundant amount of thin, irregular foliation subparallel, network calcite patches. One large (20cm at 88.00 to 88.20 m) bull white, coarse grained quartz vein/patch, and several smaller (2 to 15mm) ones, often with minor amounts of calcite. Minor finely disseminated pyrite. Competent core, generally with 50 to 200 cm breakage. Upper and lower contacts are gradational.	NS	78.33	94.50	16.17	n/a	n/a	n/a	MINOR		
		199	78.33	79.00	.67	.01	n/a	n/a	MINOR		
		200	79.00	80.00	1.00	.01	n/a	n/a	MINOR		
		201	90.00	91.00	1.00	.01	n/a	n/a	MINOR		
94.50 118.60	<b>SCHISTOSE NAPIC METAVOLCANIC WITH AMPHIBOLE PORPHYROBLASTS</b> Medium to medium-dark grey-green, fine to medium (0.5 to 1mm) grained, massive, weak to moderately foliated. Foliation is orientated at 70 to 80 degrees to core axis. Well developed fine intergrowth of plagioclase and ferromagnesian minerals is evident in most of unit, although this has been overprinted by development of secondary metamorphic minerals, including coarser (1 to 3mm) amphibole, chlorite and minor biotite. Lower part of unit (below 112m), has greater biotite content and contains several zones that are	NS	94.50	118.60	24.10	n/a	n/a	n/a	MINOR		
		202	98.00	99.00	1.00	.01	n/a	n/a	MINOR		
		203	105.75	106.75	1.00	.01	n/a	n/a	MINOR		

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	<p>more schistose and have a brownish green-grey colour giving the unit more of a coarse clastic sediment composition/appearance.</p> <p>Abundant (5%), thin (hairline to 2mm), wispy, white calcite bands, and irregular network patches typical of metamorphosed plagioclase-rich volcanic and sedimentary rocks in the area.</p> <p>A few, small (1 to 15mm) quartz/silica-calcite veins and lenses, but also several larger quartz veins including:</p> <p>97.81 97.83 Silica-carbonate vein at 50 degrees to the core axis.</p> <p>98.24 98.28 Silica-carbonate patch.</p> <p>98.48 98.49 Upper of two parallel silica-carbonate veins at 45 degrees to core axis.</p> <p>98.55 98.56 Lower of two parallel silica-carbonate veins at 45 degrees to core axis.</p> <p>98.60 98.90 Patchy silica vein with wallrock inclusions.</p> <p>99.25 99.28 Silica-carbonate vein at 60 degrees to the core axis.</p> <p>101.50 101.55 Silica-carbonate vein at 90 degrees to the core axis.</p> <p>105.98 106.24 Silica vein with wallrock inclusion, orientated at 45 degrees to the core axis.</p> <p>Unit contains minor finely disseminated pyrite, and minor amounts of coarser pyrite and pyrrhotite in association with some quartz veins.</p> <p>Competent core, generally with 20 to 150 cm breakage along a few steeply inclined (20 to 40 degree) fractures that parallel the foliation orientation.</p> <p>Upper and lower contacts are gradational.</p>										
118.60 120.40	<p><b>PSAMMITIC ARENITE</b></p> <p>Medium brown, well sorted, very clean, fine grained, slightly psammatic arenite.</p> <p>Poorly developed foliation orientated at 80 degrees to the core axis.</p> <p>A few, finer grained silty sections exhibit a wavy bedding/lamination at 60 to 80 degrees to the core axis.</p> <p>Unit contains 5%, irregular, patchy, white calcite banding/lenses and several thinner (1 to 3mm) slightly boudinaged silica laminae. The lower 10 cm consists of a hard, aphanitic, well banded, siliceous cherty horizon.</p>	NS 118.60	120.40	1.80	n/a	n/a	n/a		MINOR		

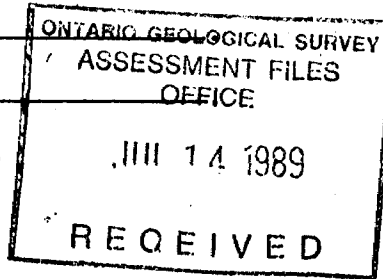
Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	<p>One large quartz vein occurs between 116.60 and 116.70 metres.            Minor disseminated pyrite, generally in association with small fractures.            Competent core, generally with 40 to 100 cm breakage.            Upper and lower contacts are gradational, and orientated at 80 degrees to the core axis.</p>										
120.40 130.10	<p>SCHISTOSE MAFIC METAVOLCANIC WITH AMPHIBOLE PORPHYROBLASTS            (Similar to unit between 94.50 and 118.60).            Medium to dark grey-green, with some sections having a slightly brownish green colour due to abundant fine biotite.            Unit is relatively hard, has a fine to medium (0.5 to 1mm) grain size, and is relatively uniform and massive in character.            Moderate well developed foliation orientated at 70 to 80 degrees to the core axis.            2 to 3%, irregular, patchy, white calcite banding/lenses, concentrated in thin (1 to 3cm) zones throughout the unit.            Unit contains several, small (2 to 10mm), white coarse grained quartz veins/lenses, generally orientated subparallel to foliation.</p>	MS 120.40	130.10	9.70	n/a	n/a	n/a		MINOR		
121.30 121.66	<p>Dark brown, fine (0.1 to 1mm) grained, biotite-plagioclase-quartz schist, including abundant blue quartz-eye material. Well developed schistose foliation at 80 degrees to the core axis.            Competent core, generally with 30 to 100 cm breakage.            Upper and lower contacts are gradational.</p>										
130.10 135.67	<p>SILTSTONE            Light to medium grey, to grey-brown, laminated/banded siltstone.            Lamination/banding parallels foliation at 70 degrees to the core axis.            Unit is generally hard and locally siliceous with several light coloured banded sections having a cherty appearance.            Unit has a schistose/phyllitic character due to fine platy minerals paralleling foliation direction.            3 to 5%, irregular, light coloured, small (1mm to 1cm) calcite patches, blebs and veins orientated subparallel to foliation.</p>	204	132.00	133.00	1.00	.01	n/a	n/a	1%PO		

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	<p>Minor amounts of thin (1 to 10mm), quartz +/- calcite veins and lenses.            Minor to 1%, finely disseminated pyrrhotite, as well as thin, foliation parallel bands.            Relatively competent core with 10 to 50 cm breakage.            Upper and lower contacts are sharp and conformable, and orientated at 75 degrees to the core axis.</p>										
135.67 150.30	<p>UNDIFFERENTIATED METASEDIMENTS (MAFIC COMPOSITION)</p> <p>Interbanded unit with various gradations between a slightly purplish brown, generally laminated/bedded, but occasionally massive, fine grained, well sorted, clean siltstone, and a medium to dark grey-green to slightly purplish green-grey, well foliated, schistose rock with a volcanic composition. Generally contains 5 to 15%, 1 to 3 mm, dark green amphibole porphyroblasts. Some of these units contain a minor amount of small (0.5 to 2mm), pink garnet porphyroblasts, often concentrated in thin (0.5 to 2cm) bands, but including one large (136.60 to 136.75) band with 30%, coarse (2 to 5mm), polkioblastic garnets. The siltstone bands also contain some garnets.</p> <p>Contacts between the siltstone and schistose volcanic horizons are conformable and occasionally gradational, suggesting that they may be mostly volcaniclastic in origin.</p> <p>5%, irregular calcite patches and veining.</p> <p>2 to 3% irregular to banded/lensoid, coarse, grey-white quartz veining, generally as 0.5 to 5cm blebs.</p> <p>Well developed phyllitic to schistose foliation orientated at 70 to 80 degrees to the core axis.</p> <p>Generally trace to minor amounts of disseminated pyrite, but several siltstone bands locally contain 1 to 2% wispy pyrrhotite laminations.</p> <p>Competent core, generally with 30 to 100 cm breakage.</p> <p>Bedding contacts within the unit are gradational to sharp and orientated at 70 to 80 degrees to the core axis.</p> <p>Lower contact is gradational into the underlying wispy banded tuff unit.</p> <p>Definite siltstone interbeds, generally occurring between the amphibole porphyroblastic volcaniclastics occur at:</p> <p>136.10 136.22 Siltstone.</p>	MS 135.67	150.30	14.63	n/a	n/a	n/a	MINOR			

