

DIAMOND DRILLING



42H08NE0005 24 BLAKELOCK

010

TOWNSHIP: BLAKELOCK

REPORT NO: 24

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 871909	HN88-22	202.69m	Jan/88	(1)
L 871912	HN88-23	128.63m	Jan/88	(1)
L 871909	HN88-24	282.24m	Jan/88	(1)
L 871908	HN88-25	233.48m	Feb/88	(1)
L 87912	HN88-26	175.56m	Feb/88	(1)

NOTES: (1) W8908-141, date filed Aug/89

Blakerloch

ESSO MINERALS CANADA  
SUMMARY DRILL LOG

Project Name: HN Hole Number: HN88-22  
 Project Number: 1677 Logged By: M.H. Lenters  
 NTS: 42H/8 Date: February, 1988  
 Location: L40+26W, 9+53S Claim Number: 871909/871912  
 Azimuth: 182° Dip: -48° Length (m): 202.69m

PURPOSE: Test geology across Mag low trend between RC holes 112 and 113 which yielded anomalous gold in bedrock chip samples.

From (m)	To (m)	Description	Gold Assays (g/tonne)
0.00	15.24	Overburden (Vertical Depth = 11.3 metres)	
15.24	18.10	Fine-Grained Clastic Metasediment Dark slightly grey, fine grained, massive and homogeneous, magnetic, moderately hornfelsed?/altered siltstone. Intense rectilinear microfracture network of calcite veining. Minor to 1% disseminated pyrite.	0.01
18.10	26.30	Feldspar Porphyritic, Quartz Diorite Dyke Dark grey to light pinkish to brick red, plagioclase porphyritic hypabyssal intrusive with 5% weakly chloritized biotite and minor quartz grains and veining. 1 to 2% pyrite.	0.01 to 0.18
26.30	42.40	Complex Zone of Weakly Foliated to Strongly Sheared/(Mylonitized?) Feldspar Porphyritic Quartz Diorite Dykes and Well Sheared Metavolcanics 50% metavolcanics and 50% intrusives in a zone that is foliated and weakly to strongly sheared at 40 to 50° to the core axis, and contains minor to 10%, irregular, network quartz and calcite veining. Minor to 2% pyrite.	0.02 to 0.39
42.40	45.10	Mylonitized, Altered and Brecciated, Quartz Diorite Intrusive Light pastel pinkish, greenish and creamy coloured, intensely sheared at 40 to 50° to the core axis, but moderately brecciated in small (cm), offset blocks with 2 to 3% vugs, and 3 to 5% quartz veinlets that are often offset and boudinaged. Thin (5 mm) sphalerite vein. 3 to 5% pyrite.	1.02 to 1.81
45.10	52.30	Sericitized, Quartz-Veined and Mineralized, Leucocratic Feldspar Porphyritic Diorite Intrusive Very light apple green, to light creamy white, medium grained, moderately to intensely sericitized and silicified, containing 40 to 50%, white quartz veining at 0 to 20° to the core axis. 2 to 3% pyrite. Quartz veining contains minor pyrite, sphalerite, galena, molybdenite, chalcopryrite and traces of hessite, native bismuth and native gold.	0.19 to 210.0
52.30	52.45	Mylonitized, Altered and Brecciated, Quartz Diorite Intrusive As above.	1.04
52.45	71.75	Mafic Metavolcanics (Sheared and Epidotized) and Feldspar Porphyritic, Quartz Diorite Dykes Volcanics are dark green-grey, very fine grained, moderately to well foliated/sheared, with abundant, irregular, amastomosing light yellow-green epidote-diopside? altered patches and bands. Metavolcanics are cut by 4 thin intrusive dykes.	0.01 to 0.38

From (m)	To (m)	Description	Gold Assays (g/tonne)
71.75	88.00	Mafic Metavolcanic (Fe Tholeiite Flows) Transitional zone between overlying well foliated/sheared volcanics, and the below volcanics that are only weakly deformed and altered, and exhibit abundant volcanic flow textures.	0.01 to 0.60
88.00	131.10	Feldspar Porphyritic, Quartz Diorite Intrusive Medium grey to greyish pink, medium grained, massive to weakly feldspar porphyritic, containing 5% biotite and minor quartz veining. Minor to 0.5% pyrite.	0.01 to 0.04
131.10	202.69	Mafic Metavolcanic (Fe Tholeiite Flows) with Minor, Thin Quartz Diorite and Feldspar Porphyry Dykes Volcanics are dark green, fine grained, weakly magnetic, massive to weakly foliated at 30 to 60° to the core axis, with some cherty (silica) and biotitic (potassic) alteration zones. Minor pyrite.	0.01 to 0.06
	202.69	END OF HOLE	



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
18.10 26.30	FELDSPAR PORPHYRITIC QUARTZ DIORITE INTRUSIVE - UNALTERED Dark grey, to light pinkish, to brick red hematite coloured, porphyritic intrusive. 20 to 50%, medium (0.5 to 1mm) grained, subhedral plagioclase, including 10 to 25%, larger (1 to 5 mm), subhedral to euhedral, white, often zoned plagioclase phenocrysts all in a aphanitic to fine grained, probably feldspar-rich, matrix including 5% biotite (unaltered to weakly chloritized), and 5%, irregular, small (mm), interstitial silica flood? grains/patches. 18.10 19.00 Dark grey with limonitic staining. 19.00 21.70 Light to dark pinkish grey. 21.70 25.00 Medium brick red. 25.00 26.30 Medium pinkish grey. Unit is massive, but exhibits a weak shearing oriented at 45 to 50 degrees to the core axis, locally offsetting thin quartz veining. These veins are often chloritic. Unit also contains a few, small (1cm), well sheared, wallrock xenolith fragments that are also oriented parallel to the shear direction. 2 to 3% quartz, as thin (2 to 10mm), discrete, planar to wavy veins at various angles to the core axis. 1 to 2% pyrite, as fine disseminations and concentrations along small shears and fractures. Lower contact was removed by sampling.	NS	18.10 26.30	8.20	n/a	n/a	n/a	1-2%			
		276	18.10 19.00	.90	.02	.60	n/a	2%			
		277	19.00 21.00	2.00	.01	1.10	n/a	1-2%			
		278	21.00 23.00	2.00	.13	.80	n/a	1-2%			
		279	23.00 25.00	2.00	.01	.70	n/a	1-2%			
		280	25.00 26.30	1.30	.18	.90	n/a	2%			
26.30 27.20	SHEARED/DEFORMED PP QTZ DIORITE AND SHEARED MAFIC METAVOLCANIC 10 to 30%, thin (hairline to 2 mm), small, elongate/sheared, light pinkish grey intrusive fragments within very fine grained foliated/sheared, dark greenish black, weakly magnetic material that is probably sheared/mylonitized mafic volcanic. Unit includes several, 1 to 3 cm, irregular intrusive clasts that are floating within the foliated mafic volcanics, as well as numerous partly sheared and broken intrusive fragments. Sheared intrusive material suggests intrusive event preceeded, or was	NS	26.30 27.20	.90	n/a	n/a	n/a	MINOR			
		281	26.30 27.20	.90	.02	2.50	n/a	MINOR			



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	Light cream to medium greenish grey, medium (0.5 to 2mm) grained, hypidiomorphic to weakly feldspar porphyritic intrusive. 5% Weak to moderately chloritized biotite. Minor quartz veining, as well as 5 to 10% patchy quartz grains/flooding. 2% Finely disseminated pyrite. Abundant, hairline fractures oriented at various angles to the core axis, containing sericite coatings and minor pyrite. Upper contact removed by sampling. Lower contact is a sharp, irregular, fault/fracture contact.	NS 284	32.30 32.30	33.00 33.00	.70 .70	n/a .04	n/a 1.00	n/a n/a	2% 2%	V.WK	V.WK	
33.00	33.70 SHEARED/SCHISTOSE MAFIC METAVOLCANIC Dark greenish black, fine grained, weak to moderately magnetic, well foliated/schistose (mylonitic) mafic volcanic. Weak to moderately well developed foliation/shearing at 40 to 50 degrees to the core axis. Unit is quite vuggy with calcite? removed along some thin fractures. Several, thin (1 to 2mm), partly broken or boudinaged quartz veinlets, locally exhibiting small-scale ptygmatic folding. Lower contact removed by sampling.	NS 285	33.00 33.00	33.70 33.70	.70 .70	n/a .05	n/a 2.90	n/a n/a	1-2% 1-2%			
33.70	34.05 FELDSPAR PORPHYRITIC QUARTZ DIORITE INTRUSIVE - UNALTERED (Same as units between 27.20 to 29.05, and 35.00 to 37.50). Buff white to light slightly greenish grey, medium grained intrusive. Well fractured and containing 5 to 10% quartz veinlets and flooding, locally offset by fracturing. 2 to 3%, finely disseminated pyrite often along slightly vuggy fractures. Upper contact removed by sampling. Lower contact is a sheared intrusive contact.	NS 286	33.70 33.70	34.05 35.00	.35 1.30	n/a .21	n/a 2.70	n/a n/a	2-3% 2-3%	WK	-	V.WK
34.05	35.00 SHEARED/SCHISTOSE MAFIC METAVOLCANIC (Same as unit between 33.00 and 33.70). Upper and lower contacts are sharp sheared intrusive contacts.	NS	34.05	35.00	.95	n/a	n/a	n/a	2-3%			

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
35.00 - 37.50	<b>FELDSPAR PORPHYRITIC QUARTZ DIORITE INTRUSIVE - UNALTERED</b> Light creamy grey, medium grained, hypidiomorphic to very weakly feldspar porphyritic. 5% Biotite, generally weakly chloritized, but some relatively unaltered sections. 10%, Irregular but sharp, quartz veining oriented at various angles to the core axis, and locally offset along minor fractures/slips. Veining appears to center silica flooded portions of the intrusive giving these sections a granodioritic composition. 2 to 3%, finely disseminated pyrite, often concentrated along fractures. Veining generally thin (1 to 10cm), but includes a large, 25 cm vein between 37.25 and 37.5, at the end of the unit. This vein consists mainly of coarse grained, white quartz, but also contains minor amounts of discontinuous, chloritic stylolitic fracture surfaces, as well as numerous intensely altered, white wallrock fragments. Lower contact is a sharp quartz vein contact.	NS 287	35.00 35.00	2.50 2.50	n/a .39	n/a 6.40	n/a n/a	1-3% 1-3%			
37.50 - 40.00	<b>SHEARED/SCHISTOSE MAFIC METAVOLCANIC</b> Dark brownish black, slightly yellowish laminated, very fine grained, very weakly to non magnetic, mafic volcanic. Unit is strongly sheared at 40 to 45 degrees to the core axis, with abundant (5 to 10%), very thin, elongated, slightly yellowish buff calcite grains, as well as a few, thin (hairline to 3mm), bondinaged, shear-orientation parallel quartz veins that are often pulled apart and contain calcite in pullapart pressure shadows. Minor pyrite as fine disseminations, and along quartz veinlets and fractures. Unit is moderately reactive to HCl. Lower contact removed by sampling.	NS 288	37.50 37.50	40.00 41.10	2.50 3.60	n/a .17	n/a 2.50	n/a n/a	0.5% 0.5%		
40.00 - 41.10	<b>SHEARED/SCHISTOSE MAFIC METAVOLCANIC</b> Mottled and crackled, light to medium buff, light grey and creamy, cherty looking silicified mafic volcanic.	NS	40.00	41.10	1.10	n/a	n/a	n/a	MINOR MOD-INT	VK	V.VK



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	Massive to weakly sheared, with no original textures due to the intense crackle fracturing and alteration. 5 to 10% network of silica crackle veinlets, often as larger (1 to 3mm), silica veins with intense development of thin (hairline), subperpendicular, tension fracture veinlets. The veining generally centers thin slightly lighter epidote/alterd zones. Minor finely disseminated pyrite. Upper and lower contacts were removed by sampling.											
41.10 42.40	PP QUARTZ DIORITE INTRUSIVE - WK TO MOD ALTERED Creamy to yellowish white to light pinkish, medium grained (0.5 to 2mm), hypidionorphic to porphyritic, with 10 to 30%, white, 2 to 4 mm, subhedral to euhedral feldspar phenocrysts with zoned rims. Unit is white and more silicified in upper section, relatively unaltered in central section, and weakly altered with yellowish limonitic staining in lower section. 5% Biotite that is unaltered to weakly chloritized. Very little interstitial quartz, although locally it accounts for 5 to 10% of the unit. 3 to 7% quartz veining, generally as irregular, thin (1 to 3mm), patches and veinlets. Some veinlet fractures are vuggy and limonite stained. 1 to 2% finely disseminated pyrite, and minor amounts of thin, fracture controlled pyrite. Lower contact removed by sampling.	NS 289	41.10 41.10	42.40 42.40	1.30 1.30	n/a .34	n/a 2.10	n/a n/a	1-2% 1-2%	WK	-	WK
42.40 45.10	MYLONITE ZONE Light pastel pinkish, greenish, to cream coloured, relatively hard, siliceous, very fine grained, well foliated/sheared, generally at 45 degrees, but at various angles to the core axis unit is broken/brecciated into small (0.5 to 1cm), angular blocks, with abundant, thin (hairline to 1mm) open fractures. Locally, a few sections exhibit characteristics of the light coloured dioritic intrusive, and may be the sheared contact of the adjacent intrusive within this brecciated mylonite zone.	NS 290 260 261	42.40 42.40 44.20 45.00	45.10 44.20 45.00 45.45	2.70 1.80 .80 .45	n/a 1.02 1.81 5.57	n/a 5.00 10.10 25.70	n/a n/a 3.10 4.80	3-5% 3-4% 4-5% 1-2%	WK	WK-NOD	WK

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	2 to 3%, thin, open vugs along irregular breccia fractures. 2 to 4% pyrite, as fine disseminations, and along fractures with up to 5% occurring near the lower intrusive contact. Unit contains a few moderately magnetic bands, which may represent sheared mafic volcanic wallrock xenoliths. 3 to 5%, thin (1 to 5mm), irregular but subplanar quartz veins, as well as a pervasive siliceous/silicified? character throughout the unit. Unit also contains a few, larger (1 to 2 cm) quartz vein fragments. 45.00 45.10 Lower contact zone, including thin (1cm), irregular, green to yellow-green sphalerite vein along a fracture oriented parallel to the core axis. Lower contact is an irregularly broken and sheared transition into altered intrusive.											
45.10 52.30	FP QUARTZ DIORITE INTRUSIVE - MOD TO INT ALTERED Very light apple green to creamy coloured, medium grained hypidiomorphic intrusive, that is moderately to intensely quartz veined and altered. Biotite is locally visible only as minor remnant chlorite. It is now almost completely replaced by sericite. Feldspar grains are still discernable, but moderately sericitized. The unit is intruded by approximately 50%, large, coarse grained, glassy white quartz as subplanar branching veins that are mostly oriented at 0 to 25 degrees to the core axis. The veins are locally offset across small slips and fractures. The quartz is vuggy and contains a few percent pyrite, sphalerite, and galena, minor amounts of molybdenite and chalcopyrite, and trace amounts of hessite, native bismuth, and native gold. Unit is relatively competent although strongly fractured and veined. 45.10 45.45 10 to 15% quartz veining and biotite. Moderately chloritized. 45.45 45.90 95% quartz veining with 2 to 5% pyrite in a large (1 to 2cm), irregular, elongate (45.72 to 45.84m) band/lense containing abundant (20 counts), relatively coarse (1mm) visible gold and several percent, light greenish, coarse sphalerite, and galena, and lesser chalcopyrite, molybdenite, hessite (AgFe <sub>2</sub> ), and native bismuth. The gold is all associated with	NS	45.10	52.30	7.20	n/a	n/a	n/a	2-3%	MOD-INT	WK-MOD	MOD-INT
		262	45.45	45.90	.45	26.10	141.50	59.00	3-5%			
		263	45.90	46.30	.40	210.00	1200.00	n/a				
		264	46.30	46.90	.60	2.66	48.00	19.00	1-2%			
		265	46.90	47.50	.60	1.83	68.00	22.00	2-3%			
		266	47.50	48.40	.90	3.72	174.00	42.00	2-3%			
		267	48.40	49.30	.90	1.04	57.60	.90	1-2%			
		268	49.30	49.80	.50	.43	30.00	.80	1-2%			
		269	49.80	50.60	.80	1.17	62.20	.50	1-2%			
		270	50.60	50.95	.35	3.22	163.00	1.00	1-2%			
		271	50.95	51.75	.80	.19	2.00	3.20	1-2%			
		272	51.75	52.30	.55	1.03	10.00	4.30	1-2%			

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	the pyrite band, although several of the other minerals form small, individual grains within the quartz vein.											
45.90 50.95	40 to 60% quartz veining with 2% pyrite, partly as fine disseminations, as well as larger (0.5cm) grains/blebs occurring within the quartz veins. Pyrite occurs together with minor amounts of the grey metallic minerals along thin fractures. The grey minerals also occur as small, wispy fracture puffs within the quartz veins.											
50.95 52.30	Altered intrusive that is similar to overlying section, but containing much less (10 to 15%) quartz veining, 1% pyrite, and only traces amounts of the grey minerals.											
	The three sections in this intrusive unit are described using the divisions previously made during sampling. These divisions are somewhat arbitrary, dividing a single intrusive unit.											
52.30 52.45	<b>MYLONITE ZONE</b> Several fragments of light pastel pink and buff coloured finely sheared/foliation, fine grained rock that appears somewhat brecciated. Mylonitic foliation is planar and oriented at 40 degrees to the core axis. 1 to 2% finely disseminated pyrite, and 5%, thin (1 to 5mm) irregular, broken and boudinaed quartz veins. Upper and lower contacts removed by sampling.	NS 273	52.30 52.30	52.45 52.65	.15 .35	n/a 1.04	n/a 4.50	n/a 7.20	1-2% 1-2%	WK	WK-MOD	WK
52.45 53.30	<b>PP QUARTZ DIORITE INTRUSIVE - WK TO MOD ALTERED</b> Light to medium yellowish cream, to pinkish and yellowish cream coloured, medium (0.5 to 2mm) grained, hypidiomorphic granular to feldspar porphyritic intrusive. 5%, subhedral, (partially resorbed?), 3 to 5 mm plagioclase phenocrysts in finer plagioclase-rich matrix, that also contains 5%, weak to moderately chloritized biotite, and 3 to 5%, thin, diffuse quartz veining/flooding/patches. Unit appears massive and is only weakly fractured. One, larger (2cm) quartz vein at 53.20 to 53.25 oriented at 45 degrees to the core axis with no pyrite or grey minerals.	NS 274	52.45 52.65	53.30 53.30	.85 .65	n/a .01	n/a 2.00	n/a 1.80	1-2% 2-3%	WK	-	WK

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	1 to 2% pyrite, as fine disseminations and along fractures. Lower contact is sharp, undeformed, irregular intrusive contact at 45 to 50 degrees to the core axis.										
53.30 - 58.30	<b>SHEARED/SCHISTOSE MAFIC METAVOLCANIC</b> Dark greenish grey with several anastomosing foliated and banded, patches and zones of lighter yellow green diopside/epidote altered and pinkish-orange hematitic staining, and minor garnet in a very fine grained strongly sheared/foliated rock. Unit is altered and hornfelsed due to the intrusion of adjacent quartz diorite. Foliation appears to be produced by shearing. It is wavy and somewhat irregular, but is generally oriented at 0 to 20 degrees to the core axis. Unit is composed of feldspar, quartz, calcite, chlorite, epidote and biotite. Unit is moderately magnetic, and contains minor finely disseminated magnetite. Unit contains 5%, irregularly broken, swirled and boudinaged intrusive frag's, that add to the identification of this zone as being sheared. Unit also contains minor quartz veining associated with the intrusive fragments. Unit is strongly calcitic and reactive to HCl. Relatively competent core. Upper contact is a sharp intrusive contact at 45 degrees to the core axis. Lower contact is a sharp intrusive contact with shearing foliation in mafic volcanic oriented parallel to intrusive contact.	NS 291 292	53.30 53.30 56.10	5.00 2.80 2.20	n/a .09 .38	n/a 1.90 3.40	n/a n/a n/a	1% 1% 1%	WK WK	WK	-
58.30 - 58.90	<b>FELDSPAR PORPHYRITIC QUARTZ DIORITE INTRUSIVE - UNALTERED</b> Light to medium creamy grey to slightly pinkish, medium grained, and weakly altered. 5% Weakly chloritized biotite. 5% Weak veining/flooding. Minor finely disseminated pyrite. Lower contact is a sharp shear/intrusive contact.	293	58.30 - 60.10	1.80	.03	1.90	n/a	MINOR			

