SUMMARY OF THE 1987

EXPLORATION PROGRAM

CLINE OPTION - MARKES PROPERTY

ONTARIO

PROJECT 16.82

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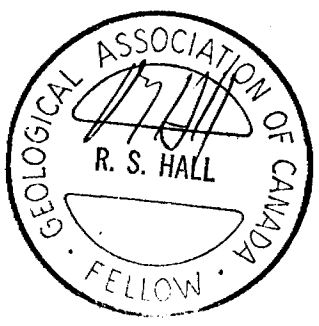

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Summary and Recommendations

The main gold-bearing shear zone on the Markes property continues along strike and down dip from the original discovery outcrop, but the zone narrows considerably after the shear zone departs from the mafic volcanic rocks and enters the quartz porphyritic intrusion to the east and down dip. The only remaining potential in this zone is to test it further down dip to determine if the zone eventually exits the felsic intrusion and re-enters mafic volcanic rocks.

A limited fence of five drill holes is also recommended to test the interpreted shear zones on the Sears option property to the south.

The third target area is the possible strike extension of the quartz vein system which Noranda has been drill-testing on the adjacent claims to the west. It is hoped Noranda's data will become available and drilling may be conducted in the overburden covered area where this zone is interpreted to strike onto EMC's property. At present, however, we have insufficient data to recommend any holes in this area.

A summary of proposed drillhole locations is given in Table 1 and, in part, shown on Figures 87-8 and 87-12.

A total of $185k was spent in 1987 bringing total EMC expenditures to date to $325k.

2. Introduction

The Markes property is presently undergoing exploration by Esso Minerals Canada under an option agreement with Cline Development Corporation. Esso has been working on the property since March 1986 and completed the second drill program of 1203m in September 1987. This report summarizes the results of this drill program plus the results of a stripping and mapping program conducted concurrent with the drilling.

Linecutting, ground geophysics and geologic mapping were also conducted on the 5 claims under option from Seymour Sears, located immediately south of the Markes prospect (Figure 87-7).

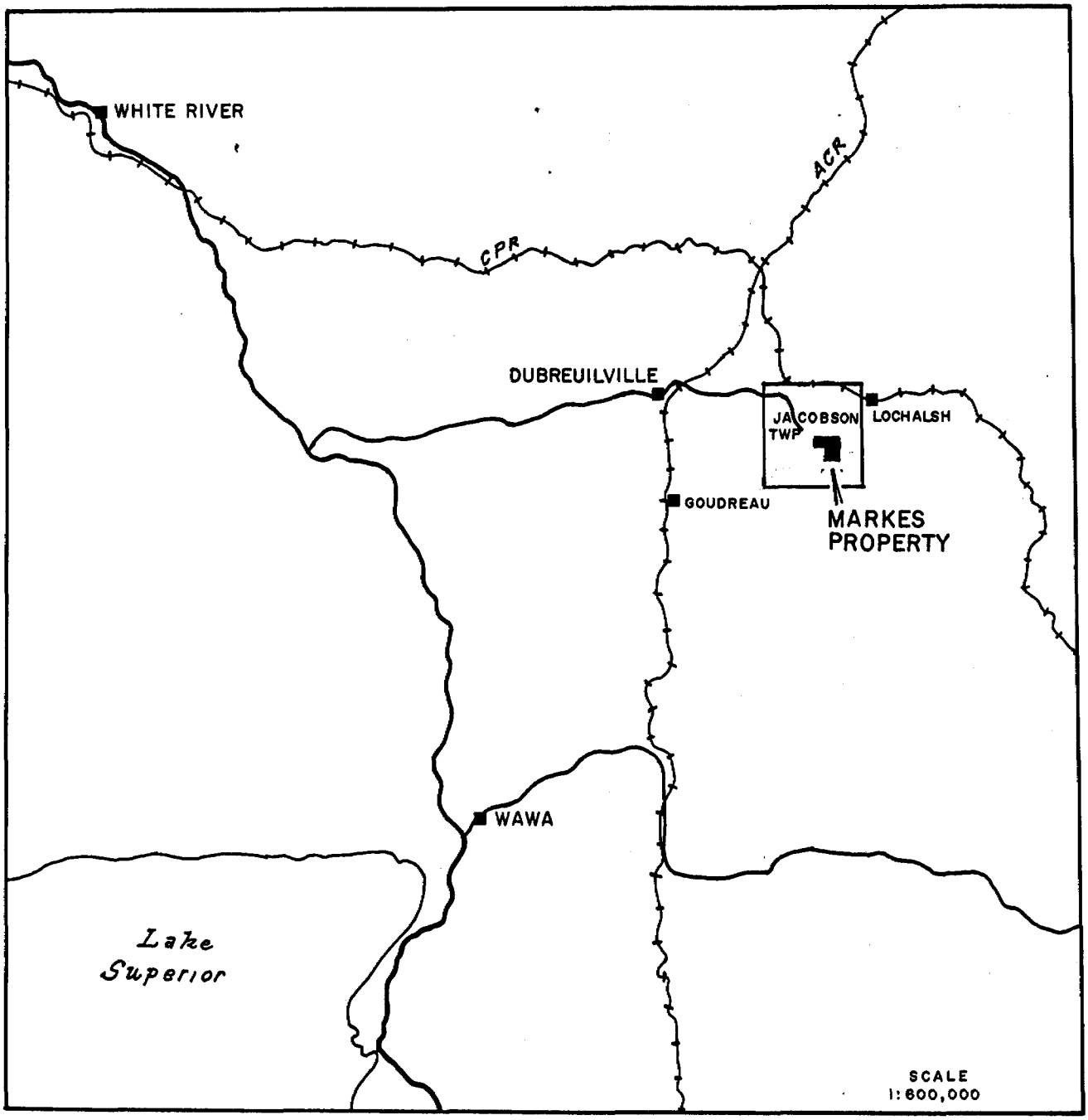
3. Location and Access

The Markes property is located in the middle of Jacobson Township, Ontario and is situated 40km north of Wawa, Ontario (Figure 87-1). Access to the property is gained from a seasonal gravel road which links Lochalsh, 4km to the east of the property, with Dubreuilville, 15km northwest of the property. A surfaced road leads from Dubreuilville to the Trans-Canada Highway to a point 40km north of Wawa.

The skidder trail which leads from this seasonal road 1.5km south to the Markes occurrence was upgraded in 1987 to permit passage with a 4-wheel drive truck.

87-1

MARKES PROSPECT (CLINE OPTION)
PROPERTY LOCATION



A power line crosses the northern portion of the property, and the CPR main line passes through Lochalsh.

Work permits and field equipment are available in Wawa, which is the administrative centre for the district. Equipment repairs and a limited selection of supplies are also available in Dubreuilville.

A water supply suitable for drilling is found in the creek which traverses the property immediately north of the Markes zone. Beavers have erected a number of dams on this creek which has increased the volume of water stored. Many of the drillholes have a significant flow of water which is suitable for drinking.

4. Land Status

Esso Resources Canada Limited has the option to earn 75% interest in the mining rights of 12 contiguous claims in Jacobson township held by Cline Development through an exploration expenditure of $750k by October 14, 1989. The six claims under option from Seymour Sears require an annual option payment over a five year period which commenced in 1986, and will result in Cline-EMC joint venture holding 100% interest in these six claims subject to Sears retaining a 2% NSR. These six claims are included in the Cline-EMC landholdings and are now subject to all the conditions and terms of the Cline Development Corporation option agreement. A complete listing of claim numbers and due dates is given in Appendix I, and are shown on Figure 87-2.

5. Previous Exploration

The original gold occurrence was discovered by W. Markes in 1934, and the property was drill-tested with 13 holes by Erie Canadian Mines in 1937-1938 (A.F.R.O. File 038), shown on the maps and drill sections with the prefix "EC37". The balance of previous work has been summarized by J. Farstad in his previous reports for EMC dated July, 1986 and October 1986.

In the summer of 1986, EMC conducted mechanical stripping along the Markes occurrence, followed by channel sampling and detailed mapping. This was followed by 1113m drill program completed in September 1986. This drilling indicated the zone narrowed considerably at depth and did not appear to continue along strike to either the east or west.

TABLE 1

SUMMARY OF RECOMMENDED DRILLHOLES

Sears Option Property (Figure 87-8)

Hole No.	Location		Depth
P1	0+50E	1+70S	150m
P2	0+50E	2+40S	150m
P3	1+00E	1+75S	150m
P4	1+00E	2+40S	150m
P5	0+00	2+00S	150m

Downdip on Markes Shear Zone

Hole No.	Location		Depth
P7	1+00W	0+85N	240m
P8	1+50W	0+85N	240m
P9	0+00	0+85N	240m
P10	0+50E	0+85N	240m
P11	1+00E	0+85N	240m

OTHER HOLES CONTINGENT UPON RESULTS OF NORANDA DRILLING AND RESULTS FROM THESE HOLES

1987 Exploration Program

a. Summary

The purpose of the 1987 program was to establish the strike continuity of the zone and determine if the apparent absence of strike continuity was due to offset along faults. The second purpose of the program was to attempt to further delineate the zone down dip and down plunge. Preliminary exploration was also conducted on the 5 claims optioned from Seymour Sears.

Mechanical stripping eastward from the area cleared in 1986 commenced in mid-August followed by hydraulic stripping and channel sampling and detailed mapping. Four other areas were also stripped in an attempt to further understand the geology of the property. Drilling was initiated at the end of August and completed in late-September.

A summary of expenditures is listed in Appendix II. Qualifications of the author and supervisor of the exploration work, plus a listing of the staff and contractors employed in 1987 are listed in Appendix III.

b. Stripping

The mechanical stripping was contracted to Leo Alarie & Sons Ltd. Their D7 was mobilized from their Hemlo office. The 1080B backhoe was contracted from Harry Miller Construction Ltd., Wawa. A total of 30 hours backhoe time and 52.5 hours Cat time were used. The D7 was also used to upgrade the access road, clear the drill sites and drill roads to facilitate the drill moves.

The stripped outcrops were washed using a Wajax Mk 3 portable fire pump, and subsequently channel sampled using a diamond-tipped circular blade-equipped Stihl TS-350 saw and chipped out using cold chisels. These sample locations were tied into the geologic maps to aid in interpreting the assay results. The location of the stripped and channel sampled areas is shown on Figure 87-4, and channel sample results are shown on Figures 87-4 and 87-6, and tabulated in Appendix IV.

The stripping and sampling was followed by detailed geologic mapping, shown on Figure 87-5.

c. Drill Program

The drilling was contracted to Northwest Geophysics, Thunder Bay, who provided a JKS300 drill. Drillholes were chained into the existing grid and inclination of the holes were determined using acid etch tubes. The drill core was logged on site and the core is stored on racks immediately south of the Markes occurrence. Casing was left in all of the holes drilled in 1987. Drillhole locations are plotted with the updip projection of the geology on the geologic compilation maps, Figures 87-3 and 87-8, and shown in drill sections, Figures 87-13 to 87-32.

Both the channel sample and split core samples were assayed by Paul's Custom Fire Assay, Cochenour, Ontario, using conventional fire assay techniques on 1/2 assay ton samples (approximately 15g). Results were received in oz Au/T and have been converted to grams/tonne using a conversion factor of:

1 troy ounce/short ton = 34.286 grams/tonne

Assay certificates are presented in Appendix V and a summary of expenditures is listed in Appendix II.

Drill logs were compiled using the Logii diamond drill management computer program, and drill logs and sections are presented using this computer facility. The previous Erie Canadian and EMC drill results have been integrated into this data base to aid data compilation and interpretation, and are listed in Appendix VIII.

Expenditures in 1987 were $185k, bringing total EMC expenditures to date to $325k.

7. Regional Geology

The Markes property is located in the Wawa- Michipicoten metasediment-metavolcanic terrane, and has been interpreted to lie within the northern limb of an east-west trending anticline. The area was mapped in 1985 by Ron Sage for the O.G.S. and gold occurrences were examined for the mineral deposits Section of the O.G.S. in 1987 by Kevin Heather, Zaira Arias and assistants. The results of these mapping programs have not yet been published.

The core of this interpreted anticline is comprised dominantly of felsic volcanic rocks intruded by numerous gabbro sills. The felsic volcanics are structurally overlain, to the north, by a sequence of mafic volcanic rocks and ironstones, with numerous ironstones along the contact of the dominantly felsic and dominantly mafic units.

Quartz- and quartz-magnetite-bearing gabbros are also observed intruding this contact area.

The northern contact zone is also the site of the "Goudreau Lake Deformation Zone", a 1km wide zone which extends from Goudreau Lake in the west to the Markes property in the east. The GLDZ is characterized by the presence of numerous cm-metre wide zones of intensely foliated rock and numerous narrow zones of dextral shear. Outcrops in this zone also display a variety of secondary and tertiary shear and fault zones consistent with interpretation that this is a wide zone of of principally dextral shear, but does contain minor complementary sinistral shear and fault zones.

8. Property Scale Geology

a. Introduction

The Markes prospect is hosted within deformed mafic volcanic rocks which are intruded by quartz porphyritic felsic and fine grained intermediate composition dykes.

The gold mineralization appears superimposed upon these rock types and is associated with intensely deformed, sericitized, silicified and pyritized zones within this broad shear zone.

The property was mapped at a scale of 1:1000 on the Cline optioned claims (Figure 87-3), and 1:2500 on the Sears option claims (Figure 87-8). Detailed mapping on the Markes shear zone was conducted at a scale of 1:100 (Figure 87-5).

b. Volcanic Rocks

i. Mafic Volcanics

Mafic volcanic rocks are the dominant volcanic rock type exposed on the Cline property. They are pillowed and vesicular to massive and are generally weakly deformed. Interpretation of pillow features and shapes suggest they face north. These mafic volcanic rocks are rarely variolitic and the only possible varioles are observed in drill core.

The mafic volcanics are pervasively weakly to moderately carbonatized and weather orange-brown. There is an increase in intensity of carbonatization adjacent to the main shear zone system. Despite intense alteration, primary volcanic textures are well preserved and the pillows show little evidence of strain. Within and immediately adjacent to the gold-bearing zones, the mafic volcanics also contain abundant sericite and are weakly to moderately silicified with accessory disseminated pyrite. The more intensely silicified and pyritized zones contain economic gold values.

ii. Felsic Volcanics

Felsic volcanic rocks are exposed in a few isolated outcrops in the southeastern corner of the property. These rocks are fine grained and sericitic and interpreted to be cherty rhyolites. Narrow brecciated zones and possible sorting of these fragments suggest extrusive origin. Contacts between the felsic and mafic volcanic rocks are observed in drillhole 87-43 but they are fissile zones which obliterate primary contact relationships. A narrow quartz-phyric possible felsic volcanic rock was also intersected in this hole but the matrix is intensely foliated and sericitized.

iii. Sedimentary Rocks

The only sedimentary rocks observed on the Markes property are quartz-rich ironstones which are intercalated with both the mafic and felsic volcanic rocks. The chert in these units is completely recrystallized but primary banding is typically well preserved. They typically contain 2-10% pyrrhotite with accessory pyrite, chalcopyrite, magnetite and sphalerite. In the stripped area immediately north of the main Markes occurrence, massive pyrrhotite occurs in a deformed and tourmalinized ironstone, and narrow massive iron sulfide intersections are noted in other drillholes. Unfortunately all samples of this style of mineralization assay trace to nil gold.

c. Intrusive Rocks

i. Felsic to Intermediate Intrusions

Three types of felsic intrusions are observed on the Markes property:

1. massive fine grained intermediate to felsic dykes
2. quartz porphyritic granitic dykes and quartz porphyritic and chlorite-bearing granodiorite dykes
3. feldspar and quartz-feldspar porphyritic dykes

The intermediate dykes have only been observed within and immediately adjacent to the Markes shear zone system. This unit intrudes the mafic volcanics and appears to be intruded by the later quartz porphyritic felsic intrusions, described below. These dykes are pale beige to white in weathered outcrop and are pale green to dark green in drillcore. Non-deformed samples are very fine grained and moderately siliceous quartz sericite chlorite schist with a moderately waxy luster. More intensely deformed and altered samples tend to be calcite-bearing sericite schists with little chlorite. Very rare feldspar phenocrysts are observed in this unit. These dykes have been named felsite or aplite dykes by previous workers but their non-altered composition is more chloritic and intermediate. These dykes appear to be spatially restricted to the 50m wide shear zone area, but are folded and sheared thus predate some of the deformation in the zone. These dykes host part of the mineralization in the Markes occurrence.

The "quartz porphyry" dykes are observed throughout the Markes property and can be broadly subdivided into chlorite-bearing and non-chlorite bearing varieties.

The non-chlorite bearing dykes appear granitic in composition, and typically contain 10-30% 5-8mm quartz phenocrysts in a fine grained sericitic matrix. The rock is a pale yellow to white colour and the matrix has a waxy luster. These dykes predate much of the deformation and tend to be well-foliated and are crosscut by shear zones and host some of the gold mineralization in the Markes occurrence. In the main Markes zone, these dykes are centimetres to tens of metres wide and display sheared and folded contacts with both the intermediate dykes and the mafic volcanics. They appear to have intruded synchronous with the deformation event, but deformation continued after intrusion. The main Markes occurrence is located immediately south of a large "pod" of quartz porphyry, and it may be refraction and dilation adjacent to this lense of competent rock which localized the gold mineralization in this area.

The chlorite-bearing quartz porphyritic felsic dykes are more granodioritic in composition and tend to contain fewer (10-20%) and smaller (3-5mm) quartz phenocrysts in a chlorite-bearing matrix. The chlorite occurs in fractures and also appears to pseudomorph biotite. These dykes tend to be very weakly foliated and more siliceous than the other type of quartz porphyritic dyke. These dykes occur throughout the property but appear to postdate much of the deformation and alteration in the Markes property.

Both types of quartz porphyritic dykes occur in the east end of the stripped area on the main Markes occurrence, but no crosscutting relationships are observed. Prior to the stripping, it was assumed that the non-chloritic dykes were simply a more altered equivalent of the chlorite-bearing dykes, but it is now concluded that there were two separate episodes of quartz porphyritic dyke: one which predates the deformation and gold mineralization, and a second which postdates the gold-mineralizing event.

The dykes tend to strike northwest and have subvertical dips. Within the Markes shear zone, however, the dykes have variable strike but a general northerly dip. It is likely the dykes have been rotated into parallelism with the strike of the shear zone during deformation.