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
136.39	136.60 Siltstone.										
139.41	139.50 Laminated siltstone.										
139.93	140.30 Siltstone.										
140.56	141.33 Siltstone with minor pyrrhotite.										
141.61	141.66 Siltstone.										
150.30	166.46 ASH TUFF / PINE LAPILLI TUFF (MINOR QUARTZ EYES) Light to medium brownish-grey to grey-green, wavy laminated tuffaceous unit. Wavy laminations are often thin (hairline), chlorite +/- biotite parting surfaces that occur between bands of white plagioclase, and coarser (1 to 2mm long), elongate amphibole porphyroblasts. Unit appears to be partially waterlain/volcaniclastic. Wispy laminations are orientated at 60 to 75 degrees to the core axis. No garnets evident within the unit. Unit contains 3 to 5%, irregular calcite patches, and 3 to 5% small to large (2mm to 10cm), white quartz veins/lenses that parallel the foliation orientation. Minor disseminated pyrite, generally as small grains associated with quartz veining. Competent core, generally with 30 to 100 cm breakage. Upper contact is a gradational change from the overlying unit. 166.46 (546 Feet) End of Hole.	NS 150.30	166.46	16.16	n/a	n/a	n/a				MINOR

ESSO MINERALS CANADA  
SUMMARY DRILL LOG

Project Name: HN Hole Number: HN88-20  
 Project Number: 1677 Logged By: M.H. Lenters  
 NTS: 42H/8 Date: February, 1988  
 Location L10+75E, 5+00S Claim Number: L-848121  
 Azimuth: 180° Dip: -43° Length (m): 139.02



PURPOSE: Test IP anomaly on L11E between 5+50 and 6+00S

From (m)	To (m)	Description	Gold Assays (g/tonne)
0.0	15.35	Overburden (Vertical Depth = 10.9 m)	
15.35	18.50	Felsic Volcanic Feldspar Crystal Tuff Medium grey, medium grained, well foliated at 50 to 60° to the core axis and containing 5%, 0.5 to 2 mm, subhedral, white, plagioclase grains and blue-grey quartz eyes. Moderate (5 to 7%) amount of quartz veining, and 1 to 2% disseminated pyrite.	0.01 to 0.06
18.50	26.45	Coarse-grained Psammitic Arenite Medium grey, coarse grained, well sorted, psammitic quartzose-feldspathic arenite, weakly foliated at 60 to 70° to the core axis. Moderate (5 to 10%) amount of quartz veining and minor to 1% pyrite.	0.04 to 0.42
26.45	32.80	Fine-Grained Psammitic Arenite Medium grey, well sorted, fine grained, laminated/bedded at 50 to 60° to the core axis. No significant veining. Minor pyrite.	Not Assayed
32.80	75.95	Phyllitic Siltstone Medium green-grey to grey-green, and finely laminated/bedded at 60 to 75° to the core axis. Minor (1-2%) veining. Minor Pyrite.	0.02
75.95	95.25	Coarse-grained Psammitic Arenite with Conglomerate Interbeds Medium brownish-grey, well sorted and weakly foliated/bedded at 60 to 80° to the core axis. Moderate (3-5%) veining. Minor pyrite.	0.01 to 0.02
95.25	115.58	Fine-grained Psammitic Arenite Medium grey to slightly greenish grey and well laminated/bedded at 65 to 70° to the core axis. Minor (1%) veining, and minor finely disseminated pyrite.	Not Assayed
115.58	124.15	Granule-Bearing Arenite And Pebble Conglomerate Brownish-grey to greenish-grey, containing 20 to 70%, small (granule to pebble), well rounded but flattened, polymitic clasts in a coarse grained arenite matrix. Minor veining. Minor pyrite in arenaceous section.	Not Assayed
124.15	136.50	Fine-grained Psammitic Arenite As above.	0.01
136.50	139.02	Pebble Conglomerate with Arenite Interbeds Brownish-grey to greenish-grey, with abundant (30 to 80%), well rounded and well flattened (20:1), polymitic pebbles and cobbles.	Not Assayed
	139.02	END OF HOLE	



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
Lower contact somewhat transitional and obscured by quartz veining.												
18.50 - 26.45	<b>PSAMMITIC ARENITE</b> Medium grey, relatively coarse (0.5 to 1 mm) grained, well sorted, weakly calcitic psammitic arenite. Generally quartzose-feldspathic material similar in composition to, and probably derived from, rock similar to the overlying felsic volcanic tuffs. Unit does not contain any visible feldspar crystals or lapilli fragments. Weakly foliated/psammitic at 50 to 70 degrees to the core axis. Bedding not obvious, but appears to be orientated subparallel to foliation 5 to 10% quartz +/- carbonate (including dark yellow-brown stained iron-carbonate) veining with minor sericite and pyrite along vein edges, within fractures, as well as in thin (1 to 5mm) bands in the adjacent wallrock. Most of the veins are relatively large and orientated subparallel to the foliation including veins at: 21.80 - 22.15 Coarse white quartz vein at 20 to 45 degrees to the core axis. 22.45 - 22.70 Broken quartz vein fragments from sericitic vein containing 1 to 2% pyrite. Numerous smaller fractures with thin (1 to 5mm), greenish (sericitic?) coatings. Competent core, generally with 10 to 150 cm breakage. Lower contact is a sharp bedding surface at 45 degrees to the core axis.	NS	18.50	26.45	7.95	n/a	n/a	n/a	0.5-1%	-	-	WK
		249	18.50	20.00	1.50	.05	n/a	n/a				
		263	20.00	21.80	1.80	.06	n/a	n/a				
		250	21.80	22.80	1.00	.42	n/a	n/a				
		251	22.80	24.00	1.20	.04	n/a	n/a				
26.45 - 32.80	<b>PSAMMITIC ARENITE</b> Medium grey, fine grained, non-calcitic, well sorted, and well laminated/bedded at 50 to 65 degree to the core axis. Finely psammitic to phyllitic with cleavage surfaces often exhibiting minor (1 to 3%) amounts of smeared/flattened pyrite. Matrix material is chloritic to slightly biotitic. Unit includes granule to pebble bearing arenite horizon between 30.20 and 30.40, consisting mainly of 1 to 2mm granules and a few 1 cm thick, well flattened pebbles. Unit contains no significant quartz veining.	NS	26.45	32.80	6.35	n/a	n/a	n/a	0.5%	-	-	V.WK



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	Competent core, generally with 25 to 50 cm breakage along foliation/cleavage surfaces. Minor finely disseminated pyrite. Upper contact is a sharp bedding contact orientated at 45 degrees to the core axis. Lower contact exhibits a gradational change to finer grained clastic sediments.											
32.80 75.95	SILTSTONE Medium green-grey to grey-green, finely laminated and bedded siltstone. Minor biotite evident within this unit as red-brownish bands. A few sections are slightly harder and have a siliceous/cherty appearance. Minor (1 to 2%) quartz veining/pods/lenses generally with minor sericite, chlorite and pyrite. Veins range from small (mm size) lenses and pods to 10 to 15 cm wide veins. Unit is phyllitic with well developed foliation and cleavage at 60 to 70 degrees to the core axis. Minor finely disseminated pyrite, as well as minor pyrite along some fracture/cleavage surfaces. Competent core, generally with 20 to 100 cm breakage, mainly parallel to foliation/cleavage orien. Lower contact is sharp bedding surface at 70 degrees to the core axis.	NS 252	32.80 73.00	75.95 74.00	43.15 1.00	n/a .02	n/a n/a	n/a n/a	MINOR	-	-	-
75.95 95.25	PSAMMITIC ARENITE WITH CONGLOMERATE INTERBEDS Coarse grained arenite with minor conglomerate interbeds. Medium slightly brownish grey, relatively coarse (0.5mm) grained, generally homogeneous, psammitic arenite with some pebble interbeds. Bedding, and weakly developed foliation, are orientated at 60 to 80 degrees to the core axis. Slight brownish colour due to zones containing abundant fine biotite. The unit contains very little chlorite. Conglomerate horizons form a few, 10 to 20 cm wide bands as follows: 79.80 80.10 1 to 2 cm wide polymictic pebble conglomerate with clasts in grain contact, including well flattened mafic volcanic and	NS 253 254 255 256 257 258	75.95 75.95 77.00 89.00 90.00 91.00 92.00	95.25 77.00 78.00 90.00 91.00 92.00 93.00	19.30 1.05 1.00 1.00 1.00 1.00 1.00	n/a .01 .01 .01 .02 .01 .02	n/a n/a n/a n/a n/a n/a n/a	n/a n/a n/a n/a n/a n/a n/a	1-2%	-	-	-