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
58.90 - 59.30	<b>SHEARED/SCHISTOSE MAFIC METAVOLCANIC</b> Medium to dark greyish with some lighter grey and pinkish banding in well foliated/sheared sections oriented at 40 to 50 degrees to the core axis. Weakly, and locally moderately, magnetic. Strongly reactive to HCl. Upper and lower contacts are sharp and oriented at 45 degrees to the core axis, with shear foliation parallel to contact edges.	NS	58.90 - 59.30	.40	n/a	n/a	n/a	0.5%	V.WK	V.WK	-
59.30 - 62.15	<b>FELDSPAR PORPHYRITIC QUARTZ DIORITE INTRUSIVE - UNALTERED</b> Pinkish to pale brick red, medium grained, massive to weakly foliated, feldspar porphyritic intrusive. Feldspar is generally medium (0.5 to 2mm) grained, with 10%, larger (2 to 10mm), subhedral, white, zoned phenocrysts. 5%, Black biotite, locally weakly chloritized, particularly in shear zones A few, small shear/foliation zones, including a 25 cm zone between 60.10 and 60.35 in which colour is medium grey, grain size is much finer, and shearing and fracturing developed at 45 degrees to the core axis. Some late fractures are open, and contain a few percent pyrite. 2 to 3%, thin (5 to 15mm), subplanar, clean, milky white quartz veins. Minor to 0.5%, finely disseminated pyrite, but locally a few percent concentrated along fractures in thin foliation/shear zones. Lower contact is sharp at 45 degrees to the core axis.	NS 294 295	59.30 - 60.10 - 60.35 - 62.15	2.85 .25 1.80	n/a .21 .01	n/a 3.00 1.20	n/a n/a n/a	1% 4% 1%	V.WK	-	-
62.15 - 69.00	<b>SHEARED/SCHISTOSE MAFIC METAVOLCANIC</b> Well foliated and sheared carbonate-epidote-garnet altered/metamorphosed mafic volcanic. Generally dark greyish green with 25 to 30%, thin pale yellowish green carbonate-epidote laminations as well as several thicker (1 to 20cm), irregular anastomosing to foliated alteration bands that also contain minor, coarse (1 to 10cm), poikiloblastic garnet megacrysts in irregularly swirled zones. Unit is generally fine grained, apart from the large garnets, is generally chloritic, and probably plagioclase-rich. It is moderately to strongly magnetic, and not reactive to HCl.	NS 296 297 298 299	62.15 - 64.00 - 65.80 - 66.90 - 69.00	6.85 1.85 1.80 1.10 2.10	n/a .01 .01 .01 .10	n/a 3.30 3.70 3.70 3.70	n/a n/a n/a n/a n/a	1% 1% 0.5-1% 0.5-1% 0.5-1%	WK	-	-

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SBR
	Minor quartz-carbonate veinlets occur within the epidote-garnet altered patches. Unit contains a few large (0.5 to 3cm), subplanar to wormy, irregularly cross-cutting quartz veins. Unit is well sheared/foliated at 40 degrees to the core axis with no original volcanic textures remaining. 0.5 to 1%, finely disseminated pyrite, particularly concentrated in thin zones within the wallrock adjacent to quartz veining. Lower contact is a sharp intrusive contact oriented at 65 degrees to the core axis.										
69.00	71.75 FELDSPAR PORPHYRITIC QUARTZ DIORITE INTRUSIVE - UNALTERED Medium to dark grey with slight pinkish colour, medium grained, hypidiomorphic, but locally exhibiting a weak porphyritic character. 5 to 7% biotite, locally very weakly chloritic. Unit is moderately fractured and broken, with pyrite often occurring along fractures. 5%, Irregular, thin (1 to 10mm), quartz +/- carbonate veinlets, often offset across fractures. 1 to 2% pyrite, as fine disseminations concentrated along fractures. Lower 10 cm of the intrusive is sheared at 50 to 60 degrees to the core axis. Lower contact is sharp irregular intrusive contact.	NS 300	69.00 69.00	71.75 71.75	2.75 2.75	n/a .02	n/a .40	n/a n/a	1-2% 1-2%	V-WK	
71.75	88.00 SCHISTOSE MAFIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS Transitional in appearance between the well sheared/foliated overlying mafic volcanics, in which no volcanic textures are preserved, and the underlying mafic volcanics that are only weakly deformed and exhibit abundant flow rock textures. Generally dark slightly brownish to greenish grey, fine grained, moderately foliated/sheared, and locally weakly magnetitic. Several 1 to 50 cm bands exhibit volcanic flow textures, but these are often separated by similar widths of brown, biotitic and very fine grained, greyish cherty/siliceous material.	NS 301 302 303 304	71.75 77.05 81.50 83.00 85.15	88.00 77.30 81.90 83.60 85.55	16.25 .25 .40 .60 .40	n/a .01 .60 .60 .02	n/a 2.70 2.20 2.10 2.00	n/a n/a n/a n/a n/a	MINOR MINOR MINOR MINOR MINOR	WK	



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	fractures/jointing. Lower contact is a sharp intrusive contact at 40 degrees to the core axis.										
131.10 149.20	<b>SCHISTOSE MAFIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS</b> Dark green, fine grained chloritic, non- to locally strongly magnetic with numerous sections exhibiting volcanic textures. Massive to weakly foliated, with the foliated zones having a slightly purplish grey, more siliceous appearance, possibly due to alteration effects of the intrusive. Unit exhibits a moderate degree of irregular, wispy patchiness of lighter coloured diopside/epidote alteration banding, with minor coarse garnet development in the more intensely altered patches. Epidote altered zones appear to be separated from unaltered mafic volcanics by thin (0.5 to 1cm), biotitic (potassic alteration) alteration selvages. Locally the epidote alteration patches appear pseudo-brecciated/brecciated, possibly due to local shearing. Foliation is weakly to moderately developed at 30 to 55 degrees to the core axis, but it is locally highly contorted within the intensely carbonate-epidotized-garnet patches. Minor to 0.5% disseminated pyrite, locally to 1%, and often as small, individual cubic crystals. Minor quartz veining, and locally several quartz flood zones up to 30 cm wide, generally associated with intense carbonate-epidote-garnet patches. Minor gouge material along thin (1 to 3m) fractures oriented at 45 degrees to the core axis at 148.0 metres. Competent core. Lower contact, diffuse intrusive contact.	NS 131.10 312	149.20 134.45	18.10 135.55	n/a .02	n/a 2.30	n/a n/a	0.5% 2-3%	V.WK	-	-
149.20 150.20	<b>FELDSPAR PORPHYRY DYKE</b> Medium to dark grey, fine to medium grained (0.25 to 1mm), consisting mostly of crowded feldspar crystals. Moderately porphyritic with 10 to 20%, 1 to 3 mm, subhedral to euhedral and partially zoned, white plagioclase. Groundmass is finer grained and contains 5 to 7%, weakly chloritized	NS 149.20 313	150.20 149.20	1.00 150.20	n/a .01	n/a 1.00	n/a n/a	MINOR MINOR			



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SBR
	<p>biotite, and minor chlorite along shear-slip planes. Unit is weakly foliated/sheared at 60 degrees to the core axis. Minor silica blebs up to 5 mm in size. Minor disseminated pyrite. No large veining. Competent core. Lower contact is a sharp intrusive contact oriented at 65 degrees to the core axis.</p>										
150.20 192.35	<p>SCHISTOSE MAFIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS Generally very fine to fine grained, dark green, non- to weakly magnetic, massive to weakly foliated mafic volcanic with 20 to 50% brownish to purplish grey altered zones forming thin (cm) to thick (m) bands. The latter are somewhat banded and cherty in appearance giving sections of the unit a sedimentary look although no sedimentary textures are apparent. These are probably silicified/altered mafic volcanic zones. Cherty sections also contain brownish more biotitic (potassic alteration) bands. Unit, particularly the dark green, relatively unaltered volcanic sections, contain 5 to 10%, lighter green, irregular, patchy carbonate-epidote alteration bands that locally contain abundant coarse silica and garnet. Dark green, relatively unaltered sections exhibit silica filled amydules across several cm wide sections, and include occasional zones where massive volcanic are separated by pillow selvege rims. A few intensely carbonate-epidote altered sections could be flow top breccia sections. Foliation/banding is weakly developed at 35 to 60 degrees to the core axis, but locally is irregularly swirled and offset by fracturing. Unit contains no major quartz veining, although there are several silica patches within intensely altered epidote/diopside/garnet bands. Minor fractures/slips oriented at various, but generally low (25 to 45 degrees), angles to the core axis. Minor irregular white calcite tension fracture fillings within slightly brecciated/contorted zones.</p>	NS 150.20	192.35	42.15	n/a	n/a	n/a	MINOR	V.VK	-	-
		593	175.00	176.00	1.00	.06	1.40	n/a	1-2%		
		594	176.00	177.00	1.00	.01	1.10	n/a	1-2%		
		314	178.30	179.00	.70	.05	1.90	n/a	3%		

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	Minor pyrite as fine to coarse (1 to 2mm) disseminations, and locally 1 to 2% very finely disseminated pyrite in cherty altered zones. Competent core. Upper and lower contacts are sharp intrusive contacts.										
192.35 194.60	<b>FELDSPAR PORPHYRY DYKE</b> Dark pinkish orange stained, aphanitic groundmass with 15 to 25%, small (0.5 to 3cm), white, crudely euhedral and zoned, randomly oriented plagioclase phenocrysts, and 1 to 3% biotite that is weakly chloritized. No quartz visible in this dyke. Groundmass is weakly foliated at 50 to 65 degrees to the core axis. Dyke is weakly fractured with chlorite and epidote occurring along fractures. Minor to 0.5% finely disseminated pyrite. No significant veining. Competent core. Upper and lower contacts are sharp, although irregular intrusive.	NS 192.35	194.60	2.25	n/a	n/a	n/a	0.5%			
194.60 202.69	<b>SCHISTOSE NAPIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS</b> (same as unit between 150.20 to 192.35 metres). 202.69 (665 Feet) End of Hole.	NS 194.60	202.69	8.09	n/a	n/a	n/a	MINOR	V.WK	-	-
		315	194.60	195.40	.80	.02	2.80	n/a	1%		
		316	195.40	196.00	.60	.05	2.30	n/a	0.5%		
		317	197.50	197.90	.40	.01	2.00	n/a	0.5%		

ESSO MINERALS CANADA

SUMMARY DRILL LOG

Project Name: HN

Hole Number: HN88-23

Project Number: 1677

Logged By: M.H. Lenters

NTS: 42H/8

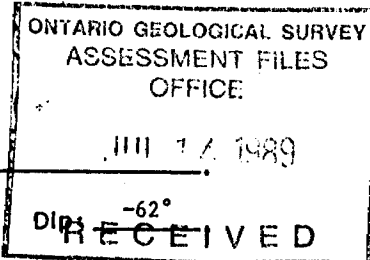
Date: February, 1988

Location: L40+26W, 9+30S

Claim Number: 871909/871912

Azimuth: 180°

Length (m): 128.63 m



PURPOSE: Test downdip extension of mineralization in HN88-22

From (m)	To (m)	Description	Gold Assays (g/tonne)
0.0	14.25	Overburden (Vertical Depth = 12.6 m)	
14.25	26.65	Feldspar Porphyritic, Quartz Diorite Intrusive Light pink to white, medium grained, massive to weakly foliated containing subhedral, partially zoned plagioclase phenocrysts, 5 to 10% biotite, and a few percent quartz veining.	0.01 to 0.03
26.65	41.80	Mafic Metavolcanic Dark green, very fine grained, magnetic, with abundant lighter yellow-green carbonate/epidote bands and patches. Locally weakly to moderately foliated/sheared at 70° to the core axis. Minor pyrite.	0.01 to 0.02
41.80	58.60	Feldspar Porphyritic, Quartz Diorite Intrusive Same as above with 2 minor shear zones at 25 to 70° to the core axis, and minor silicification/quartz veining.	0.01 to 0.14
58.60	64.25	Mafic Metavolcanic Same as above.	0.01 to (0.40)
64.25	83.25	Weak to Moderately Altered, Quartz Veined, and Mineralized, Leucocratic Feldspar Porphyritic Diorite Intrusive Very light grey to white, weak to moderately sericitized and silicified with most of biotite partially or totally destroyed. Weakly to moderately foliated at 40 to 60° to the core axis, with 5 to 15% quartz veining at 0 to 50° to the core axis. 2 to 5% disseminated pyrite. Quartz veining contains minor pyrite & galena and traces of molybdenite, native bismuth and hessite.	0.01 to 1.80
83.25	90.05	Mafic Metavolcanic As above, but foliated/sheared at 20 to 45° to the core axis.	0.02 to 0.27
90.05	96.20	Feldspar Porphyritic, Quartz Diorite Dyke Light pinkish, medium grained, massive to weakly feldspar porphyritic, relatively unaltered intrusive. 1 to 3% disseminated pyrite.	Not Assayed
96.20	100.60	Biotite, Chlorite, Carbonate, Silica, Plagioclase Schist (Metasediment and/or Metavolcanic) Medium brownish-grey to dark greenish grey, fine grained, well banded/laminated? siltstone and/or schistose volcanic. Banding/foliation at 50 to 55° to the core axis. Unit cut by several 10 to 100 cm irregular porphyritic quartz diorite dyklets. Minor quartz and calcite veining. Minor to 1% pyrite.	Not Assayed

From (m)	To (m)	Description	Gold Assays (g/tonne)
100.60	106.25	Feldspar Porphyritic, Quartz Diorite Dyke Light to medium pink, medium grained, massive intrusive with several percent subhedral partially zoned plagioclase phenocrysts. Minor quartz veining and 1 to 2% disseminated pyrite.	Not Assayed
106.25	111.65	Biotite, Chlorite, Carbonate, Silica, Plagioclase Schist (Metasediment and/or Metavolcanic) As above.	Not Assayed
111.65	127.12	Mafic Metavolcanic As above, with foliation at 25 to 35° to the core axis.	0.01 to 0.05
127.12	128.63	Feldspar Porphyritic, Quartz Diorite Intrusive As above	0.01
	128.63	End Of Hole	

H-N PROJECT (Ont. 77)

ESSO MINERALS CANADA  
DIAMOND DRILL RECORDHole: HN88-23  
Page: 1Drilled by: Atlas Drilling Limited  
Hole Size: BQ  
Core Size: BQ  
Casing: Casing RemovedAzimuth: 180  
Dip: -62Claim No: L-871909  
Grid: West  
Easting: 40+26W  
Northing: 9+30S  
Elevation: LevelStarted: Feb. 11, 1988  
Finished: Feb. 13, 1988Acid Tests:  
Depth Az. Dip  
128.63 -54.0

Purpose: Test downdip of HN88-22

Logged by: M.H.Lenters  
Date logged: February 1988  
Logging Method: Log II  
Measurement System: MetricLength: 128.63 Metres  
Vert. Proj: 109.0 Metres  
Hor. Proj: 68.25 Metres  
Ovb. Depth: 12.6 Metres

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
.00	14.25	OVERBURDEN										
14.25	26.65	FELDSPAR PORPHYRITIC QUARTZ DIORITE INTRUSIVE - UNALTERED										
		Light pinkish to bleached white, medium (1 to 3mm) grained, massive to very weakly foliated intrusive.	NS	14.25	26.65	12.40	n/a	n/a	n/a	2-5%	V.WK	- V.WK
		70 to 85% plagioclase, with minor to 5%, larger (up to 5mm), subhedral plagioclase phenocrysts, locally giving the unit a porphyritic appearance. The unit does not appear to contain much primary silica (5 to 10%), generally as slightly bluish grey grains that appear interstitial to the feldspar.	318	16.00	17.00	1.00	.01	.50	n/a	1-2%		
		5 to 10% biotite, as small (< 1mm) books, as well as rectangular grains that may represent replacement of amphibole.	319	17.00	18.00	1.00	.01	.30	n/a	4-5%		
		2 to 5% finely disseminated pyrite, as well as some fine pyrite along fractures. Pyrite is slightly more abundant in bleached zone between 16.20 and 20.25 metres.	320	18.00	19.00	1.00	.02	.40	n/a	3-5%		
		3 to 5%, white to watery blue-grey quartz veining, generally as variably oriented (but mostly at 45 degrees to the core axis), thin (2 to 20mm), subplanar to planar veins. Veins are clean, containing no carbonate,	321	19.00	20.00	1.00	.01	.80	n/a	2-4%		
			322	20.00	21.00	1.00	.03	.60	n/a	1-3%		

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	pyrite, or wallrock inclusions, and appear to be more abundant within bleached zones of the intrusive. However, several veins cutting the pinkish (hematitic) intrusive exhibit no bleaching halos. Unit is slightly vuggy. Unit is well broken, with strong jointing (5 to 25cm spacing) at 40 to 50 degrees to the core axis. Minor jointing/fracturing at 20 degrees to the core axis. Several well broken rubble sections where irregular fractures parallel the core axis. Some of the fracture/joint surfaces exhibit slickensides and moderately flattened/smeared pyrite. Several fractures exhibit 1/2 to 1 cm, yellow (limonitic) stained zones, due to weathering by surface waters along the fractures. Core is moderately well broken, generally into 5 to 15 cm pieces with some rubble sections. Lower contact is a sharp intrusive contact, but with irregular embayed and flamed edges.											
26.65 - 41.80	SCHISTOSE MAFIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS Dark green, with abundant lighter green carbonate/epidote altered patches and bands. Very fine grained, strongly magnetic, mafic volcanic. Alteration patches are well swirled and irregular in shape. Unit is mostly chloritic, but contains minor biotite with a slightly browner colour near lower contact. Upper contact zone (<25.5m) is well sheared at 0 to 25 degrees to the core axis, with several pulled-apart and boudinaged quartz veinlets and veins up to 1 cm wide. Central part is aphanitic and massive with weak foliation defined by weak phyllitic partings at 70 degrees to the core axis. Lower contact zone (>38m) is moderately sheared at 70 degrees to the core axis, and contains numerous angular pieces of quartz that look like broken veins in a shear zone. Section is slightly brownish and moderately reactive to HCl due to carbonate alteration. Shearing, irregular carbonate mottling, swirling, offset and broken network of hairline carbonate veining, and broken quartz veining impart a faulted character to this section. Moderate amount of veining, including a 10 cm wide (29.00 to 29.10),	NS	26.65	41.80	15.15	n/a	n/a	n/a	1-2%	-	WK-MOD	-
		323	28.96	29.60	.64	.01	3.10	n/a	MINOR			
		324	32.00	33.00	1.00	.01	3.20	n/a	MINOR			
		325	38.00	39.00	1.00	.02	2.50	n/a	MINOR			
		326	39.00	40.00	1.00	.01	2.70	n/a	1-2%			
		327	40.00	41.00	1.00	.01	2.80	n/a	2-3%			
		328	41.00	41.80	.80	.01	2.60	n/a	4-5%			