The feldspar porphyritic and quartz feldspar porphyritic intrusions occur as narrow dykes and are a minor feature in the property geology. They tend to occur as <1m wide dykes with variable strike. The feldspar porphyritic dykes postdate deformation, and are a non-foliated crowded feldspar porphyritic syenite with 30% 5mm feldspar in a pale pink fine grained matrix. The quartz feldspar porphyritic dykes have only been observed in drill core and are likely a variety of the quartz porphyritic granodiorite.

ii. Mafic and Ultramafic Dykes

The Markes property contains numerous and extensive massive mafic dykes or sills. These gabbroic rocks are typically medium grained hornblendites with local accessory plagioclase, minor chlorite and leucoxene and trace calcite. The gabbros have a crude layering or zoning with a finer grained top to the south and a coarser grained magnetite-bearing and quartz-phyric base. The magnetite and quartz-bearing portions have been termed diorite to quartz diorite but these mafic intrusions have insufficient feldspar except in narrow more leucocratic zones. These gabbro sills extend from the hangingwall of the Markes shear zone at least 150m north, and extend the entire east-west width of the property. They are non-foliated to weakly foliated and appear to postdate most of the deformation and alteration on the property, or, acted as a large competent mass and deformation was restricted to the southern contact. There is some evidence of grain size reduction due to deformation in the structural hanging wall to the Marked shear zone.

A single gold assay of 1.37g/t over 0.6m was obtained from a 3cm sugary quartz vein in a hematite-stained fault zone in DDH 87-38 within a gabbro. This is the only evidence of gold mineralization within the gabbros.

Massive gabbroic rocks are in interpreted fault contact with the Markes showing on its western end, and gabbro dykes crosscut the zone to the east.

Narrow lamprophyre dykes have been intersected in number of drillholes. These dykes postdate deformation and are surrounded by narrow aureoles of intense carbonatization and brecciation. These dykes are 10-50cm wide and contain 10-30% olivine phenocrysts altered to talc and serpentine in a chlorite-phlogopite bearing fine grained brown-green matrix.

An aphanitic black ultramafic dyke was intersected in DDH38. This unit is moderately to intensely jointed but non-foliated. It was not intersected in other drilling in this area.

d. Metamorphism

The rocks in the region have undergone regional greenschist facies metamorphism. No metamorphic aureoles are observed at the contacts of the gabbroic intrusions.

Structure and Deformation

The Markes shear zone comprises part of the Goudreau Lake deformation zone characterized by the presence of numerous narrow dextral shear zones across a width of 3-40m. These rocks are all moderately deformed, but the majority of the strain appears to have been taken up along narrow discrete shear zones which are spaced at 1-15 metre intervals. The intervening rocks appear only weakly deformed. Mineral lineations and minor fold structures observed along the folded contacts of felsic-intermediate dykes and thin magnetite-bearing ironstone units all indicate a very shallow eastward plunge of from 10-40 degrees. This mineral lineations are roughly coaxial with the stretch lineations in the narrow shear zones. This can be contrasted to the country rocks north and south of the Markes-GLDZ which are only weakly foliated and non-lineated.

f. Gold Mineralization

The gold mineralization is localized within the 1-15m wide zone referred to as the Markes shear zone. The original discovery was stripped, sampled and mapped for EMC in 1986 by J. Farstad (1986a). The stripped area was enlarged in 1987 and mapping extended to the east.

The gold occurs within moderately to intensely carbonatized and moderately sericitized pillow basalts and intermediate dykes. These rocks have a background gold content which is roughly proportional to the pyrite content with approximately 1g/t per percent pyrite. The highest grade gold mineralization in the main showing is localized within silicified and brecciated zones within the mafic volcanics. These 10-80cm wide lenses have individual strike lengths of 1-10m but assay 10-50g/t. Three or more of these zones are observed over the 15m width of the main zone. They are best developed along the northerly and southerly bounding shear zones to the most intensely altered and deformed mafic volcanics. Associated with the silicification and brecciation is 1-15% tourmaline and narrow crack and seal quartz tourmaline veinlets.

Along strike to the east of the main zone, the shear zone departs from the mafic volcanics and enters intermediate dyke rock and the quartz porphyry (see Figures 87-5 and 13). The shear zone narrows to less than a metre in width, and the gold values are much more erratically distributed. In these zones, the gold mineralization is associated with intense sericitization silicification and foliation of the felsic rocks, accompanied by centimetre-wide crack and seal veins which often are brecciated and display evidence of multiple episodes of quartz veining. Gold content appears somewhat related to pyrite content, but values are typically low over very narrow widths and there appears to be little strike continuity of the auriferous zones.

Hole 86-28, drilled in 1986, was deepened in 1987 to test for the presence of a possible shear zone located to the south of the previous drill testing, but no economic assays were intersected despite intersecting the intermediate dyke.

Results of the 1987 Exploration Program

a. Drilling and Geologic Mapping

The drilling conducted in 1987 to the east and under the main occurrence was designed to explore for areas where the shear zone re-emerged from the felsic rocks, back into the mafic rocks which appear to provide a better host rock for wide and more uniformly mineralized gold deposition. Unfortunately, the drilling failed to intersect any significant mineralization along strike to the east where the shear zone is in a mafic host, and the drilling at depth failed to locate any altered mafic volcanics in the shear zone.

The shear zone system does, however, truncate the pyrrhotite-bearing ironstone exposed during our stripping program immediately north of the main zone, and it is possible this observation may be applied to exploration for other auriferous shear zones on the property. Drillhole 87-43 was designed to test the area of an interpreted truncation of an ironstone, but unfortunately failed to intersect a mineralized shear zone.

A narrow visible gold bearing silicified zone was intersected in DDH 87-34 and assayed 63.8g/t over 0.18m. This zone contained 10% pyrite and at least 15 pinhead-sized gold grains. Hole 87-35 was drilled under this intersection and failed to intersect any gold mineralization.

Channel sampling in the area stripped immediately east of the Markes occurrence intersected narrow gold-bearing zones, but gold values were uniformly low in the deformed felsic intrusive rocks, confirming diamond drill results.

b. Geophysical Survey

Survey method, data reduction techniques and theory of the geophysical survey technique and instrumentation are discussed in Appendix VII. The grid location is shown on Figure 87-7.

i. VLF-EM Survey (Figure 87-9)

Three zones of anomalous EM responses, labelled Zones A, B and C on Figure 87-9, are outlined by the present survey.

Zone A, observed between 3+00S and 5+00S on lines 5+50W to 0+50E, is open to the west of the survey area. This zone is characterized by a strong, definite in-phase (dip angle) crossover coincident with a weaker quadrature crossover in the same sense/orientation. Zone A is interpreted to be caused by a fair to good bedrock conductor, as excellent conductors are generally characterized by a definite in-phase crossover coincident with a "reverse" quadrature crossover.

The weaker amplitude and broader (peak to peak), crossover responses observed on Lines 3+50W, 3+00W, 2+50W and 2+00W may be caused by an increase in overburden cover in this area. A significant change in the conductor strike direction is also observed in the vicinity of Lines 3+00W to 2+00W - from 84°E of N, west of Line 4+50W, and 90°E of N, east of Line 2+00W, to roughly 66°E of N on Lines 3+00W and 2+50W. The broad in-phase crossover in this area may be caused, at least in part, by the shallow angle of the survey lines with respect to the axis of the conductor.

TABLE 2
SUMMARY OF 1987 DRILLING - COLLAR LOCATIONS AND DEPTH

	Northing	Easting	Az.	Dip	Depth	Footage	Claim No.
87-28	0+28.1 N	2+80E	190	-60	130.5m	15.0m	647065
(deepen 86-28)						31.4m	827517
87-32	0+10S	0+80E	190	-45	44.5m	44.5m	647064
87-33	0+10S	0+80E	190	-60	64.0m	64.0m	647064
87-34	0+10N	1+20E	190	-60	85.3m	85.3m	647064
87-35	0+50N	1+20E	190	-60	146.3m	146.3m	647064
87-36	0+00	2+40E	190	-45	61.0m	43.0m	647065
						18.0m	827517
87-37	0+10N	3+20E	190	-45	82.3m	66.0m	647065
						16.3m	827517
87-38	0+90N	3+20E	190	-45	152.4m	152.4m	647065
87-39	0+60S	3+20E	190	-45	76.2m	76.2m	827515
87-40	0+10S	0+40E	190	-45	91.5m	91.5m	647064
87-41	0+35N	0+50W	190	-65	155.5m	155.5m	647064
87-42	1+40S	1+20W	190	-45	112.8m	42.0m	647064
						70.8m	827515
87-43	3+50S	3+50W	190	-45	85.4m	85.4m	647066

TABLE 3

LEGEND FOR GEOLOGICAL PLANS AND SECTIONS

1	MAFIC METAVOLCANIC	
	1A,G	Massive
	1P	Pillowed
	1PV	Pillowed and vesicular
	1PBX	Pillow breccia
	1AP	Massive and pillowed
	1AMG	Amygdaloidal
	1ALT	Intensely carbonatized-pyritized-sericitized
	1GC	Carbonatized
3	FELSIC VOLCANICS	
	3A	Massive
	3AQP	Quartz porphyritic-massive
	3B	Tuff
	3H,J	Cherty rhyolite
4	CHEMICAL SEDIMENTARY ROCKS	
	4A	Quartz-magnetite ironstone
	4C	Quartz-pyrite-pyrrhotite ironstone
	4G	Meta-chert
5	METASEDIMENTARY ROCKS	
	5D	Greywacke-mudstone
6	PORPHYRITIC FELSIC INTRUSIONS	
	6A	Quartz-feldspar porphyry
	6B	Feldspar porphyry
	6C	Quartz porphyry
7	FELSIC INTRUSIONS	
	7A	Granite
	7AQP	Quartz porphyritic granitic
	7B	Granodiorite
	7BQP	Quartz porphyritic granodiorite
	7D	Diorite
	7G	Aplite
	7L	Fine-grained felsic dyke
	INT	Intermediate dyke
8	MAFIC INTRUSIONS	
	8A,8IA	Gabbro
	8AQ,Q	Quartz-bearing gabbro
	8C,D	Lamprophyre Dyke
	8I	Massive mafic volcanic or gabbro
	8IF	Massive mafic volcanic or fine ground gabbro
	UMD	Ultramafic to mafic dyke
	MYL	Mylonite
	EOH	End of Hole
	FLT	Fault Zone

Zone B, observed from 1+50S to 2+25S on Lines 1+00E to 5+00E is open to the east of the survey area. Zone B is believed to be the continuation of Zone A which appears to be offset some 85 metres to the north across a NW-SE striking fault in the vicinity of Lines 0+50E to 1+00E. The weaker and/or broader EM crossover responses observed over Zone B on Lines 1+50E, 2+00E, 4+50E and 5+00E are attributed in parts to increased overburden cover overlying the conductor on these lines. Zone B strikes 100°E of N on Lines 1+00E to 3+00E and on Lines 4+50E and 5+00E, with a change of strike direction to approximately 84°E of N between Lines 3+00E and 4+00E.

Zone C, observed south of tieline 5+00S, appears to continue east and west of the present survey grid. The continuity of Zone C is assumed in the vicinity of 6+00S on Lines 5+50E and 6+00E where readings could not be obtained because of a small pond. As with Zones A and B, the lower amplitude and/or broader crossover responses observed over Zone C on Lines 2+50E to 4+50E are coincident with a change in the strike direction of the conductor axis. Zone C strikes 100°E of N along its western and eastern portions but strikes roughly 63° in the vicinity of Lines 2+50E to 4+50E. The 63°-66° E of N strikes or trends observed along portions of Zones A, B and C may represent zones of shearing/faulting within the bedrock coincident with bedrock troughs which results in increased overburden cover in these areas.

ii. Magnetometer Survey (Figure 87-10 and 11)

The magnetic survey data shows a large number of narrow, high amplitude and relatively short strike length features. However, the prominent strike direction appears to be 90°E of N. The contoured magnetic data also indicating a weaker 60°-65°E of N trend which may be related to shearing and/or fracture zones. A NW-SE trending fault is interpreted in the vicinity of Lines 1+00E to 3+00E from 2+00S to 3+00S. This fault corresponds to an offset of a VLF-EM observed in the survey area.

10. Recommended Exploration Program

The only remaining potential in the main Markes occurrence is that the main shear zone re-emerges from the quartz porphyry at depth and widens out in chemically and mechanically favourable mafic volcanic host rock with widths and grades comparable to those observed on surface. A series of at least 6 200m drillholes are required to test this hypothesis. These holes are shown on Figure 87-8 and 87-12 and summarized in Table 1.

Drilling is also recommended to test those areas to the south of the Markes occurrence along which the ironstones appear to be truncated. This truncation may be due to the presence of an auriferous shear zone comparable to the Markes occurrence.

It is hoped the data from the Noranda exploration on the adjoining property may be obtained and integrated with EMC's information in order to determine if the gold-bearing zones they are exploring to the west extend on the EMC's optioned property. This area is overburden covered and stripping and drilling would be required to determine the economic potential of these gold-bearing zones, should Noranda's results warrant further exploration. This exchange of data is planned for the winter of 1988 upon the completion of Noranda's exploration program.

The recommended program is in part dependent upon Noranda's results, and would require and expenditure of $250k, which is the work commitment for 1988 to maintain the option.

APPENDIX I

Jacobson Township Claims

Claims under option from Cline Development Corporation:

SSM	647055	On extension-200 days filed	October 15, 1988
	647056	On extension-200 days filed	October 15, 1988
	647057	On extension-200 days filed	October 15, 1988
	647058	On extension-200 days filed	October 15, 1988
	647059	On extension-200 days filed	October 15, 1988
	647060	On extension-200 days filed	October 15, 1988
	647061	On extension-200 days filed	October 15, 1988
	647062	On extension-200 days filed	October 15, 1988
	647063	On extension-200 days filed	October 15, 1988
	647064	On extension-200 days filed	October 15, 1988
	647065	On extension-200 days filed	October 15, 1988
	647066	On extension-200 days filed	October 15, 1988

Claims under option from Seymour Sears:

827515	April 17, 1988
827517	April 17, 1988
885025	April 30, 1988
885026	April 30, 1988
885027	April 30, 1988

Total area of the 17 claims is approximately 272 hectares.

APPENDIX II

Summary of 1987 Exploration Expenditures (OMEP Applicable)

901	Geophysics	$ 3,545.00
903	Geology	28,604.19
905	Stripping and Trenching	13,173.31
	Assaying - geochemistry	4,893.80
906	Diamond Drilling - 1203 metres	119,668.33
910	Linecutting	4,214.91
	Total OMEP	174,099.54
	Non Applicable Expenditures	10,299.46
	1987 Total	184,399.00

APPENDIX III

QUALIFICATIONS OF THE SUPERVISOR AND AUTHOR OF THE REPORT OF WORK AND LIST OF PERSONNEL AND CONTRACTORS EMPLOYED DURING THE 1987 EXPLORATION PROGRAM AND DATES WORKED

Supervisor and author of work:

Randy S. Hall
1-27 Main Street
Toronto, Ontario
M4E 2V5

Randy S. Hall received his H.B.Sc. degree in geology from Lakehead University in 1978 and conducted research towards a Ph.D. in geology at Queen's University (degree pending). Mr. Hall has been employed as a geologist with Esso Minerals Canada since 1978.

Personnel employed by EMC during the 1987 exploration program:

Marc Alton, 250 Stevenson Rd. S., Oshawa, Ont.
Todd Keith, 30 Melrose Dr., Niagara on the Lake, Ont.
Simon Moore, 21 Glenbrook Gardens, Penetang, Ont.
Geoff Shore, 76 Marlow Ave., Toronto, Ont.
Eric Niemi, 1140 S. Empress Ave., Thunder Bay, Ont.
M. Clement, Lochalsh, Ont.
L. Wilson, 1485 Fieldlight Blvd., Pickering, Ont.

Diamond Drilling and Geophysical Survey:
Northwest Geophysics
Box 3263, 278 Sequoia Drive,
Thunder Bay, Ontario

Linecutting and Core Splitting
M. Clement
Lochalsh, Ontario

Mechanical Stripping:
Backhoe - Harry Miller Construction
Wawa, Ontario

D7 Bulldozer - Leo Alarie and Sons Ltd.
Box 100
Marathon, Ontario

Dates Worked:

Stripping: D7 Cat: August 21-28, 1987
Backhoe: August 24-27, 1987
Wajax: August 24-September 1, 1987

Channel Sampling: August 26-September 3, 1987

Geologic Mapping: August 21-August 26;
September 7-9;
September 17-19, 1987

Diamond Drilling: August 24-September 22, 1987

Linecutting: September 1-10, 1987

Geophysical Survey: September 22-23, 1987

Mechanical and hydraulic stripping conducted on claims:

647064	70%
647066	10%
647065	5%
827517	15%

Channel Sampling conducted on claims:

647065	12 samples
827517	8 samples
647064	99 samples

Detailed geologic mapping conducted on stripped area on claim: 647064

APPENDIX IV

Channel Sample Results

Position	Sample #	Length cm	Assay oz/ton	Assay (g/t)	Average Au (g/t)	Width (m)
W1	31901	35	0.32	10.97	7.56	1.37
"	31902	33	0.46	15.77		
"	31903	34	0.10	3.43	or	
"	31904	35	0.02	0.69		
"	31905	33	Tr	Tr	3.42	3.06
"	31906	29	Tr	Tr		
"	31907	36	Tr	Tr		
"	31908	34	0.01	0.34		
"	31909	37	0.18	6.17		
"	31910	34	Tr	Tr		
"	31911	35	Tr	Tr		
"	31912	36	Tr	Tr		
"	31913	31	0.01	0.34		
"	31914	33	Tr	Tr		
"	31915	34	0.01	0.34		
"	31916	32	0.01	0.34		
"	31917	50	0.04	1.37		
"	31918	48	0.01	0.34		
"	31919	42	Tr	Tr		
"	31920	57	0.08	2.74		
"	31921	43	Tr	Tr		
"	31922	51	Tr	Tr		
"	31923	37	Tr	Tr		
2	31924	38	0.12	4.11	1.77	1.14
"	31925	34	0.04	1.37		
"	31926	42	Tr	Tr		
3	31927	46	Tr	Tr		
"	31928	37	0.01	0.34		
"	31929	47	Tr	Tr		
"	31930	41	Tr	Tr		
"	31931	45	Tr	Tr		
"	31932	49	Tr	Tr		
"	31933	44	Tr	Tr		
"	31934	39	Tr	Tr		
"	31935	46	Tr	Tr		
"	31936	51	Tr	Tr		
"	31937	50	Tr	Tr		
"	31938	49	Tr	Tr		
"	31939	38	Tr	Tr		
"	31940	30	0.01	0.34		
"	31941	38	Tr	Tr		
"	31942	31	Tr	Tr		