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	metasediment pebbles, as well as well rounded felsic volcanic and porphyry pebbles that exhibit little or no flattening. 85.30 85.80 20 to 30% siltstone pebbles/ripup-clasts in an arenite. Unit cut by 3 to 5%, thin (0.5 to 10 cm), white, coarse grained, subplanar and foliation parallel, quartz veins. Veining has minor amounts of associated sericite, as well as minor amounts of coarse pyrite along vein edges. Minor to 1%, finely disseminated pyrite with slightly coarser grained, and more abundant adjacent to quartz veining. Section between 89 and 90 metres exhibits a slight crackle texture, with the fractures having sericitic coatings. Very competent core, generally with 50 to 100 cm breakage along foliation parallel cleavage surfaces. Lower contact is a sharp bedding surface at 65 degrees to the core axis.											
95.25 115.58	PSAMMITIC ARENITE Medium grey to slightly greenish grey, fine grained, and well laminated/bedded at 65 to 70 degrees to the core axis. Very clean, well sorted, with a few thin medium grained horizons, as well as few siltstone horizons. Unit is generally phyllitic with a chlorite rich matrix, and only locally contains minor amounts of biotite. 1 to 2%, small (0.5 to 2 cm) quartz veins. Minor amounts of finely disseminated pyrite. Some pyrite occurs as smears on phyllitic cleavage surfaces. Competent core, generally with 20 to 50 cm breakage along foliation parallel cleavage surfaces. Lower contact is gradational through granule bearing arenite beds into arenites with conglomerate interbeds.	NS	95.25	115.58	20.33	n/a	n/a	n/a	MINOR	-	-	-
115.58 124.15	METACONGLOMERATE WITH ARENITE INTERBEDS Conglomeratic arenite with conglomerate interbeds. Medium brownish-grey to green-grey, but somewhat mottled due to variable colour of conglomerate clasts.	NS	115.58	124.15	8.57	n/a	n/a	n/a	MINOR	-	-	-

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	<p>Unit consists of coarse grained arenite matrix material, containing 20 to 70% clasts ranging in size from a few mm to several cms (granules to pebbles).</p> <p>The matrix material is similar in composition and texture to the overlying arenite beds, being well sorted, quartzose-feldspathic and containing psammitic biotite with very minor chlorite.</p> <p>Clasts are polymictic and were well rounded, although the sedimentary and mafic volcanic clasts are now well flattened, the felsic volcanic pyroclastic clasts are now moderately flattened, and the felsic porphyry and quartz vein clasts are largely undeformed. The latter are extremely well rounded suggesting all of the pebbles were originally quite well rounded.</p> <p>Unit exhibits very weak foliation and bedding orientations at 70 to 80 degrees to the core axis.</p> <p>Minor quartz veining.</p> <p>Minor finely disseminated pyrite in the more arenaceous sections.</p> <p>Competent core, generally with 15 to 75 cm breakage, usually parallel to foliation.</p> <p>Lower contact is a sharp bedding surface.</p>										
124.15 136.50	PSAMMITIC ARENITE										
	Same as arenite unit occurring between 95.25 to 115.58 metres, including irregular quartz podding and veining from 135.88 to 136.50. Quartz is white, coarse grained and contains minor amounts of associated biotite, chlorite and calcite, and centers a 0.5 cm wide, light grey coloured alteration halo.	MS 124.15	136.50	12.35	n/a	n/a	n/a	14	-	-	-
		259	135.50	136.50	1.00	.01	n/a	n/a			
136.50 139.02	METACONGLOMERATE WITH ARENITE INTERBEDS										
	<p>Conglomerate with minor coarse grained arenite interbeds.</p> <p>Medium brownish (biotitic) grey, to green-grey, with strong mottling/banding, due to compositional differences in the large clasts.</p> <p>Unit is composed of small (1/2 to 1cm) to large (10cm), well rounded, polymictic pebbles and cobbles. The unit contains well flattened (20:1) mafic volcanic and sedimentary clasts, moderately flattened felsic</p>	MS 136.50	139.02	2.52	n/a	n/a	n/a	MINOR	-	-	-

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER

volcanic tuff clasts, and undeformed porphyry, quartz vein, and granitic intrusive clasts.

Unit contains minor amounts of thin quartz veining.

Minor amounts of finely disseminated pyrite.

Competent core, generally with 25 to 75 cm breakage, usually parallel to foliation at 70 to 80 degrees to the core axis.

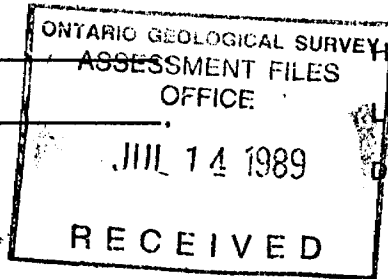
139.02 (465 feet) End of Hole.

ESSO MINERALS CANADA  
SUMMARY DRILL LOG

Project Name: HN Hole Number: HN88-21

Project Number: 1677 Logged By: M.H. Lenters

NTS: 42H/8 Date: February, 1988



Location: L10+00E, 2+00N Claim Number: 848119

Azimuth: 180° Dip: -45° Length (m): 123.75 m

PURPOSE: Test IP anomaly on L10E at 1+25N

From (m)	To (m)	Description	Gold Assays (g/tonne)
0.0	13.40	Overburden (Vertical Depth = 9.5 metres)	
13.40	28.70	Psammitic Arenite Medium to dark grey, medium (0.5 to 1 mm) grained, well sorted. Locally contains thin reddish zones of hematitic altered magnetite. Minor pyrite	Not assayed
28.70	57.55	Psammitic Arenite Weak to moderate development of hematitic alteration throughout. Minor pyrite.	0.01 to 0.02
57.55	72.50	Psammitic Arenite Weak to moderately sericitic and pyritic, with local sericite-carbonate schist zones. Contains minor amount of rose stained quartz veining and 1 to 3% (locally up to 10%) finely disseminated pyrite.	0.01 to 1.14
72.50	83.85	Sericite-Carbonate Schist (Psammitic Arenite) Light buff to very light greenish grey, well foliated, soft, porous, strongly sericitic and weakly hematitic. Contains a few thin, rose stained quartz veins, and 1 to 2% (locally up to 10%) finely disseminated pyrite.	0.03 to 0.17
83.85	123.75	Psammitic Arenite Medium to dark greenish grey to grey, with local slightly reddish or brownish hues. Fine to medium grained, well sorted weak to well foliated/laminated. Minor pyrite.	0.13 to 0.48
	123.75	End of Hole	

H-N PROJECT (Ont. 77)

ESSO MINERALS CANADA  
DIAMOND DRILL RECORD

Hole: HN88-21  
Page: 1

Drilled by: Atlas Drilling Limited  
Hole Size: BQ  
Core Size: BQ  
Casing: Casing Removed

Azimuth: 180  
Dip: -45

Claim No: L-848119  
Grid: Central  
Basting: 10+00E  
Worthing: 2+00N  
Elevation: Level

Started: Feb. 1, 1988  
Finished: Feb. 2, 1988

Acid Tests:  
Depth Az. Dip  
123.75 -44.0

Purpose: Test IP Anomaly on L10E at 1+25N

Logged by: M.H.Lenters  
Date logged: February 1988  
Logging Method: Log II  
Measurement System: Metric

Length: 123.75Metres  
Vert. Proj: 86.5 Metres  
Hor. Proj: 88.25Metres  
Ovb. Depth: 9.5 Metres

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER

.00 13.40 OVERBURDEN

13.40 123.75 PSAMMATIC ARENITE

Originally a very homogeneous arenite unit, but now the unit is somewhat variable due to differences in intensity of hematization, sericitization and pyritization, producing differences through the unit as described in the subunits further below.