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	<p>clear to ice-white, coarse grained quartz vein, and 2 to 3%, bluish white, 2 to 10 mm wide, subplanar silica/quartz veins at 45 to 60 degrees to the core axis. Most veins have a thin (1 to 3mm) rim of epidote and pyrite alteration.</p> <p>Upper contact zone is a dark green to sooty brown colour and is quite vuggy with 3% wispy vugs. Lower contact zone also contains vuggy portions. Entire unit, but particularly the contact zones and carbonate/epidote alteration patches have a moderate to intense, irregular and offset crackle network of hairline to 1 mm carbonate, as well as minor silica, veinlets. These are variably oriented, and appear to be offset by a weak? shearing at 20 degrees to the core axis.</p> <p>Minor to 1%, finely disseminated pyrite in the upper contact and central zones, generally adjacent to quartz/silica veinlets, or within alteration patches. 1 to 4%, finely disseminated pyrite associated with the carbonate altered, sheared lower contact zone.</p> <p>Unit may contain minor amounts of pyrrhotite, although none was visually identified. The complete unit is very magnetic, probably mostly due to finely disseminated magnetite, +/- minor pyrrhotite.</p> <p>Moderately competent core, generally with 5 to 25 cm breakage at 60 to 75 degrees to the core axis along phyllitic foliation/cleavage surfaces.</p> <p>Upper and lower contacts are sharp intrusive contacts.</p> <p>41.40 41.47 Feldspar Porphyry Dyke. Thin (7cm), feldspar porphyritic quartz diorite dyke/vein oriented approximately 90 degrees to the core axis, but broken apart and containing bands/slivers of the sheared wallrock.</p>											
41.80 58.60	FELDSPAR PORPHYRITIC QUARTZ DIORITE INTRUSIVE - UNALTERED											
	Light pinkish grey to light grey with some whitish grey bleached sections of medium grained (1 to 3mm), massive to weakly sheared/foliated intrusive, but including 2 zones of intensely sheared intrusive?. The latter are possibly intensely sheared xenolithic wallrock inclusions. Unit is identical to intrusive body between 14.25 and 26.65. Contains mostly feldspar, and minor amounts of (5 to 10%) quartz, biotite, and finely disseminated pyrite. Unit contains 5% quartz veining as thin (1 to 10mm), subplanar, but slightly diffuse and irregular, white to watery	NS	41.80	58.60	16.80	n/a	n/a	n/a	1-5%	WK-MOD	-	V.WK
		329	41.80	42.85	1.05	.01	.60	n/a	3-5%			
		330	42.85	43.20	.35	.02	2.00	n/a	MINOR			
		331	43.20	44.10	.90	.14	.80	n/a	2-3%			
		332	46.50	47.45	.95	.01	.40	n/a	2-3%			
		333	56.45	57.60	1.15	.07	.50	n/a	3-4%			
		334	57.60	58.60	1.00	.08	.50	n/a	4-6%			

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	blue-white veins, often with an adjacent, thin (<1 cm), orangy-pink hematitic alteration band containing increased amounts of pyrite. Unit includes several white bleached and sheared zones as follows:										
41.80 42.85	Light grey intrusive, more silicified than other bleached zones.										
42.85 43.20	Sheared intrusive zone (xenolith?) containing numerous, angular, small (<3mm), plagioclase grains in a well foliated/sheared cataclastic appearing zone that may be sheared intrusive material. Zone also includes an irregular 1 to 5 cm wide, fine grained, pyritic, carbonate altered patch. Shearing oriented at 55 to 50 degrees to the core axis										
43.20 44.85	Light grey, very porphyritic, bleached zone.										
44.85 45.55	Shear zone. Upper contact at 70 degrees to the core axis and lower contact at 25 degrees to the core axis. Unit contains (1 to 4mm) angular, plagioclase in a well foliated/sheared, slightly magnetic dark grey matrix.										
45.55 46.50	Light pink, feldspar porphyritic quartz diorite.										
46.50 47.45	Bleached white, feldspar porphyritic quartz diorite.										
47.45 47.90	Light pink, feldspar porphyritic quartz diorite.										
47.90 48.10	Bleached white, feldspar porphyritic quartz diorite.										
48.10 56.45	Light pink to grey, feldspar porphyritic quartz diorite.										
56.45 58.60	Bleached white, feldspar porphyritic quartz diorite. Well broken, moderately vuggy and pyritic.										
	Unit is moderately well fractured, particularly the white bleached sections which are often very rubbly. Unit generally has 5 to 15 cm breakage.										
	Minor to 1% finely disseminated pyrite in light pink, relatively unaltered intrusive sections, and 2 to 5% pyrite within the more altered white bleached zones, particularly near the lower end of this unit.										
	Lower contact was poorly recovered (broken rubble).										
58.60 64.50	SCHISTOSE MAPIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS										
	Dark brown-grey, very fine grained, cherty to weakly phyllitic character.	NS	58.60	64.50	5.90	n/a	n/a	n/a	1-3%	MOD	WK
	Unit appears weakly banded, and coarser grained in a few, weakly sheared sections. Locally weakly magnetic, generally hard with moderate to	335	58.60	60.00	1.40	.10	2.30	n/a	2-3%		
		336	60.00	61.50	1.50	.01	1.90	n/a	1%		



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	intense pervasive silicification. Local weak carbonatization, and 5% irregular silica and silica-carbonate network crackle (1 to 5mm) veining that is offset by minor shearing oriented at 20 to 40 degrees to the core axis.	337	61.50	62.48	.98	.01	2.50	n/a	1%			
	Several lemon yellow to white, small (1 to 2cm), irregular epidote-carbonate bleached/alterned patches adjacent to vuggy silica veinlets.	338	62.48	64.00	1.52	.06	2.20	n/a	2-3%			
	5% Large (1 to 3cm), white, subplanar quartz veins oriented at 35 to 45 degrees to the core axis.	339	64.00	64.50	.50	.40	2.20	n/a	4-7%			
	59.10 59.30 3cm quartz vein oriented at 40 degrees to the core axis, with 5 cm alteration zones adjacent to both sides containing abundant (5%), fine disseminated pyrite.											
	Generally 1 to 2% fine pyrite concentrated as disseminations in small zones adjacent to silica/quartz veining and along fractures. One small veinlet at 58.80m contains a 2 x 2 mm chalcopyrite grain.											
	Unit is relatively hard, but moderately broken into 5 to 25 cm pieces, generally at 60 to 80 degrees to the core axis.											
	Shearing is moderate to intense and changes in orientation from the central section at 45 degrees to the core axis, to the lower section at 0 degrees to the core axis.											
	Upper contact is a sharp intrusive contact that was poorly recovered (broken core), but it appears to be oriented at 70 degrees to the core axis.											
	Lower contact is a sharp intrusive contact oriented at 0 degrees to the core axis. It is very pyritic, particularly in a thin (5mm) band along the intrusive side of the contact.											
	60.80 60.90 Feldspar Porphyry Dyke. 10 cm felsic porphyritic quartz diorite dyke.											
64.50 83.25	PP QUARTZ DIORITE INTRUSIVE - MOD TO INT ALTERED	NS	64.50	83.25	18.75	n/a	n/a	n/a	2-4%	MOD	WK	WK-MOD
	Very light grey to white, weak to moderately sericitized and silicified, with few chloritized mafic minerals remaining as these are mostly sericitized. (Same original composition as intrusives in upper part of hole).	340	64.50	65.68	1.18	.10	1.80	n/a	2-4%			
	Only one thin, more massive, weakly altered section between 73.75 and	341	65.68	66.45	.77	.05	1.90	n/a	2-4%			
		342	66.45	67.67	1.22	.06	6.30	n/a	2-3%			
		343	67.67	68.60	.93	.33	3.70	n/a	2-3%			

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
74.20	metres with slight pinkish colour, weakly chloritized biotite, and vague porphyritic character still apparent.	344	68.60	69.50	.90	1.80	17.80	n/a	2-3%		
	Most of the unit is weakly foliated at 40 to 60 degrees to the core axis, with the lower (>75m) section moderately foliated at 20 to 40 degrees to the core axis. Quartz veining in this lower section parallels the foliation/shearing and locally appears sheeted.	345	69.50	70.10	.60	.23	10.60	n/a	2-3%		
	Apart from the pervasive silicification, the unit contains abundant (5 to 10%), bluish white quartz veins as thin (1mm to 5cm), slightly irregular and offset subplanar veins mostly oriented at 40 to 50 degrees to the core axis, with a few steeper veins oriented between 0 and 20 degrees to the core axis. Veining appears to center zones of increased silicification, sericitization and pyritization. The veins are generally very clean, containing no wallrock fragments and only occasional pyrite grains. Locally, minor galena occurs with the pyrite in the quartz veins, either as very small crystalline patches, or as steel grey coloured wisps and fracture puffs.	346	70.10	71.10	1.00	.60	26.40	n/a	2-3%		
		347	71.10	72.10	1.00	.10	5.80	n/a	1-3%		
		348	72.10	72.70	.60	.16	9.20	n/a	1-3%		
		349	72.70	73.75	1.05	.27	5.70	n/a	1-3%		
		350	73.75	74.20	.45	.02	.90	n/a	2-3%		
		351	74.20	74.98	.78	.44	20.30	n/a	2-3%		
		352	74.98	75.75	.77	.40	2.10	n/a	2-3%		
		353	75.75	76.50	.75	.18	2.20	n/a	2-3%		
		354	76.50	77.00	.50	.27	5.70	n/a	2-3%		
		355	77.00	77.50	.50	1.18	129.60	n/a	2-3%		
		356	77.50	78.00	.50	.10	23.70	n/a	2-3%		
		357	78.00	78.60	.60	.20	4.30	n/a	2-3%		
		358	78.60	79.25	.65	.19	4.20	n/a	2-3%		
		359	79.25	80.00	.75	.02	2.80	n/a	1-3%		
	Galena mineralization within quartz veins noted at 66.50, 66.65, 67.00 (small 1x2 cm area with 1% galena and trace amounts of chalcopyrite )	360	80.00	81.08	1.08	.03	2.00	n/a	2-4%		
	67.50 69.60 , 70.85, 70.90, 71.00 to 71.10, 72.50, 74.70, 77.25 to 77.50 (quartz vein at 10 degrees to the core axis with several percent galena), 77.60, 78.00 to 78.40 (minor galena on shears oriented at 35 degrees to the core axis), 79.10, and 79.65.	361	81.08	82.00	.92	.06	1.70	n/a	1-3%		
	Sericitization strongest in intensely sheared/foliated zone in lower part of unit, locally containing trace amounts of emerald green, fuchsite within quartz veins.	362	82.00	83.25	1.25	.01	.90	n/a	1-3%		
	Abundant (3 to 5%), finely disseminated pyrite throughout the unit.										
	Core is moderately fractured and broken, generally into 5 to 10 cm pieces and several rubble sections.										
	Upper contact oriented at 0 degrees to the core axis between 64.00 and 64.50, with abundant pyrite including a 0.5 cm band at the contact edge.										
	Lower contact is sharp and oriented at 40 degrees to the core axis.										
83.25	90.05 SCHISTOSE MAFIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS	NS	83.25	90.05	6.80	n/a	n/a	n/a	0.5%	WK	WK-MOD
	Dark grey to black, weak to moderately foliated at 20 to 45 degrees to the core axis with local contortions and folding.	363	83.25	84.25	1.00	.04	3.30	n/a	1%		



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	core axis.											
96.20 100.60	<p>SHEARED/SCHISTOSE MAFIC METAVOLCANIC</p> <p>Medium brownish grey to dark slightly greenish grey, well banded/foliated plagioclase-biotite-chlorite schist. Probably a potassic altered schistose mafic metavolcanic, but possibly an interflow sediment horizon. Schistosity/foliation is very regular and planar, and oriented at 50 to 55 degrees to the core axis.</p> <p>Unit contains several, thin, weakly magnetic bands, and is generally moderately reactive to HCl. Unit does not contain the light green epidote-carbonate banding that is prevalent in other mafic volcanic units. 5%, thin, irregular, network carbonate veining, and thin (hairline to 1mm), silica tension gash to ladder veinlets veining suggesting minor shearing/faulting.</p> <p>2 to 3%, thin (1mm to 1cm), blue-white silica/quartz veins occurring as lenses, and boudinaged, subplanar veins, that are often offset across minor fault/foliation planes.</p> <p>Minor to 1%, finely disseminated pyrite, often occurring as small (0.5 mm) cubic crystals.</p> <p>Unit contains several intrusive dykes that are much like the overlying intrusive. They are very weakly altered, feldspar porphyritic, and contain 2 to 3% finely disseminated pyrite. They contain no significant quartz veining, and generally exhibit irregular, but somewhat foliation parallel contacts. The dykes occur between:</p> <p>96.75 96.95 PP Quartz Diorite Dyke - Feldspar Porphyritic.            97.25 97.40 PP Quartz Diorite Dyke - Feldspar Porphyritic.            97.55 97.65 PP Quartz Diorite Dyke - Feldspar Porphyritic.            97.70 98.00 PP Quartz Diorite Dyke - Feldspar Porphyritic.            98.15 98.37 PP Quartz Diorite Dyke - Feldspar Porphyritic.</p> <p>Unit is moderately well broken, generally with 5 to 25 cm breakage.</p>	MS	96.20	100.60	4.40	n/a	n/a	n/a	0.5%	V.WK	WK-MOD	-
100.60 106.25	<p>FELDSPAR PORPHYRITIC QUARTZ DIORITE INTRUSIVE - UNALTERED</p> <p>Light to medium pink, medium (1 to 3mm) grained, containing subhedral and vaguely porphyritic, white plagioclase phenocrysts up to 5 mm in size.</p>	MS	100.60	106.25	5.65	n/a	n/a	n/a	1-2%	V.WK		-

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	<p>Unit consists mostly of white to slightly pink (hematitic stained) plagioclase, 10% bluish white quartz, and 5% black biotite. Relatively massive and unaltered intrusive with no foliation fabric. Minor (2 to 3%), small (1 to 10mm), clean blue-white silica veining often with thin (1 to 4mm) halos of slightly pink feldspar. 1 to 2% finely disseminated and (hairline) fracture pyrite. Unit is well broken, generally into 2 to 5 cm pieces. Upper contact is sharp and oriented at 70 degrees to the core axis. Lower contact sharp but irregular and oriented at about 60 degrees to the core axis.</p>										
106.25 111.65	<p><b>SHEARED/SCHISTOSE MAFIC METAVOLCANIC</b> Medium to dark green brown to brown green, albite-biotite-chlorite schist. Unit is well laminated/foliated at 40 degrees to the core axis. Locally the unit appears weakly silicified and carbonatized, and includes several, small, buff to lime green or yellowish alteration epidote-carbonate alteration bands and patches. The latter are more prevalent in the other mafic volcanic units. Unit contains a few, thin (0.5 to 2 cm), magnetic bands, but is generally non- to very weakly magnetic. Magnetic bands are more common in lower part of the unit adjacent to the transitional change into the underlying more magnetic mafic metavolcanic. Unit contains a few large (1 to 3cm), clean, bluish white quartz veins, as well as a moderate amount of thin (hairline), calcite and silica network/crackle tension gash and ladder veins that are locally contorted and offset, particularly in slightly sheared sections throughout unit. Minor to 1% finely disseminated pyrite. Lower contact is transitional into more magnetic mafic metavolcanic.</p>	NS 106.25	111.65	5.40	n/a	n/a	n/a	0.5%	V.WK	V.WK	-
111.65 127.12	<p><b>SCHISTOSE MAFIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS</b> Fine grained, massive, dark grey to almost black, with a few thin (1 to 3cm) dark grey-green schistose bands, as well as 5 to 15% light apple green to creamy buff, irregular, mottled, epidote-carbonate alteration bands and patches that tend to parallel the foliation orientation.</p>	NS 111.65 366 367 368	111.65 112.75 114.28 115.65	15.47 1.10 1.53 1.37	n/a .01 .01 .05	n/a 2.50 2.40 2.50	n/a n/a n/a n/a	1% 1% 1% 1%	WK	WK	-



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

Well developed fractures oriented at 45 to 50 degrees to the core axis.  
Moderately broken core, including a few short (5cm) rubble sections.  
128.63 (422 feet) End of hole.

ESSO MINERALS CANADA  
SUMMARY DRILL LOG

Project Name: HN Hole Number: HN88-24  
 Project Number: 1677 ONTARIO GEOLOGICAL SURVEY  
 NTS: 42H/8 ASSESSMENT FILES Logged By: M.H. Lenters  
 OFFICE Date: February, 1988  
 Location: L40+00W, 6+85S RECEIVED MARCH 14 1989 Claim Number: L-871909  
 Azimuth: 183° Dip: -48° Length (m): 282.24

PURPOSE: North-south geology section north of holes HN88-22/23.

From (m)	To (m)	Description	Gold Assays (g/tonne)
		Casing left in hole.	
0.0	6.70	Overburden (Vertical Depth = 5.0 metres)	
6.70	49.90	Intercalated Mafic Metavolcanics and Fine-Grained Clastic Metasediments (Tops are Uphole) 0.5 to 10 metre interbands of massive, dark green, fine grained, calcitic mafic volcanic flows exhibiting minor epidote alteration, minor quartz and calcite veining, minor to 1% pyrite and trace chalcopyrite; and medium grey brown, biotitic, fine grained, laminated, cherty siltstones and schistose arenites, containing variable (minor to 3%) pyrite.	0.01 to 0.03
49.90	61.40	Fine-Grained Clastic Metasediments Medium to dark greenish-brown, laminated (60 to 75° to the core axis) phyllitic siltstones and massive, psammitic arenites. Minor to 1% pyrite.	0.02
61.40	62.25	Feldspar Porphyry Dyke Medium grey, aphanitic groundmass with 5 to 15%, 0.5 to 2 mm, subhedral, white, partially zoned plagioclase phenocrysts. 2 to 3 percent pyrite.	0.03
62.25	136.90	Mafic Metavolcanic Medium grey-green to dark grey-green, very fine grained to medium grained, massive to weakly foliated volcanic flow rocks, exhibiting minor to moderate epidote alteration.	0.01 to 0.42
136.90	142.58	Mafic Metavolcanic Intruded by Feldspar Porphyry Dykelets Mafic metavolcanics as above, including 30 to 50% dykes as below, but with diffuse contact boundaries.	Not Assayed
142.58	146.30	Feldspar Porphyry Dyke Dark grey, aphanitic to fine grained, massive to weakly foliated, containing 5 to 10%, small (1 to 2 mm), subhedral, weakly to euhedral, weakly zoned, white feldspar phenocrysts. 1 to 2% pyrite.	Not Assayed
146.30	152.45	Mafic Metavolcanic As above, with somewhat more (5%) quartz veining and 2 small porphyry dykes.	0.02 to 0.90
152.45	156.43	Feldspar Porphyry Dyke As above.	0.16 to 0.25



From (m)	To (m)	Description	Gold Assays (g/tonne)
156.43	156.95	Mafic Metavolcanic As above	0.13
156.95	157.30	Feldspar Porphyry Dyke As above.	0.58
157.30	158.50	Mafic Metavolcanic As above.	0.14
158.50	205.44	Weakly Altered and Quartz-Veined Feldspar Porphyritic Quartz Diorite Light pink to light grey, medium grained, massive to very weakly foliated intrusive, containing 5 to 10% plagioclase, 5% biotite and minor quartz phenocrysts. Unit is very weakly to weakly sericitized and silicified, with thin, local, moderately altered zones. Contains minor quartz veining and 2 to 4% pyrite. 167.64 - 171.38, weak to moderately foliated, dark green-grey to grey-red feldspar porphyry dyke.	0.01 to 0.91 0.07 to 1.16
205.44	240.75	Mafic Metavolcanic Dark green black, fine grained, hard, massive volcanic flow rock locally exhibiting plagioclase phenocrysts. Minor epidote alteration and minor disseminated pyrite. 230.75 - 232.35 Feldspar porphyry dyke (Anomalous Bismuth).	0.01 0.01
240.75	270.60	Weak to Moderately Altered, Quartz Veined and Mineralized, Feldspar Porphyritic, Leucocratic Quartz Diorite Light grey to white, medium grained, weak to moderately sericitized and silicified and cut by 15 to 30% quartz veining at 0 to 45° to the core axis. Unit contains 2 to 4% pyrite. Quartz veining locally contains minor pyrite and galena and traces of sphalerite, molybdenite and chalcopyrite. 254.55 to 256 Fault breccia zone subparallel to core axis.	0.01 to 2.83
270.60	271.18	Mylonite Zone Strongly altered and sheared quartz diorite intrusive rock forming mylonite shear zone at 45° to the core axis. Minor pyrite.	Not Assayed
271.18	282.24	Mafic Metavolcanic Dark green-black, fine grained, magnetic, massive flow rock with minor epidote alteration. Minor quartz +/- calcite veining, and minor Pyrite.	0.01 to 0.21
	282.24	END OF HOLE	

H-N PROJECT (Ont. 77)

ESSO MINERALS CANADA  
DIAMOND DRILL RECORD

Hole: RW88-24  
Page: 1

Drilled by: Atlas Drilling Limited  
Hole Size: BQ  
Core Size: BQ  
Casing: Casing Left in Hole

Azimuth: 183  
Dip: -48

Claim No: L-871909  
Grid: West  
Basting: 40+00W  
Northing: 6+85S  
Elevation: Level

Started: Feb. 13, 1988  
Finished: Feb. 18, 1988

Acid Tests:  
Depth Az. Dip  
121.92 -41.0  
227.38 -43.0  
279.20 -36.0

Purpose: N-S Geology Section

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

Length: 282.24 Metres  
Vert. Proj: 190.5 Metres  
Hor. Proj: 207.0 Metres  
Ovb. Depth: 5.0 Metres

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

.00 6.70 OVERBURDEN

6.70 19.10 MAFIC METAVOLCANIC PLOWS (PB THOLEIITE)

Generally very fine grained, non-magnetitic, massive, dark green-black to dark grey-green, but containing a 100 cm section of coarser grained (1 mm), lighter coloured (medium grey-green), very calcitic rock.