Position	Sample #	Length cm	Assay oz/ton	Assay (g/t)	Average Au (g/t)	Width (m)
4	31943	42	Tr	Tr		
"	31944	38	0.01	0.34		
"	31945	43	0.02	0.69		
"	31946	43	Tr	Tr		
"	31947	38	Tr	Tr		
"	31948	52	0.01	0.34		
"	31949	48	Tr	Tr		
"	31950	46	Tr	Tr		
"	31951	46	Tr	Tr		
"	31952	55	Tr	Tr		
"	31953	38	0.01	0.34		
"	31954	47	Tr	Tr		
"	31955	32	Tr	Tr		
"	31956	37	Tr	Tr		
5	31957	51	Tr	Tr		
"	31958	52	Tr	Tr		
"	31959	44	Tr	Tr		
"	31960	48	Tr	Tr		
"	31961	50	Tr	Tr		
"	31962	50	Tr	Tr		
"	31963	47	Tr	Tr		
"	31964	52	Tr	Tr		
"	31965	49	Tr	Tr		
"	31966	43	Tr	Tr		
"	31967	39	Tr	Tr		
E6	31968	50	0.02	0.69		
"	31969	50	Tr	Tr		
"	31970	50	0.08	2.74		
"	31971	50	0.01	0.34		
"	31972	50	Tr	Tr	1.70	1.00
"	31973	50	0.01	0.34		
"	31974	50	Tr	Tr		
"	31975	50	Tr	Tr		
"	31976	50	0.02	0.69		
"	31977	40	Tr	Tr		
"	31978	50	Tr	Tr		
"	31979	50	Tr	Tr		
"	31980	50	Tr	Tr		
"	31981	50	Tr	Tr		
"	31982	50	0.01	0.34		
"	31983	50	Tr	Tr		

Position	Sample #	Length cm	Assay oz/ton	Assay (g/t)	Average Au (g/t)	Width (m)
E7	31801	50	Tr	Tr		
E7	31802	50	Tr	Tr		
E7	31803	50	Tr	Tr		
E7	31804	50	Tr	Tr		
E7	31805	50	0.02	0.69		
E7	31806	50	Tr	Tr		
E7	31807	70	Tr	Tr		
E7	31808	44	Tr	Tr		
E7	31809	50	Tr	Tr		
E7	31810	50	0.01	0.34		
E7	31811	50	Tr	Tr		
E7	31812	50	Tr	Tr		
E7	31813	48	Tr	Tr		
E7	31814	43	0.01	0.34		
E7	31815	46	Tr	Tr		
E7	31816	38	Tr	Tr		
Samples at	31817	50	Tr	Tr		
Hole 87-36	31818	50	Tr	Tr		
"	31819	50	Tr	Tr		
"	31820	50	Tr	Tr		
"	31821	50	0.04	1.37		
"	31822	50	0.06	2.06	1.70	1.50
"	31823	50	0.08	2.74		
"	31824	50	Tr	Tr		
"	31825	50	Tr	Tr		
"	31826	50	Tr	Tr		
"	31827	50	Tr	Tr		
"	31828	50	Tr	Tr		
"	31829	50	Tr	Tr		
"	31830	50	Tr	Tr		
"	31831	50	Tr	Tr		
"	31832	50	Tr	Tr		
"	31833	50	0.02	0.69		
"	31834	50	Tr	Tr		
"	31835	50	Tr	Tr		
"	31836	50	0.04	1.37		

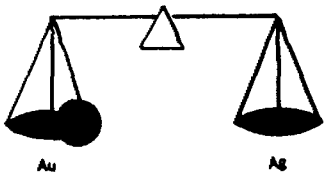
APPENDIX V

Assays Certificates from Diamond Drill Core and Channel Samples

Results of resampling of 1986 drill core (not previously sampled)

Sample No.	Hole No.	Interval (m)	Assay (g/t)
33406	86-17	8.02-10.03	tr
33407	86-17	16.46-17.98	tr
33409	86-20	10.64-10.97	tr
33409	86-20	20.18-22.40	tr
33410	86-24	32.67-33.62	tr
33411	86-24	33.62-34.99	tr
33412	86-24	34.99-36.12	tr
33413	86-24	39.93-41.45	tr
33414	86-24	44.90-46.51	tr
33415	86-26	62.08-62.76	tr

16-82-C-300



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PAUL OKANSKI, Assayer
Box 253, Cochenour, Ontario P0V 1L0
Phone: Bus. (807) 662-8171
Res. (807) 662-3361

Esso Minerals Canada

ASSAY CERTIFICATE

Date: Sept. 23,1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
	31651	Ont. #82 87-32	Trace	
2	52	"	"	
3	53	"	"	
	54	"	"	
5	55	"	"	
	31657	87-33	"	
7	58	"	"	
	59	"	"	
	60	"	"	
10	61	"	"	
	62	"	"	
12	63	"	"	
	64	"	"	
14	65	"	"	
15	66	87-34	"	
	67		"	
17	68		.04	
	69		.26	
19	70		Trace	
	71		"	
	72		"	
22	73		"	
	74		"	
24	75		"	
	76		"	

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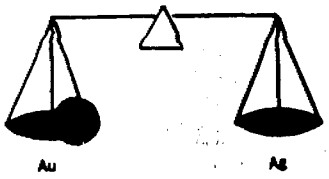

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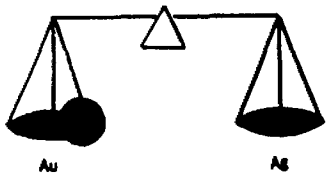
Esso Minerals Canada

ASSAY CERTIFICATE

Date: Sept. 3, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
	31677	Ont.# 82 87-34	Trace	
2				
3	31901	Channel Samples - Clu	.32	
	02		.46	
5	03		.10	
	04		.02	
7	05		Trace	
	06		"	
	07		"	
10	08		.01	
	09		.18	
12	10		Trace	
	11		"	
14	12		"	
15	13		.01	
	14		Trace	
17	15		.01	
	16		.01	
19	17		.04	
20	18		.01	
21	19		Trace	
22	20		.08	
	21		Trace	
24	22		"	
	23		"	

Assayer: Paul Okanski



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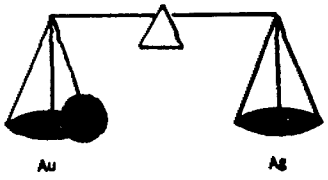
Esso Minerals Canada

ASSAY CERTIFICATE

Date: Sept. 3, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	31924	Ont. #82 Channel Sample - Clay	.12	
2	25		.04	
3	26		Trace	
4	27		"	
5	28		.01	
6	29		Trace	
7	30		"	
8	31		"	
9	32		"	
10	33		"	
11	34		"	
12	35		"	
13	36		"	
14	37		"	
15	38		"	
16	39		"	
17	40		.01	
18	41		Trace	
19	42		"	
20	43		"	
21	44		.01	
22	45		.02	
23	46		Trace	
24	47		"	
25	48		.01	

Assayer: Paul Okanski



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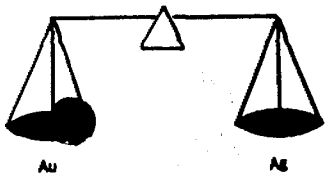
ASSAY CERTIFICATE

Date: Sept. 3, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
	31949	Ont. #82	Trace	
	50		"	
3	51		"	
	52		"	
5	53		.01	
	54		Trace	
7	55		"	
	56		"	
	57		"	
10	58		"	
	59		"	
12	60		"	
	61		"	
	62		"	
15	63		"	
	64		"	
17	65		"	
	66		"	
19	67		"	
	68		.02	
	69		Trace	
22	70		.08	
	71		.01	
24	72		Trace	
	73		.01	

Assayer: Paul Okanski



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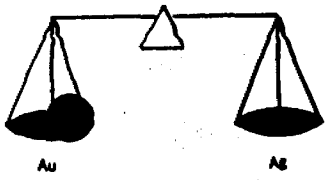
	Sample No.	Description	oz/ton Au	oz/ton Ag
	31974	Ont. #82	Trace	
2	75		"	
3	76		.02	
4	77		Trace	
5	78		"	
6	79		"	
7	80		"	
8	81		"	
9	82		.01	
10	83		Trace	
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

Assayer: Paul Okanski

1682-C300



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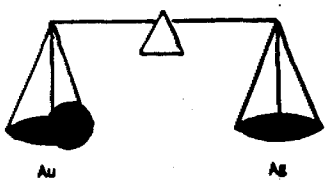
ASSAY CERTIFICATE

Date: Sept. 10, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	31826	Ont. #82	Trace	
2	27		"	
3	28		"	
4	29		"	
5	302		"	
6	31		"	
7	32		"	
8	33		.02	
9	34		Trace	
10	35		"	
11	36		.04	
12	RH-87-936	Grab Surface	Trace	
13	31678	8734	"	
14	79		"	
15	80		"	
16	81		"	
17	82		"	
18	83		"	
19	84		"	
20	85		"	
21	86		"	
22	87		1.86	
23	88		.01	
24	89		Trace	
25	90		"	

Assayer: Paul Okanski

16-82-C300



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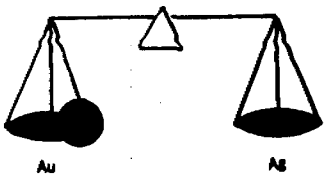
ASSAY CERTIFICATE

Date: Sept. 10, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	31691	Ont. #82 87-34	Trace	
2	92		"	
3	93		.01	
4	94		Trace	
5	95		.02	
6	96		.01	
7	97		.01	
8	98		Trace	
9	99	87-35	"	
10	31700		"	
11	01		"	
12	02		"	
13	03		"	
14	04		"	
15	05		"	
16	06		"	
17	07		"	
18	08		"	
19	09		"	
20	10		"	
21	11		"	
22	12		"	
23	13		"	
24	14		"	
25	15		"	

Assayer: Paul Okanski



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ASSAY CERTIFICATE

Date: Sept. 10, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
	31716	Ont. #92 87-35	Trace	
	17		"	
3	18		"	
	19		.01	
5	20		Trace	
	21		"	
7	22		"	
	23		"	
	24		"	
10	25		"	
	26	↓	.02	
12	3440~~2726~~	Check Samples Resample '86 Drilling	Trace	
	~~28~~ 07		"	
	~~29~~ 08		"	
15	09		"	
	10		"	
17	11		"	
	12		"	
19	13		"	
20	14		"	
	15		"	
22				
24				

Assayer: Paul Okanski

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Phone: Bus. (807) 662-8171
Res. (807) 662-3361

Esso Minerals Canada

ASSAY CERTIFICATE

Date: Sept. 10, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	31801	Ont. #82	Trace	
2	02		"	
3	03		"	
4	04		"	
5	05		.02	
6	06		Trace	
7	07		"	
8	08		"	
9	09		"	
10	10		.01	
11	11		RTrace	
12	12		"	
13	13		"	
14	14		.01	
15	15		Trace	
16	16		"	
17	17		"	
18	18		"	
19	19		"	
20	20		"	
21	21		.04	
22	22		.06	
23	23		.08	
24	24		Trace	
25	25		"	

Assayer: Paul O. Okanski

PAUL'S CUSTOM FIRE ASSAYING LTD.

PAUL OKANSKI, Assayer
Box 253, Cochenour, Ontario P0V 1L0

Phone: Bus. (807) 662-8171
Res. (807) 662-3361

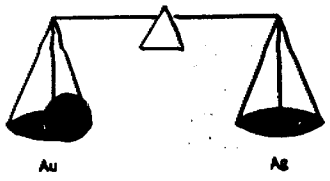
Esso Minerals Canada

ASSAY CERTIFICATE

Date: Sept. 14, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
	---	Ont.$ 82		
3	39		" Trace	
	40		"	
5	41		"	
	31727	87-36	"	
7	28		"	
8	29		"	
	30		"	
10	31		"	
	32		"	
12	33		"	
13	34		"	
14	35		"	
15	36		"	
16	37	8738	"	
17	38		"	
18	39		"	
19	40		"	
20	41		"	
21	42		"	
22	43		"	
23	44		"	
24	45		"	
25	46		"	

Assayer: Paul O Okanski



PAUL'S CUSTOM FIRE ASSAYING LTD.

Phone: Bus. (807) 662-8171
Res. (807) 662-3361

PAUL OKANSKI, Assayer
Box 253, Cochenour, Ontario P0V 1L0

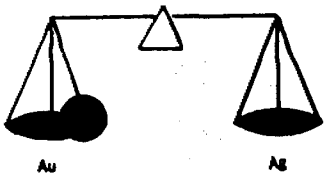
Esso Minerals Canada

ASSAY CERTIFICATE

Date: Sept. 14, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	31747	Ont. #82 87-38	Trace	
2	48		"	
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

Assayer: Paul Okanski



PAUL'S CUSTOM FIRE ASSAYING LTD.

Phone: Bus. (807) 662-8171
Res. (807) 662-3361

PAUL OKANSKI, Assayer
Box 253, Cochenour, Ontario P0V 1L0

Esso Minerals Canada

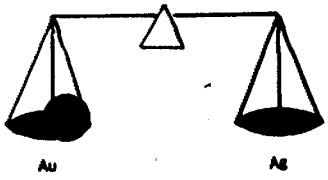
ASSAY CERTIFICATE

Date: Sept. 18, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
	31656	Ont. #82	Trace	
	31750		"	
3	51		"	
	31984		"	
5	85		"	
	3190		"	
7	91		"	
	942		"	
	43		"	
10	44		"	
12				
17				
19				
22				
24				

RECEIVED
SEP 23 1987
MINERALS

Assayer: Paul Okanski



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PAUL OKANSKI, Assayer
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Esso Minerals Canada

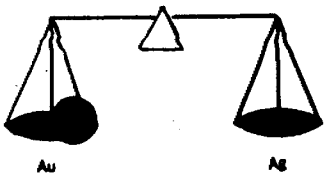
ASSAY CERTIFICATE

Date: Sept. 24, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	31749	Ont. #82	.04	
2	31752		Trace	
3	53		"	
4	54		.01	
5	55		Trace	
6	31757		"	
7	58		"	
8	31760		"	
9	61		"	
10	62		"	
11	63		.04	
12	64		Trace	
13	6[illegible]5		"	
14	66		.08	
15	67		Trace	
16	68		"	
17	69		.06	
18	70		Trace	
19	71		"	
20	72		"	
21	73		"	
22	74		"	
23	75		"	
24	76		.01	
25	77		Trace	

RECEIVED
SEP 30 1987
MINERALS

Assayer: Paul K. Okanski



PAUL'S CUSTOM FIRE ASSAYING LTD.

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Box 253, Cochenour, Ontario P0V 1L0

Phone: Bus. (807) 662-8171
Res. (807) 662-3361

Esso Minerals Canada

ASSAY CERTIFICATE

Date: Sept. 24, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	31778	Ont.#82	Trace	
2	79		"	
3	80		"	
4	81		.01	
5	82		Trace	
6	83		"	
7	84		"	
8	85		"	
9	31976		"	
10	31987		"	
11	87-RH1001		"	
12	1002		.01	
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

Assayer: Paul Okanski

APPENDIX VI

Grab Sample Descriptions and Results

Sample No.	Grid Loc'n	Description	Assay (g/t)
87RH-936		massive pyrrhotite in ironstone	tr
87RH-939	4+50W 4+00S	2% pyrrhotite in ironstone	tr
87RH-940	4+50W 4+00S	2% pyrrhotite in ironstone	tr
87RH-941	4+50W 4+00S	2% pyrrhotite in ironstone	tr
87RH-1001	5+10W 3+40S	<1% pyrite in sericite schist	tr
87RH-1002	3+50W 4+00S	1% pyrite in carbonatized sericite schist	0.34

APPENDIX VII

GEOPHYSICAL EQUIPMENT AND SURVEY METHODS

1. Introduction

The magnetic survey was carried out with an EDA "OMNI IV" proton precession magnetometer. The VLF-EM survey was carried out with the Geonics EM-16 VLF-EM unit.

2. Magnetometer Survey

The "OMNI IV" magnetic field strength measurement utilizes the precession of spinning protons (hydrogen nuclei) in a sample of hydro-carbon fluid. The protons behave as small magnetic dipoles. These are temporarily polarized by a uniform magnetic field generated by a current in a coil of wire. When the current is removed, the spin of the protons causes them to precess about the direction of the earth's magnetic field. The precessing protons then generate a signal in the coil, whose frequency is proportional to the total magnetic field intensity. The processing sensitivity of the OMNI IV is ± .02 Gammas.

Measurements were taken with the OMNI IV at 12.5 metre intervals along survey lines spaced 50 metres apart. To correct for time variations of the earth's magnetic field (diurnal), a second OMNI system was used as a base station monitor/recorder with readings every thirty seconds or less. Changes in the base station readings were automatically removed at the end of each survey day from the measurements obtained along the survey lines.

A datum/zero level of 58,000 gammas was subtracted from the corrected magnetic measurements for presentation purposes. The final corrected readings are plotted on Figure 87-10 and the contoured data are presented in plan form on Figure 87-11 at a scale of 1:2500.

c. VLF-EM Survey

i. Theory

The VLF (Very Low Frequency) EM method employs an artificial source of EM waves - a VLF antenna, several hundred feet high, which acts essentially as a vertically grounded wire. A worldwide network of high-power VLF stations established for marine and air navigation, act as the sources for the VLF-EM exploration method. At present, suitable transmitters for EM prospecting in North America are located at Cutler, Maine; Annapolis, Maryland and Seattle, Washington. The transmitted frequencies (in the 20 KHz band) are very low frequency (VLF) only by comparison to broadcasting standards, but are in fact very high relative to any other geophysical EM system.

The VLF antenna current is vertical. The main magnetic field component of the primary (transmitted) signal is horizontal and theoretically tangent to circles about the antenna mast. Hence, a transmitting station should be chosen so that its direction is almost parallel to the geological strike in the survey area so as to produce a magnetic field perpendicular to the strike. If a conductor is located in the survey area, eddy currents are established producing a secondary field in the vicinity of the conductor. The VLF-EM-16 equipment measures the vertical components of this secondary field.

The fact that the source is at infinity means the primary field is essentially uniform over the survey area and hence all conductors are energized uniformly. This enables the detection of a broad variety of conductors, ranging from good conductors - graphite, massive sulphides, to poor conductors - muskeg, clay edges, shear zones, contacts. At times this may be a disadvantage, however, since it may emphasize large-scale, relatively poor conductors at the expense of smaller concentrated bodies. In many environments, the anomalies of interest can be masked by the large amount of geological noise. The penetration of the system is limited by its high frequency in the presence of conductive overburden. However, if the subsurface is resistive, for example, little overburden, the penetration can be quite deep due to the transmitter being so far removed.