Unit was magnetite-bearing (weakly to moderately magnetic), medium grey, medium (0.5 to 1mm) grained, and moderately well sorted. Much of the magnetite has now been destroyed due to hematization and sericitization within some horizons. Composition seems to be mostly feldspathic with some carbonate (calcite), as most of the rock is moderately to strongly reactive to HCl. Minor chlorite, and locally minor biotite within the finer grained matrix material. The pyritic sericite-carbonate schist zones were probably partly derived from reworked felsic volcanic pyroclastic/tuffaceous material.

Extremely consistent and well developed foliation at 65 to 70 degrees to the core axis. Foliation is very planar in less altered sections, and

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	<p>slightly wavy, or crenulated in the schistose sericite-carbonate horizons. Rock is generally slightly phyllitic/psammitic in the unaltered sections and schistose in the altered sections.</p> <p>Bedding is not well developed or apparent due to the homogeneous nature of the entire unit. However, the unit has a well banded appearance due to the coincidence of the foliation, the main alteration banding, and the predominant veining orientations. Banding is also produced by colour variation of flattened pebbles.</p> <p>Core is relatively competent, generally with 10 to 50 cm breakage at 65 to 70 degrees to the core axis, with lesser breakage along a few irregular fractures. However, the core is well broken in the sericitic horizon between 68 and 85 metres.</p> <p>Minor (1%), thin (hairline to 2 mm), calcitic bands, generally as subplanar, foliation parallel bands/veinlets.</p> <p>Minor fracturing, generally at 30 to 50 degrees to the core axis in an opposite sense to the foliation orientation. Several fractures contain coarse muscovite grains as well as carbonate and quartz veinlets.</p> <p>Minor, thin (hairline to 2 cm), subplanar and slightly boudinaged quartz veins, generally parallel to foliation.</p>										
13.40 28.70	<p><b>PSAMMITIC ARENITE</b></p> <p>Arenite with minor hematitic alteration.</p> <p>Dark grey with slight reddish tinge, to medium reddish brown-grey, medium grained, well sorted with a few flattened granule-bearing horizons. Weak to moderately magnetic with darker zones containing magnetic, and reddish zones containing less magnetic suggesting hematization. Reddish zones are patchy and generally only partially replace magnetite bearing arenite horizons.</p> <p>Several fractures exhibit irregular, 1/2 to 2 cm wide, lighter hematized envelope bands. Fractures are generally lined with carbonate, with some carbonate grains exhibiting a yellow weathering colour.</p>	NS	13.40 28.70	15.30	n/a	n/a	n/a	MINOR	-	-	V.VK.
28.70 57.55	<p><b>PSAMMITIC ARENITE</b></p> <p>Arenite with moderate hematitic alteration.</p>	NS	28.70 57.55	28.85	n/a	n/a	n/a	MINOR	-	-	V.VK.

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SBR	
	Medium reddish to medium reddish brown-grey, non-magnetic to weakly magnetic, medium grained, and very homogeneous. Much like the above section but with greater degree of hematitic alteration.	542	46.15	47.00	.85	.01	n/a	n/a	MINOR			
		543	47.00	48.00	1.00	.01	n/a	n/a	0.5%			
		544	48.00	49.00	1.00	.01	n/a	n/a	0.5%			
		545	49.00	50.00	1.00	.01	n/a	n/a	0.5%			
		546	56.69	57.55	.86	.02	n/a	n/a	1%			
57.55	72.50 PSAMMITIC ARENITE	NS	57.55	72.50	14.95	n/a	n/a	n/a	1-10%	-	V.WK	WK-MOD
	Weak to moderately pyritic and sericitic altered arenite, locally containing sericite schist horizons.	547	57.55	59.00	1.45	.03	n/a	n/a	1%			
	Dark grey-black and magnetite, to light to medium creamy buff and often slightly pinkish or greenish non-magnetic to weakly magnetic, sericitized zones. The latter may contain a tuffaceous component as it has a wavy tuffaceous banded appearance.	548	59.00	60.00	1.00	.02	n/a	n/a	2-3%			
	The less altered zones contain chlorite and/or biotite as a matrix component.	549	60.00	61.00	1.00	.01	n/a	n/a	2-3%			
	The complete section contains 1 to 3%, and up to 7%, very finely disseminated pyrite often forming wavy banded grains orientated parallel to the foliation.	550	61.00	62.50	1.50	.01	n/a	n/a	0.5%			
	2 to 3%, thin (1 to 3mm), quartz veinlets/pods often with a deep wine red colouring due to hematization, and/or some garnet development. Minor garnet appears to develop within quartz veins in coarser biotitic rich zones. The quartz veining is often boudinaged into pinch and swell bands that are subparallel to foliation.	551	62.50	63.25	.75	.01	n/a	n/a	1-2%			
	61.00 62.50 Sericite-Carbonate Schist.	552	63.25	64.00	.75	.02	n/a	n/a	1-2%			
	68.10 68.90 Sericite-Carbonate Schist.	553	64.00	65.00	1.00	.09	n/a	n/a	2-3%			
	This section includes two moderately to intensely sericitized zones between 61.00 to 62.50, and 68.10 to 68.90 metres that are schistose and exhibit minor slickenside surfaces with lineations perpendicular to the down plunge trend on core foliation surfaces. The sericitic zones are also weakly to moderately carbonatized and have a brownish to creamy colour due to increased carbonate content.	554	65.00	66.00	1.00	.02	n/a	n/a	1-2%			
	1 to 3%, and locally up to 10%, finely disseminated pyrite. The pyritic, sericitic horizons are often slightly vuggy/porous due to removal of carbonate, mostly along foliation subparallel laminae.	555	66.00	67.00	1.00	.03	n/a	n/a	1-2%			
		556	67.00	68.00	1.00	.09	n/a	n/a	1%			
		557	68.00	68.45	.45	.55	n/a	n/a	2-4%			
		558	68.45	69.00	.55	1.14	n/a	n/a	5-10%			
		559	69.00	69.75	.75	.18	n/a	n/a	3-5%			
		560	69.75	70.25	.50	.21	n/a	n/a	6-8%			
		561	70.25	71.00	.75	.08	n/a	n/a	3-5%			
		562	71.00	72.50	1.50	.09	n/a	n/a	3-4%			



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
72.50	83.85 SERICITE-CARBONATE SCHIST											
	Weak to moderately pyritic sericite-carbonate schist.	NS	72.50	83.85	11.35	n/a	n/a	n/a	1-7%			- V.VK-WX MOD-INT
	Generally moderately to intensely sericitized, weak to moderately carbonatized, and weakly hematitic. Section is highly reactive to HCl.	563	72.50	73.75	1.25	.17	n/a	n/a	4-7%			
	Light buff to greenish grey to cream coloured in alternating laminae, with some sections exhibiting a weak pink colour due to minor amounts of hematite.	564	73.75	75.00	1.25	.10	n/a	n/a	3-6%			
	Several sections contain minor amounts (< 0.5%) of small (< 1mm), visible, black magnetite grains, but most of the section is generally non-magnetic.	565	75.00	76.00	1.00	.03	n/a	n/a	1-2%			
	Contains several grey intensely sericitized zones with abundant (4 to 7%), very finely disseminated pyrite. These sections of the core are soft, porous (due to the weathering/removal of calcite?), and are often well broken.	566	76.00	76.81	.81	.03	n/a	n/a	2%			
	Section is well laminated/banded parallel to foliation. Foliation has a well developed crenulation crinkling and locally exhibits a minor wavy folding.	567	76.81	78.03	1.22	.12	n/a	n/a	1-2%			
	Section contains minor, thin (hairline to a few mm), pinch and swell, quartz and carbonate veinlets orientated parallel to the foliation, as well as a few, thin (1 to 10 cm) zones with rose coloured stained quartz vein rubble. The largest such section occurs between 80.20 to 80.30 metres.	568	78.03	79.15	1.12	.07	n/a	n/a	1-2%			
	Core is generally well broken, mostly into less than 2 cm, foliation parallel, thin discs, with some 10 to 50cm rubble sections.	569	79.15	80.46	1.31	.11	n/a	n/a	1-2%			
	Contacts between various alteration zones are relatively sharp and distinct.	570	80.46	81.08	.62	.06	n/a	n/a	1%			
		571	81.08	82.45	1.37	.17	n/a	n/a	1%			
		572	82.45	83.85	1.40	.11	n/a	n/a	1-2%			
83.85	123.75 PSAMMATIC ARENITE											
	Arenite with minor hematitic alteration.	NS	83.85	123.75	39.90	n/a	n/a	n/a	MINOR			- - V.VK
	Medium to dark green-grey to grey, locally with a slight brownish or reddish hue, fine to medium grained, well sorted, relatively homogeneous, weakly to well laminated and generally moderately magnetic.	573	83.85	85.00	1.15	.13	n/a	n/a	1%			
	Some lamination banding may be due to inclusion of flattened granule/pebble horizons.	589	85.00	86.00	1.00	.48	n/a	n/a	0.5%			
		590	86.00	87.17	1.17	.14	n/a	n/a	0.5%			
		591	87.17	88.20	1.03	.20	n/a	n/a	0.5%			
		592	88.20	89.60	1.40	.19	n/a	n/a	0.5%			