Mafic sections exhibit a fine intergrowth of plagioclase and ferromagnesian minerals, that are now altered to amphibole and chlorite. No biotite or garnet is evident in the unit. No porphyroblastic amphibole is present. Unit is generally weakly magnetic and not calcitic. Generally massive, but upper coarser calcitic band exhibits a moderate foliation at 60 degrees to the core axis, with a few parallel parting/shearing laminae with clay coatings.

6.70 7.90 Dark, very fine grained mafic volcanic. Weakly unaltered.

7.90 8.90 Medium grey-green, medium grained, calcitic volcanic (felsic volcanic or intensely carbonatized mafic volcanic) with moderately developed foliation at 60 degrees to the core axis.

8.90 19.10 Dark, very fine grained, massive mafic volcanic.

NS 6.70 19.10 12.40 n/a n/a n/a MINOR - VK-MOD -

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	<p>Whole unit is very weakly veined, mostly by thin (hairline to 2mm), individual, or anastomosing bands/networks (2 to 5 mm) of calcite veinlets that are irregular, but subplanar, in orientation. Several of these are offset along minor fractures across distances of 0.5 to 2 cm. Very minor amount of thin silica veinlets, and no quartz veins.</p> <p>Several, thin (hairline), planar, calcite veins/laminae are oriented at 40 to 50 degrees to the core axis, but these are also offset by minor slips/fractures.</p> <p>Minor to 0.5%, disseminated sulphides (mostly pyrite and locally pyrrhotite). Pyrrhotite often occurs as larger (1 to 3mm) blebs near calcite veining, while pyrite is finely disseminated throughout and concentrated along occasional fractures, as well as near calcite veining.</p> <p>Moderately fractured unit, generally with 20 to 100 cm breakage along calcite veinlets and fractures/joints oriented at 45 to 65 degrees to the core axis. Lower contact is sharp, but wavy, and oriented at 50 to 65 degrees to the core axis.</p>										
19.10 19.70	<p><b>SILTSTONE</b></p> <p>Dark grey, very fine grained, laminated, and weakly magnetic. Laminations suggest unit is moderately deformed, as beds are somewhat swirled and offset along minor slips.</p> <p>Unit contains a 20 cm band with regularly spaced, fine (0.2mm), elongate, whitish porphyroblasts of an unknown aluminous mineral.</p> <p>1 to 2%, pyrite as very fine disseminations producing earthy brown laminae and bands (0.1 to 1mm) of finely disseminated pyrite crystals, and fine pyritic laminae and fracture coatings.</p> <p>Very weak foliation and bedding oriented at 35 degrees to the core axis in center of unit, but bedding near upper contact is oriented at 60 to 65 degrees to the core axis, and at lower contact at 35 to 45 degrees to the core axis.</p> <p>Unit contains no significant no veining.</p> <p>Competent unit.</p> <p>Lower contact is sharp, but irregular, at 35 to 45 degrees to the core axis.</p>	NS	19.10 19.70	.60	n/a	n/a	n/a	1-2%			





Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION SIL CARB SER
	siltstone.								
27.87 28.35	Medium greenish grey, weakly siliceous (cherty) siltstone, to fine grained arenite. Lower contact is oriented at 80 degrees to the core axis.								
28.35 30.00	Medium brown, fine grained, homogeneous arenite. May consist of two or three separate beds of similar grain size, making separation of beds impossible. Section contains a few medium greenish coloured patches that are slightly calcitic. Unit locally contains minor (2%) amounts of small (1 to 3mm long), elongate, needle-like amphibole (chloritized) porphyroblasts that are randomly oriented. Minor carbonate filling thin (hairline to 1mm) fractures, that are locally developed in the finer grained, more siliceous (cherty) material. Minor to 1%, finely disseminated, and wispy laminated pyrite. Competent core, generally with 25 to 100 cm breakage. Lower contact is sharp and planar at 60 degrees to the core axis.								
30.00 37.75	<b>SCHISTOSE MAPIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS</b> Medium to dark greyish green, aphanitic to very fine grained, very weakly magnetic, weakly calcitic, with a few, thin, white, crystalline calcium carbonate bands. Contains 10 to 20%, lighter green coloured alteration patches, often centered around calcite veinlets (similar to unit at top of hole). 10 to 20%, lighter green alteration bands and patches, with gradational boundaries. The most intensely altered zones are very light green coloured, and probably silica-carbonate-epidote? altered. Mostly chloritic with no visible biotite. Locally, a few alteration bands contain fine (0.5mm), pinkish garnet porphyroblasts. 5%, thin (hairline to 3mm) fracture filling calcite +/- iron carbonate +/- silica veinlets. These are often branching and appear to fill late tension gash type fractures. Numerous hairline calcite laminae oriented at 40 to 45 degrees to the core axis. Unit contains minor amounts, and locally a few percent, sulphides. These consist dominantly of fine disseminated pyrite, but also include minor pyrrhotite, and trace amounts of chalcopyrite.	NS 418	30.00 30.00	37.75 31.00	7.75 1.00	n/a .03	n/a 1.20	n/a n/a	0.5-1% 1%



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	degrees to the core axis. Minor (2%), thin (hairline to 2mm), subplanar and foliation parallel, calcite and silica veinlets. Several small (1 to 2 mm), bluish silica lensoids. Minor to 1% pyrite, in small blebs, wispy laminae, fine disseminations, and fracture fillings, but 2 to 3% pyrite, mostly as fracture fillings, in the lower metre of the section No significant veining throughout the unit. Moderately competent core, generally with 5 to 50 cm breakage, but including a few rubble sections, where fractures are parallel to the core axis. Lower contact is oriented at 80 degrees to the core axis.										
45.35 49.90	MAFIC METAVOLCANIC FLOWS (PB THOLBIITE) Dark green, very fine/aphanitic to medium (1mm) grained, non- to very weakly magnetic, massive flows locally exhibiting sharp contacts between fine and medium grained sections. Good volcanic intergrowth of plagioclase and ferromagnesian minerals is evident. The original fine grain size is overprinted by a minor amount of small (1 to 3mm), elongate to needle-like amphibole (chloritized) porphyroblasts. Unit contains no large veining. Minor amounts of (<1%) silica-calcite filling small, discontinuous tension-gash type fractures. Minor pyrite as fine disseminations, and larger grains along some fractures. Competent core, generally with 20 to 100 cm breakage.	NS	45.35 49.90	4.55	n/a	n/a	n/a	MINOR			
49.90 61.40	SILTSTONE Medium to dark brown, with more a siliceous composition and medium grey-green colour near the upper contact, and dark greenish with more mafic volcanic epiclastic component near lower contact. 49.90 53.28 Medium grey to green-grey, siliceous siltstone to silty chert, locally with a crackle fractured appearance. Hard, competent unit, with phyllitic foliation oriented at 70 to 80 degrees to the core axis. Minor amounts of small calcite	NS 421	49.90 61.40 52.30 53.28	11.50 .98	n/a .02	n/a .80	n/a n/a	0.5-2% 1-3%			



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	veining. 1 to 3% pyrite, as disseminations, laminae and fracture fillings. Gradational lower contact zone.											
53.28 59.40	Typical, brown, laminated phyllitic siltstone and more massive, fine grained, psammitic arenite, locally containing thin (1 to 3mm), lensoid and boudinaged bands of bluish silica (cherty laminae?), as well as some irregular silica blebs in the upper part of the unit adjacent to the overlying cherty siltstone. Laminae/foliation and bedding are oriented at 60 to 70 degrees to the core axis. Minor to 1% pyrite as fine disseminations, 1 to 3mm wide laminae and fracture controlled veinlets.											
59.40 61.40	Dark green, fine grained arenite derived from mafic volcanic material. Psammitic with biotite along foliation orientation of 70 to 75 degrees to the core axis. Minor finely disseminated pyrite.											
	Competent unit, generally with 5 to 30 cm breakage. Lower contact is a sharp intrusive contact oriented at 70 degrees to the core axis.											
61.40 62.25	<b>PELDSPAR PORPHYRY DYKE</b> Medium grey, aphanitic, weakly foliated, consisting mostly of feldspar, minor quartz? and 5% biotite/chlorite, with 5 to 15%, 0.5 to 2 mm, subhedral, white, partly zoned and resorbed plagioclase phenocrysts. 2 to 3% fine pyrite as individual disseminations, and thin laminae. Foliation oriented at 70 to 85 degrees to the core axis. Weak sericitization along small fractures. Hard, competent, intact unit with no core breakage. No veining. Lower contact is sharp at 85 degrees to the core axis.	NS 422	61.40 61.40	62.25 62.25	.85 .85	n/a .03	n/a .80	n/a n/a	2-3% 2-3%	- -	- -	WK
62.25 99.43	<b>SCHISTOSE MAFIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS</b> Medium grey-green to dark green-grey, varying from aphanitic to medium (1mm) grained, with good volcanic flow texture. Weak to moderately magnetic.	NS 423	62.25 68.00	99.43 69.00	37.18 1.00	n/a .01	n/a 1.40	n/a n/a	0.5% 0.5%	WX-MOD	WK	V.WK

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

Generally massive to very weakly foliated at 70 degrees to the core axis. Most of the unit exhibits a hairline crackle fracturing along which the rock is a lighter green colour due to epidotization, carbonatization and minor sericitization. Locally the epidote alteration forms irregular stringy alteration patches and bands that are a few to several cm in size. Some of these bands also contain minor pinkish garnet porphyroblastic bands and lenses.

Locally the unit exhibits a moderate degree of pervasive silicification, mostly adjacent to a thin (2 to 20mm) quartz veins, but the silicification also occurs with the epidote/carbonate +/- sericite patches and bands. Silicified zones, particularly those adjacent to quartz veining, contain abundant finely disseminated pyrite.

Quartz veins occur at:

68.85 68.88 Quartz vein with 10 cm alteration zones adjacent to both sides containing 5% finely disseminated pyrite.

70.17 70.20 Quartz vein oriented at 70 degrees to the core axis. Bull white with 10 cm alteration zones adjacent to both sides containing 2% disseminated pyrite and numerous other smaller quartz veins and patches.

0.5% Pyrite, locally as abundant disseminations in silicified zones adjacent to veining, and throughout unit as fine to coarse (3 mm) disseminated pyrite cubes.

Minor chalcopryrite, as large (1 to 3mm) blebs, generally adjacent to veining, or within intensely altered patches.

Intense, irregular, silica crackle veining network, minor silica patches and veinlets, and a few small quartz veins.

Minor amount of silica flood/alteration veinlets also occur as planar surfaces oriented at various angles (0 to 90 degrees) to the core axis.

Silica +/- calcite patches often have a salmon pink colour (albite/iron? mineral/locally garnet).

Epidote-carbonate and salmon pink alteration bands and patches are larger within this unit and account for 10 to 15% of the section between 81 and 93 metres.

Unit is relatively competent, generally with 10 to 50 cm breakage, often along irregular fractures.

Several large fractures exhibit a deep red, hematitic coating/staining.

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	Lower contact is sharp and oriented at 85 degrees to the core axis.										
99.43 103.00	<b>INTERFLOW METASEDIMENT</b> Medium grey to grey-green, very fine grained, well foliated (laminated), weak to locally moderately magnetic, sediment with a large proportion of tuffaceous, epiclastic volcanic material (not as homogeneous and well laminated/bedded as the overlying clastic sediment sections). The unit may possibly be an altered mafic volcanic. Unit contains some weakly magnetic, wavy foliated zones, that are oriented at 60 to 70 degrees to the core axis, but are locally intensely contorted. Unit contains no large veining. Minor irregular, and diffuse silica carbonate laminae and patches, locally giving rock a foliated crackle-network appearance. Minor to 0.5%, disseminated pyrite. Pyrite is most common in greener, more tuffaceous (volcanic) sections. Competent core, generally with 30 to 100 cm breakage. Lower contact is oriented at 70 degrees to the core axis.	NS 99.43	103.00	3.57	n/a	n/a	n/a	0.5%			
103.00 136.90	<b>SCHISTOSE MAFIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS</b> Generally medium to dark grey-green to green-grey colour with a few lighter mottled alteration patches, and some brown (biotitic) bands. Mostly aphanitic, fine grained material with coarse (2 to 4mm long), amphibole/chlorite porphyroblasts. Light alteration patches consist of epidote and carbonate (calcite) and minor pink garnet. Biotite bands, within the more distinctly foliated section of unit, between 119 and 123.50 metres, has a slight bedded? appearance, but does not appear to be a sediment. Foliation oriented at 60 to 70 degrees to the core axis. Alteration also occurs along thin (hairline to 1 or 2mm), anastomosing veinlets/fractures forming thin (0.5 to 3cm), irregular bands. Unit commonly exhibits a weak to moderately well developed network crackle fracturing with calcitic-epidote altered surfaces/lines.	NS 103.00 424 114.60 425 115.70 426 135.94	136.90 115.70 116.70 136.90	33.90 1.10 1.00 .96	n/a .42 .02 .03	n/a 1.40 1.40 1.10	n/a n/a n/a n/a	0.5% 1% 1-2% 1%	VK	VK	-

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION SIL CARB SER
	<p>Locally, the thin (hairline), calcite fractures form small zebra or ladder fracture patterns, indicating development as late tension fractures. These are generally oriented at 45 to 55 degrees to the core axis.</p> <p>Minor silicification throughout unit, often associated with lighter coloured epidote-carbonate alteration patches, but also as thin (1 to 5mm), irregular, pervasive, grey, silica patches and amoeboid bands/blebs. Minor quartz veining including:</p> <p>113.70 113.76 1 cm quartz vein oriented at 35 degrees to the core axis.</p> <p>116.58 116.68 10 cm quartz vein oriented at 75 degrees to the core axis.</p> <p>127.15 127.17 2 cm quartz vein oriented at 55 to 70 degrees to the core axis, with 1% pyrite.</p> <p>130.20 130.24 4 cm quartz vein oriented at 80 degrees to the core axis.</p> <p>Minor to 0.5% pyrite, as small blebs and fine disseminations often concentrated in silicified patches, along biotitic bands, along fractures, in some quartz veins, and as occasional 1 mm thick pyritic laminae.</p> <p>Minor amounts of chalcopyrite are disseminated within the fine grained, massive, more mafic volcanic.</p> <p>Competent core, generally with 30 to 100 cm breakage.</p> <p>Lower contact is gradational through a zone of dark green-grey, porphyritic intrusive material within dark green-grey mafic volcanics, with very diffuse contacts between the two rock types.</p>								
136.90 142.58	<p>MAFIC METAVOLCANIC FLOWS (PE THOLEIITE)</p> <p>Dark grey to dark grey-green unit, consisting of very fine grained massive to weakly foliated mafic volcanic similar to that of overlying unit, but containing very minor lighter coloured epidote-carbonate+/-garnet alteration. Foliation oriented at 70 to 85 degrees to the core axis.</p> <p>Unit includes 30 to 50%, dark grey, siliceous, very fine grained, slightly feldspar porphyritic, intrusive dykes and blebs with very diffuse contact edges. These dykes are 2 cm to 150 cm wide and are similar to underlying unit.</p> <p>The two rock types generally grade into one another through transition</p>	MS 136.90	142.58	5.68	n/a	n/a	n/a	1%	

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	<p>zones with mixed compositions.</p> <p>The intrusive is somewhat siliceous, and the volcanic appears slightly silicified.</p> <p>Unit is cut by 3%, thin (2 to 5mm), wormy, folded to subplanar veins of blue-white silica. Subplanar veins are oriented at 45 degrees to the core axis.</p> <p>Minor pyrite within the volcanic, and 1% disseminated pyrite in the intrusive portions of the unit.</p> <p>Competent unit, generally with 30 to 100 cm breakage.</p> <p>Lower contact is somewhat diffuse grading into the larger intrusive zone.</p>											
142.58 146.30	<b>FELDSPAR PORPHYRY DYKE</b>											
	<p>Dark grey, aphanitic to fine grained, massive to weakly foliated intrusive containing 5 to 10%, small (1 to 2mm), subhedral to euhedral, weakly zoned, white feldspar phenocrysts.</p> <p>Unit contains 1 to 2% pyrite in small blebs and individual disseminations.</p> <p>Minor, thin (hairline to 1mm), planar, light blue-grey silica veinlets.</p> <p>No significant alteration patches or large veining.</p> <p>Competent unit, generally with 50 to 100 cm breakage.</p> <p>Lower contact is somewhat diffuse and oriented at 70 degrees to the core axis.</p>	NS 142.58	146.30	3.72	n/a	n/a	n/a	1-2%	WK	-	-	
146.30 152.45	<b>SCHISTOSE MAFIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS</b>											
	<p>(Identical to the unit between 103.00 and 136.90 metres, but including more quartz veins as well as two small porphyry dykes).</p> <p>Medium to dark grey-green, fine grained, massive to weakly foliated volcanic with lighter green coloured patches and zones of epidote and carbonate alteration, and minor, pinkish garnet development.</p> <p>Unit generally contains an intense network crackle veining of calcite.</p>	NS 146.30	152.45	6.15	n/a	n/a	n/a		MINOR			
	146.65 146.70 Clay gouge material along several thin shear/faulted fractures oriented at 45 to 65 degrees to the core axis.	595	147.22	148.05	.83	.90	2.20	n/a	1-2%			
	148.15 148.20 3 white quartz veins oriented at 75 degrees to the core axis	596	148.05	148.80	.75	.17	2.40	n/a	2-3%			
	148.27 148.34 White quartz vein oriented at 60 degrees to the core axis with trace amounts of chalcopyrite.	597	148.80	148.85	.05	.15	1.50	n/a	1-2%			
		598	148.85	150.15	1.30	.02	2.80	n/a	0.5%			
		599	150.15	150.36	.21	.04	1.50	n/a	1%			
		600	150.36	151.75	1.39	.27	3.70	n/a	1-2%			
		427	151.75	152.45	.70	.22	1.40	n/a	MINOR			