The VLF-EM method is also affected by topographic effects, spurious anomalies being picked up on top of conductive hills because the resultant field tends to follow the slope. The distinction between anomaly conductivity and depth is also often difficult. Another major drawback is that it is not always possible to use a transmitting station which gives a primary horizontal field striking at right angles to the geologic strikes in the survey area. In this case, two VLF transmitters, at approximately right angles to each other, should be used to provide better coverage.

ii. Equipment

The Geonics EM-16 measures the tilt angle and quadrature components of the resultant (secondary) EM field. The instrument consists of two coils, or antennas, with axes perpendicular to each other and linked to appropriate electronics.

iii. Survey Procedure

The survey technique is listed below:

1)The most probable strike of interest is decided and the transmitter station most closely along strike, with a detectable signal, is chosen.

2)The proper receiver channel is selected to receive the transmitted signal. This may involve plugging in a circuit module.

3)Direction to transmitter station is determined by rotating the axis of the longer receiver coil in a horizontal plane. The transmitter is located in the direction of minimum field strength, i.e., minimum noise from the speaker. With this orientation the axis of the long coil should be pointing more or less in the direction of the transmitter station.
4)Receiver is then oriented with the long coil vertical and axis of the small coil at the bottom, the reference coil, oriented perpendicular to the transmitter direction.
5)The tilt angle response is measured by rotating the instrument about a horizontal line which points toward the transmitter, until minimum noise is heard.
6)Quadrature response is measured by rotating the small dial until the best minimum is heard.
7)Facing direction and local terrain is recorded together with the tilt angle and out of phase measurements.

A complete specification for VLF reading includes:
1)tilt angle response
2)quadrature response
3)facing direction
4)line azimuth, line #, station #
5)transmitter and frequency
6)terrain

The direction the operator is facing during measurement is very important with the Geonics EM-16 instrument because tilt angles above horizontal are positive and those below are negative. Other conventions exist for recording the tilt angle but only the facing convention is discussed here.

Readings were generally taken at 25 metre intervals, along lines spaced 50 metres apart. The Cutler, Maine (NAA) station was used for this survey.

The tilt angle and quadrature response are plotted in profile plan form at a horizontal scale of 1:2500 and a vertical scale of 1 cm = 50% on Figure 87-9 accompanying this report.

APPENDIX VIII Diamond Drill Logs

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-1
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by:
Date logged: 1937
System:

Azimuth: 179
Dip: -45

Depth Dip

Grid:
Showing:

Northing: 00+23S
Easting: 00+78W
Elevation:

Length: 70.50m

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
.00	1.52	OVERBURDEN								
1.52	8.08	MASSIVE MAFIC METAVOLCANIC Weak banding- flow textures.								
8.08	17.37	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered-coarse to medium grained- uniform rock) quartz diorite. 13.72 13.72 Specimen taken.								
17.37	18.14	MAFIC VOLCANIC Brecciated carbonate- very weak pyrrhotite, pyrite.	71201	17.37	18.14	.76		tr		
18.14	20.42	MASSIVE MAFIC METAVOLCANIC Lost Core.								
20.42	21.88	AMYGDALOIDAL MAFIC VOLCANICS								
21.88	22.01	QUARTZ PORPHYRITIC FELSIC INTRUSION Carbonate-no mineral.	71202	21.88	22.01	.12		tr		
22.01	22.62	AMYGDALOIDAL MAFIC VOLCANICS								
22.62	23.13	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered-carbonate - contact at 88 deg.	71203	22.62	23.13	.52		tr		
23.13	26.70	AMYGDALOIDAL MAFIC VOLCANICS								

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-1
Page: 2

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
26.70	27.98	MASSIVE MAFIC METAVOLCANIC								
		26.70 27.28 Altered-quartz streaks- very weak pyrite.	71204	26.70	27.28	.58	tr			
		27.28 27.43 Weak to nil pyrite.	71205	27.28	27.43	.15	tr			
		27.43 27.98 Weak to nil pyrite.	71206	27.43	27.98	.55	tr			
27.98	28.83	FELDSPAR PORPHYRITIC FELSIC INTRUSION								
		Altered (as above)- weakly silicified- weak to medium pyrrhotite, pyrite.	71207	27.98	28.83	.85	.69			
28.83	29.78	QUARTZ VEIN								
		28.83 29.60 Medium to strong pyrite-silicified zone.	71208	28.83	29.60	.76	42.51			
			71209	29.60	29.78	.18	15.09			
		29.60 29.78 Rusty.								
29.78	30.48	GRANODIORITE								
		Altered-medium pyrite- coarse.	71210	29.78	30.48	.70	2.06			
30.48	33.01	MASSIVE MAFIC METAVOLCANIC								
		Banded.								
33.01	33.53	MASSIVE MAFIC METAVOLCANIC								
		Quartz streaks- weak to nil pyrite.	71211	33.01	33.53	.52	2.06			
33.53	34.47	MASSIVE MAFIC METAVOLCANIC								
		Banded.								
34.47	35.05	MASSIVE MAFIC METAVOLCANIC								
		Altered-weak to medium pyrite.	71212	34.47	35.05	.58	.69			
35.05	37.37	MASSIVE MAFIC METAVOLCANIC								
37.37	38.10	MASSIVE MAFIC METAVOLCANIC								
		Altered- medium to strong streaky pyrite.	71213	37.37	38.10	.73	7.54			
38.10	38.34	MASSIVE MAFIC METAVOLCANIC								
		Massive- weak pyrite - fine.	71214	38.10	38.34	.24	tr			
38.34	39.62	MASSIVE MAFIC METAVOLCANIC								

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-1
Page: 3

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		Massive.										
39.62	39.96	MASSIVE MAFIC METAVOLCANIC Massive-5% quartz streaks- weak coarse pyrite.	71215	39.62	39.96	.34	0.69					
39.96	44.68	MASSIVE MAFIC METAVOLCANIC Massive.										
44.68	49.50	AMYGDALOIDAL MAFIC VOLCANICS Banded.										
49.50	49.59	QUARTZ VEIN Medium pyrite.										
49.59	49.90	MASSIVE MAFIC METAVOLCANIC Weak- altered- disseminated pyrrhotite.	71216	49.59	49.90	.30		tr				
49.90	50.96	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED Andesite- strong streaky pyrite.	71217	49.90	50.96	1.07		tr				
50.96	51.66	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED Andesite-medium pyrite.	71218	50.96	51.66	.70		tr				
51.66	54.86	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED 51.66 51.82 Andesite- weak quartz- pyrite streaks 5%.	71219	51.66	51.82	.15		tr				
			71220	51.82	53.34	1.52		tr				
		51.82 53.34 Weak pyrite.	71221	53.34	54.86	1.52		tr				
		53.34 54.86 Weak to nil pyrite.										
54.86	55.78	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED Andesite- weak to medium pyrite.	71222	54.86	55.78	.91		tr				
55.78	60.96	FELDSPAR PORPHYRITIC FELSIC INTRUSION 55.78 56.39 Altered- weak to nil pyrite.	71223	55.78	56.39	.61		tr				
		56.39 56.85 Weak pyrite.	71224	56.39	56.85	.46		tr				

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-1
Page: 4

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
	56.85 57.91 Weak to nil pyrite.	71225	56.85	57.91	1.07	tr			
	57.91 58.83 Weak to nil pyrite.	71226	57.91	58.83	.91	tr			
	58.83 59.44 Weak to nil pyrite.	71227	58.83	59.44	.61	tr			
	59.44 60.65 Weak to nil pyrite.	71228	59.44	60.66	1.22	tr			
	60.65 60.96 Medium to strong pyrite.	71229	60.66	60.96	.30	tr			
60.96 62.48	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED Andesite.								
62.48 64.92	MASSIVE MAFIC METAVOLCANIC Weakly altered.								
64.92 70.47	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered.								
70.47 70.47	END OF HOLE								

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-2
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by:
Date logged: 1937
System:

Azimuth: 196
Dip: -46

Depth Dip

Grid:
Showing:
Northing: 00+34S
Easting: 00+96W
Elevation:
Length: 61.60m

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
.00	3.69	OVERBURDEN								
3.69	4.66	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered.								
4.66	9.33	MASSIVE MAFIC METAVOLCANIC Banded.								
9.33	10.52	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered.								
10.52	11.28	FELDSPAR PORPHYRITIC FELSIC INTRUSION Sheared at 70 deg.- weak to nil pyrite-quartz streaks.	71230	10.52	11.28	.76		tr		
11.28	13.35	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered.								
13.35	13.59	QUARTZ VEIN Weak to nil pyrite.	71231	13.35	13.59	.24		tr		
13.59	13.93	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered.								
13.93	14.39	FELDSPAR PORPHYRITIC FELSIC INTRUSION Weakly silicified- quartz streaks- weak to nil pyrite.	71232	13.93	14.39	.46		tr		
14.39	15.06	QUARTZ VEIN Finely silicified-medium to strong pyrite.	71233	14.39	15.06	.67	3.43			

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-2
Page: 2

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
15.06	16.46	MASSIVE MAFIC METAVOLCANIC Altered-sheared 65-70 deg. Weak streaky pyrite.	71234	15.06	16.46	1.40	6.86					
16.46	17.53	MASSIVE MAFIC METAVOLCANIC Weak shear.										
17.53	18.29	MASSIVE MAFIC METAVOLCANIC Weak shear- 10% quartz streaks- weak to nil pyrite.	71235	17.53	18.29	.76	1.37					
18.29	19.51	MASSIVE MAFIC METAVOLCANIC Weak breccia- weak shear 35- 50 deg.- occasional quartz streaks.										
19.51	30.51	AMYGDALOIDAL MAFIC VOLCANICS										
30.51	39.23	QUARTZ-BEARING GABBRO Blue quartz.										
39.23	48.77	MASSIVE MAFIC METAVOLCANIC Massive.										
48.77	49.01	FAULT ZONE Lost Core.										
49.01	52.76	AMYGDALOIDAL MAFIC VOLCANICS										
52.76	53.13	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED Weak to nil pyrite.	71236	52.76	53.13	.37	tr					
53.13	58.28	AMYGDALOIDAL MAFIC VOLCANICS										
58.28	58.49	QUARTZ VEIN Streaky- weak to nil pyrite.	71237	58.28	58.49	.21	tr					

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-2
Page: 3

Interval (m)		Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
58.49	61.57	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered.							
61.57	61.57	END OF HOLE							

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-3
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by:
Date logged: 1937
System:

Azimuth: 166
Dip: -41

Depth Dip

Grid:
Showing:
Northing: 00+15.3S
Easting: 00+43.4W
Elevation:
Length: 70.90m

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
.00	1.83	OVERBURDEN										
1.83	9.45	MASSIVE MAFIC METAVOLCANIC Massive- green(dark).										
9.45	15.09	MASSIVE MAFIC METAVOLCANIC Weakly silicified.										
15.09	16.86	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED Weak- andesite- weak shear at 75 deg. - weak pyrite.	71241	15.09	16.86	1.77		tr				
16.86	17.01	QUARTZ VEIN Weak pyrrhotite.										
17.01	19.20	QUARTZ PORPHYRITIC FELSIC INTRUSION 17.01 17.25 Weak disseminated pyrrhotite. 17.25 18.08 Weak to nil pyrite. 18.08 19.20 Weak to nil pyrite.	71242 71243 71244	17.01 17.25 18.07	17.25 18.07 19.20	.24 .82 1.13	.69	tr tr				
19.20	19.99	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered- weak to nil pyrite.	71245	19.20	19.99	.79		tr				
19.99	20.45	QUARTZ VEIN Very weak pyrite.	71246	19.99	20.45	.46		tr				
20.45	21.15	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered- weak to nil pyrite.	71247	20.45	21.15	.70		tr				

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-3
Page: 2

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
21.15	21.67	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered- 30% quartz streaks- weak to nil pyrite.	71248	21.15	21.67	.52	tr			
21.67	22.28	QUARTZ PORPHYRITIC FELSIC INTRUSION Occasional quartz streaks- weak to nil pyrite.	71249	21.67	22.28	.61	tr			
22.28	32.10	QUARTZ PORPHYRITIC FELSIC INTRUSION Coarse- no mineral.								
32.10	35.72	FELDSPAR PORPHYRITIC FELSIC INTRUSION								
		32.10 32.83 Altered- weak to nil pyrite.	71250	32.10	32.83	.73	tr			
		32.83 34.20 Weak pyrrhotite.	71251	32.83	34.20	1.37	.69			
		34.20 35.72 Weak pyrrhotite, pyrite.	71252	34.20	35.72	1.52	2.06			
35.72	36.36	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED Weak andesite- weak to nil pyrrhotite, pyrite.	71253	35.72	36.36	.64	tr			
36.36	36.52	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED	71254	36.36	36.52	.15	tr			
36.52	41.45	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED								
		36.51 37.79 Weak pyrite.	71255	36.52	37.80	1.28	2.06			
		37.79 39.32 Weak pyrrhotite, pyrite.	71256	37.80	39.32	1.52	5.49			
		39.32 40.84 Weak pyrrhotite, pyrite.	71257	39.32	40.84	1.52	tr			
		40.84 41.45 Weak pyrrhotite, pyrite.	71258	40.84	41.45	.61	2.06			
41.45	41.82	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED	71259	41.45	41.82	.37	9.60			
41.82	47.88	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED								
		41.82 42.22 Strong- andesite) weak pyrite.	71260	41.82	42.21	.40	6.86			
		42.22 42.55 Weak to nil pyrite.	71261	42.21	42.55	.34	tr			
		42.55 43.89 Weak to nil pyrite.	71262	42.55	43.89	1.34	.69			
		43.89 45.51 Weak to nil pyrite.	71263	43.89	45.51	1.62	tr			

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-3
Page: 3

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
	45.51	46.36 Weak shear at 65 deg.- weak to nil pyrite.	71264	45.51	46.36	.85	1.37			
	46.36	47.88 Weak to nil pyrite.	71265	46.36	47.88	1.52	tr			
47.88	55.90	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED								
	47.88	49.07 Weak to medium andesite- weak to nil pyrite.	71266	47.88	49.07	1.19	tr			
			71267	49.07	50.32	1.25	tr			
	49.07	50.32 Weak to medium pyrrhotite, pyrite.	71268	50.32	51.76	1.43	tr			
			71269	51.76	52.67	.91	tr			
	50.32	51.76 Medium pyrrhotite, pyrite.	71270	52.67	52.97	.30	tr			
	51.76	52.67 Weak to nil pyrite.	71271	52.97	54.38	1.40	tr			
	52.67	52.97 Medium quartz pyrite streaks.	71272	54.38	55.90	1.52	tr			
	52.97	54.38 Weak to nil pyrite.								
	54.38	55.90 Weak to nil pyrite.								
55.90	60.47	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED								
	55.90	57.42 Strong- weak to nil pyrite.	71273	55.90	57.42	1.52	tr			
	57.42	58.95 Weak to nil pyrite.	71274	57.42	58.95	1.52	tr			
	58.95	60.47 Weak to nil pyrite.	71275	58.95	60.47	1.52	tr			
60.47	61.87	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED Weak- andesite?.								
61.87	70.87	AMYGDALOIDAL MAFIC VOLCANICS								
70.87	70.87	END OF HOLE								

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-4
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by:
Date logged: 1937
System:

Azimuth: 181
Dip: -40

Depth Dip

Grid:
Showing:

Northing: 00+11.5S
Easting: 00+21S
Elevation:

Length: 62.80m

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
.00 1.98	OVERBURDEN								
1.98 8.38	MASSIVE MAFIC METAVOLCANIC Dark.								
8.38 16.89	MASSIVE MAFIC METAVOLCANIC								
	8.38 12.50 Banded.	71276	12.50	13.11	.61		tr		
	12.50 13.11 Weak to medium pyrrhotite plus pyrite.	71277	13.11	14.33	1.22		tr		
		71278	14.33	14.78	.46		tr		
	13.11 14.33 Weak pyrrhotite, pyrite.	71279	14.78	16.31	1.52		tr		
	14.33 14.78 Weak pyrrhotite, pyrite.	71280	16.31	16.89	.58		tr		
	14.78 16.31 Weak to nil pyrrhotite, pyrite.								
	16.31 16.89 Weak to nil pyrrhotite, pyrite.								
16.89 17.37	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED Medium - andesite - weak to nil pyrite.								
17.37 17.68	QUARTZ PORPHYRITIC FELSIC INTRUSION Weak to nil pyrite.	71281	17.37	17.68	.30		tr		
17.68 27.13	QUARTZ PORPHYRITIC FELSIC INTRUSION Nil pyrite.								
27.13 27.34	QUARTZ PORPHYRITIC FELSIC INTRUSION Weak to nil pyrrhotite, pyrite.								
27.34 28.04	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED Strong - granodiorite - weak pyrrhotite, pyrite.	71282	27.34	28.04	.70		tr		

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-4
Page: 2

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
28.04	29.05	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED Weak to nil pyrrhotite, pyrite. 28.65 29.05 Sheared at 70 deg.	71283	28.04	29.05	1.01		tr		
29.05	31.09	FELDSPAR PORPHYRITIC FELSIC INTRUSION 29.05 30.33 Altered.	71284	29.05	30.33	1.28		tr		
		30.33 31.09 Weak to nil pyrite.	71285	30.33	31.09	.76		tr		
31.09	32.25	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered - weak to nil pyrite.	71286	31.09	32.25	1.16		tr		
32.25	33.53	QUARTZ PORPHYRITIC FELSIC INTRUSION Weak to nil pyrite.	71287	32.25	33.53	1.28		tr		
33.53	34.53	QUARTZ PORPHYRITIC FELSIC INTRUSION 33.53 34.44 Weak to nil pyrite.	71288	33.53	34.44	.91		tr		
		34.44 34.53 Strong pyrrhotite.	71289	34.44	34.53	.09		1.37		
34.53	36.09	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED Andesite - weak to nil pyrite.	71290	34.53	36.09	1.55		tr		
36.09	36.76	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered - weak to nil pyrite.	71291	36.09	36.76	.67		tr		
36.76	36.97	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered - weak to nil pyrite.	71292	36.76	36.97	.21		.69		
36.97	38.50	FELDSPAR PORPHYRITIC FELSIC INTRUSION Weak to nil pyrrhotite, pyrite. Altered.	71293	36.97	38.50	1.52		tr		
38.50	39.17	FELDSPAR PORPHYRITIC FELSIC INTRUSION Weak to nil pyrite. Altered.	71294	38.50	39.17	.67		.69		
39.17	41.85	FELDSPAR PORPHYRITIC FELSIC INTRUSION 39.17 40.33 Altered - medium to strong streaky pyrite.	71295	39.17	40.33	1.16		1.37		
			71296	40.33	41.85	1.52		1.37		
		40.33 41.85 Weak to medium pyrite.								