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER

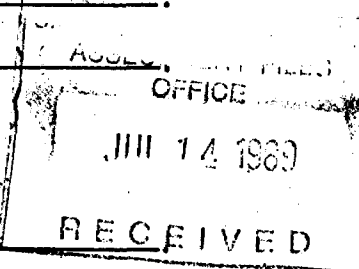
Moderately well developed psammitic foliation and compositional banding at 70 to 75 degree to the core axis.

Minor, small quartz and carbonate quartz veinlets, laminations, and lenses. The laminae are generally discontinuous and parallel to foliation, and are often weakly folded. Minor, small (1 cm) quartz veins exhibit a boudinaged pinch and swell character.

Unit contains minor amounts (< 0.5%) of very finely disseminated pyrite.  
123.75 (407 feet) End of Hole.

ESSO MINERALS CANADA  
SUMMARY DRILL LOG

Project Name: HN Hole Number: HN88-27  
 Project Number: 1677 Logged By: M.H. Lenters  
 NTS: 42H/8 Date: February, 1988  
 Location: L8+00W, 2+50N Claim Number: 848106  
 Azimuth: 180° Dip: -48° Length (m): 154.23 m



PURPOSE: Test weak IP anomaly on L8W between 1+50 and 1+75N.

From (m)	To (m)	Description	Gold Assays (g/tonne)
0.0	14.35	Overburden (Vertical Depth = 10.7 metres)	
14.35	46.15	Intermediate to Mafic Metavolcanic  Medium to dark green, fine to medium grained, weakly to moderately foliated with minor to moderate development of small (1-3 mm) euhedral amphibole porphyroblasts. Unit contains 5% irregular, generally thin calcite ± quartz blebs, pods, lenses and veinlets. Minor coarse pyrrhotite and finely disseminated pyrite. Unit includes one thin (25.20-27.85), fine grained, cherty interflow metasedimentary band.	0.01 to 0.02
46.15	52.30	Feldspar Porphyry Dyke  10-30%, 0.5 to 2 mm, subhedral, partially zoned, white, plagioclase phenocrysts in dark grey, aphanitic to fine grained matrix. Minor pyrite.	0.01 to 0.03
52.30	93.47	Intermediate to Mafic Metavolcanic  As above.	Not Analyzed
93.47	98.70	Coarse Grained Graule-Bearing Arenite Medium to dark, slightly greenish to purplish grey, moderately foliated, granule-bearing silty arenite. Minor pyrite.	Not Analyzed
98.70	102.25	Intermediate to Mafic Metavolcanic  As above.	Not Analyzed
102.25	103.25	Fine-Grained Phyllic Arenite  Medium brownish grey, very fine grained quartz-plagioclase-biotite phyllite. Trace pyrite.	Not Analyzed
103.25	154.23	Psammitic Arenite and Conglomerate  Interbedded sequence of varicoloured, but generally medium brownish grey to grey, coarse grained psammitic arenites, granule-bearing and pebbly arenites and pebble conglomerate. Clasts are subrounded and generally well flattened, while finer grained material is biotitic to chloritic and occasionally hosts amphibole porphyroblasts. Minor to 1% pyrite.	0.01 to 0.02
	154.23	END OF HOLE	

H-N PROJECT (Ont. 77)

8660 MINERALS CANADA  
DIAMOND DRILL RECORD

Hole: HW80-27  
Page: 1

Drilled by: Atlas Drilling Limited  
Hole Size: BQ  
Core Size: BQ  
Casing: Casing Removed

Azimuth: 100  
Dip: -48

Claim No: L-048106  
Grid: Central  
Easting: 8+00W  
Northing: 2+50N  
Elevation: Level

Started: Feb. 26, 1980  
Finished: Feb. 27, 1980

Acid Tests:  
Depth Az. Dip  
154.23 -44.0

Purpose: Test IP Anomaly on LOW at 1+63M

Logged by: M.H.Lenters  
Date logged: February 1980  
Logging Method: Log II  
Measurement System: Metric

Length: 154.23Metres  
Vert. Proj: 111.0 Metres  
Hor. Proj: 107.25Metres  
Ovb. Depth: 10.7 Metres

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
.00 14.35	OVERBURDEN										
14.35 25.20	SCHISTOSE MAFIC METAVOLCANIC WITH AMPHIBOLE PORPHYROBLASTS Medium grained, recrystallized and porphyritic, weakly mottled, medium to dark green to grey-green, and weak to moderately foliated at 70 to 90 degrees to the core axis. Locally weakly magnetic. Unit has a chloritic, and locally biotitic, schistosity within the more foliated zones, with a well developed schree on schistose surfaces. 5 to 15%, 1 to 3 mm, subhedral amphibole blades with a random to weakly foliation parallel orientation. Unit appears to consist of plagioclase, amphibole, chlorite, locally some biotite, as well as minor amounts of magnetite. 5%, Irregular, small (1mm to 1cm), calcite stringers, lenses, and pods that are often somewhat swirled, horseshoed, and wavy folded. Veining appears slightly more common within the better foliated sections. Some veins contain minor amounts of blebby/boudinaged/broken quartz. 24.50 25.20 A few finer grained, grey, sedimentary bands of the	N8	14.35	25.20	10.85	n/a	n/a	n/a	TRACE		

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER

underlying unit are interbanded/folded/boudinaged with the mafic volcanics of this unit.

Several zones exhibit indications of tight isoclinal folding.

Relatively competent core with 5 to 50 cm breakage.

Lower contact is relatively sharp at 70 degrees to the core axis.

25.20 27.85 INTERFLOW METASEDIMENT

Very fine grained, weakly laminated and bedded, with mottled and offset medium greyish-brown, banding.

Bedding appears to be oriented at 70 to 90 degrees to the core axis, but is locally folded and offset along minor fractures.

Thin (0.5 to 1cm), light brown, cherty bands form about 20% of the unit.

Unit is generally massive with weak psammitic texture due to minor amounts of biotite.

Minor, thin (hairline to 1mm), irregular, discontinuous calcite veinlets.

Relatively competent core with 5 to 25 cm breakage.

Lower contact is relatively sharp and oriented at 70 to 80 degrees to the core axis.

NS	25.20	27.85	2.65	n/a	n/a	n/a	TRACE			
574	25.20	26.25	1.05	.02	n/a	n/a	TRACE			
575	26.25	26.75	.50	.01	n/a	n/a	TRACE			
576	26.75	27.85	1.10	.01	n/a	n/a	TRACE			

27.85 46.15 SCHISTOSE MAFIC METAVOLCANIC WITH AMPHIBOLE PORPHYROBLASTS

(Same as unit between 14.35 and 25.20, but slightly more felsic with some larger more massive as well as more foliated sections).

Fine to medium grained, massive to moderately foliated, and strongly foliated/sheared adjacent to the underlying intrusive.

Medium to dark grey-green to slightly purplish brown.

The greener, and generally more massive sections tend to contain more amphibole porphyroblasts.

Unit contains 0 to 50%, but generally 5 to 20%, 1 to 4 medium, euhedral, bladed to sheaf-like, dark green, randomly oriented to foliation subparallel amphibole (hornblende) porphyroblasts.

Unit has about 40%, lighter and slightly purplish grey, more felsic appearing material, that contains much less amphibole porphyroblasts.