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
148.50 148.51	Irregular, 1 cm wide, white quartz vein with 3% pyrite and 2% chalcopyrite.											
148.80 148.85	Grey-white quartz vein oriented at 70 degrees to the core axis, containing minor pyrite, chalcopyrite and grey metallic minerals.											
149.60 149.67	Bull white quartz vein oriented at 30 degrees to the core axis.											
150.15 150.36	Feldspar Porphyry Dyke. Pinkish grey, feldspar porphyry dyke consisting of 60 to 70%, crowded, subhedral, white to slightly pinkish feldspar phenocrysts in an aphanitic, dark slightly brownish grey matrix. Dyke contains 2 to 4% biotite, and 0.5 to 1% disseminated pyrite. Sharp contacts at 65 degrees to the core axis.											
151.00 151.20	Irregular quartz vein containing 1% pyrite and trace amounts of chalcopyrite.											
151.70 151.73	Feldspar Porphyry Dyke. Pinkish grey feldspar porphyry dyke as above.											
	Unit generally contains minor to 1% pyrite within the mafic volcanic sections, but 1 to 2% pyrite associated with the veining and dykes.											
	Moderately broken core, generally with 5 to 20 cm breakage.											
	Lower contact is sharp a intrusive contact oriented at 60 degrees to the core axis.											
152.45 156.43	<b>FELDSPAR PORPHYRY DYKE</b> Dark grey, fine grained groundmass with 20 to 25%, small (0.5 to 1mm) and occasionally some larger, white, subhedral feldspar phenocrysts often with minor calcite grains along edges of feldspar crystals. Massive, homogeneous unit with no foliation. Unit is relatively hard, but no quartz grains evident. 1 to 2% finely disseminated pyrite, and minor pyrite along fractures, including one with 3mm wide pyritic fracture band. Minor white quartz veining cuts the intrusive. Competent core, generally with 5 to 50 cm breakage. Lower contact is sharp and oriented at 75 degrees to the core axis.	NS	152.45 156.43	3.98	n/a	n/a	n/a	1-2%				
		428	152.45 153.92	1.47	.20	.80	n/a	1-2%				
		429	153.92 155.30	1.38	.25	.80	n/a	1-2%				
		430	155.30 156.06	.76	.18	.70	n/a	3%				
		431	156.06 156.43	.37	.16	.60	n/a	2%				

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
156.43 156.95	<b>MAPIC METAVOLCANIC FLOWS (PB THOLEIITE)</b> Dark grey-green, aphanitic, weakly foliated, and exhibiting an intense network of hairline crackling that is reactive to HCl (calcite). Minor disseminated sulphides (pyrite). Minor quartz veinlets.	NS 156.43 601 156.43	156.95 156.95	.52 .52	n/a .13	n/a 2.80	n/a n/a	0.5% 0.5%	WK	MOD	-
156.95 157.30	<b>FELDSPAR PORPHYRY DYKE</b> (Identical to the intrusive between 152.45 and 156.43, except this unit contains 3% pyrite, mostly as small stringers along discontinuous fractures. Upper and lower contacts are sharp but wavy and oriented at 65 to 75 degrees to the core axis.	NS 156.95 432 156.95	157.30 157.30	.35 .35	n/a .50	n/a .80	n/a n/a	3% 3%			
157.30 158.50	<b>MAPIC METAVOLCANIC FLOWS (PB THOLEIITE)</b> (Same as unit on the other side of the overlying intrusive dyke, but slightly more silicified in appearance, and exhibiting very vague, (1 to 3mm) feldspar porphyroblasts).	NS 157.30 602 157.30	158.50 158.50	1.20 1.20	n/a .14	n/a 2.50	n/a n/a	0.5% 0.5%	WK-MOD	WK	-
158.50 167.64	<b>PP QUARTZ DIORITE INTRUSIVE - WK TO MOD ALTERED</b> (Typical of the auriferous section in HN88-22, but this intrusive is only weakly altered). Light grey to white, fine to medium grained intrusive consisting dominantly of small (0.1 to 2mm), with 5 to 10% larger (2 to 5mm), euhedral to subhedral, white, often zoned plagioclase phenocrysts. Unit contains minor grey quartz and 5% biotite. Generally very weak to weak silicification and sericitization. Unit contains a white, bleached, more sericitic and quartz veined section from 160.65 to 161.24 metres. White quartz veining within this section is irregular, and appears somewhat broken/fractured. Large green, fine grained, mafic volcanic xenolith between 163.70 and 164.60 metres has irregular, but sharp, contact edges. Intrusive is finer grained, darker grey, and exhibits an intense pervasive	NS 158.50 433 158.50 434 159.50 435 160.65 436 161.24 437 162.50 603 163.70 438 164.60 439 164.85 440 165.75 441 166.65	167.64 159.50 160.65 161.24 162.50 163.70 164.60 164.85 165.75 166.65 167.64	9.14 1.00 1.15 .59 1.26 1.20 .90 .25 .90 .90 .99	n/a .13 .02 .01 .02 .05 .14 .91 .13 .15 .02	n/a .50 .50 1.90 .80 .90 2.00 1.60 1.00 1.20 .40	n/a n/a n/a n/a n/a n/a n/a n/a n/a n/a n/a	2-4% 2% 2% 2% 2% 3-4% 1-2% 3-4% 2% 2% 2%	WK	V.WK	V.WK

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	<p>silicification adjacent to both sides of the xenolith between 162.50 to 164.85 metres.</p> <p>Pyrite occurs as disseminations, blebs and stringers/fracture filling veinlets.</p> <p>Generally minor (2 to 3%), thin (2 to 5mm), white, quartz veins and patches, often with somewhat diffuse boundaries. Veins are clean with no pyrite. The intensely silicified and sericitized zone (160.65 to 161.24m) contains 10 to 20%, irregular and diffuse quartz veining.</p> <p>Core varies from soft and broken in the intensely altered section, to hard and competent in the intensely silicified grey zones adjacent to the xenolith.</p> <p>Lower contact not recovered as it was lost at the end of a core run (550'), but it is probably a sharp intrusive contact.</p>											
167.64 171.38	<p><b>FELDSPAR PORPHYRY DYKE</b></p> <p>Speckled, medium grey to darker grey-green, to speckled medium pink to dark grey-red colour.</p> <p>20 to 25%, fine to medium (1mm) grained, rounded, grey to pink feldspar, and 10 to 15% quartz phenocrysts, often exhibiting reaction rims and small pressure shadow material, occurring in a darker grey-green to grey-red, foliated, aphanitic matrix containing 10% biotite.</p> <p>Unit is very homogeneous, except for a transitional change in oxidation state of iron from green above 168.40 metres to red below 168.40 metres. Moderately well foliated at 0 to 20 degrees to the core axis.</p> <p>Contains a few small (up to 1 x 3cm), dark green, fine grained, mafic volcanic xenoliths.</p> <p>Minor quartz veining occurs as thin (1 to 3mm), subplanar veinlets.</p> <p>Minor to 0.5% pyrite as fine disseminations, and along some fractures.</p> <p>Competent core, generally with 20 to 100 cm breakage along fractures oriented at 45 to 75 degrees to the core axis.</p> <p>Lower contact is a sharp but irregular intrusive contact.</p>	NS 167.64	171.38	3.74	n/a	n/a	n/a	0.5%				
		442	167.64	168.40	.76	.07	3.50	n/a	0.5%			
		443	168.40	169.40	1.00	.54	2.40	n/a	0.5%			
		444	169.40	170.40	1.00	.80	4.30	n/a	0.5%			
		445	170.40	171.38	.98	1.16	4.80	n/a	0.5%			
171.38 205.44	<p><b>FELDSPAR PORPHYRITIC QUARTZ DIORITE INTRUSIVE - UNALTERED</b></p> <p>Unit varies from a relatively fresh and unaltered, massive, light pinkish</p>	NS 171.38	205.44	34.06	n/a	n/a	n/a	1-3%	WK	V.WK	V.WK	



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	Intrusive, through a weakly foliated, weakly sericitized and silicified, light grey intrusive, to thin zones of moderately silicified and sericitized, as well as quartz veined intrusive.	446	171.38	172.35	.97	.01	1.30	n/a	2-3%		
		447	172.35	173.10	.75	.16	1.70	n/a	2-3%		
		448	173.10	173.90	.80	.01	1.00	n/a	1%		
	Generally fine (0.5 to 2mm) grained, crowded feldspar in a finer, probably feldspar rich, matrix with little (<5%) visible quartz. 5%, small, scattered biotite, locally chloritized and sericitized, and generally 1 to 3% disseminated, as well as fracture controlled, pyrite.	620	173.90	175.25	1.35	.09	1.60	n/a	1-2%		
		449	175.25	176.35	1.10	.01	1.00	n/a	1-2%		
	Minor to trace amounts of a dark grey, metallic mineral in a few quartz veins.	450	176.35	177.50	1.15	.04	1.10	n/a	2-3%		
		604	177.50	178.61	1.11	.04	.80	n/a	1%		
		605	178.61	179.30	.69	.07	.90	n/a	1%		
	Generally 2 to 3% quartz as small (1mm), to larger (3cm), buff white veins in subplanar to planar veins oriented at various angles to the core axis. Veins contain some feldspar, but very little other impurities or mineralization. Slightly more veining in altered sections, but veining about the same throughout the unit.	606	179.30	180.50	1.20	.12	.70	n/a	1-2%		
		451	180.50	181.50	1.00	.23	1.60	n/a	2-3%		
		607	181.50	182.88	1.38	.14	1.20	n/a	1-2%		
		608	182.88	184.20	1.32	.17	1.90	n/a	1%		
		609	184.20	185.00	.80	.15	3.30	n/a	1-2%		
		610	185.00	186.00	1.00	.11	1.90	n/a	1-2%		
	171.38 173.10 Light grey to white, weak to moderately sericitized and silicified.	611	186.00	187.45	1.45	.07	1.10	n/a	1-2%		
		612	187.45	188.67	1.22	.06	1.40	n/a	1-2%		
	173.10 175.25 Gradational into a light pink, very weakly sericitized and silicified intrusive.	613	188.67	190.00	1.33	.10	1.00	n/a	1-2%		
		614	190.00	190.80	.80	.17	1.30	n/a	0.5%		
	175.25 177.50 Grey, weakly silicified and sericitized intrusive, with local zones/patches of white, moderately altered intrusive.	615	190.80	192.00	1.20	.12	1.00	n/a	0.5-1%		
		616	192.00	192.90	.90	.05	1.00	n/a	0.5-1%		
	177.50 184.20 Generally light pink, unaltered to very weakly silicified and sericitized, with minor light grey, weakly altered patches, but including a central section with white, weak to moderately altered patches between 180.5 and 181.5 metres.	452	192.90	193.90	1.00	.01	.80	n/a	2%		
		617	193.90	195.00	1.10	.10	1.00	n/a	0.5-1%		
		618	195.00	195.80	.80	.16	1.20	n/a	0.5-1%		
		619	195.80	196.50	.70	.11	1.90	n/a	0.5-1%		
		453	196.50	197.50	1.00	.03	.90	n/a	2-3%		
	184.20 186.00 Light grey, weakly sericitized and silicified intrusive.	454	197.50	198.50	1.00	.22	1.30	n/a	2-3%		
	186.00 196.50 Light pinkish, very weakly sericitized and silicified, porphyritic intrusive containing a hematized fracture between 190.20 and 190.50 metres.	455	198.50	199.20	.70	.02	1.00	n/a	3-4%		
		456	199.20	199.80	.60	.05	6.10	n/a	2%		
		457	199.80	200.56	.76	.01	1.30	n/a	2-3%		
	196.50 202.85 Grey, weakly silicified and sericitized, to white moderately altered surrounding the quartz veining between 199.20 and 199.80 metres.	458	200.56	201.60	1.04	.01	1.40	n/a	2-3%		
		459	201.60	202.85	1.25	.02	1.80	n/a	2-3%		
		460	202.85	203.91	1.06	.01	.90	n/a	1-2%		
	202.85 205.44 Light pink, very weakly sericitized and silicified, porphyritic intrusive with local zones of grey, weakly silicified and sericitized intrusive. Between 204.65 and 205.44 metres the section is medium pink in colour with	461	203.91	204.65	.74	.01	.70	n/a	1-2%		
		462	204.65	205.44	.79	.01	1.00	n/a	1%		

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

chloritized biotite and chloritic fractures.

The contacts between the above sections are all gradational. The section divisions are somewhat subjective as the alteration changes are highly variable, with some patches of less and more altered material occurring within each section.

Rock is well fractured, mostly at angles oriented between 45 and 70 degrees to the core axis, with the two extreme angles being the most dominant.

Unit is generally broken into 5 to 20 cm pieces, but includes some rubble sections.

Minor fractures with chloritic/sericitic surfaces having undergone some slippage.

#### 205.44 230.75 MAFIC METAVOLCANIC FLOWS (PE THOLEIITE)

Generally very dark, slightly greenish black, very fine grained, extremely hard and siliceous volcanic, often with minor, vague, small (0.5 to 2mm), subhedral, light greenish to white feldspar phenocrysts, but locally containing 5 to 10%, well developed, subhedral feldspar phenocrysts.

Unit is generally pervasively silicified (unless silica content is indigenous to the metavolcanic). The unit is also cut by 3 to 5%, small (1 to 25mm), quartz veins, and irregular silica flood veinlets.

Unit has a slight crackle fracturing, with thin (hairline), epidote alteration in dark green, porphyritic sections, but also large sections of moderately to intensely epidotized rock. The latter form massive, epidote green coloured rock that is somewhat vuggy.

Locally the unit exhibits a flow breccia/pseudobreccia appearance with 50% unaltered, angular fragments of various size lying within epidotized matrix material.

Unit is generally massive, with no foliation development, suggesting a thick flow or intrusive origin.

Trace amounts of pyrite occurs within the intrusive, but locally it contains up to a few percent pyrite, associated with fractures and silica veining.

Unit contains trace amounts of chalcopyrite, as large (2 x 3mm) grains

NS 205.44	230.75	25.31	n/a	n/a	n/a	-	-
463 205.44	206.20	.76	.01	.70	n/a	MINOR	
464 210.62	211.53	.91	.01	1.50	n/a	MINOR	



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
230.75 232.35	<b>FELDSPAR PORPHYRITIC QUARTZ DIORITE INTRUSIVE - UNALTERED</b> 25 to 30%, white, 1 to 5 mm, crowded feldspar phenocrysts in dark grey, fine grained, dominantly feldspar groundmass, also containing 5% biotite, 2 to 4% pyrite, and 5% bluish quartz grains. Unit contains the occasional, large (10mm), partly polycrystalline feldspar phenocrysts. Massive, unfoliated and unaltered, hard rock. Minor, small (1 to 2mm), subplanar silica veining, and small (0.5 to 2cm) silica patches. 2 to 4% pyrite as fine disseminations, and concentrations along fractures. Competent unit, generally with 10 to 50 cm breakage.	NS 230.75	232.35	1.60	n/a	n/a	n/a	2-4%			
		465 230.75	231.45	.70	.01	.80	n/a	3-4%			
		466 231.45	232.35	.90	.01	.60	n/a	3-4%			
232.35 240.75	<b>SCHISTOSE MAPIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS</b> (Probably the same rock as the unit between 205.44 to 230.10, but this unit is not quite as siliceous, has no feldspar phenocrysts, and has a carbonate alteration as well as the epidotization). Unit is generally dark greenish grey, with 40 to 50%, buff to light greenish to creamy yellow altered network veining, that grade into more altered patches and irregular bands. Massive to weakly foliated at 60 to 80 degrees to the core axis. 0.5% Pyrite as fine disseminations and blebs, often concentrated adjacent to thin silica veinlets. 2 to 3%, thin, irregular to subplanar, silica/-calcite veinlets. Relatively competent core with 25 to 100 cm breakage generally along fractures oriented at 45 to 60 degrees to the core axis. Lower contact is a sharp intrusive contact oriented at 45 degrees to the core axis. Underlying porphyritic intrusive cuts this unit as attested by the 25 cm contact zones exhibiting an intense calcitic alteration and strong foliation.	NS 232.35	240.75	8.40	n/a	n/a	n/a	MOD	VK-MOD	V.VK	
		467 239.59	240.75	1.16	.01	1.20	n/a	1%			
240.75 270.60	<b>PP QUARTZ DIORITE INTRUSIVE - WK TO MOD ALTERED</b> Light grey to white, fine to medium grained, moderately to intensely silicified, and weak to moderately sericitized. Unit is cut by abundant	NS 240.75	270.60	29.85	n/a	n/a	n/a	WK-MOD	WK	WK-MOD	
		377 240.75	241.75	1.00	.05	2.60	n/a	2-3%			

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	(15 to 30%), white quartz veining. Most of the veining is at relatively steep (0 to 45 degree) angles to the core axis, with 20 to 35 degrees being predominant. Veining is small (mm) to large (10 cm), and irregular to subplanar.	378	241.75	242.90	1.15	.54	15.40	n/a	2-3%		
		379	242.90	243.54	.64	1.91	31.60	n/a	2-3%		
		380	243.54	244.75	1.21	.21	6.10	n/a	2-4%		
		381	244.75	245.20	.45	.61	28.40	n/a	2-4%		
	Unit also contains several fractures, many of these at steep (10 to 35 degrees) to the core axis. These fractures often are coated with minor amounts of a purplish grey metallic mineral.	382	245.20	245.60	.40	1.02	10.80	n/a	2-3%		
		383	245.60	246.00	.40	.16	2.80	n/a	1-2%		
	Larger quartz veins contain some altered wallrock fragments and minor sulphides, including pyrite, minor amounts of purple grey metallic minerals (galena), and locally, minor amounts of yellow sphalerite and trace amounts of chalcopyrite.	384	246.00	246.50	.50	.10	1.20	n/a	2-3%		
	Larger quartz vein sections at:	385	246.50	247.00	.42	2.83	64.80	n/a	2-3%		
	242.30 242.90 Large quartz vein oriented at 0 to 20 degrees to the core axis, with minor pyrite and purple grey metallic minerals.	386	247.00	247.80	.80	.18	3.20	n/a	2-3%		
	243.30 243.54 Large, irregular quartz vein patch containing 1% purple-grey mineral, as well as some peach coloured kaolinized? feldspar.	387	247.80	248.50	.70	.04	2.00	n/a	3-4%		
		388	248.50	249.40	.90	.05	2.20	n/a	3-4%		
		389	249.40	249.80	.40	.07	3.60	n/a	3-4%		
	244.75 244.95 Large quartz vein oriented at 10 degrees to the core axis, with 3% pyrite, a few large (5 x 10 mm), irregular, honey coloured to bright yellow sphalerite crystals, 0.5% purple grey mineral, and minor chalcopyrite, all disseminated through the relatively clean quartz vein.	390	249.80	250.45	.65	.90	6.80	n/a	2-3%		
		391	250.45	251.00	.55	.85	24.00	n/a	2-3%		
		392	251.00	251.55	.55	.05	2.80	n/a	2-3%		
		393	251.55	252.55	1.00	.04	1.40	n/a	2-4%		
		394	252.55	253.55	1.00	.02	1.00	n/a	2-4%		
		395	253.55	254.55	1.00	.01	1.20	n/a	2-3%		
		396	254.55	256.00	1.45	.05	1.40	n/a	1-2%		
		397	256.00	256.95	.95	.01	1.20	n/a	2-3%		
		398	256.95	257.56	.61	.04	1.20	n/a	2-3%		
		399	257.56	258.60	1.04	.01	1.40	n/a	2-3%		
	245.20 245.60 Quartz vein oriented at 15 degrees to the core axis, with large (1cm), irregular, peach coloured kaolinized feldspar, 1% pyrite, and minor to 0.5% purple grey mineral, within quartz vein and in the adjacent wallrock edges. Wallrock is moderately foliated.	400	258.60	259.10	.50	.04	2.80	n/a	2-3%		
		401	259.10	259.75	.65	.17	7.60	n/a	2-4%		
		402	259.75	260.50	.75	.01	4.00	n/a	2-4%		
		403	260.50	261.00	.50	.20	18.00	n/a	2-4%		
		404	261.00	262.00	1.00	.11	4.80	n/a	2-3%		
	246.90 246.91 1 cm polyphase (2 bands) quartz vein oriented at 30 degrees to the core axis, with abundant, extremely finely disseminated grey mineral in lower band (phase?), adjacent to the upper clean, white quartz phase.	405	262.00	263.00	1.00	.03	4.40	n/a	2-3%		
		406	263.00	264.00	1.00	.02	2.80	n/a	2-3%		
		407	264.00	265.00	1.00	.24	6.10	n/a	2-3%		
		408	265.00	266.00	1.00	.05	2.40	n/a	2-3%		
	247.00 247.40 Abundant (25%), 1 to 3 mm, subparallel and subplanar, sheeted quartz vein section within foliated and altered wallrock.	409	266.00	266.50	.50	.15	2.30	n/a	2-3%		
		410	266.50	267.00	.50	.02	2.00	n/a	2-3%		
		411	267.00	268.00	1.00	.02	1.20	n/a	2-3%		
	250.15 250.40 Quartz vein with irregular contacts, including minor pyrite and grey metallic mineral. Grey mineral (galena) occurs	412	268.00	268.50	.50	.01	.80	n/a	2-3%		
		413	268.50	269.00	.50	.05	3.80	n/a	2-3%		