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-4
Page: 3

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
41.85 44.04	FELDSPAR PORPHYRITIC FELSIC INTRUSION								
	41.85 42.46 Altered - weak to nil pyrite.	71297	41.85	42.46	.61	5.49			
	42.46 43.74 Weak to medium pyrite.	71298	42.46	43.74	1.28	tr			
	43.74 44.04 Strong pyrite.	71299	43.74	44.04	.30	19.20			
44.04 44.65	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED								
	Andesite/a strong - medium to strong pyrite.	70972	44.04	44.65	.61	2.74			
44.65 45.81	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED								
	Andesite - medium - weak pyrite.	70973	44.65	45.81	1.16	tr			
45.81 52.09	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED								
	45.81 47.52 Andesite - strong - quartz	70974	45.81	47.52	1.71	tr			
	streaks - medium pyrite.	70975	47.52	49.04	1.52	tr			
	47.52 49.04 Weak to nil pyrite.	70976	49.04	50.57	1.52	tr			
	49.04 50.57 Weak to nil pyrite.	70977	50.57	52.09	1.52	.69			
	50.57 52.09 Weak to nil pyrite.								
52.09 60.96	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED								
	52.09 53.61 Strong to medium carbonate -	70978	52.09	53.61	1.52	tr			
	andesite - weak to nil pyrite.	70979	53.61	54.83	1.22	tr			
	53.61 54.83 Weak to nil pyrite.	70980	54.83	56.39	1.55	tr			
	54.83 56.39 Weak to nil pyrite.	70981	56.39	57.91	1.52	tr			
	56.39 57.91 Weak to nil pyrite.	70982	57.91	59.44	1.52	tr			
	57.91 59.44 Weak to nil pyrite.	70983	59.44	60.96	1.52	tr			
	59.44 60.96 Weak to nil pyrite.								
60.96 62.73	MASSIVE MAFIC METAVOLCANIC								
	Carbonate silicified zone - andesite - weak to nil pyrite.	70984	60.96	62.73	1.77	tr			
62.73 62.73	END OF HOLE								

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-6
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by:
Date logged: 1937
System:

Azimuth: 172
Dip: -46

Depth Dip

Grid:
Showing:
Northing: 00+05S
Easting: 00+01E
Elevation:
Length: 84.45m

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
.00	2.44	OVERBURDEN								
2.44	8.60	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered (is definitely porphyry but appears to be more closely related to feldspar porphyry of other holes than quartz porphyry) Occasional rusty streaks.								
8.60	8.99	MASSIVE MAFIC METAVOLCANIC No mineralization.								
8.99	9.48	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered (as above).								
9.48	13.75	MASSIVE MAFIC METAVOLCANIC								
13.75	14.26	MASSIVE MAFIC METAVOLCANIC Slightly altered- occasional quartz streaks- weak pyrrhotite.	70932	13.75	14.26	.52		tr		
14.26	14.94	QUARTZ VEIN 80% Plus sheared, altered andesite- strong pyrrhotite- weak pyrite.	70933	14.26	14.94	.67		.69		
14.94	16.25	QUARTZ VEIN 40% Quartz plus altered andesite- medium pyrrhotite.	70934	14.94	16.25	1.31		.69		
16.25	18.90	QUARTZ VEIN 16.25 17.37 10 % quartz- weak pyrrhotite plus altered andesite.	70935 70936	16.25 17.37	17.37 18.90	1.13 1.52		tr tr		

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-6
Page: 2

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
		17.37 18.90 Weak to nil mineralization.								
18.90	20.06	MASSIVE MAFIC METAVOLCANIC Weak to medium altered- weak to nil mineralization.	70937	18.90	20.06	1.16		tr		
20.06	28.59	QUARTZ PORPHYRITIC FELSIC INTRUSION Upper contact 40 deg. To core.								
28.59	28.86	FAULT ZONE								
28.86	29.05	QUARTZ PORPHYRITIC FELSIC INTRUSION Fine-grained.								
29.05	29.50	MASSIVE MAFIC METAVOLCANIC Medium altered- weak to nil pyrite.	70938	29.05	29.50	.46		tr		
29.50	30.42	MASSIVE MAFIC METAVOLCANIC Medium altered- sheared at 60 deg.- weak to nil mineralization.	70939	29.50	30.42	.91		tr		
30.42	30.54	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED	70940	30.42	30.54	.12		tr		
30.54	31.09	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered (definite) - sheared at 50-55 deg.	70941	30.54	31.09	.55		tr		
31.09	34.44	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered (definite) - no mineralization.								
34.44	38.62	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered (indefinite) - apparently fades from above (could be altered andesite).								
38.62	40.81	QUARTZ VEIN 38.62 39.29 70% quartz plus feldspar porphyry, altered- sheared at 60 deg. - weak to nil	70942 70943	38.62 39.29	39.29 40.81	.67 1.52	1.37 1.37			

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-6
Page: 3

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
		mineralization. 39.29 40.81 Weak pyrrhotite.								
40.81	42.06	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered- weak to medium pyrrhotite.	70944	40.81	42.06	1.25	2.06			
42.06	42.61	MASSIVE MAFIC METAVOLCANIC Altered- sheared at 65 deg.- strong pyrrhotite, pyrite.	70945	42.06	42.61	.55	.69			
42.61	43.01	QUARTZ VEIN No mineralization.	70946	42.61	43.01	.40	tr			
43.01	52.58	QUARTZ VEIN 43.01 44.17 Sheared at 60 deg. Weak to medium pyrrhotite- pyrite. 44.17 46.24 Weak to nil mineralization. 46.24 47.76 Weak to medium pyrrhotite, pyrite. 47.76 49.29 Weak to nil mineralization. 49.29 50.81 Weak to nil mineralization. 50.81 52.58 Weak spotty pyrite.	70947 70948 70949 70950 70951 70952	43.01 44.17 46.24 47.76 49.29 50.81	44.17 46.24 47.76 49.29 50.81 52.58	1.16 2.07 1.52 1.52 1.52 1.77	.69 tr tr tr tr tr			
52.58	69.13	MASSIVE MAFIC METAVOLCANIC Medium to weakly altered.								
69.13	71.32	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered- no mineralization.								
71.32	76.72	MASSIVE MAFIC METAVOLCANIC								
76.72	84.43	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered (very indefinite). 80.47 80.47 Specimen taken.								
84.43	84.43	END OF HOLE								

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-7
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by:
Date logged: 1937
System:

Azimuth: 179
Dip: -45

Depth Dip

Grid:
Showing:
Northing: 00+10N
Easting: 00+25.5E
Elevation:
Length: 75.50m

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
.00	3.44	OVERBURDEN								
3.44	17.37	QUARTZ-BEARING GABBRO								
17.37	17.98	QUARTZ-BEARING GABBRO Quartz epidote zone- no mineralization.								
17.98	44.20	QUARTZ-BEARING GABBRO Diorite? (probably finer grained than above).								
44.20	46.63	QUARTZ-BEARING GABBRO Very fine grained- apparently fades froan above.								
46.63	49.23	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered.								
49.23	49.83	FELDSPAR PORPHYRITIC FELSIC INTRUSION Quartz 6 inches and altered waxy porphyry- weak pyrrhotite.	70953	49.23	49.83	.61	.69			
49.83	50.23	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered- weak to nil mineralization.	70954	49.83	50.23	.40	tr			
50.23	51.15	FELDSPAR PORPHYRITIC FELSIC INTRUSION Sheared at 45 deg.- weak pyrrhotite, pyrite- andesite?.	70955	50.23	51.15	.91	tr			
51.15	54.19	MASSIVE MAFIC METAVOLCANIC								

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-7
Page: 2

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
	51.15 52.67 Altered- weak- weak to nil pyrite.	70956	51.15	52.67	1.52	tr			
		70957	52.67	53.28	.61	.69			
	52.67 53.28 Weak to medium pyrrhotite, pyrite.	70958	53.28	54.19	.91	tr			
	53.28 54.19 Weak to nil mineralization.								
54.19 55.02	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED Andesite- weak to nil mineralization.	70959	54.19	55.02	.82	tr			
55.02 56.54	QUARTZ PORPHYRITIC FELSIC INTRUSION Weak shearing at 60 deg. - weak to nil mineralization.	70960	55.02	56.54	1.52	tr			
56.54 57.30	QUARTZ PORPHYRITIC FELSIC INTRUSION Weak to nil pyrite.	70961	56.54	57.30	.76	tr			
57.30 57.85	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered- weak streaky pyrrhotite, pyrite.	70962	57.30	57.85	.55	tr			
57.85 58.58	QUARTZ PORPHYRITIC FELSIC INTRUSION Reddish phases- weak to nil pyrite.	70963	57.85	58.58	.73	.69			
58.58 63.70	QUARTZ PORPHYRITIC FELSIC INTRUSION Fracturing at 60-65 deg.								
63.70 64.07	QUARTZ PORPHYRITIC FELSIC INTRUSION Lost Core.								
64.07 66.35	QUARTZ PORPHYRITIC FELSIC INTRUSION								
66.35 66.66	QUARTZ PORPHYRITIC FELSIC INTRUSION Weak disseminated pyrite.	70964	66.35	66.66	.30	.69			
66.66 69.52	QUARTZ PORPHYRITIC FELSIC INTRUSION								
69.52 70.32	QUARTZ PORPHYRITIC FELSIC INTRUSION Weak to nil pyrite- occasional quartz streaks.	70965	69.52	70.32	.79	tr			

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-7
Page: 3

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
70.32	70.90	QUARTZ PORPHYRITIC FELSIC INTRUSION Weak to nil pyrite- occasional quartz streaks.	70966	70.32	70.90	.58		tr		
70.90	71.05	QUARTZ VEIN Weak streaks pyrite.	70967	70.90	71.05	.15		tr		
71.05	74.52	QUARTZ PORPHYRITIC FELSIC INTRUSION								
		71.05 72.45 Occasional specks pyrite.	70968	71.05	72.45	1.40		tr		
		72.45 73.76 Weak streaky pyrrhotite, pyrite- sheared at 60 deg.	70969	72.45	73.76	1.31		tr		
			70970	73.76	74.52	.76		tr		
		73.76 74.52 Sheared at 60 deg. Weak pyrrhotite.								
74.52	75.29	MASSIVE MAFIC METAVOLCANIC Strongly altered- sheared weak- strong to medium streaky pyrrhotite.	70971	74.52	75.29	.76	1.37			
75.29	75.47	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered- (note: one 5 inch piece core at end does not look in place).								
75.47	75.47	END OF HOLE								

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-8
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by:
Date logged: 1937
System:

Azimuth: 22
Dip: -40

Depth Dip

Grid:
Showing:
Northing: 00+76.5S
Easting: 01+28.2W
Elevation:
Length: 86.10m

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
.00	2.47	OVERBURDEN								
2.47	13.11	QUARTZ-BEARING GABBRO Blue quartz.								
13.11	14.33	QUARTZ-BEARING GABBRO Blue quartz- weak shear at 45 deg.								
14.33	64.47	QUARTZ-BEARING GABBRO Blue quartz.								
64.47	64.95	MASSIVE MAFIC METAVOLCANIC Andesite? - (possibly contact edge-doirite).								
64.95	65.87	MASSIVE MAFIC METAVOLCANIC Altered- weak fine streaky pyrite.	71238	64.95	65.87	.91		tr		
65.87	66.57	MASSIVE MAFIC METAVOLCANIC Altered- weak fine streaky pyrite.	71239	65.87	66.57	.70		tr		
66.57	67.18	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered - fine grained- weak to nil pyrite.	71240	66.57	67.18	.61		tr		
67.18	79.55	FELDSPAR PORPHYRITIC FELSIC INTRUSION Porphyry? - lower contact at 40 deg.								
79.55	86.11	MASSIVE MAFIC METAVOLCANIC								

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-8
Page: 2

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
86.11	86.11 END OF HOLE							

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-10
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by:
Date logged: 1937
System:

Azimuth: 179
Dip: -45

Depth Dip

Grid:
Showing:
Northing: 00+23N
Easting: 00+87.5W
Elevation:
Length: 152.10m

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
.00 5.79	OVERBURDEN							
5.79 20.82	QUARTZ PORPHYRITIC FELSIC INTRUSION Contact 20 deg. To hole.							
20.82 39.72	QUARTZ-BEARING GABBRO Later than porphyry.							
39.72 40.66	MASSIVE MAFIC METAVOLCANIC Sheared and altered- no mineralization.							
40.66 50.38	QUARTZ-BEARING GABBRO Fine- grained.							
50.38 56.69	MASSIVE MAFIC METAVOLCANIC							
56.69 62.18	MASSIVE MAFIC METAVOLCANIC 56.69 61.54 Weak streaks alteration. 61.54 62.18 Weak streaky pyrrhotite.	70985	61.54 62.18	.64	.69			
62.18 65.23	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered- occasional weak quartz streaks- weak pyrrhotite.							
65.23 65.71	QUARTZ VEIN No mineralization.							
65.71 65.93	FELDSPAR PORPHYRITIC FELSIC INTRUSION Contact at 60 deg. Porphyry altered.							

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-10
Page: 2

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
65.93	66.05	MASSIVE MAFIC METAVOLCANIC Weakly altered- no mineralization.								
66.05	66.75	MASSIVE MAFIC METAVOLCANIC Weak shear and alteration- weak streaky pyrrhotite.	70986	66.05	66.75	.70		tr		
66.75	66.87	MASSIVE MAFIC METAVOLCANIC Sheared at 75 deg.								
66.87	75.71	QUARTZ PORPHYRITIC FELSIC INTRUSION								
75.71	76.60	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered- sheared at 70 deg. - weak pyrrhotite, pyrite.	70987	75.71	76.60	.88		tr		
76.60	77.11	MASSIVE MAFIC METAVOLCANIC Andesite and 20 % quartz streaks- sheared at 55 deg.- weak pyrite.	70988	76.60	77.11	.52	19.20			
77.11	78.33	MASSIVE MAFIC METAVOLCANIC Silicified and alteration- sheared at 60 deg.- streaky medium pyrite.	70989	77.11	78.33	1.22	12.34			
78.33	79.43	MASSIVE MAFIC METAVOLCANIC Weakly silicified and alteration- sheared at 60 deg. weak to medium pyrite.	70990	78.33	79.43	1.10	2.06			
79.43	81.08	MASSIVE MAFIC METAVOLCANIC Sheared at 60 deg. Occasional quartz streaks- weak coarse pyrite.	70991	79.43	81.08	1.65		tr		
81.08	82.11	MASSIVE MAFIC METAVOLCANIC Sheared at 60 deg. Occasional quartz streaks- weak coarse pyrite.	70992	81.08	82.11	1.04		tr		
82.11	83.03	MASSIVE MAFIC METAVOLCANIC Altered- weak shear- quartz streaks- weak pyrite.	70993	82.11	83.03	.91	.69			

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-10
Page: 3

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
83.03	83.82	MASSIVE MAFIC METAVOLCANIC Altered- weak to nil mineralization.								
83.82	84.28	MASSIVE MAFIC METAVOLCANIC Altered- 30 deg. Quartz streaks- weak pyrite.	70994	83.82	84.28	.46	.69			
84.28	85.16	MASSIVE MAFIC METAVOLCANIC Altered- no mineralization.								
85.16	85.95	MASSIVE MAFIC METAVOLCANIC Altered- sheared at 45 deg. - weak to medium pyrite.	70995	85.16	85.95	.79	tr			
85.95	87.93	MASSIVE MAFIC METAVOLCANIC Altered - no mineralization.								
87.93	89.12	MASSIVE MAFIC METAVOLCANIC Altered- sheared 45-60 deg. -quartz streaks- weak pyrite.	70996	87.93	89.12	1.19	tr			
89.12	90.04	MASSIVE MAFIC METAVOLCANIC Altered.								
90.04	91.26	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered no mineralization.								
91.26	94.79	MASSIVE MAFIC METAVOLCANIC Weakly altered- no mineralization.								
94.79	96.01	MASSIVE MAFIC METAVOLCANIC Sheared at 70 deg.- 30 deg. Quartz streaks- weak pyrite.	70997	94.79	96.01	1.22	tr			
96.01	101.71	MASSIVE MAFIC METAVOLCANIC Altered- no mineralization.								

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-10
Page: 4

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
101.71 111.40	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered- very weak to nil mineralization. 102.11 102.41 Quartz streaks- contact at 60 deg.							
111.40 126.52	QUARTZ PORPHYRITIC FELSIC INTRUSION							
126.52 127.22	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered- weak pyrite.	70998	126.52 127.22	.70		tr		
127.22 128.56	MASSIVE MAFIC METAVOLCANIC Altered- sheared at 65 deg. Occasional quartz streaks- weak pyrite.	70999	127.22 128.56	1.34		tr		
128.56 132.41	MASSIVE MAFIC METAVOLCANIC Weakly altered- weak shear at 60 deg.							
132.41 133.96	QUARTZ PORPHYRITIC FELSIC INTRUSION							
133.96 134.26	QUARTZ VEIN No mineralization.							
134.26 134.42	QUARTZ PORPHYRITIC FELSIC INTRUSION							
134.42 136.40	MASSIVE MAFIC METAVOLCANIC Altered- sheared at 60 deg. Weak pyrite.	71000	134.42 136.40	1.98		tr		
136.40 137.92	MASSIVE MAFIC METAVOLCANIC Altered- sheared at 60 deg. Weak to nil pyrite.							
137.92 138.20	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered.							
138.20 152.10	MASSIVE MAFIC METAVOLCANIC Altered- sheared at 60 deg. Weak to nil pyrite.							

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-10
Page: 5

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
152.10	152.10 END OF HOLE							

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-11
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by:
Date logged: 1937
System:

Azimuth: 178
Dip: -45

Depth Dip

Grid:
Showing:
Northing: 00+38.5N
Easting: 00+34.5S
Elevation:
Length: 111.20m

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
.00	4.57	OVERBURDEN								
4.57	42.52	QUARTZ-BEARING GABBRO Coarse-grained.								
42.52	59.47	QUARTZ PORPHYRITIC FELSIC INTRUSION								
59.47	67.94	MASSIVE MAFIC METAVOLCANIC Weak to mediumly altered- sheared at 55-60 deg.- no mineralization.								
67.94	72.88	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered.								
72.88	73.15	QUARTZ PORPHYRITIC FELSIC INTRUSION Quartz streaks 70%- medium pyrrhotite.	71300	72.88	73.15	.27		tr		
73.15	85.25	QUARTZ PORPHYRITIC FELSIC INTRUSION								
85.25	85.86	MASSIVE MAFIC METAVOLCANIC Altered- sheared- quartz streaks- 30%- weak pyrrhotite, pyrite.	71301	85.25	85.86	.61	4.11			
85.86	86.38	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered- occasional quartz streaks- weak pyrite.	71302	85.86	86.38	.52	.69			
86.38	90.53	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered.								