Locally these zones appear to be interbanded sections of felsic to intermediate crystal/lapilli tuffs, but the degree of metamorphism has

NS	27.85	46.15	18.30	n/a	n/a	n/a	MINOR			
577	45.55	46.15	.60	.02	2.10	n/a	MINOR			



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
45.25 48.70	Well foliated at 70 degrees to the core axis, but slightly swirled, mafic volcanic xenolith with 20% large quartz and calcite veining. Upper and lower contacts are sharp at 80 degrees to the core axis. Competent core with 5 to 50 cm breakage often along fractures at 20 to 45 degrees to the core axis.										
52.30 93.47	<b>SCHISTOSE MAFIC METAVOLCANIC WITH AMPHIBOLE PORPHYROBLASTS</b> Mostly a medium green, weak to moderately foliated and fine grained, but with 5 to 20%, 1 to 2 mm, bladed, dark green amphibole porphyroblasts. Matrix consists mostly of fine plagioclase, chlorite and very minor biotite. Foliation is generally oriented at 60 to 80 degrees to the core axis, and locally folded or wavy. Unit contains several small sections of slightly more massive (less foliated), slightly purplish grey, hard, felsic to intermediate volcanic. These zones contain fine phyllitic biotite in the matrix with plagioclase, quartz?, minor chlorite and minor amphibole porphyroblasts. A large felsic zone, with transitional contacts occurs between 59.35 and 64.30. Unit contains 5 to 10%, small, irregular grains, blebs, patches, lenses, and bands of metamorphic (sweat) calcite and quartz-calcite. These often form larger (0.5 to 2 cm), irregular, coarse grained, swirled patches that center dark green, coarsely recrystallized porphyroblastic amphibole bands/patches. These sweats are also common as foliation parallels disseminated grains or pervasive infillings in the well foliated zones, and as irregular foliation parallel bands/veins. These are often discontinuous, boudinaged, swirled, folded, and/or somewhat feathered, or horsetailed. The sweats are mostly calcite, but contain some quartz, mainly in the larger pods (up to 1 cm in size). 53.73 53.87 Large, coarsely crystalline, glassy white quartz vein containing minor chloritic wallrock fragments. Unit contains minor amounts of coarse pyrrhotite, generally as blebs in coarsely recrystallized wallrock zones, adjacent to quartz-calcite veining.	NS	52.30	93.47	41.17	n/a	n/a	n/a	MINOR		

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	Moderately competent core, generally with 5 to 30 cm breakage. Unit contains minor amounts of coarse, ruby red garnets, concentrated in coarsely recrystallized amphibole zones. Lower contact is somewhat diffuse/transitional, but parallel to the foliation orientation.											
93.47 98.70	PSAMMITIC ARENITE Medium to dark slightly greenish to purplish grey, foliated, silty to granule bearing arenite. Moderately well sorted, but varying somewhat throughout the section in both grain size and composition. Most sections contain 20 to 60%, coarse (up to 1 x 3mm), elongate and foliation parallel sand grains and granules in a finer, foliated, silty matrix material. Unit generally has a well developed foliation oriented at 70 to 80 degrees to the core axis. Unit contains no amphibole porphyroblasts that are common in the overlying volcanic zones. The unit locally contains minor amounts of small, blue quartz grains in arenite sections. Various sections within the unit exhibit somewhat folded contacts, that generally parallel foliation. Minor disseminated pyrite. Unit is locally weakly magnetic. Unit contains minor amounts of small, irregular calcite bands and patches, but these are much less abundant than in the overlying volcanic unit. Lower contact is somewhat diffuse and transitional, but appears to be conformable and parallel to foliation.	NS	93.47 98.70	5.23	n/a	n/a	n/a	MINOR				
98.70 102.25	SCHISTOSE MAPIC METAVOLCANIC WITH AMPHIBOLE PORPHYROBLASTS Medium to dark grey-green, weakly foliated, with some sections exhibiting an irregular and swirled foliation. Unit contains 0 to 20%, 1 to 3 mm, euhedral, dark green, bladed amphibole	NS	98.70 102.25	3.55	n/a	n/a	n/a	MINOR				



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION SIL CARB SER
	<p>porphyroblasts in a very fine grained plagioclase-amphibole-chlorite +/- carbonate, with 5% irregular, patchy quartz-calcite blebs and boudinaged veinlets.</p> <p>Minor pyrite as very fine grains, that are generally coarser and visible adjacent to veining.</p> <p>Competent core, generally with 20 to 50 cm breakage.</p> <p>Lower contact is transitional over a width of a few cm's.</p>								
102.25 103.25	<p><b>PSAMMITIC ARENITE</b></p> <p>Medium, slightly brownish grey, fine grained quartz-plagioclase-biotite phyllite, after arenite.</p> <p>Unit is not reactive to HCl, is non-magnetic, and contains no veining or visible sulphides.</p> <p>Foliation is oriented at 70 to 80 degrees to the core axis.</p> <p>Competent core, generally with 10 to 30 cm breakage.</p> <p>Lower contact is sharp and conformable at 70 degrees to the core axis.</p>	MS 102.25	103.25	1.00	n/a	n/a	n/a	TRACE	
103.25 121.90	<p><b>HEATCONGLOMERATE</b></p> <p>Vari-coloured medium grey and green-grey coloured unit. Pebbles are generally lighter coloured, not foliated and grey, while groundmass matrix material is generally darker coloured, foliated and green, containing 5 to 10%, dark green, 1 to 3 mm, bladed, subhedral to euhedral amphibole porphyroblasts.</p> <p>Unit contains a few sections with very few clasts, but the unit generally contains 10 to 60%, small (2 to 10mm), but up to 50 mm, subrounded clasts that are moderately flattened into plane of foliation.</p> <p>Most of the clasts are light to medium grey, relatively hard, and felsic in appearance, and could represent a mixture of felsic to intermediate volcanic pyroclastic material within a finer grained, amphibole porphyroblastic matrix with a more mafic composition. The matrix material, where it does not contain a significant amount of clasts appears megascopically similar to the intermediate to mafic volcanic zones within the upper part of the hole, and includes 5%, irregular calcite +/- quartz patches, wispy blebs and banding.</p>	MS 103.25	121.90	10.65	n/a	n/a	n/a	MINOR	
		586	111.65	112.30	.65	.01	n/a	n/a	MINOR
		587	112.30	112.00	.50	.01	n/a	n/a	1%
		588	112.00	113.40	.60	.02	n/a	n/a	MINOR

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER

Unit contains no large veining.

Unit generally contains minor amounts of pyrite, but contains it disseminated pyrite in a band of fine-grained arenite between 112.30 and 112.80. This section also contains minor biotite, no chlorite or amphibole, is brownish coloured, siliceous, and does not react with HCl. Unit contains a another fine grained arenite band that occurs between 117.70 and 118.10 metres.

Competent core, generally with 20 to 50 cm breakage.

Lower contact is sharp and conformable at 70 degrees to the core axis.

121.90 154.23 PSAMMITIC ARENITE WITH CONGLOMERATE INTERBEDS

Interbedded unit of coarse clastic arenites, conglomerates, and minor volcanic sections.

Unit is varicoloured due to the conglomeratic nature of most of the unit, but generally has a medium, slightly brownish, grey colour. Arenites and clasts are typically medium grey, while the finer grained matrix material is a medium to dark grey, often containing 5 to 15%, small, 1 to 2mm, subhedral to euhedral amphibole porphyroblasts.

Unit is moderately well foliated at 70 to 80 degrees to the core axis, defined by a psammitic foliation in the better sorted arenites, and by the alignment of flattened clasts and foliated matrix material in the conglomeratic units.

The coarse grained (1 mm) arenites, and pebbly-granule arenites are generally devoid of veining, whereas matrix rich conglomerates, and the volcanic sections contain 3 to 5%, irregular calcite patches that are typical of most of the other units in the hole. These also contain a few larger (1 to 2cm), boudinaged quartz veins/pods. The veining appears to be a normal, local, metamorphic product, consistent with the development of middle amphibolite grade mineral assemblages.