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	<p>concentrations within, and along the edges of, quartz veining.</p> <p>The soft purplish grey metallic mineral generally occurs in, or along the edges of, quartz veining, but also occurs as fine disseminations within the intensely silicified/silica-flooded wallrock zones of the veined sections. Locally this mineral accounts for 1% of thin intervals a few cm in width, but it generally forms only minor amounts of the sampled intersections. The purple grey metallic mineral also forms films on some low angle fractures.</p> <p>The altered section is porous to vuggy, and contains several fractures at low angles to the core axis.</p> <p>In the lower part of the unit several fractures that are oriented at 50 to 70 degrees to the core axis have 1 mm films of white, sericitic?, kaolinized? clay material.</p> <p>Unit is well fractured at 45 to 70 degrees to the core axis, with several steeper fractures locally producing very vuggy sections, however, for the degree of alteration, the core is moderately competent, generally with 5 to 20 cm breakage along sericite-kaolin lined fractures.</p> <p>Lower contact zone includes 2 well foliated (35 to 40 degrees to the core axis), wallrock fragments between 270.32 to 270.38m and 270.48 to 270.55m, with the adjacent intrusive only weakly sericitized.</p> <p>Lower contact is sharp and oriented at 40 degrees to the core axis with a 10 cm clay gouge band.</p>											
270.60 271.18	MYLONITE ZONE											
	<p>Well banded, pastel greenish, greyish, purplish, pinkish colours of finely foliated intrusive material, but including a few larger fragments of the intrusive.</p> <p>Unit is sericitic, and soft, and includes 2 sections between 270.60 to 270.65m and 270.81 to 270.87m that grade into zones of clay gouge material.</p> <p>Mylonitic shearing is oriented at 45 degrees to the core axis, with surfaces easily separable to mm size laminae.</p> <p>Unit contains no veining.</p> <p>0.5% Finely disseminated pyrite, probably as remnant grains from the original intrusive material.</p>	NS 270.60	271.18	.58	n/a	n/a	n/a	0.5%	WK	MOD-INT	MOD-INT	

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	Lower contact is irregular, gradational changing into intensely altered (carbonate) mafic volcanic. Some of this altered material can also be seen as small fragment grains within the lower part of the mylonite zone.										
271.18 282.24	CARBONATE ALTERED MAFIC METAVOLCANIC Medium to dark grey to green-grey, weakly carbonatized and epidotized, and very weakly sericitized, massive, very fine grained, moderately magnetic volcanic. Minor amounts of pinkish garnet banding associated with the epidote alteration. Unit exhibits a moderate to intense degree of alteration within 1 metre of the adjacent mylonite zone, but is generally only weakly silicified and carbonatized. Most of unit exhibits a network of hairline fractures and small patchy zones of alteration that are a lighter grey colour. This network fracturing is mainly silica veining, together with a weakly developed, patchy, pervasive silicification. Unit is generally massive to weakly foliated above 278.5m, but well sheared at 10 to 30 degrees to the core axis below 278.5m. 281.30 281.90 Section with irregular black banding that is extremely fine grained and magnetic. Appears to be interflow sediment material within the volcanic flow units. This section also contains a 3 mm pyrite band that parallels the magnetic bands and the shearing orientation at 25 degrees to the core axis. It includes 0.5 to 1% chalcopyrite. 1% Pyrite as fine disseminations concentrated in carbonate-epidote altered patches, areas of silicification or veining, and as some thin pyritic laminae. Minor quartz veining and laminae often slightly offset and stretched or boudinaged due to shearing. Moderately fractured with most having a thin coating of sericite/kaolin clay, suggesting some slippage. Several fractures have thin clay gouge zones and some of the sheared/foliated rock is very soft and consists of chlorite-sericite minerals also suggesting slippage.	NS 271.18 282.24 11.06 621 279.20 280.50 1.30 622 280.50 281.35 .85 417 281.35 282.24 .89			n/a .02 .01 .21	n/a 2.40 2.70 2.20	n/a n/a n/a n/a	1% MINOR MINOR 2%	WK	WK	-



H-N PROJECT (Ont. 77)

ESSO MINERALS CANADA  
DIAMOND DRILL RECORD

Hole: HN88-24  
Page: 24

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

Lower contact was not encountered.  
282.24 (926 Feet) End Of Hole.

ESSO MINERALS CANADA  
SUMMARY DRILL LOG

Project Name: HN

Hole Number: HN88-25

Project Number: 1677

Logged By: M.H. Lenters

NTS: 42H/8

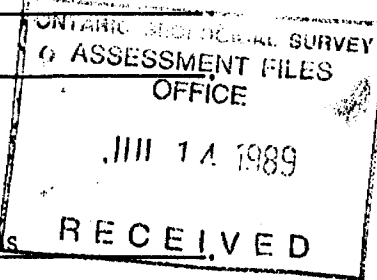
Date: February, 1988

Location: L40+00W, 11+2 S

Claim Number: L-871908

Azimuth: 180° Dip: -45°

Length (m): 233.48



PURPOSE: North-south geology section south of holes HN88-22/23

From (m)	To (m)	Description	Gold Assays (g/tonne)
		Casing left in hole	
0.00	11.85	Overburden (Vertical Depth 8.4 metres)	
11.85	18.60	Mafic Metavolcanic Medium to dark grey-green, fine grained, magnetic, massive volcanic flow rock with moderate (20 to 25%), irregular anastomosing epidote-carbonate alteration patches and banding, and weak foliation at 60° to the core axis. Minor pyrite.	Not Assayed
18.60	39.79	Feldspar Porphyritic Quartz Diorite Intrusive Light pinkish to light grey, fine to medium grained with 5 to 7%, large, subhedral plagioclase phenocrysts, 2 to 3% quartz, and 5 to 7% biotite. A few, thin, weak to moderately silicified and sericitized zones adjacent to small quartz veins at 40 to 60° to the core axis. 1% pyrite.	0.01 to 0.18
39.79	50.30	Mafic Metavolcanics Mottled dark green, fine grained (chloritic) and massive; and sandy brown (biotite), fine to medium grained and schistose due to weak potassic, carbonate and silica alteration. Moderate irregular light cream to yellow green epidote-carbonate alteration banding and schistose foliation at 60 to 70° to the core axis. Minor pyrite.	Not Assayed
50.30	51.80	Feldspar Porphyry Dyke 20 to 25%, subhedral, white, zoned plagioclase phenocrysts in fine grained matrix consisting dominately of crowded feldspar crystals and 5 to 10% biotite. Minor pyrite.	Not Assayed
51.80	70.43	Intermediate to Mafic Metavolcanic As above, but slightly more felsic (siliceous) in appearance, and with only minor epidote-carbonate alteration banding. Minor pyrite.	Not Assayed
70.43	72.48	Feldspar Porphyry Dyke Same as above	Not Assayed
72.48	97.55	Intermediate to Mafic Metavolcanic Same as above	0.01
97.55	102.72	Mafic Metavolcanic (Fe Tholèiite Flows) Dark green, very fine grained, weakly magnetic with minor lighter grey siliceous? patches, and minor light yellow green epidote-carbonate banding. Minor pyrite and pyrrhotite	0.01
102.72	124.30	Mafic Metavolcanic; Largely Altered to a Feldspar-Carbonate-Biotite-Chlorite-Quartz Schist Dark green, fine grained and weakly foliated, to brownish, biotitic and moderately schistose at 60 to 70° to the core axis. Weak to moderate irregular anastomosing to patchy epidote-carbonate alteration. Minor to 1% pyrite.	0.01 to 0.02

From (m)	To (m)	Description	Gold Assays (g/tonne)
124.30	131.50	Pyritic, Carbonate-Silica Band (Cherty Interflow Metasediments?) Medium greenish to creamy brown, strongly wavy laminated/banded at 60 to 80° to the core axis. Rock has a cherty banded and cracked texture, with weak to moderate epidote-chlorite alteration, moderate to intense carbonate and silica alteration and 4 to 12% discontinuous, wispy laminated pyrite.	0.01 to 0.06
131.50	133.60	Chlorite-Amphibole Schist Dark green, massive, well foliated at 60 to 65° to the core axis with minor silica and calcite veining. Trace pyrite	Not Assayed
133.60	144.05	Breccia Zone Abundant (50 to 75%), large (mostly 1 to 20 cm, but up to 100 cm) angular to subangular polyolithic (including quartz diorite intrusive and porphyry dyke) fragments and blocks in a fine grained, hard, siliceous/chloritic/amphibole matrix. Zone is well "annealed"; hard with breakage across fragments/clasts, making fragment contacts difficult to distinguish from matrix material. Upper section is well foliated or sheared at 65° to the core axis. Minor quartz veining. Minor pyrite associated with some clasts.	0.03 to 0.20
144.05	160.95	Mafic Metavolcanic Dark green, very fine grained, massive to weakly foliated with some grey, more siliceous patches. Minor to moderate irregular epidote-carbonate-garnet alteration bands at 50 to 70° to the core axis. Stronger foliation, more schistose and biotite-rich adjacent to intrusive contacts. Minor pyrite.	0.01
160.95	165.55	Feldspar Porphyritic Trondhjemite Intrusive Dyke Medium to dark green-grey to reddish grey containing 10 to 25%, subhedral, white plagioclase phenocrysts, 5% rounded quartz phenocrysts, and 3 to 5% weakly chloritized biotite in fine grained, siliceous, feldspar-rich matrix. Minor (2 to 3%) quartz veining parallel to weak foliation at 55 to 65° to the core axis. Minor fracture controlled pyrite.	0.03 to 0.11
165.55	209.00	Mafic Metavolcanic As above.	
209.00	214.68	Feldspar Porphyritic Quartz Diorite Dyke As above, but with minor visible quartz phenocrysts and very little quartz veining.	0.02 to 0.05
214.98	218.60	Mafic Metavolcanic (Strongly Epidote-Carbonate Altered) As above but moderately biotitic and carbonatized adjacent to the two intrusives and moderately epidotized within the central portion. Abundant hairline calcite fracturing. Minor pyrite.	0.02 to 0.03
218.60	224.95	Complex Contact Zone Between Mafic Volcanic and Feldspar Porphyritic Quartz Diorite Intrusive 75% intrusive as above, and 25% irregular, small to large, biotitic and calcite altered, well foliated/schistose mafic volcanic wallrock fragments. 3 to 5% irregular quartz veins. Minor to 0.5% pyrite.	0.01 to 0.04
224.95	233.48	Moderately Altered, Leucocratic, Feldspar Porphyritic Quartz Diorite Intrusive Light grey, weak to moderately, and locally intensely, silicified, but only weak, to locally moderately, sericitized intrusive. Moderately fractured, but only minor (2 to 5%) quartz veining at 0 to 20° to the core axis. Quartz veining contains 1-2% pyrite and minor molybdenite.	0.01 to 0.13
	233.48	END OF HOLE	

H-W PROJECT (Ont. 77)

ESSO MINERALS CANADA  
DIAMOND DRILL RECORD

Hole: HN08-25  
Page: 1

Drilled by: Atlas Drilling Limited  
Hole Size: 80  
Core Size: 80  
Casing: Casing Left In Hole

Azimuth: 180  
Dip: -45

Claim No: L-871908  
Grid: West  
Basting: 40+00W  
Northing: 11+25S  
Elevation: Level

Started: Feb. 18, 1988  
Finished: Feb. 22, 1988

Acid Tests:  
Depth Az. Dip  
121.92 -41.0  
233.48 -39.0

Purpose: N-S Geology Section

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

Length: 233.48 Metres  
Vert. Proj: 155.0 Metres  
Hor. Proj: 175.0 Metres  
Ovb. Depth: 8.4 Metres

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

.00 11.85 OVERBURDEN

11.85 18.60 SCHISTOSE MAFIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS

Medium to dark, slightly greenish grey, fine grained, magnetic, massive volcanic with 20 to 25%, irregular, anastomosing bands, fine stringy veinlets/fractures, as well as patches of lighter green, epidote +/-carbonate alteration, giving the rock a mottled appearance. Very heavy core, with a high specific gravity.

Epidote-carbonate alteration patches are weakly to moderately reactive to HCl, and often contain thin (1 to 5 mm), amoeboid blebs of pink, poikiloblastic garnet growth. These patches also contain 0.5 to 1%, very finely disseminated pyrite.

Epidote-carbonate alteration patches, as well as the less altered mafic volcanic, are cut by minor amounts of thin (hairline), irregular, networks and subplanar veinlets of calcite. These often form subparallel sets suggesting tension gash fillings.

Minor silica and quartz veining often offset along minor slips.

Weak foliation and banding of alteration patches appears to be oriented

NS	11.85	18.60	6.75	n/a	n/a	n/a	MINOR	V.VK	VK	-
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Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	<p>quartz veinlets offset on minor slips/fractures. This section may be a contorted xenolith fragment.</p> <p>Several small (1 to 5 mm), quartz veins, all generally oriented at 40 to 60 degrees to the core axis.</p> <p>Numerous, thin (hairline), black slip surfaces oriented at various angles to the core axis, but generally between 35 to 60 degrees). A few of these slips offset large quartz veins suggesting they all may have some slip movement.</p> <p>1% Pyrite as fine disseminations and thin (hairline) stringers.</p> <p>Moderately broken (blocky) core with 5 to 20 cm breakage, generally at 45 to 70 degrees to the core axis. Very broken below 30 metres into 1 to 3 cm pieces.</p> <p>38.80 38.90 A few broken fragments exhibit a breccia or siliceous pseudobreccia appearance, but this zone is not very large.</p> <p>39.18 39.31 And.</p> <p>39.40 39.60 Two wallrock inclusions/xenoliths that are dark green, magnetic, with a moderately developed, irregular foliation/shearing fabric, and 1 to 2% pyrite as disseminations and minor veinlets/stringers.</p> <p>Lower contact is sharp, but irregular, and oriented at approximately 75 degrees to the core axis. Adjacent wallrock exhibits moderate to intense tension fracturing. Parallel, but slightly curving, sets of thin (hairline), calcite filled fractures that are oriented perpendicular to the lower contact.</p>											
39.79 50.30	SCHISTOSE MAFIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS											
39.79 41.80	Relatively unaltered mafic volcanic flow. Medium to dark green, fine grained, massive, relatively hard, magnetic section with weak foliation oriented at 70 degrees to the core axis. Minor, thin (hairline), planar calcite veinlets oriented at various angles to core axis, but generally between 40 to 60 degrees. Few lighter, medium green alteration patches, but section is relatively unaltered, except for weak to moderate carbonatization and intense hairline calcite tension fracturing adjacent to intrusive	NS	39.79	50.30	10.51	n/a	n/a	n/a	0.5%			-V.WK-MOD







Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	Moderate amount of calcite crackle veining, or subplanar to irregular veining, but no major veining except for one small, grey to clear, coarse grained, quartz vein between 55.95 and 56.00 metres oriented at 60 degrees to the core axis.										
	52.15 52.20 Minor feldspar porphyry dyklet, with sharp contacts oriented at 50 to 65 degrees to the core axis.										
	Minor pyrite in patches adjacent to veining or fracturing.										
	Hard competent core, generally with 10 to 50 cm breakage often along fractures oriented at 45 degrees to the core axis, or at 70 degrees to the core axis.										
	Lower contact is a sharp intrusive contact oriented at 60 degrees to the core axis.										
70.43 72.48	<b>FELDSPAR PORPHYRY DYKE</b> Medium to dark grey, consisting of 25 to 35%, large (0.5 to 3 mm), and occasionally very large (1 cm), subhedral (partly resorbed?), zoned, white to salmon pink plagioclase phenocrysts in a very fine to aphanitic, dark grey matrix also containing several percent very fine chlorite and biotite. Weakly, and very locally moderately, foliated (sheared?) at 60 degrees to the core axis. No veining or alteration except for minor sericite along a few fractures. Trace finely disseminated pyrite. Moderately fractured at 45 to 60 degrees to the core axis. Relatively competent core, generally with 5 to 20 cm breakage. Lower intrusive contact is sharp but somewhat irregular at 65 degrees to the core axis.	MS	70.43	72.48	2.05	n/a	n/a	n/a	TRACE		
72.48 97.55	<b>MAFIC METAVOLCANIC FLOWS (PB TROBILITE)</b> Dark green to grey-black, very fine grained, (aphanitic), very hard, siliceous unit. Unit contains several minor slightly brownish (but still very dark) bands/patches, a minor amount of hairline crackle networks and thin (1 to 2 mm), irregular anastomosing calcite veining/fracture-filling filling, and some patches of lighter green	MS	72.48	97.55	25.07	n/a	n/a	n/a	0.5%		V.WK
		472	80.00	81.00	1.00	.01	n/a	n/a	0.25%		
		473	87.00	88.00	1.00	.01	n/a	n/a	1%		