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-11
Page: 2

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
90.53	90.65	QUARTZ VEIN No mineralization.								
90.65	92.87	MASSIVE MAFIC METAVOLCANIC Andesite?-(could be felspar porphyry,altered) weak disseminated pyrrhotite.								
92.87	92.96	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered.								
92.96	94.49	MASSIVE MAFIC METAVOLCANIC Altered- medium to strong pyrrhotite-sheared at 80 deg.	71310	92.96	94.49	1.52		tr		
94.49	95.89	MASSIVE MAFIC METAVOLCANIC Andesite?- medium to weak pyrrhotite.	71311	94.49	95.89	1.40		tr		
95.89	96.53	MASSIVE MAFIC METAVOLCANIC Altered- medium pyrite.								
96.53	96.93	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered- weak to medium pyrite.	71303	96.53	96.93	.40		tr		
96.93	99.06	FELDSPAR PORPHYRITIC FELSIC INTRUSION 96.93 97.05 Weak to nil pyrite. 97.05 97.54 Weak pyrite. 97.54 99.06 Weak to medium pyrite.	71304 71305	97.05 97.54	97.54 99.06	.49 1.52		tr tr		
99.06	100.58	MASSIVE MAFIC METAVOLCANIC Altered- weak pyrite- (indefinite-possibly feldspar porphyry, altered).	71306	99.06	100.58	1.52		tr		
100.58	103.63	FELDSPAR PORPHYRITIC FELSIC INTRUSION 100.58 102.35 Altered. 102.35 103.63 Weak to nil pyrite.	71307 71308	100.58 102.35	102.35 103.63	1.77 1.28		tr tr		
103.63	105.34	QUARTZ PORPHYRITIC FELSIC INTRUSION Fine-grained.	71309	103.63	105.34	1.71		tr		

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-11
Page: 3

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
105.34 111.10	FELDSPAR PORPHYRITIC FELSIC INTRUSION Altered.							
111.10 111.10	END OF HOLE							

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-12
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by:
Date logged: 1937
System:

Azimuth: 198
Dip: -29

Depth Dip

Grid:
Showing:
Northing: 00+99.3S
Easting: 01+25.4W
Elevation:
Length: 58.90m

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
.00	1.83	OVERBURDEN										
1.83	3.57	MASSIVE MAFIC METAVOLCANIC Micaceous- medium shear- vesicular- occasional calcite streaks- occasional specks pyrite.										
3.57	5.79	MASSIVE MAFIC METAVOLCANIC Vesicular- calcite streaks and threads- occasional specks pyrite.										
5.79	14.42	MASSIVE MAFIC METAVOLCANIC Vesicular- banded structure (flow top)- scattered calcite streaks- weak pyrite specks and blebs.										
14.42	14.60	MASSIVE MAFIC METAVOLCANIC Quartz- calcite streaks- some rusty carbonate- weak pyrite and pyrrhotite.										
14.60	14.75	QUARTZ VEIN Quartz and calcite- 80 deg. To core.	9824	14.60	14.75	.15	2.74					
14.75	14.81	MASSIVE MAFIC METAVOLCANIC Quartz calcite streaks 2 inches wide 20 deg. To core- weak pyrrhotite plus chalcopyrite, pyrite.										
14.81	16.58	MASSIVE MAFIC METAVOLCANIC Vesicular- occasional specks pyrite- calcite threads and streaks.										

Esso Minerals Canada - Cline Project (Ont-92)

Hole: EC37-12
Page: 2

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
16.58	16.79	QUARTZ VEIN Quartz and calcite- 80 deg. To core.	9825	16.58	16.79	.21	2.06			
16.79	22.83	GRANODIORITE Blue quartz- occasional specks pyrite.								
22.83	26.64	AMYGDALOIDAL MAFIC VOLCANICS Vesicular andesite- carbonate- scattered calcite threads- occasional specks pyrite.								
26.64	29.29	MASSIVE MAFIC METAVOLCANIC Micaceous- weak carbonate- occasional calcite threads- occasional specks pyrite.								
29.29	29.50	MASSIVE MAFIC METAVOLCANIC Micaceous- medium carbonate- 1/2 inch quartz streaks with weak pyrite. 29.41 29.42 Pyrrhotite.	9826	29.29	29.50	.21	.69			
29.50	30.78	QUARTZ VEIN No mineralization.								
30.78	31.82	MASSIVE MAFIC METAVOLCANIC Medium carbonate- calcite streaks- weak pyrite and pyrrhotite.	9827	30.78	31.82	1.04	tr			
31.82	32.22	MASSIVE MAFIC METAVOLCANIC Medium carbonate- occasional specks pyrite.								
32.22	33.77	MASSIVE MAFIC METAVOLCANIC Medium carbonate- occasional specks pyrite.	9828	32.22	33.77	1.55	1.37			
33.77	35.11	MASSIVE MAFIC METAVOLCANIC Medium carbonate- occasional specks pyrite.	9829	33.77	35.11	1.34	tr			
35.11	36.30	MASSIVE MAFIC METAVOLCANIC Medium carbonate- occasional specks pyrite.	9830	35.11	36.30	1.19	tr			

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-12
Page: 3

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
36.30	37.19	MASSIVE MAFIC METAVOLCANIC Medium carbonate- occasional specks pyrite.								
37.19	37.49	MASSIVE MAFIC METAVOLCANIC Medium carbonate- heavy calcite streaks.	9831	37.19	37.49	.30	1.37			
37.49	39.04	MASSIVE MAFIC METAVOLCANIC Medium carbonate- calcite streaks- occasional specks pyrite.								
39.04	39.35	MAFIC VOLCANIC-INTENSELY CARBONATIZED-PYRITIZED								
39.35	40.05	QUARTZ PORPHYRITIC FELSIC INTRUSION Weak pyrrhotite and pyrite- weak carbonate.	9832	39.35	40.05	.70	1.37			
40.05	42.82	QUARTZ PORPHYRITIC FELSIC INTRUSION Occasional blue quartz- scattered specks and blebs of pyrrhotite and pyrite- lower contact 75 deg. To core.								
42.82	43.07	MASSIVE MAFIC METAVOLCANIC Calcite threads.								
43.07	43.53	MASSIVE MAFIC METAVOLCANIC 1 Inch quartz streak at 141.5- medium pyrrhotite plus pyrite mineralization- streaky- sheared 75 deg. To core.	9833	43.07	43.53	.46	tr			
43.53	44.44	MASSIVE MAFIC METAVOLCANIC Scattered pyrrhotite blebs plus occasional pyrite and chalcopyrite.	9834	43.53	44.44	.91	tr			
44.44	44.99	MASSIVE MAFIC METAVOLCANIC Scattered blebs pyrrhotite.								
44.99	46.15	MASSIVE MAFIC METAVOLCANIC Carbonate- occasional specks pyrrhotite.								

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-12
Page: 4

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
46.15	51.57	QUARTZ PORPHYRITIC FELSIC INTRUSION Contact 75 deg. To core.										
51.57	51.82	FAULT ZONE Lost Core.										
51.82	52.03	QUARTZ PORPHYRITIC FELSIC INTRUSION										
52.03	52.24	MASSIVE MAFIC METAVOLCANIC Quartz-calcite streaks- no mineralization.										
52.24	52.85	QUARTZ PORPHYRITIC FELSIC INTRUSION Weak pyrite mineralization- occasional vugs	9835	52.24	52.85	.61		tr				
52.85	53.22	QUARTZ PORPHYRITIC FELSIC INTRUSION										
53.22	53.40	FINE Broken Core- quartz porphyry- water course.										
53.40	54.77	QUARTZ PORPHYRITIC FELSIC INTRUSION										
54.77	58.64	QUARTZ PORPHYRITIC FELSIC INTRUSION Silicified.										
58.64	58.83	QUARTZ PORPHYRITIC FELSIC INTRUSION										
58.83	58.83	END OF HOLE										

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-13
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by:
Date logged: 1937
System:

Azimuth: 168
Dip: -45

Depth Dip

Grid:
Showing:
Northing: 00+18S
Easting: 02+90W
Elevation:
Length: 88.92m

Interval (m)		Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
.00	10.97	OVERBURDEN							
10.97	23.04	MASSIVE MAFIC METAVOLCANIC Carbonate greenstone- chloritic- weak to medium shears- 30- 45 deg. To core- scattered calcite streaks 30 deg. To core- very occasional pyrrhotite and pyrite.							
23.04	23.80	QUARTZ-BEARING GABBRO Fine diorite?- calcite threads 35 deg. To core.							
23.80	24.08	GABBRO Lost Core.							
24.08	31.88	QUARTZ-BEARING GABBRO Fine diorite?- carbonate- occasional blue quartz eyes.							
31.88	33.31	MAFIC VOLCANIC-CARBONATIZED Greenstone carbonate- chloritic- weak shear calcite streaks- occasional specks pyrite and pyrrhotite.							
33.31	34.14	QUARTZ-BEARING GABBRO Diorite?- (quartz- andesite).							
34.14	38.37	MAFIC VOLCANIC Carbonate- occasional specks pyrrhotite and pyrite.							

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-13
Page: 2

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
38.37	38.95	MAFIC VOLCANIC Strong carbonate- flat calcite streaks- weak pyrrhotite plus occasional pyrite.	9851	38.37	38.95	.58	.69			
38.95	40.20	MAFIC VOLCANIC Carbonate- occasional cubes pyrite.								
40.20	40.36	CALCITE 80 Deg. To core.								
40.36	40.78	MAFIC VOLCANIC-CARBONATIZED Greenstone carbonate- streaks calcite 60 deg. To core.								
40.78	45.72	MAFIC VOLCANIC-CARBONATIZED Greenstone carbonate- occasional streaks calcite 30-40 deg. To core.								
45.72	46.18	MAFIC VOLCANIC-CARBONATIZED Greenstone carbonate- chloritic- weak shear- calcite streaks.								
46.18	49.93	MAFIC VOLCANIC-CARBONATIZED Greenstone carbonate- occasional calcite threads.								
49.93	50.57	MAFIC VOLCANIC-CARBONATIZED Greenstone carbonate- chloritic- sheared 65 deg. To core- calcite streaks -no mineralization.								
50.57	50.93	MAFIC VOLCANIC-CARBONATIZED Greenstone carbonate- occasional calcite streaks- 85 deg. To core.								
50.93	54.04	QUARTZ-BEARING GABBRO Diorite?- occasional calcite streaks- 30-50 deg. To core.								
54.04	54.68	MAFIC VOLCANIC-CARBONATIZED								

Esso Minerals Canada - Cline Project (Ont-82)

Hole: EC37-13
Page: 3

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
		Greenstone carbonate- micaceous- heavy calcite streaks 60 deg. To core- occasional specks pyrrhotite and pyrite.								
54.68	55.11	MAFIC VOLCANIC-CARBONATIZED Greenstone carbonate.								
55.11	56.39	QUARTZ-BEARING GABBRO								
56.39	59.83	MAFIC VOLCANIC Calcite threads and streaks- occasional specks pyrrhotite and pyrite.								
59.83	60.47	MAFIC VOLCANIC-CARBONATIZED Greenstone carbonate- sheared- micaceous- heavy calcite streaks 60 deg. To core- occasional specks pyrrhotite and pyrite.	9852	59.83	60.47	.64	.69			
60.47	69.40	GRANODIORITE Granodiorite ?- scattered calcite streaks 55 deg. To core.								
69.40	71.20	MASSIVE MAFIC METAVOLCANIC Calcite streaks- weak shear.								
71.20	72.15	MASSIVE MAFIC METAVOLCANIC Medium shear- 55 deg. To core.								
72.15	76.66	MASSIVE MAFIC METAVOLCANIC Micaceous- calcite streaks.								
76.66	77.42	MASSIVE MAFIC METAVOLCANIC Scattered blebs pyrrhotite and pyrite.	9853	76.66	77.42	.76	tr			
77.42	78.21	MASSIVE MAFIC METAVOLCANIC Scattered pyrrhotite, pyrite blebs- calcite threads varying angles to core.	9854	77.42	78.21	.79	1.37			
78.21	79.13	MASSIVE MAFIC METAVOLCANIC								

Esso Minerals Canada - Cline Project (Dnt-82)

Hole: EC37-13
Page: 4

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
		Scattered pyrrhotite and pyrite blebs.	9855	78.21	79.13	.91	tr			
79.13	79.46	QUARTZ PORPHYRITIC FELSIC INTRUSION Weak pyrite, pyrrhotite mineralization.	9856	79.13	79.46	.34	.69			
79.46	80.38	MASSIVE MAFIC METAVOLCANIC Scattered pyrite and pyrrhotite blebs.	9857	79.46	80.38	.91	tr			
80.38	81.29	MASSIVE MAFIC METAVOLCANIC Scattered pyrite and pyrrhotite blebs.	9858	80.38	81.29	.91	tr			
81.29	82.20	MASSIVE MAFIC METAVOLCANIC Scattered pyrite and pyrrhotite blebs.	9859	81.29	82.20	.91	tr			
82.20	86.78	MASSIVE MAFIC METAVOLCANIC Occasional blebs pyrite and pyrrhotite-clacite threads.								
86.78	86.90	MASSIVE MAFIC METAVOLCANIC Quartz-calcite streaks- very weak pyrite.	9860	86.78	86.90	.12	tr			
86.90	88.91	MASSIVE MAFIC METAVOLCANIC Scattered calcite streaks at varying angles to hole.								
88.91	88.91	END OF HOLE								

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 81-14
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by:
Date logged: June 9, 1981
System:

Azimuth: 174
Dip: -42

Depth 80.77 Dip -40.0

Grid:
Showing:
Northing: 00+24.6N
Easting: 01+68.5E
Elevation:
Length: 81.00m

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
.00 11.00	OVERBURDEN										
11.00 15.33	QUARTZ-BEARING GABBRO Blue quartz eyes.										
15.33 38.71	PILLOWED MAFIC VOLCANIC Pillowed and amygdular.										
38.71 39.01	META-CHERT Brecciated sugary textured quartz bands with pyrrhotite alternating with chlorite bands.										
39.01 40.66	PILLOWED MAFIC VOLCANIC Pillowed and amygdular- carbonatized.	9324	39.01	39.65	.64		tr				
		9386	39.65	40.14	.49		tr				
		387	40.14	40.66	.52		tr				
40.66 43.40	QUARTZ PORPHYRITIC FELSIC INTRUSION 40.66 40.75 Sheared with quartz veinlets.	388	40.66	40.75	.09	.34					
		389	40.75	41.06	.30		tr				
43.40 57.06	PILLOWED MAFIC VOLCANIC Pillowed to 150.6- massive below.	9325	45.51	46.18	.67		tr				
57.06 59.44	QUARTZ PORPHYRITIC FELSIC INTRUSION										
59.44 66.90	PILLOWED MAFIC VOLCANIC Pillowed and amygdular- carbonatized.	390	59.44	60.20	.76		tr				
	64.80 64.89 Thin quartz porphyrys.	391	60.20	60.96	.76		tr				
	64.89 65.14 Sheared with quartz veinlets	392	60.96	61.69	.73		tr				

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 81-14
Page: 2

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
	and pyrite.	393	61.69	62.45	.76	tr			
66.54 66.78	Sheared with quartz veinlets	9326	62.45	62.85	.40	tr			
	and pyrite.	9327	62.85	63.92	1.07	tr			
66.78 66.81	Thin quartz porphyrys.	9328	63.92	64.10	.18	tr			
66.81 66.90	Abundant pyrite in shear.	9329	64.10	64.89	.79	tr			
		9330	64.89	65.35	.46	.34			
		9331	65.35	65.90	.55	.34			
		394	65.90	66.54	.64	tr			
		395	66.54	66.90	.37	.34			
66.90 80.99	PILLOWED MAFIC VOLCANIC								
	Pillowed and amygdular- very slight carbonatization.	396	66.90	67.21	.30	tr			
80.99 80.99	END OF HOLE								

Esso Minerals Canada - Cline Project (Ont-82)

Hole: B1-15
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by:
Date logged: June 11, 1981
System:

Azimuth: 174
Dip: -44

Depth	Dip
50.99	-40.5

Grid:
Showing:
Northing: 01+25.4N
Easting: 01+71.6W
Elevation:
Length: 51.00m

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
.00 1.01	OVERBURDEN								
1.01 5.21	QUARTZ-BEARING GABBRO Blue quartz eyes.								
5.21 7.32	INTERMEDIATE DYKE								
7.32 26.61	MASSIVE MAFIC METAVOLCANIC Massive with calcite amygdules.								
26.61 30.69	PILLOWED MAFIC VOLCANIC Pillowed and amygdular- carbonatized throughout. 26.61 27.40 Sheared with quartz veining.	8052 8053	26.61 27.01	27.01 27.40	.40 .40		tr tr		
30.69 34.99	INTERMEDIATE DYKE								
34.99 44.99	QUARTZ PORPHYRITIC FELSIC INTRUSION								
44.99 46.51	INTERMEDIATE DYKE								
46.51 47.40	MASSIVE MAFIC METAVOLCANIC Carbonatized with trace pyrite.	8054	46.51	47.40	.88		tr		
47.40 50.99	QUARTZ PORPHYRITIC FELSIC INTRUSION								
50.99 51.00	END OF HOLE								

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 81-16
Page: 1

Core size:	Azimuth:	174	Grid:	
Drilled by:	Dip:	-46	Showing:	
Started:				
Finished:			Northing:	00+04N
	Depth	Dip	Easting:	02+16W
Logged by:	71.93	-46.0	Elevation:	
Date logged: June 12, 1981				
System:			Length:	72.00m

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
.00 6.49	OVERBURDEN							
6.49 71.99	QUARTZ-BEARING GABBRO							
	22.01 26.00 Brecciated with quartz and epidote fill.							
	27.00 27.49 Sheared with quartz veinlets and tourmaline lamina.							
	58.00 58.49 Sheared with quartz veinlets and tourmaline lamina.							
71.99 72.00	END OF HOLE							

Esso Minerals Canada - Markes Project (Cline) 16.82

Hole: 86-17
Page: 1

Core size:		Azimuth:	190	Grid:	
Drilled by:	HS10A	Dip:	-46	Showing:	
Started:	August 24, 1986				
Finished:	August 24, 1986			Northing:	00+32.2S
		Depth	Dip	Easting:	00+50.7W
Logged by:	John Farstad	32.58	-51.0	Elevation:	
Date logged:					
System:				Length:	32.62m