121.90 126.52 Granule-bearing coarse grained arenite to pebbly conglomerate. Moderately well sorted pebble/granule bearing arenite containing 50 to 80%, 1 to 3 mm, flattened clasts with occasional clasts up to 10mm in size within a fine biotitic, phyllitic/schistose matrix containing very small amphibole porphyroblasts. Section contains it

MS 121.90 154.23 32.33 a/a n/a n/a 0.5%



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER

degrees to the core axis, but is slightly wavy and often locally very irregularly swirled. 5 to 10%, irregular, wispy feathered, interstitial carbonate (calcite) and irregular blebs of quartz-calcite that are typical of the volcanic units in the upper part of the hole. Minor amounts of visible magnetite occur within coarsely recrystallized porphyritic amphibole zones. Minor amounts of pyrite and pyrrhotite are often associated with irregular veining.

Contacts between the above subunits are generally conformable and parallel to foliation, but somewhat diffuse and transitional due to metamorphic effects.

Competent core, generally with 20 to 100 cm breakage.

154.23 (506 Feet) End Of Hole.



Ministry of Natural Resources

Report of Work

Assessment Library

DOCUMENT No. W8908-141

Mining



42H09SE0006 22 HOBLITZELL

900

Name: **Esso Resources Canada Limited** T-872  
 Postal Address of Recorded Holder:  
**P.O. Box 4029, Terminal A, Toronto, Ontario, M5H 1T2**

Summary of Work Performance and Distribution of Credits

Total Work Days Cr. claimed	Mining Claim			Work Days Cr.	Mining Claim			Work Days Cr.	Mining Claim			Work Days Cr.
	Prefix	Number			Prefix	Number			Prefix	Number		
5472 ✓	See attached list of 40 claims in Hoblitzell Township and 56 claims in Blakelock Township.											
<input type="checkbox"/> Manual Work <input type="checkbox"/> Shaft Sinking Drifting or other Lateral Work. <input type="checkbox"/> Compressed Air, other Power driven or mechanical equip. <input type="checkbox"/> Power Stripping <input checked="" type="checkbox"/> Diamond or other Core drilling <input type="checkbox"/> Land Survey												

All the work was performed on Mining Claim(s) L-848106, 848121, 871908, 871909, 871911, 872017, 872019.

Required Information eg: type of equipment, Names, Addresses, etc. (See Table Below)

Holes HN88-<sup>18</sup> to 27 are filed. They were drilled between January 21, 1988 and February 27, 1988. A total of 6348.8 feet were drilled and 4744.6 feet is claimed. The drilling was done by Atlas Diamond Drilling Ltd., 690 Braemar Drive, Kamloops, B. C. using a Longyear 38 drill.

The excess credits of 727.4 days are also claimed. Report by Dane Bridge dated February 28, 1989 and also claimed. (W8908.093)

MAY 30 1989 9:40am

ONTARIO GEOLOGICAL SURVEY  
ASSESSMENT FILE COPY  
OFFICE  
MAY 17 1989  
MAY 13 1989  
RECEIVED  
RECEIVED

RECORDED  
MAY 30 1989  
Receipt #

DATE OF REPORT: **May 29, 1989**  
 RECORDED HOLDER OR AGENT (SIGNATURE): *Dane Bridge*

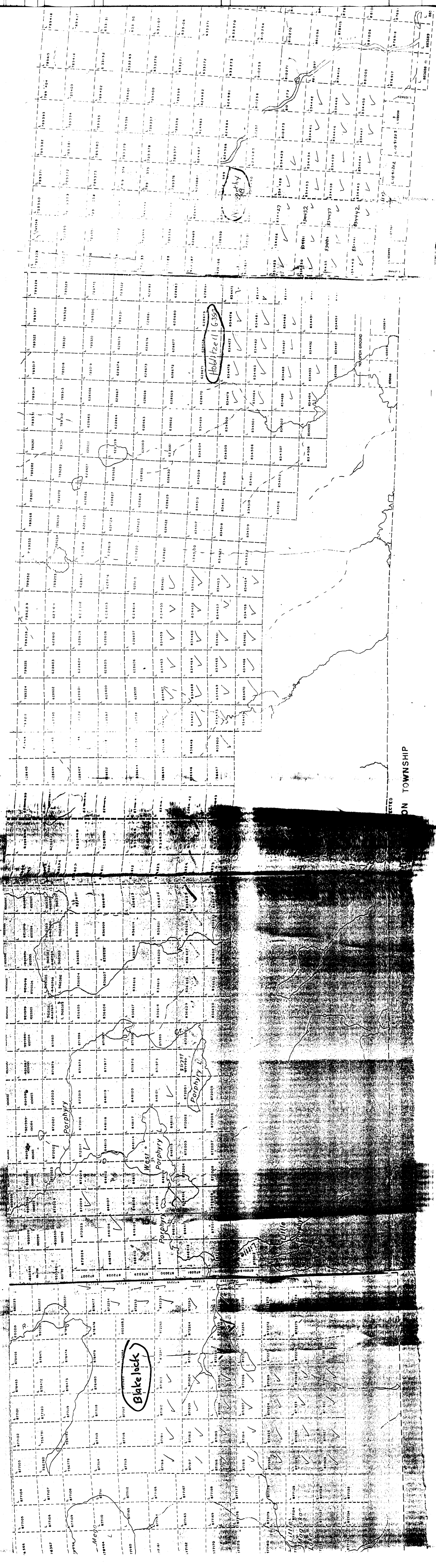
Certification Verifying Report of Work

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, Box 290, Timmins, Ontario, P4N 7N6**  
 DATE CERTIFIED: **May 29, 1989**  
 CERTIFIED BY (SIGNATURE): *Dane Bridge*

Table of Information/Attachments Required by the Mining Recorder

Type of Work	Specific information per type	Other information (Common to 2 or more types)	Attachments
Manual Work	Nil	Names and addresses of men who performed manual work/operated equipment, together with dates and hours of employment.	Work Sketch: these are required to show the location and extent of work in relation to the nearest claim post.
Shaft Sinking, Drifting or other Lateral Work			
Compressed air, other power driven or mechanical equip.	Type of equipment	Names and addresses of owner or operator together with dates when drilling/stripping done.	Work Sketch (as
Power Stripping	Type of equipment and amount expended. Note: Proof of actual cost must be submitted within 30 days of recording.		
Diamond or other core	Signed core log showing: footage, diameter of		



ON TOWNSHIP

Blake lock

Holtzelle (G-35)