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									STL	CARB	SER
	<p>epidote-carbonate? alteration.</p> <p>The slightly lighter green altered patches locally contain a few percent, small (1 to 2 mm), subrounded, pinkish garnet porphyroblasts.</p> <p>Very weak to weakly, and locally moderately, magnetic.</p> <p>Unit is generally massive to weakly foliated/phyllitic, but locally exhibits a compositional banding that is quite planar and regular, as well as wispy pyrite lenses. Both of these suggest this unit could be sedimentary in origin. The banding/bedding is oriented at 50 to 60 degrees to the core axis, and parallels the preferred orientation of the weak alteration banding.</p> <p>A few coarser grained sections contain amphibole porphyroblasts.</p> <p>Calcite patches and crackle fracture veining are locally moderately developed, but account for only a few percent of the volume of this unit.</p> <p>Minor (4 to 5%), thin (0.5 cm), opaque grey silica veins, form subplanar veins, as well as wormy (ptygmatic) folded bands/veinlets.</p> <p>Minor to 0.5% pyrite as wispy lamination parallel grains, disseminations and grains associated with calcite veinlets/patches, and disseminations along fractures.</p> <p>Trace chalcopyrite associated with some pyrite concentrations.</p> <p>Minor disseminated pyrrhotite.</p> <p>Unit is moderately fractured, with fractures often having sericitic-calcitic slip surfaces, that are occasionally smeared with pyrite. Fracturing is generally oriented at 45 to 75 degrees to the core axis.</p> <p>Moderately competent core, generally with 10 to 50 cm breakage.</p>										
97.55 102.72	<p>MAFIC METAVOLCANIC PLOWS (PE THOLBIITE)</p> <p>Massive, unfoliated, weakly magnetic, very fine grained, siliceous, dark green with greyish (silicified/siliceous) patches, and a minor to moderate development of crackle network veining and tension fractures that are filled with white to yellowish calcite.</p> <p>One, 5 cm, irregular, quartz pod at 102.20 to 102.25 metres, but no other veining.</p> <p>Minor, lighter green, epidote-carbonate alteration patches and anastomosing bands, generally associated with tension and crackle</p>	NS 474	97.55 101.75	102.72 102.72	5.17 .97	n/a .01	n/a n/a	n/a n/a	MINOR 0.5-1%		

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SBR
	<p>calcite veined sections.</p> <p>Minor pyrite and pyrrhotite, as large (2 to 5 mm) blebs associated with the large quartz pods, and in a few thin (1 to 3 mm), sulphide bands.</p> <p>Fairly competent core, generally with 10 to 50 cm breakage.</p> <p>Lower contact is transitional.</p>										
102.72 112.07	<p><b>SCHISTOSE NAPIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS</b></p> <p>Medium grained (up to 1mm), schistose, plagioclase-silica-chlorite (amphibole) rock with intermottled plagioclase-silica-biotite, producing alternating bands/patches with a fairly homogeneous, medium green-brown and brown colour.</p> <p>A few thin, aphanitic, siliceous green bands have an appearance similar to the overlying unit.</p> <p>Weak to moderately well developed foliation and compositional banding oriented at 60 to 70 degrees to the core axis.</p> <p>Minor epidote alteration occurs in thin bands but these do not contain garnet.</p> <p>Wavy compositional banding, as well as thin (0.5 to 1 cm), pinch and swell, purplish grey, cherty bands give rock a banded appearance that is probably metamorphic in origin, but could parallel original compositional banding.</p> <p>Minor, irregular to subplanar, thin (hairline) calcite fracturing.</p> <p>No significant veining.</p> <p>Non magnetic unit.</p> <p>Relatively competent unit, generally with 20 to 100 cm breakage.</p> <p>Lower contact is transitional.</p>	NS 102.72	112.07	9.35	n/a	n/a	n/a	MINOR	WK	WK	-
112.07 124.30	<p><b>NAPIC METAVOLCANIC FLOWS (PE THOLEIITE)</b></p> <p>Similar to unit between 97.55 to 102.72 metres, however, this unit grades into an underlying pyritic carbonate-silica band, that has adjacent zones with an increased pyrite content.</p> <p>Very fine grained to aphanitic, hard to very hard, siliceous, dark green-black to dark grey, with local zones having a slight brownish (biotite) colour.</p>	NS 112.07	124.30	12.23	n/a	n/a	n/a	MINOR	-	WK	-
		475	120.60	121.62	.94	.02	n/a	n/a	MINOR		
		476	121.62	122.70	1.08	.01	n/a	n/a	1%		
		477	122.70	123.75	1.05	.01	n/a	n/a	1%		
		478	123.75	124.30	.55	.01	n/a	n/a	1%		

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SR
	Generally non to weakly magnetic, with very minor strongly magnetic bands that are 1 to 2 cm wide. Generally a homogeneous, massive to weakly foliated/phyllitic unit with foliation oriented at 70 degrees to the core axis. Minor grey cherty banding (metamorphic?), and minor, thin lighter green-brown carbonate/-epidote anastomosing alteration banding. Bands vary from a few, thin (hairline) veinlets, to thin zones a few cm wide. Alteration bands often contain a few percent, small (1 to 3 mm), amphibole porphyroblastic overgrowths. Banding/laminae locally appear to be original deposition/flow? features. Minor calcite crackle network veining, and 3%, small (1 to 5 mm), very irregular, quartz-calcite veining and lenses. Minor pyrite as disseminations, but locally concentrated (1 to 3%) in some thin, siliceous, chert bands, or in association with quartz-calcite veins/pods. Hard competent core, but relatively broken due to steep (0 to 20 degree) fracturing. Core broken into 5 to 20 cm pieces with local, 10 to 20 cm wide, rubble zones. Gradational change into more pyrite underlying unit.										
120.68 124.30	Same as above, but with increased amounts of finely disseminated pyrite, and a medium grey-green alteration mottling. Mottling is not distinct, producing a subdued, irregular, patchy/anastomosing appearance to the section. Probably a silica-carbonate alteration, with minor epidote-chlorite. Section is hard, and massive to very weakly foliated. No significant veining. 1% pyrite, as fine disseminations, as well as small, discontinuous, wispy laminae, and fracture fillings. Lower contact is a gradational change into a pyritic carbonate-silica band.										
124.30 131.50	<b>CARBONATE- AND/OR SILICA-SULPHIDE FACIES IRON FORMATION</b> Medium green to creamy brown, non magnetic, siliceous, pyritic carbonate band. Unit exhibits a well developed streaky banding, as well as crackling, due to weak to moderate chlorite-epidote alteration, and discontinuous wispy	NS 124.30	131.50	7.20	n/a	n/a	n/a	4-12%	MOD	MOD	
		479 124.30	125.12	.82	.05	n/a	n/a	5-7%			
		480 125.12	125.90	.78	.03	n/a	n/a	10-12%			
		481 125.90	126.65	.75	.06	n/a	n/a	10-12%			

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	laminated pyrite that constitutes 4 to 12% of the unit. The pyrite is evenly distributed and appears to be sedimentary in origin.	482	126.65	127.72	1.07	.01	n/a	n/a	10-12%		
	Unit is weak to moderately reactive to HCl.	483	127.72	128.50	.78	.01	n/a	n/a	4-6%		
	Wispy pyrite, foliation, and alteration banding are generally oriented at 60 to 80 degrees to the core axis.	484	128.50	129.50	1.00	.01	n/a	n/a	2%		
	This unit may be an intensely altered flow top zone, or cherty interflow sediment horizon.	485	129.50	130.00	.50	.03	n/a	n/a	8-10%		
	No significant veining.	486	130.50	131.50	1.00	.01	n/a	n/a	1-2%		
	Minor irregular calcite crackle veining.										
	Minor icing sugar textured calcite occurs on some fracture surfaces.										
	Competent core, generally with 20 to 50 cm breakage.										
	127.72 131.50 Similar to section between 120.68 to 124.30 metres on the other side of the pyritic carbonate band, but this section is somewhat more carbonate altered/banded and pyritic, but not to the degree of the overlying unit.										
	Grey-green to brown grey, finely laminated/banded.										
	Foliation alteration banding oriented at 60 to 70 degrees to the core axis										
	2 to 10% pyrite as discontinuous, wispy bands and disseminations.										
	Contains a few strongly magnetic zones, but is generally weakly magnetic.										
	No significant veining.										
	Lower contact is gradational.										
131.50 133.60	CHLORITE-AMPHIBOLE SCHIST										
	Dark green, well foliated, chlorite-amphibole schist.	NS	131.50	133.60	2.10	n/a	n/a	n/a	TRACE		
	Upper metre is moderately hard, and includes some mottled biotite patches, while lower half becomes progressively less competent and hard, more schistose, and contains abundant fine amphibole needles.										
	Foliation is oriented at 60 to 65 degrees to the core axis.										
	Minor calcite and silica, as hairline fracture fillings and irregular pods										
	Trace finely disseminated pyrite.										
	Relatively broken core, generally with 2 to 10 cm breakage.										
	Lower contact is sharp and oriented at 80 degrees to the core axis.										



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	<p>pattern.</p> <p>No significant veining.</p> <p>Minor shearing/slippage along some fractures, including a stronger slip at 40 degrees to the core axis at 145.37 metres.</p> <p>0.5% Pyrite as fine disseminations generally along foliation parallel surfaces.</p> <p>Lower contact is not distinct, and assumed to be gradational through a zone of interdigitated volcanic and sedimentary material.</p>										
147.48 160.95	<b>SCHISTOSE MAFIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS</b>										
	Dark green, very fine grained, massive to weakly foliated/phyllitic, homogeneous unit. Unit is not as siliceous as the other mafic volcanic units near top of this hole.	NS 147.48	160.95	13.47	n/a	n/a	n/a		MINOR		
	Below 160.02 metres the unit is almost identical in appearance to the upper part, except for change from chlorite to biotite (i.e. Green to brown) and an increased amount of pyrite giving this section a more sedimentary appearance.	487 160.00	160.95	.95	.01	n/a	n/a		1%		
	Minor hairline crackle veinlets and network veining often slightly better developed in thin, weakly epidote altered patches.										
	Minor silicification adjacent to some fractures, and a few, thin (0.5 to 1 cm), quartz veins.										
	Minor pyrite concentrated in small, irregular, silica-carbonate blebs/pods along fractures, and 1% disseminated pyrite in lower 1 metre section adjacent to the intrusive.										
	Lower contact is a sharp intrusive contact oriented at 40 degrees to the core axis.										
160.95 165.55	<b>PP QUARTZ DIORITE DYKE - FELDSPAR PORPHYRITIC</b>										
	Medium to dark greenish grey to reddish-grey, fine grained, feldspar rich matrix containing 3 to 5% weakly chloritized biotite.	NS 160.95	165.55	4.60	n/a	n/a	n/a	0.5%	V.WK		
	10 to 25%, 1 to 5 mm, subhedral, white, partially zoned, plagioclase phenocrysts and 5%, 0.5 to 1 mm, subrounded, blue-grey silica grains.	626 160.95	162.76	1.81	.03	1.70	n/a	0.5%			
	Unit has a weak fractured appearance with minor alteration or fracturing.	627 162.76	164.59	1.83	.05	1.50	n/a	0.5%			
	Unit is weakly foliated at 55 to 65 degrees to the core axis, with a few,	628 164.59	165.55	.96	.11	1.80	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
	<p>thin, (10 to 20 cm), weakly sheared zones oriented at 55 to 65 degrees to the core axis.</p> <p>Minor to 0.5%, fracture controlled and disseminated pyrite.</p> <p>Minor (2 to 3%), subplanar quartz veining, generally with a foliation subparallel orientation.</p> <p>Hard, competent core, generally with 10 to 50 cm breakage.</p> <p>Lower and upper contacts are sharp, and parallel to the foliation at 40 to 50 degrees to the core axis.</p> <p>Adjacent volcanic zones are relatively more foliated, siliceous and pyritic closer to intrusive contact.</p>										
165.55 209.00	<p><b>SCHISTOSE MAFIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS</b></p> <p>Dark green-grey to grey, very fine grained to almost aphanitic, weakly to moderately magnetic with local, thin (1 to 2 cm), intensely magnetic bands, and small (1 to 3 mm) magnetite grains in the more altered sections.</p> <p>1mm, Ovoid, silica filled vesicles are locally evident.</p> <p>Massive to weakly foliated with some grey, more massive, moderately siliceous (cherty) zones.</p> <p>Generally minor to moderate epidote-diopside/-garnet alteration in thin (1 to 5 cm), anastomosing patches and bands, often as irregular cream, light green or light brown bands with a marbled and fractured appearance. Locally these strongly altered bands contain pink garnet porphyroblastic bands, as well as minor amounts of small (&lt;2 mm), magnetite grains.</p> <p>Unit contains a few, irregular banded/blebby cherty zones that are 5 to 10 cm wide.</p> <p>Unit also contains several crackled alteration patches, as well as minor, hairline, calcite veining and network crackling (due to tension fracturing of this relatively competent unit).</p> <p>Weak to moderately magnetic above 180 metres, moderately to strongly magnetic below 180 metres.</p> <p>Minor silica veinlets, that are generally small (1 to 3 mm), subplanar but branching veinlets, often offset across fractures.</p> <p>Minor, thin (1 to 3 cm), biotitic, coarse grained, schistose bands, particularly at end of the unit nearer the intrusive.</p>	MS 165.55	209.00	43.45	n/a	n/a	n/a	MINOR	WK-MOD	WK	



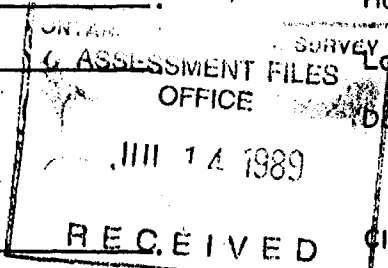
Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	<p>Unit exhibits a weak foliation, pyritic laminae, and alteration banding, that are all generally oriented at 50 to 70 degrees to the core axis, but are locally wavy and nonparallel.</p> <p>Minor pyrite as fine disseminations and larger blebs in alteration patches, and as very fine wispy, lenticular, disseminations oriented parallel to the foliation.</p> <p>Alteration crackling and patches also exhibit minor offsets across small fractures/slips that become more common nearer the intrusive contact.</p> <p>Minor to a few percent, small amphibole porphyroblasts in local schistose chlorite-amphibole patches a few cm in width.</p> <p>Unit is moderately fractured at 40 to 60 degrees to the core axis.</p> <p>Moderately competent core, generally hard to very hard, but broken along some fractures and the weak phyllitic foliation into 10 to 50 cm pieces.</p> <p>Lower contact is an irregular, but sharp, intrusive contact oriented at 90 degrees to the core axis.</p>										
209.00 214.68	<p><b>FELDSPAR PORPHYRITIC QUARTZ DIORITE INTRUSIVE - UNALTERED</b></p> <p>Generally pink-red, particularly in the central part, becoming slightly darker, greyer, and finer grained across 1 metre widths along the chilled edges of the dyke.</p> <p>Relatively fresh, massive hypabyssal intrusive dyke.</p> <p>20 to 30%, subhedral, white, plagioclase phenocrysts.</p> <p>Contains 5% biotite as individual disseminated grains often concentrated as thin coatings on fractures with chlorite.</p> <p>10%, 1 to 3 mm, irregular, bluish quartz grains.</p> <p>Minor finely disseminated pyrite.</p> <p>No significant veining.</p> <p>Moderately well fractured, generally with 5 to 20 cm breakage, but including a few rubble zones.</p> <p>Lower contact is a sharp intrusive contact.</p>	<p>NS 209.00 214.68 5.68 n/a n/a n/a MINOR</p> <p>629 209.00 210.62 1.62 .07 2.40 n/a 0.5%</p> <p>630 210.62 211.84 1.22 .08 1.70 n/a 0.5%</p> <p>631 211.84 213.66 1.82 .02 1.70 n/a 0.5%</p> <p>632 213.66 214.68 1.02 .05 1.70 n/a 0.5%</p>									
214.68 218.60	<p><b>SCHISTOSE MAPIC METAVOLCANIC WITH EPIDOTE-CARBONATE BANDS</b></p> <p>Probably the same as the unit that occurs above the overlying intrusive dyke, except this zone exhibits more carbonatization adjacent to each of</p>	<p>NS 214.68 218.60 3.92 n/a n/a n/a MINOR WK WK-INT</p> <p>488 214.68 215.35 .67 .03 n/a n/a 0.5%</p>									

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
	the intrusive contacts, and more epidotization adjacent to fracturing within the central portion of this unit, including a 30 cm (216.90 to 217.20m) zone of completely epidotized rock.	633	215.35	217.02	1.67	.03	3.70	n/a	MINOR			
	Fine grained, massive, siliceous and hard, locally with abundant, small amygdules evident.	634	217.02	218.60	1.58	.02	3.80	n/a	MINOR			
	Generally medium to dark brownish grey, with carbonatized zones having a dark green colour with epidote mottling and network alteration, and central portion exhibiting a bright emerald green epidote colour.											
	Abundant (5%), fine calcite tension and crackle veining within the carbonate altered zones adjacent to the intrusives.											
218.60 224.95	PP QUARTZ DIORITE AND SHISTOSE MAFIC METAVOLCANIC	NS	218.60	224.95	6.35	n/a	n/a	n/a	0.5%	WK	INT	WK
	75% Quartz diorite porphyry. Contains 25% white, 1 to 3 mm, subhedral, plagioclase phenocrysts, within a dark grey, very fine grained to aphanitic matrix with 10% biotite, and 1% finely disseminated pyrite.	489	218.60	219.60	1.00	.01	2.50	n/a	MINOR			
	25% Irregular, small (1 cm) to large (50 cm), brownish grey, massive, sandy textured to more foliated, very calcitic carbonate wallrock fragments. These are extremely reactive to HCl. This material is cut but an intense network of thin calcitic tension fractures.	490	219.60	220.40	.80	.01	3.30	n/a	MINOR			
	Unit contains 3 to 5%, small, irregular, bluish quartz veins and quartz vein fragments, as well as silica flood patches.	491	220.40	221.10	.70	.02	1.20	n/a	MINOR			
	0.5% Pyrite as disseminations and fracture fillings.	492	221.10	221.90	.80	.01	2.40	n/a	1%			
	Relatively hard, competent core with 5 to 30 cm breakage.	493	221.90	222.90	1.00	.01	1.50	n/a	0.5%			
	Lower contact is a diffuse alteration front changing abruptly into the chilled porphyritic quartz diorite.	494	222.90	223.90	1.00	.01	1.50	n/a	0.5%			
		495	223.90	224.95	1.05	.04	1.70	n/a	0.5%			
224.95 233.48	PP QUARTZ DIORITE INTRUSIVE - WK TO MOD ALTERED	NS	224.95	233.48	8.53	n/a	n/a	n/a	1-3% MOD-INT		WK-MOD	
	Generally light grey, weak to moderately and very locally intensely silicified (mostly silica flooding with only a few discrete veins), but generally only weakly sericitized, with a few, thin zones exhibiting moderate sericitization.	496	224.95	225.86	.91	.03	.90	n/a	2-3%			
	Upper 30 cm is very weakly altered before changing to moderately altered zone that continues to end of hole.	497	225.86	226.75	.89	.01	.60	n/a	2-3%			
	Biotite is slightly chloritized in the upper 30 cm, and generally	498	226.75	227.25	.50	.13	.80	n/a	2%			
		499	227.25	228.00	.75	.04	1.50	n/a	2-3%			
		500	228.00	228.50	.50	.04	1.00	n/a	2-3%			
		501	228.50	229.00	.50	.06	.50	n/a	2-3%			



ESSO MINERALS CANADA  
SUMMARY DRILL LOG

Project Name: HN Hole Number: HN88-26  
 Project Number: 1677 Logged By: M.H. Lenters  
 NTS: 42H/R Date: February, 1988  
 Location: L44+00W, 6+50S Claim Number: L-871912  
 Azimuth: 180° Dip: -46° Length (m): 175.56



PURPOSE: Test IP anomaly on L44W between 7400 and 7475S

From (m)	To (m)	Description	Gold Assays (g/tonne)
0.00	6.90	Overburden (Vertical Depth = 5.0 metres)	
6.90	26.60	Mafic Metavolcanic (Fe Tholeiite Flows) Dark green, very fine grained, magnetic, hard and massive with abundant volcanic flow textures. Minor pyrite.	0.01 to 0.03
26.60	32.20	Feldspar Porphyritic, Quartz Diorite 30 to 50% plagioclase phenocrysts in dark purplish grey, fine-grained, plagioclase-rich matrix including 5% biotite and minor pyrite. Several large quartz veins cut the dyke at 30 to 48° to the core axis.	0.01 to 0.02
32.20	175.56	Mafic Metavolcanic with Minor Interflow Sediment/Breccia Bands 32.20 to 169.47 Dark green, fine grained, hard, very weakly magnetitic and generally weakly foliated but including an upper and lower section with increased calcite veining, biotite content and foliation at 65 to 75° to the core axis. Cut by a few, 1 to 20 cm bull white quartz veins. Minor pyrite  169.47 to 175.56 Progressively more intense potassic (biotite) and carbonate alteration, and abundant (15%) carbonate and quartz veining. Foliation at 45 to 60° to the core axis. Minor to 2% pyrite.	0.01 to 0.05   0.01 to 0.03
	175.56	END OF HOLE	

H-N PROJECT (Ont. 77)

ESSO MINERALS CANADA  
DIAMOND DRILL RECORDHole: HN88-26  
Page: 1Drilled by: Atlas Drilling Limited  
Hole Size: BQ  
Core Size: BQ  
Casing: Casing RemovedAzimuth: 180  
Dip: -46Claim No: L-871912  
Grid: West  
Easting: 44+00W  
Northing: 6+50S  
Elevation: LevelStarted: Feb. 22, 1988  
Finished: Feb. 25, 1988

## Acid Tests:

Depth Az. Dip  
88.39 -46.0  
175.56 -42.0

Purpose: Test IP Anomaly on L44W at 7+50S

Logged by: M.H.Lenters  
Date logged: February 1988  
Logging Method: Log II  
Measurement System: MetricLength: 175.56 Metres  
Vert. Proj: 124.0 Metres  
Hor. Proj: 124.0 Metres  
Ovb. Depth: 5.0 Metres

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
.00	6.90 OVERBURDEN											
6.90	26.60 MAFIC METAVOLCANIC FLOWS (PE THOLEIITE)											
	Dark grey-green to green, very fine grained plagioclase-chlorite-amphibole +/- silica rock, that is weak to moderately magnetic and exhibits minor vesicles, and biotitic pillow selvages. Generally appears hard and massive. Unit locally exhibits well polished core surfaces that are extremely hard.	NS	6.90	26.60	19.70	n/a	n/a	n/a	MINOR	WK	V.WK	-
	Locally, the unit contains minor calcitic patches, thin (hairline), anastomosing calcite fracture veinlets, as well as minor, small (1 to 2mm) calcite porphyroblasts?	507	17.10	18.45	1.35	.03	n/a	n/a				
	Weakly foliated/sheared, with biotitic alteration along thin shear zones producing a weakly banded appearance. Compositional banding in other places is less defined and generally is oriented between 50 and 60 degrees to the core axis.	508	18.45	19.25	.80	.01	n/a	n/a				
	Minor, lighter grey, moderately altered patches about 2 to 10 cm wide occur throughout the section, but includes one larger zone of silicification and sericitization between 17.10 and 20.50 metres. The	509	19.25	20.00	.75	.01	n/a	n/a				
		510	20.00	20.25	.25	.02	n/a	n/a				
		511	20.25	21.00	.75	.01	n/a	n/a				

Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	latter contains an intensely silicified band/vein between 20.10 and 20.20 with 5% finely disseminated pyrite, and a trace amount of grey metallic mineralization. Unit contains minor pyrite as very fine disseminations that are generally associated with the veining. Competent core, generally with 10 to 75 cm breakage. Lower contact is a sharp intrusive contact oriented at 70 degrees to the core axis.										
26.60 32.20	FELDSPAR PORPHYRITIC QUARTZ DIORITE INTRUSIVE - UNALTERED 30 to 50%, pale pink to white, subhedral to euhedral, partially zoned, 0.5 to 3 mm plagioclase phenocrysts with occasional ones up to 10mm in size, in a dark purplish grey, finer grained plagioclase-rich matrix, including 5% biotite and minor pyrite. Unit is hard, massive, unfoliated and relatively unaltered except for minor silicification in thin zones adjacent to several quartz veins. Unit is cut by several large (1 to 20cm), white, coarse grained quartz veins that have sharp planar contacts at 30 to 45 degrees to the core axis. Edges of the veins contain minor small impurity (chlorite) material, as well as minor disseminated pyrite along fractures. 1 to 3 cm bands of the wallrock adjacent to the veins are bleached white, due to a minor to moderate degree of silicification, and the destruction of biotite. Quartz veins located at: 27.65 27.90 At 45 degrees to the core axis. 28.15 28.23 At 30 degrees to the core axis. 28.35 28.37 At 30 degrees to the core axis. 28.80 28.82 At 30 degrees to the core axis. 0.5% Pyrite occurs as fine disseminations throughout the unit, as well as some coarse (1mm) grains and fracture stringers within, and adjacent to, the quartz veins. Relatively hard, competent core but including several, thin (5 to 15 cm), relatively broken zones along fractures oriented at 45 to 70 degrees to the core axis. Lower contact is an irregular, but sharp, intrusive contact.	WS	26.60	32.20	5.60	n/a	n/a	n/a	0.5%	V.VK-VK	
		512	27.50	28.00	.50	.02	n/a	n/a			
		513	29.00	29.70	.70	.02	n/a	n/a			
		514	29.70	30.30	.60	.01	n/a	n/a			



Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Fe (ppm)	Pyrite (%)	ALTERATION			
									SIL	CARB	SER	
44.20 94.00	MAPIC METAVOLCANIC FLOWS (FE THOLEIITE)											
	Dark green-black, aphanitic to very fine grained, homogeneous, generally very weakly to weakly magnetic with very minor amounts of hairline calcite veining, and a few large quartz +/- calcite veins.	NS	44.20	94.00	49.80	n/a	n/a	n/a				
	Very minor alteration (epidote) in one 20 cm patch, as well as along hairline calcite veinlets.	519	55.90	57.00	1.10	.01	n/a	n/a				
	Unit also contains a weakly banded and carbonate altered zone with 0.5% pyrite between 65.55 and 66.65.	520	57.00	57.55	.55	.02	n/a	n/a				
	Unit contains large quartz veins at:	521	65.55	66.65	1.10	.02	n/a	n/a				
	55.90 56.03 At 45 degrees to the core axis.	535	67.60	67.85	.25	.01	1.50	n/a				
	56.10 56.60 At 50 degrees to the core axis.	522	72.60	73.30	.70	.03	n/a	n/a				
	58.30 58.31 1 cm vein at 65 degrees to the core axis.	523	73.30	74.30	1.00	.02	n/a	n/a				
	66.25 60.30 At 65 degrees to the core axis is quartz-calcite vein.	524	74.30	74.98	.68	.02	n/a	n/a				
	67.60 67.85 At 45 degrees to the core axis.	525	74.98	75.60	.62	.01	n/a	n/a				
	The above quartz veins are bull white, coarse grained and contain only traces of wallrock inclusions and pyrite.	526	92.85	93.43	.58	.04	n/a	n/a				
	Unit contains minor, thin (1 to 3mm), irregular calcite stringers, generally oriented at shallow angles to the core axis (0 to 35 degrees), often with adjacent, 1 to 10 cm, carbonate alteration bands containing 1 to 10% disseminated pyrite.											
	Carbonate veins with stonger alteration banding located between:											
	57.20 57.30 At 45 degrees to the core axis.											
	72.60 74.98 At 0 to 5 degrees to the core axis.											
	Unit contains epidote alteration patches generally oriented at 70 degrees to the core axis, and with 5% pyrite from 75.20 to 75.25 and 75.45 to 75.50.											
	92.93 93.02 Small quartz veinlet at 40 degrees to the core axis, with adjacent 3 cm pyritic altered zone.											
	Competent core, generally with 30 to 70 cm breakage.											
	Lower contact is gradational.											
94.00 169.47	MAPIC METAVOLCANIC FLOWS (FE THOLEIITE)											
	Mafic volcanic (fe tholeiite) flows, with minor interflow breccia/sediment bands.	NS	94.00	169.47	75.47	n/a	n/a	n/a				
		527	94.05	94.60	.55	.02	n/a	n/a				





Interval (Metres)	Description	Sample No.	Interval (Metres)	Length (Metres)	Au (g/t)	Ag (ppm)	Te (ppm)	Pyrite (%)	ALTERATION		
									SIL	CARB	SER
	percentage (5%) as well as larger carbonate and quartz-carbonate veins and patches. Unit contains 2 to 3%, small (0.5 to 4cm), irregular quartz veins and pods Unit contains 2 to 3%, yellow weathering carbonate that is highly reactive to HCl, and generally occurs along irregular to crackle hairline width fractures that are often slightly offset along minor slips, in irregular bands and patches a few cm wide, and with quartz veining. All of the quartz veining, and some of the larger carbonate veins, center thin (0.5 to 5cm) alteration bands containing increased amounts of biotite (potassic alteration?), and increased amounts of pyrite. The mafic volcanic also contains several large irregular patches with minor increases in the biotite content, and a slightly browner colour, indicating increases in the degree of potassic alteration. These patches/bands generally occur along thin shears and fractures. Unit generally contains minor amounts of pyrite within the fine grained, dark green, mafic volcanics, 0.5 to 2% pyrite within the interflow sediments, and increased amounts of pyrite in thin (1 to 5cm) alteration bands adjacent to some quartz +/- carbonate veining. Unit contains minor amounts of pyrrhotite along fractures within the more unaltered mafic volcanics. Relatively competent unit, generally with 30 to 100 cm breakage, but including a few well broken, veined sections that are a few tens of cm in length. Lower contact is gradational.										
169.47 175.56	BIOTITIC, SCHISTOSE MAFIC METAVOLCANIC Medium/dark green-brown to brown, weak to moderately foliated/schistose biotitic altered mafic volcanic with abundant (15%) carbonate and quartz veining. Unit contains a few, small (1 to 2cm), patches of very fine grained, dark green relatively unaltered mafic volcanic, but is mostly moderately altered, particularly near the 2 large quartz veins, and in the zones containing abundant (10%), thin, yellow weathered carbonate and lesser silica veining.	MS 169.47	175.56	6.09	n/a	n/a	n/a	0.5-2%			
		535	169.47	170.00	.53	.03	n/a	n/a			
		536	170.00	170.85	.85	.01	n/a	n/a			
		537	170.85	171.85	1.00	n/a	n/a	n/a			
		538	171.85	172.80	.95	n/a	n/a	n/a			
		539	172.80	174.10	1.30	n/a	n/a	n/a			
		540	174.10	174.80	.70	.02	n/a	n/a			
		541	174.80	175.56	.76	.01	n/a	n/a			





DOCUMENT No. W8908-141

Mining



42H08NE005 24 BLAKELOCK

900

Name and Postal Address of Recorded Holder

Esso Resources Canada Limited

T-872

P.O. Box 4029, Terminal A, Toronto, Ontario, M5H 1T2

Summary of Work Performance and Distribution of Credits

Table with columns for Mining Claim Prefix, Number, Work Days Cr., and Performance of the following work (Manual, Shaft Sinking, etc.).

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 HN88-18 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 on a work report by Dane Bridge dated February 28, 1989 are also claimed.

Stamp: MAY 30 1989 9:40am

Stamp: ONTARIO GEOLOGICAL SURVEY RECEIVED RECEIVED

Stamp: RECORDED MAY 30 1989

FIRST REC'D MAY 4/89

Date of Report: May 29, 1989; Recorded Holder or Agent (Signature): [Signature]

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying

Dane Bridge, Box 290, Timmins, Ontario, P4N 7N6

Date Certified: May 29, 1989; Certified by (Signature): [Signature]

Table of Information/Attachments Required by the Mining Recorder

Table with columns: Type of Work, Specific information per type, Other information (Common to 2 or more types), Attachments.

List of 40 claims for Hoblitzell Township  
and 56 claims for Blakelock Township

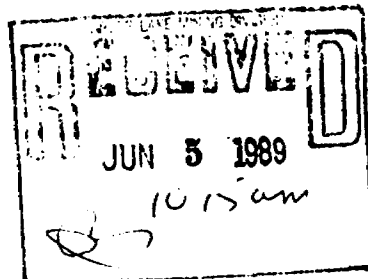
HOBLOITZELL, 57 days each

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BLAKELOCK, 57 days each

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L-872277



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 OB	968395	
HN88-17	L44+00E,	11+60N	180° -50°	135.1 <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	} 665.02 421.91 925.85
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-	766.07
HN88-26	L44+00W,	6+50S	180° -46°	175.6	871911-	576.11
HN88-27	L 8+00W,	2+50N	180° -48°	154.2	848106	505.90
			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

ESSO MINERALS CANADA

THIRD FLOOR, HOLLINGER BUILDING  
637 ALGONQUIN AVENUE EAST, P.O. BOX 290  
TIMMINS, ONTARIO P4N 7N6  
TELEPHONE: (705) 267-6680

DANE A. BRIDGE  
District Geologist, Timmins

File: HN, 1677 A01

May 4, 1989

Mining Recorder  
4 Government Road East,  
Kirkland Lake, Ontario  
P2N 1A2

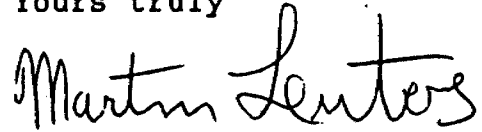
ATTN: Francis

RE: Reports of Work for Diamond Drilling,  
Certification of Drill Logs by Geologist

Dear Francis:

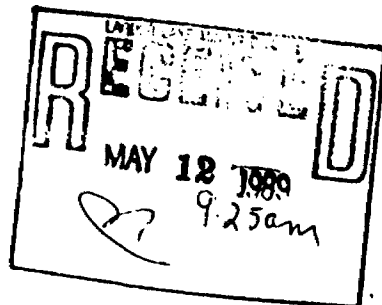
I, Martin Lenters hereby certify that I have logged the  
drill logs accompanying a report of work for Hoblitzell,  
Noseworthy and Blakelock Townships, dated April 7, 1989.  
These holes are HN88-17 and 17A to HN88-27.

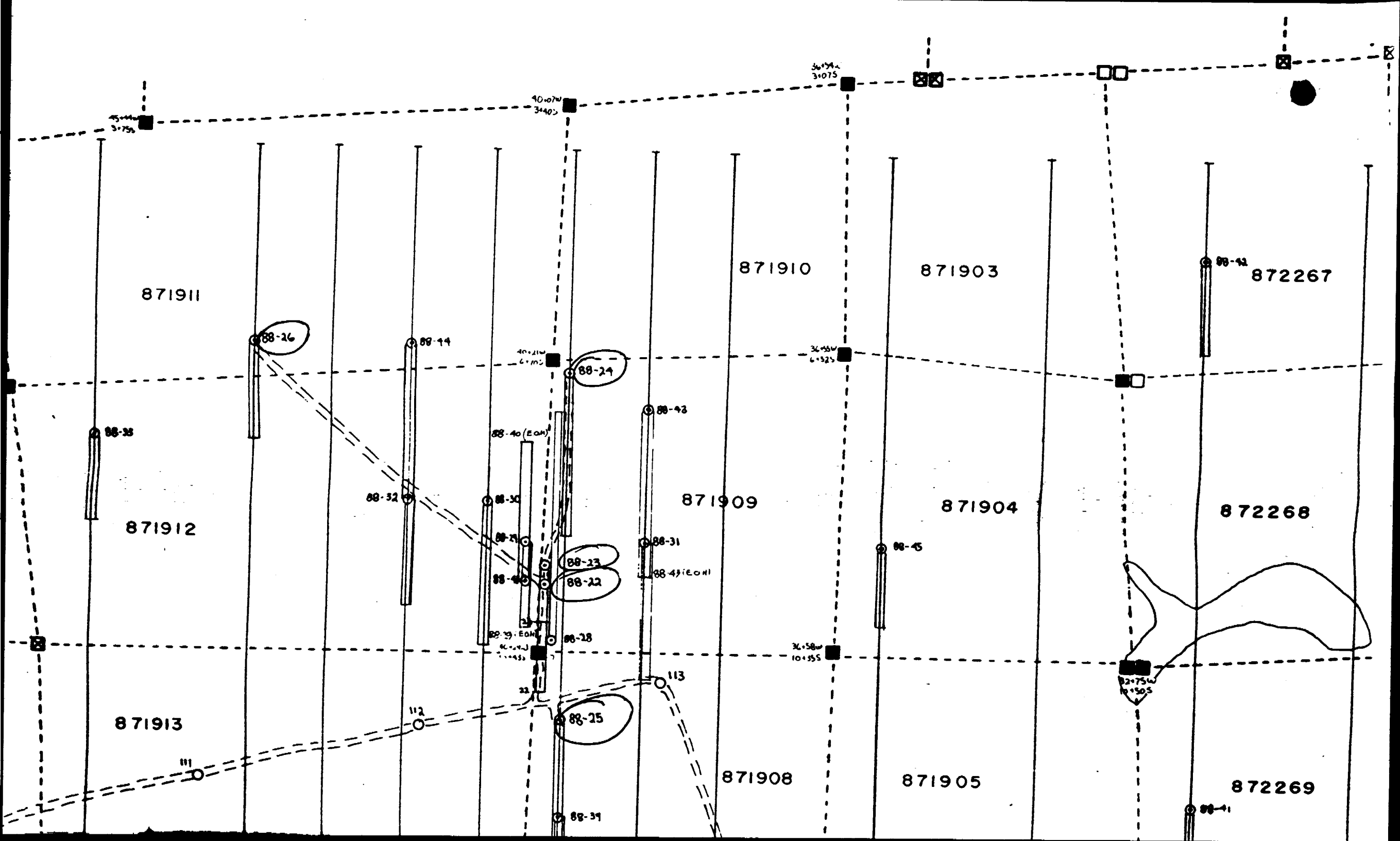
Yours truly



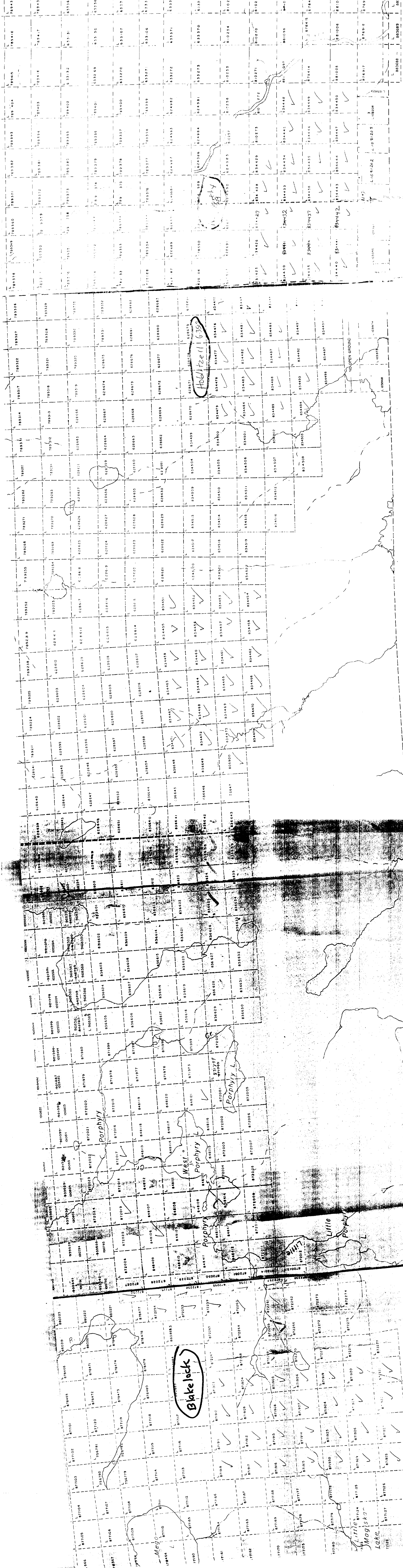
Martin Lenters  
Martin Lenters

cc. D. Bridge









TOWNSHIP