Porphyry

Porphyry

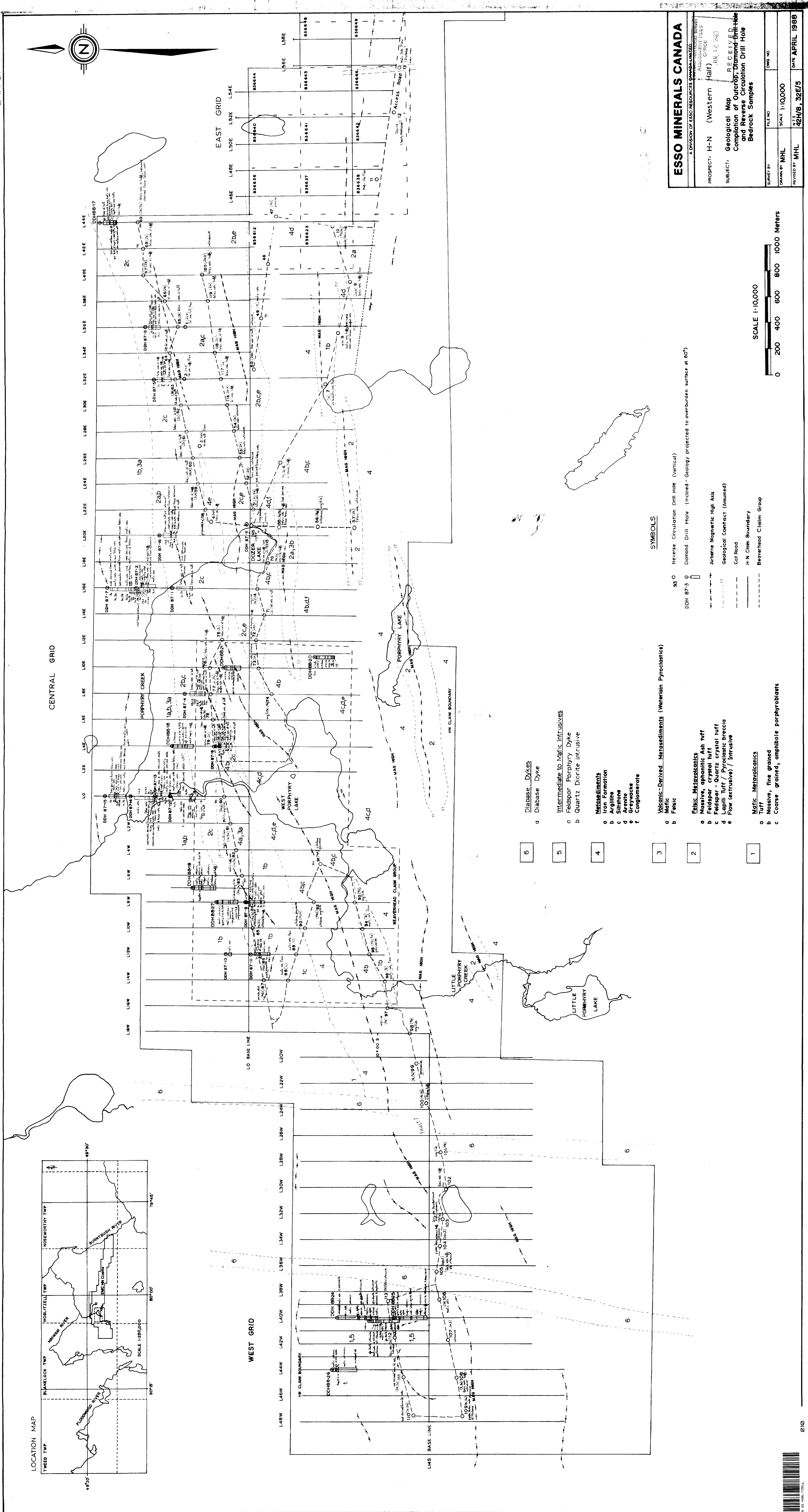
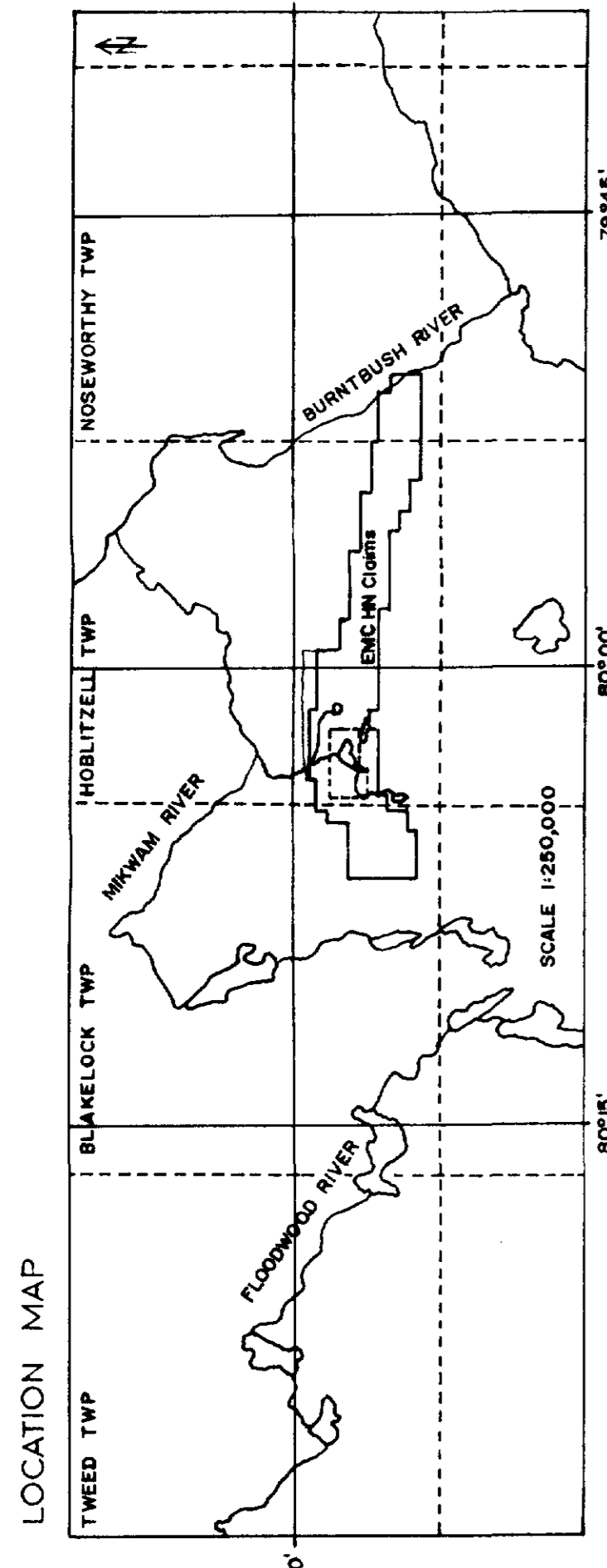
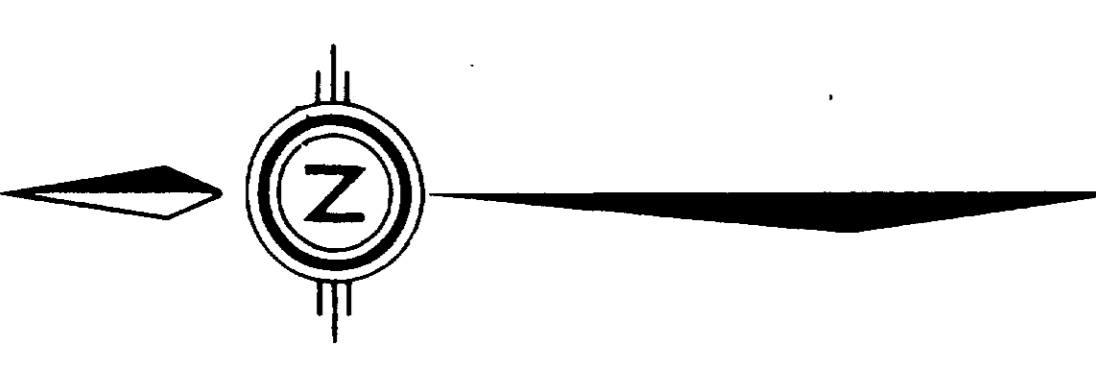
Porphyry

Little Lake

Little Lake

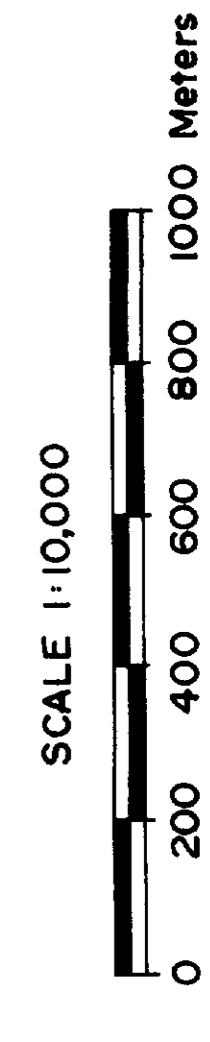


Location 11W



**SYMBOLS**

- 95 O Reverse Circulation Drill Hole (Vertical)
  - DH 87-3 ◊ Diamond Drill Hole (Inclined - Geology projected to overburden surface at 60°)
  - Autone Magnetic High Axis
  - - - Geological Contact (Assumed)
  - - - Col 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 Siltstone
    - d Arenite
    - e Conglomerate
    - 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



**ESSO MINERALS CANADA**  
A DIVISION OF ESSO RESOURCES CANADA LIMITED.

PROSPECT: H-N (Western Half) OF THE BEAVERHEAD CLAIMS  
SUBJECT: Geological Map RECEIVED  
Completion of Outcrop, Diamond Drill Hole and Reverse Circulation Drill Hole Bedrock Samples

DATE: APR. 14, 1988

FILE NO: \_\_\_\_\_ DRAW NO: \_\_\_\_\_  
SCALE: 1:10,000  
DRAWN BY: MHL  
REVIEWED BY: MHL  
DATE: APRIL 1988