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)
.00	1.22	OVERBURDEN					
1.22	2.87	PILLOWED MAFIC VOLCANIC Pillow margins evident local thin brecciated calcite veinlets bottom contact sheared at 60 deg. To c/a- shear contains tourmaline and calcite veinlets.					
2.87	9.57	INTERMEDIATE DYKE 5.67 5.88 White quartz veins. 7.62 7.77 White quartz veins.					
9.57	11.40	QUARTZ PORPHYRITIC FELSIC INTRUSION Top and bottom contacts sheared at 40 deg. To c/a- shears contain tourmaline and calcite veinlets. 10.76 10.76 A similar shear exists 55 deg. To c/a.					
11.40	12.19	INTERMEDIATE DYKE Bleached.					
12.19	16.22	MASSIVE MAFIC METAVOLCANIC 15.61 15.61 Shear with tourmaline.					
16.22	18.20	INTERMEDIATE DYKE 17.89 18.20 Fractured with quartz and calcite veinlets.	172	17.89	18.20	.30	tr
18.20	26.55	PILLOWED MAFIC VOLCANIC Pillow margins evident- intense carbonate locally with some brecciation 18.20 18.20	173	18.20	18.90	.70	37.71
			174	18.90	19.66	.76	3.43

Esso Minerals Canada - Markes Project (Cline) 16.82

Hole: 86-17
Page: 2

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)
	shears with tourmaline.	175	19.66	20.42	.76	3.43
18.20 18.90	Well brecciated with silicification and pyritization	176	20.42	21.18	.76	tr
		177	21.18	21.95	.76	4.11
18.23 18.35	White quartz vein.	178	21.95	22.71	.76	tr
24.99 25.00	Shears with tourmaline.	179	22.71	23.47	.76	2.06
25.82 26.55	Well brecciated with silicification and pyritization	180	23.47	24.44	.98	2.74
		181	24.44	24.99	.55	2.06
26.40 26.24	Shears with tourmaline.	182	24.99	25.82	.82	tr
		183	25.82	26.55	.73	33.60
26.55 32.61	PILLOWED MAFIC VOLCANIC					
	Pillow margins evident- some sections with intense carbonate and brecciation to 90.0.	184	26.55	27.43	.88	6.17
		185	29.57	30.02	.46	4.80
32.61 32.62	END OF HOLE					

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 86-18
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by: John Farstad
Date logged: August 25, 1986
System:

Azimuth: 190
Dip: -73

Depth	Dip
47.55	-72.0

Grid:
Showing:
Northing: 00+31.4S
Easting: 00+50.7W
Elevation:
Length: 47.60m

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
.00 .70	OVERBURDEN										
.70 5.73	PILLOWED MAFIC VOLCANIC Pillow margins present. 5.39 5.40 Shear with tourmaline. 5.55 5.73 White quartz vein.										
5.73 15.15	INTERMEDIATE DYKE 5.73 15.15 Shear with tourmaline. 10.21 10.30 White quartz vein.	186	14.87	15.12	.24	tr					
15.15 26.73	QUARTZ PORPHYRITIC FELSIC INTRUSION 15.55 15.85 White quartz veins. 20.60 20.79 White quartz veins.										
26.73 28.65	INTERMEDIATE DYKE Bleached. 26.73 26.91 Shears with tourmaline. 28.44 28.65 Shears with tourmaline.	187	26.73	26.91	.18	.34					
		188	26.91	27.71	.79	1.37					
		189	27.71	28.41	.70	1.37					
		190	28.41	28.65	.24	4.80					
28.65 40.02	MASSIVE MAFIC METAVOLCANIC Intense carbonate locally with brecciation. 28.65 29.17 Well brecciated with silicification and pyritization 34.75 35.05 Well brecciated with silicification and pyritization 40.02 40.02 Tourmaline shear.	191	28.65	29.17	.52	5.49					
		192	29.17	29.96	.79	5.49					
		193	29.96	30.72	.76	12.34					
		194	30.72	31.61	.88	3.43					
		195	31.61	32.06	.46	13.03					
		196	32.06	32.74	.67	3.43					
		197	32.74	33.41	.67	2.06					
		198	33.41	34.05	.64	3.43					
		199	34.05	34.75	.70	tr					
		200	34.75	35.05	.30	9.60					
		201	35.05	35.81	.76	tr					
		202	35.81	36.52	.70	tr					

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 86-18
Page: 2

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
		203	36.52	37.19	.67	tr			
		204	37.19	37.80	.61	4.11			
		205	37.80	38.56	.76	6.86			
		206	38.56	39.32	.76	13.03			
		207	39.32	40.02	.70	24.00			
40.02	47.55 PILLOWED MAFIC VOLCANIC Pillow margins evident.	208	40.02	40.78	.76	2.74			
47.55	47.55 END OF HOLE								

Esso Minerals Canada - Markes Project (Cline) 16.82

Hole: 86-19
Page: 1

Core size:
Drilled by:
Started:
Finished:

Logged by: John Farstad
Date logged: August 26, 1986
System:

Azimuth: 190
Dip: -46

Depth / Dip
32.28 / -53.0

Grid:
Showing:

Northing: 00+38.6S
Easting: 00+66.8W
Elevation:

Length: 32.32m

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)
.00 .61	OVERBURDEN					
.61 5.06	INTERMEDIATE DYKE					
5.06 11.70	PILLOWED MAFIC VOLCANIC Pillow margins present. 10.58 10.58 Shear with tourmaline.					
11.70 15.73	INTERMEDIATE DYKE 12.83 13.05 Sheared with tourmaline and quartz and calcite veinlets. 14.48 14.63 White quartz vein.	209 210	12.83 15.12	13.05 15.73	.21 .61	tr tr
15.73 23.93	MASSIVE MAFIC METAVOLCANIC Carbonatized locally with brecciation. 15.73 16.34 Intense brecciation with silicification and pyritization 23.17 23.93 Intense brecciation with silicification and pyritization 23.59 23.65 White quartz vein.	211 212 213 214 215 216 217 218 219 220 221	15.73 16.34 17.07 17.83 18.59 19.35 20.12 20.88 21.64 22.40 23.16	16.34 17.07 17.83 18.59 19.35 20.12 20.88 21.64 22.40 23.16 23.93	.61 .73 .76 .76 .76 .76 .76 .76 .76 .76 .76	5.49 2.06 tr tr tr tr tr tr .34 .34 2.74
23.93 32.31	MASSIVE MAFIC METAVOLCANIC Slightly carbonatized.	222	23.93	24.54	.61	tr
32.31 32.31	END OF HOLE					

Esso Minerals Canada - Markes Project (Cline) 16.82

Hole: 86-20
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by: John Farstad
Date logged: August 28, 1986
System:

Azimuth: 190
Dip: -73

Depth 44.78
Dip -74.0

Grid:
Showing:
Northing: 00+36S
Easting: 00+66.8W
Elevation:
Length: 44.81m

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)
.00 .61	OVERBURDEN					
.61 7.53	INTERMEDIATE DYKE					
7.53 20.12	MASSIVE MAFIC METAVOLCANIC Some calcite veinlets parallel to foliation 20.12 20.12 Shear with tourmaline at 40 deg. To c/a.					
20.12 23.07	INTERMEDIATE DYKE Slight bleaching. 21.25 21.34 White quartz veins. 22.77 22.86 White quartz veins.	223	22.46	23.07	.61	2.06
23.07 33.28	MASSIVE MAFIC METAVOLCANIC Carbonatized with local brecciation. 23.07 24.78 Intense brecciation with silicification and pyritization 24.78 27.19 Small zones of intense brecciation. 32.52 33.28 Intense brecciation with silicification and pyritization	224	23.07	23.71	.64	24.00
		225	23.71	24.32	.61	15.77
		226	24.32	24.78	.46	17.83
		227	24.78	25.57	.79	7.54
		228	25.57	26.37	.79	5.49
		229	26.37	27.19	.82	18.51
		230	27.19	27.95	.76	3.43
		231	27.95	28.71	.76	.34
		232	28.71	29.47	.76	tr
		233	29.47	30.24	.76	tr
		234	30.24	31.00	.76	tr
		235	31.00	31.76	.76	tr
		236	31.76	32.52	.76	tr
		237	32.52	33.28	.76	2.74
33.28 37.49	PILLOWED MAFIC VOLCANIC Pillow margins evident.	238	33.28	33.99	.70	tr

Esso Minerals Canada - Markes Project (Cline) 16.82

Hole: 86-20
Page: 2

Interval (m)		Description	Sample No.	Interval (m)	Length (m)	Au (g/t)
37.49	44.81	MASSIVE MAFIC METAVOLCANIC Massive.				
44.81	44.81	END OF HOLE				

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 86-21
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by: John Farstad
Date logged: August 27, 1986
System:

Azimuth: 190
Dip: -46

Depth / Dip
31.39 / -55.0

Grid:
Showing:
Northing: 00+41.2S
Easting: 00+84.6W
Elevation:
Length: 31.40m

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
.00	.30	OVERBURDEN										
.30	1.68	INTERMEDIATE DYKE										
1.68	5.58	MASSIVE MAFIC METAVOLCANIC										
5.58	11.49	INTERMEDIATE DYKE 6.71 6.86 Shearing with tourmaline. 7.16 7.47 Shearing with tourmaline. 10.91 10.97 Shearing with tourmaline.	239	10.91	11.49	.58	tr					
11.49	17.92	MASSIVE MAFIC METAVOLCANIC Carbonatized with local brecciation- some thin sections of intense brecciation with silicification and pyritization. 11.49 11.49 Shearing with tourmaline. 17.59 17.92 Shearing with tourmaline.	240	11.49	11.61	.12	6.17					
			241	11.61	12.34	.73	3.43					
			242	12.34	13.11	.76	4.80					
			243	13.11	13.87	.76	4.80					
			244	13.87	14.63	.76	4.80					
			245	14.63	15.39	.76	1.37					
			246	15.39	16.15	.76	.69					
			247	16.15	16.92	.76	.69					
			248	16.92	17.62	.70	1.37					
			249	17.62	17.92	.30	.69					
17.92	31.39	PILLOWED MAFIC VOLCANIC Pillow margins and thick sections of massive rock.	250	17.92	18.35	.43	.69					
31.39	31.40	END OF HOLE										

Esso Minerals Canada - Markes Project (Cline) 15.82

Hole: 86-22
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by: John Farstad
Date logged: August 28, 1986
System:

Azimuth: 190
Dip: -73

Depth 35.66 Dip -78.0

Grid:
Showing:

Northing: 00+40.4S
Easting: 00+84.6W
Elevation:

Length: 35.70m

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)
.00	.61	OVERBURDEN					
.61	3.96	INTERMEDIATE DYKE					
3.96	8.08	MASSIVE MAFIC METAVOLCANIC					
8.08	10.21	INTERMEDIATE DYKE					
10.21	11.16	MASSIVE MAFIC METAVOLCANIC					
11.16	19.39	INTERMEDIATE DYKE 11.80 11.89 Shearing with tourmaline. 19.08 19.08 Shearing with tourmaline. 19.38 19.39 Shearing with tourmaline.	251 252	18.47 19.08	19.08 19.39	.61 .30	.69 2.06
19.39	23.87	PILLOWED MAFIC VOLCANIC Pillow margins evident- carbonatized with local brecciation. 19.39 20.36 Intense brecciation with silicification and pyritization	253 254 255 256 257 258 259	19.39 19.87 20.36 21.06 21.76 22.49 23.20	19.87 20.36 21.06 21.76 22.49 23.20 23.87	.49 .49 .70 .70 .73 .70 .67	2.74 3.43 .69 2.06 tr tr .69
23.87	25.05	INTERMEDIATE DYKE Bleached sericitic.	260	23.87	25.05	1.19	.34
25.05	30.11	MASSIVE MAFIC METAVOLCANIC Carbonatized with local brecciation.	261 262 263	25.05 25.79 26.52	25.79 26.52 27.04	.73 .73 .52	.34 tr tr

Esso Minerals Canada - Markes Project (Cline) 16.82

Hole: 86-22
Page: 2

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)
		264	27.04	27.52	.49	.34
		265	27.52	28.25	.73	tr
		266	28.25	29.11	.85	tr
		267	29.11	29.72	.61	.69
		268	29.72	30.11	.40	tr
30.11 35.66	PILLOWED MAFIC VOLCANIC Pillow margins evident- massive toward base					
35.66 35.66	END OF HOLE					

Esso Minerals Canada - Markes Project (Cline) 16.82

Hole: 86-23
Page: 1

Core size:
Drilled by:
Started:
Finished:

Logged by: John Farstad
Date logged: August 30, 1986
System:

Azimuth: 10
Dip: -46

Depth Dip

Grid:
Showing:

Northing: 00+78.6S
Easting: 00+97.4W
Elevation:

Length: 68.60m

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)
.00 1.52	OVERBURDEN					
1.52 39.32	QUARTZ-BEARING GABBRO Blue quartz eyes.					
39.32 40.23	FAULT ZONE Fault breccia- mix of fragments of quartz diorite and mafic volcanics.					
40.23 47.85	MASSIVE MAFIC METAVOLCANIC Massive.					
47.85 50.29	PILLOWED MAFIC VOLCANIC Pillow margins evident. 50.29 50.29 Shear with tourmaline.	269	47.85	48.77	.91	.34
		270	48.77	49.53	.76	tr
		271	49.53	50.29	.76	tr
50.29 57.42	MASSIVE MAFIC METAVOLCANIC Carbonatized with local intense carbonatization with pyrite. 55.35 57.42 Intense brecciation with silicification and pyritization 55.78 55.78 Tourmaline and pyrite. 56.63 56.75 White quartz vein.	272	50.29	51.05	.76	4.11
		273	51.05	51.82	.76	tr
		274	51.82	52.58	.76	.69
		275	52.58	53.34	.76	tr
		276	53.34	54.10	.76	tr
		277	54.10	54.25	.15	.34
		278	54.25	55.35	1.10	.34
		279	55.35	56.05	.70	tr
		280	56.05	56.75	.70	tr
		281	56.75	57.42	.67	tr
57.42 61.20	MASSIVE MAFIC METAVOLCANIC Weakly carbonatized. 60.87 61.20 Shearing with tourmaline.	282	57.42	58.22	.79	tr
		283	58.22	58.98	.76	tr
		284	58.98	59.74	.76	tr

Esso Minerals Canada - Markes Project (Cline) 16.82

Hole: 86-23
Page: 2

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)
			285	59.74	60.35	.61	tr
			286	60.35	60.87	.52	tr
			287	60.87	61.20	.34	2.06
61.20	64.31	QUARTZ PORPHYRITIC FELSIC INTRUSION Sericitized with abundant quartz veining and pyrite. 63.03 64.31 Shearing with tourmaline.	288	61.20	62.03	.82	2.06
			289	62.03	62.54	.52	3.43
			290	62.54	63.03	.49	9.60
			291	63.03	63.67	.64	tr
			292	63.67	64.31	.64	.69
64.31	65.53	INTERMEDIATE DYKE					
65.53	68.58	MASSIVE MAFIC METAVOLCANIC 65.53 65.62 Shearing with quartz veining.					
68.58	68.58	END OF HOLE					

Esso Minerals Canada - Markes Project (Cline) 16.82

Hole: 86-24
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by: John Farstad
Date logged: September 1, 1986
System:

Azimuth: 190
Dip: -62

Depth	Dip
15.48	192.7-60.0
36.88	193.0-54.0
58.22	193.0-51.0

Grid:
Showing:
Northing: 00+10.9S
Easting: 00+51.1W
Elevation:
Length: 62.80m

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)
.00 .61	OVERBURDEN					
.61 22.95	PILLOWED MAFIC VOLCANIC Pillow margins evident.					
22.95 32.25	INTERMEDIATE DYKE					
32.25 41.67	QUARTZ PORPHYRITIC FELSIC INTRUSION 32.25 32.25 Shears with tourmaline. 32.71 32.71 Shears with tourmaline. Between shears the porphyry is brecciated with quartz fill and disseminated pyrite. 35.39 35.60 White quartz vein.	296	32.25	32.71	.46	tr
41.67 46.94	INTERMEDIATE DYKE 41.67 41.67 Shearing with tourmaline. 43.53 43.68 Shearing with tourmaline.	297	41.67	41.82	.15	2.06
		298	43.53	43.68	.15	1.37
		299	46.48	46.94	.46	tr
46.94 54.50	MASSIVE MAFIC METAVOLCANIC Carbonatized with local brecciated zones. 46.94 47.18 Intense brecciation with silicification and pyritization 49.99 50.60 Intense brecciation with silicification and pyritization 53.77 53.98 Intense brecciation with silicification and pyritization 54.35 54.50 Shear with tourmaline.	300	46.94	47.18	.24	5.49
		301	47.18	47.91	.73	.69
		302	47.91	48.62	.70	.69
		303	48.62	49.29	.67	tr
		304	49.29	49.99	.70	tr
		305	49.99	50.60	.61	21.26
		306	50.60	51.39	.79	3.43
		307	51.39	52.18	.79	12.34
		308	52.18	52.97	.79	7.54
		309	52.97	53.77	.79	tr
		310	53.77	53.98	.21	14.40
		311	53.98	54.50	.52	4.80

Esso Minerals Canada - Markes Project (Cline) 16.82

Hole: 86-24
Page: 2

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)
54.50	62.79	MASSIVE MAFIC METAVOLCANIC Slight carbonatization.	312	54.50	54.96	.46	tr
62.79	62.79	END OF HOLE					

Esso Minerals Canada - Markes Project (Cline) 16.82

Hole: 86-25
Page: 1

Core size:
Drilled by:
Started:
Finished:

Logged by: John Farstad
Date logged: September 4, 1986
System:

Azimuth: 190
Dip: -80

Depth	Dip
22.01	194.0-80.0
43.28	194.5-78.0
64.59	195.5-72.0
86.01	196.0-67.0
107.29	196.0-66.0

Grid:
Showing:

Northing: 00+10.3S
Easting: 00+51.1W
Elevation:

Length: 110.65m

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)
.00 .91	OVERBURDEN					
.91 37.64	MASSIVE MAFIC METAVOLCANIC					
	.91 26.21 Slightly carbonatized.	313	36.06	36.58	.52	tr
	29.99 30.00 Shear at 20 deg. To c/a with po and cpy.					
	36.06 36.58 Intense silicification with po, cpy , sphl and py in quartz veining.					
37.64 47.46	INTERMEDIATE DYKE					
	37.64 37.65 Shears with tourmaline.	314	47.09	47.46	.37	tr
	37.98 37.98 Shears with tourmaline.					
	47.09 47.46 With tourmaline with po, cpy, sphl and quartz veining.					
47.46 64.40	QUARTZ PORPHYRITIC FELSIC INTRUSION					
	Locally feldspar phenocrysts are present.	315	64.04	64.40	.37	.69
	64.04 64.40 Sheared with tourmaline and quartz veinlets.					
64.40 68.21	INTERMEDIATE DYKE					
	64.40 64.92 Brecciated with quartz veinlets	316	64.40	64.92	.52	tr
68.21 71.17	QUARTZ PORPHYRITIC FELSIC INTRUSION					
	Quartz phenocrysts are not abundant.					
71.17 72.02	INTERMEDIATE DYKE					
	71.17 71.51 Bleached with brecciation and shears with tourmaline.	317	71.17	71.51	.34	tr
		318	71.51	72.02	.52	tr

Esso Minerals Canada - Markes Project (Cline) 16.82

Hole: 86-25
Page: 2

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)
72.02 72.33	QUARTZ PORPHYRITIC FELSIC INTRUSION Shear with tourmaline and quartz veinlets at top contact.	319	72.02	72.33	.30	.34
72.33 72.85	MASSIVE MAFIC METAVOLCANIC Carbonatized with minor pyrite.	320	72.33	72.85	.52	.34
72.85 73.27	INTERMEDIATE DYKE Fine grained.	321	72.85	73.27	.43	tr
73.27 85.77	MASSIVE MAFIC METAVOLCANIC Carbonatized with local brecciated zones. 73.27 76.90 Abundant pyrite. 75.10 75.65 Slight silicification with pyrite.	322	73.27	73.64	.37	.69
		323	73.64	74.16	.52	1.37
		324	74.16	74.83	.67	tr
		325	74.83	75.50	.67	tr
		326	75.50	76.20	.70	tr
		327	76.20	76.90	.70	tr
		328	76.90	77.51	.61	tr
		329	84.92	85.53	.61	tr
		330	85.53	85.77	.24	tr
85.77 86.26	META-CHERT 85.77 85.95 Appears to be brecciated chert bands. 85.95 86.17 Consists mostly of late silica with euhedral pyrite. 86.17 86.20 Banded fine grained pyrite.	331	85.77	85.92	.15	tr
		332	85.92	86.20	.27	.69
86.26 91.14	MASSIVE MAFIC METAVOLCANIC Intense pervasive carbonate. 86.20 86.87 Well foliated and contorted. 86.65 86.78 White quartz vein.	333	86.26	86.65	.40	tr
91.14 104.45	INTERMEDIATE DYKE					
104.45 104.73	MASSIVE MAFIC METAVOLCANIC					
104.73 110.64	QUARTZ PORPHYRITIC FELSIC INTRUSION					
110.64 110.65	END OF HOLE					

Esso Minerals Canada - Markes Project (Cline) 16.82

Hole: 86-26
Page: 1

Core size:
Drilled by:
Started:
Finished:

Logged by: John Farstad
Date logged: September 6, 1986
System:

Azimuth: 190
Dip: -70

Depth	Dip
46.02	192.5-68.0
67.39	192.5-67.0
88.70	193.5-66.0
110.03	193.5-64.0

Grid:
Showing:

Northing: 00+10.4N
Easting: 00+10E
Elevation:

Length: 113.40m

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)
.00 1.52	OVERBURDEN					
1.52 5.18	QUARTZ-BEARING GABBRO					
5.18 17.80	GABBRO Top and bottom contacts are brecciated.					
17.80 28.10	PILLOWED MAFIC VOLCANIC Pillow margins evident.					
28.10 40.02	QUARTZ PORPHYRITIC FELSIC INTRUSION 39.08 40.02 White quartz vein.					
40.02 48.07	MASSIVE MAFIC METAVOLCANIC Carbonatized throughout. 40.02 43.59 Contains numerous quartz-calcite amygdules and pillow margins. 43.59 48.07 Massive with some amygdules.					
48.07 56.30	INTERMEDIATE DYKE					
56.30 65.90	QUARTZ PORPHYRITIC FELSIC INTRUSION Contains sections with feldspar phenocrysts 65.84 65.90 White quartz vein.					
65.90 68.28	INTERMEDIATE DYKE 65.90 65.90 Sheared with tourmaline and quartz veinlets. 66.75 66.93 White quartz vein. 66.93 68.28 Bleached.	334 335 336	66.93 67.57 67.88	67.57 67.88 68.28	.64 .30 .40	.34 1.37 .34

Esso Minerals Canada - Markes Project (Cline) 16.82

Hole: 86-26
Page: 2

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)
	67.57 67.88 Sheared with tourmaline and quartz veinlets with pyrrhotite					
68.28 68.92	MASSIVE MAFIC METAVOLCANIC					
	Carbonatized with pyrite.	337	68.28	68.92	.64	tr
	68.28 68.37 Sheared with tourmaline, quartz veinlets and pyrrhotite.					
	68.67 68.67 Sheared with tourmaline, quartz veinlets and pyrrhotite.					
68.92 69.71	INTERMEDIATE DYKE					
	Bleached.	338	68.92	69.71	.79	.34
69.71 71.84	MASSIVE MAFIC METAVOLCANIC					
	Carbonatized with pyrite.	339	69.71	69.86	.15	tr
	69.71 69.83 Sheared with tourmaline and quartz veinlets.	340	69.86	70.47	.61	tr
		341	70.47	71.23	.76	.34
		342	71.23	71.84	.61	tr
71.84 96.47	INTERMEDIATE DYKE					
	71.84 72.06 Brecciated and silicified with fine euhedral pyrite.	343	71.84	72.05	.21	.34
		344	72.05	72.60	.55	1.37
	73.09 73.24 Brecciated and silicified with fine euhedral pyrite.	345	72.60	73.09	.49	tr
		346	73.09	73.46	.37	.34
	73.36 73.46 Brecciated and silicified with fine euhedral pyrite.	347	73.46	74.07	.61	tr
96.47 101.04	PILLOWED MAFIC VOLCANIC					
	Pillow margins evident- intense carbonatization- no pyrite.					
101.04 113.39	QUARTZ PORPHYRITIC FELSIC INTRUSION					
113.39 113.39	END OF HOLE					

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 86-27
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by: John Farstad
Date logged: September 8, 1986
System:

Azimuth: 190
Dip: -70

Depth	Dip
22.01	192.0-71.0
43.28	192.5-70.0
64.59	192.5-70.0
86.00	192.5-70.0

Grid:
Showing:
Northing: 00+4.7N
Easting: 00+80E
Elevation:
Length: 87.50m

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
.00 5.94	OVERBURDEN							
5.94 9.57	QUARTZ-BEARING GABBRO Few blue quartz eyes.							
9.57 15.94	LAMPROPHYRE Massive with chilled margins.							
15.94 18.78	QUARTZ-BEARING GABBRO							
18.78 42.85	QUARTZ FELDSPAR PORPHYRITIC INTRUSION							
42.85 57.00	PILLOWED MAFIC VOLCANIC 42.85 48.74 Massive. 42.98 43.13 Shear with quartz veinlets. 48.74 57.00 Pillowed. 56.69 57.00 Pillow breccia.	348	56.69 57.00	.30		tr		
57.00 70.10	QUARTZ PORPHYRITIC FELSIC INTRUSION 57.00 58.46 Weak shearing with tourmaline and quartz veinlets.	349 350	57.00 57.73 57.73 58.46	.73 .73		tr tr		
70.10 78.33	INTERMEDIATE DYKE Contains some small quartz eyes which are shattered with calcite fill.							
78.33 79.55	QUARTZ FELDSPAR PORPHYRITIC INTRUSION							
79.55 79.67	LAMPROPHYRE Contains biotite phenocrysts.							

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 86-27
Page: 2

Interval (m)		Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
79.67	87.48	GABBRO Top contact is brecciated.							
87.48	87.48	END OF HOLE							

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 86-29
Page: 1

Core size:
Drilled by:
Started:
Finished:
Logged by: John Farstad
Date logged: September 11, 1986
System:

Azimuth: 190
Dip: -60

Depth	Dip
21.61	192.0-60.0
42.98	193.0-59.0
64.31	193.0-58.0
85.68	193.0-56.0

Grid:
Showing:
Northing: 00+40N
Easting: 03+78E
Elevation:
Length: 87.20m

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
.00 2.13	OVERBURDEN								
2.13 3.57	QUARTZ PORPHYRITIC FELSIC INTRUSION								
3.57 14.48	MASSIVE MAFIC METAVOLCANIC Calcite amygdules.								
14.48 14.94	META-CHERT Brecciated bands of sugary textured quartz with pyrrhotite alternating with chlorite bands.	371	14.48	14.94	.46	.34			
14.94 24.57	PILLOWED MAFIC VOLCANIC Pillow margins evident.								
24.57 30.24	QUARTZ PORPHYRITIC FELSIC INTRUSION								
30.24 30.94	MASSIVE MAFIC METAVOLCANIC								
30.94 31.15	QUARTZ PORPHYRITIC FELSIC INTRUSION Top contact sheared with tourmaline and quartz veinlets.	372	30.94	31.15	.21	tr			
31.15 63.49	MASSIVE MAFIC METAVOLCANIC								
59.04 59.38	Brecciated with shearing containing tourmaline and quartz veinlets.	373	58.58	59.04	.46	tr			
		374	59.04	59.38	.34	.34			
		375	59.38	59.74	.37	.34			
59.38 59.74	Weak carbonate.								
62.79 63.49	White quartz vein.								

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 86-29
Page: 2

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
63.49 66.14	QUARTZ PORPHYRITIC FELSIC INTRUSION										
	Some sections with feldspar phenocrysts.	376	65.38	65.75	.37	tr					
	64.92 65.38 White quartz vein.	377	65.75	66.14	.40	tr					
	65.75 66.14 Sheared with quartz veinlets and some tourmaline and pyrite.										
66.14 87.14	PILLOWED MAFIC VOLCANIC										
	Pillow margins and calcite amygdules.	378	66.14	66.90	.76	tr					
	66.14 70.99 Slight carbonate with trace pyrite and thin shears with tourmaline.	379	66.90	67.67	.76	tr					
		380	67.67	68.43	.76	tr					
		381	68.43	69.19	.76	tr					
	Locally magnetite with carbonate.	382	69.19	69.95	.76	.34					
		383	69.95	70.74	.79	tr					
		384	70.74	70.99	.24	tr					
		385	70.99	71.48	.49	tr					
87.14 87.15	END OF HOLE										

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 86-30
Page: 1

Core size:
Drilled by:
Started:
Finished:

Logged by: John Farstad
Date logged: September 13, 1986
System:

Azimuth: 190
Dip: -60

Depth	Dip
30.78	192.0-57.0
52.09	192.0-56.0
73.49	192.0-56.0
94.79	192.3-55.0
116.10	193.0-54.0

Grid:
Showing:

Northing: 00+25N
Easting: 00+98.1W
Elevation:

Length: 117.66m

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
.00 4.57	OVERBURDEN							
4.57 27.98	QUARTZ PORPHYRITIC FELSIC INTRUSION Sections contain feldspar phenocrysts-chloritic fragments are also present locally.							
27.98 41.45	QUARTZ-BEARING GABBRO Two phases, a medium grained phase with abundant blue quartz eyes and a fine grained phase with few quartz eyes- the fine grained phase includes fragments of the medium grained phase.							
41.45 69.80	QUARTZ-BEARING GABBRO 41.70 62.48 Massive with calcite amygdules. 46.03 46.94 Flow breccia. 62.48 69.80 Pillowed. 63.19 63.34 Intense carbonatization. 68.52 68.64 Intense carbonatization with pyrite.	397 398	63.19 63.34 68.52 68.64	.15 .12		tr tr		
69.80 77.05	INTERMEDIATE DYKE 68.37 74.71 White quartz veins. 74.86 75.32 White quartz veins.							
77.05 80.16	MASSIVE MAFIC METAVOLCANIC Slight carbonatization with trace pyrite-sheared with quartz veinlets at top contact.	399 400	77.05 77.11 80.01 80.16	.06 .15		tr tr		
80.16 80.71	QUARTZ PORPHYRITIC FELSIC INTRUSION							

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 86-30
Page: 2

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
	80.16 80.47 Sheared with quartz veinlets and tourmaline.	401	80.16	80.47	.30	tr			
		402	80.47	80.71	.24	tr			
80.71 86.44	MASSIVE MAFIC METAVOLCANIC								
	Massive with slight carbonatization.	403	80.71	80.83	.12	.69			
	80.71 80.83 Sheared with quartz veinlets and tourmaline and pyrite.	404	80.83	81.08	.24	tr			
		405	81.08	81.53	.46	tr			
	81.99 82.39 Minor disseminated pyrite.	406	81.53	81.99	.46	tr			
		407	81.99	82.39	.40	tr			
		408	82.39	82.69	.30	tr			
		409	85.83	86.44	.61	tr			
86.44 88.88	INTERMEDIATE DYKE								
	86.44 86.65 Sheared with quartz veinlets and tourmaline and pyrrhotite.	410	86.44	86.65	.21	tr			
		411	86.65	86.96	.30	.34			
	86.96 87.17 Also with pyrite.	412	86.96	87.17	.21	tr			
	88.61 88.88 Also with pyrite.	413	87.17	87.87	.70	tr			
		414	87.87	88.61	.73	tr			
		415	88.61	88.88	.27	.34			
88.88 89.43	QUARTZ PORPHYRITIC FELSIC INTRUSION								
		416	88.88	89.43	.55	tr			
89.43 92.60	PILLOWED MAFIC VOLCANIC								
	Pillowed and amygdular- slight carbonatization with some thin shears with quartz stringers.	417	89.43	90.07	.64	tr			
		418	90.07	90.71	.64	tr			
		419	90.71	91.35	.64	.34			
		420	91.35	91.96	.61	tr			
		421	91.96	92.60	.64	.69			
92.60 102.32	MASSIVE MAFIC METAVOLCANIC								
	Massive with slight carbonatization.	422	92.60	93.18	.58	.34			
		423	101.86	102.32	.46	tr			
102.32 103.91	PILLOWED MAFIC VOLCANIC								
	Pillowed and amygdular.	424	102.32	102.50	.18	tr			
	102.32 102.50 Intense carbonatization with silica and pyrite.	425	102.50	103.24	.73	tr			
		426	103.24	103.91	.67	tr			
103.91 104.45	META-CHERT								
	Appears to be brecciated chert bands with euhedral pyrite- bands of near massive fine grained pyrite near bottom.	427	103.91	104.45	.55	.34			

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 86-30
Page: 3

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
104.45 105.46	MASSIVE MAFIC METAVOLCANIC							
		428	104.45 104.94	.49	tr			
		429	104.94 105.46	.52	tr			
105.46 111.65	INTERMEDIATE DYKE							
111.65 117.65	QUARTZ PORPHYRITIC FELSIC INTRUSION							
117.65 117.66	END OF HOLE							

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 86-31
Page: 1

Core size:
Drilled by:
Started:
Finished:

Logged by: John Farstad
Date logged: September 15, 1986
System:

Azimuth: 190
Dip: -62

Depth	Dip
15.79	193.0-62.0
36.58	193.5-62.0
79.31	193.5-62.0
100.61	193.5-60.0
121.92	194.0-59.0
143.29	194.0-58.0
164.90	194.0-57.0

Grid:
Showing:

Northing: 00+60.8N
Easting: 00+74.7W
Elevation:

Length: 166.43m

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
.00 3.51	OVERBURDEN							
3.51 21.03	QUARTZ-BEARING GABBRO							
21.03 22.25	INTERMEDIATE DYKE Some small quartz eyes.							
22.25 85.56	QUARTZ-BEARING GABBRO							
85.56 86.26	QUARTZ PORPHYRITIC FELSIC INTRUSION							
86.26 87.17	QUARTZ-BEARING GABBRO							
87.17 98.82	FELDSPAR PORPHYRITIC FELSIC INTRUSION Some sections with quartz eyes.							
98.82 119.94	MASSIVE MAFIC METAVOLCANIC 98.82 111.50 Massive. 111.50 119.94 Pillowed. 119.79 119.94 Sheared with quartz veinlets and pyrrhotite.	430 431	119.33 119.79 119.79 119.94	.46 .15	tr tr			
119.94 122.96	INTERMEDIATE DYKE	432 433	119.94 120.40 122.50 122.96	.46 .46	tr tr			
122.96 123.93	MASSIVE MAFIC METAVOLCANIC							

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 86-31
Page: 2

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
	122.96 123.14 Carbonatized and brecciated with shearing containing tourmaline and pyrite.	434	122.96 123.14	.18	tr			
		435	123.14 123.93	.79	tr			
	123.14 123.93 Numerous white quartz veins.							
123.93 130.15	INTERMEDIATE DYKE							
	129.45 130.15 Sheared with quartz veinlets and tourmaline and pyrite.	436	123.93 124.39	.46	tr			
		437	129.02 129.45	.43	tr			
		438	129.45 129.78	.34	tr			
		439	129.78 130.15	.37	tr			
130.15 147.98	QUARTZ PORPHYRITIC FELSIC INTRUSION							
		440	130.15 130.61	.46	tr			
		441	147.52 147.98	.46	tr			
147.98 152.00	INTERMEDIATE DYKE							
	147.98 149.17 Sheared with quartz veinlets with tourmaline and pyrite.	442	147.98 148.65	.67	.69			
		443	148.65 149.17	.52	.69			
		444	149.17 149.90	.73	tr			
		445	149.90 150.60	.70	tr			
		446	150.60 151.30	.70	tr			
		447	151.30 152.00	.70	tr			
152.00 158.34	PILLOWED MAFIC VOLCANIC							
	Pillowed and amygdular.	448	152.00 152.10	.09	.34			
	Sheared with quartz veinlets and tourmaline and pyrite at top contact.	449	152.10 152.86	.76	tr			
		450	152.86 153.62	.76	tr			
	154.99 155.08 Sheared with quartz veinlets and tourmaline and quartz.	451	153.62 154.38	.76	tr			
		452	154.38 154.99	.61	tr			
	155.30 155.30 Sheared with quartz veinlets and tourmaline and quartz.	453	154.99 155.30	.30	tr			
		454	155.30 155.91	.61	tr			
	158.13 158.34 Sheared with quartz veinlets and tourmaline and quartz.	455	155.91 156.67	.76	tr			
		456	156.67 157.43	.76	tr			
		457	157.43 158.13	.70	tr			
		458	158.13 158.34	.21	tr			
158.34 166.42	INTERMEDIATE DYKE							
		352	158.34 158.74	.40	tr			
166.42 166.42	END OF HOLE							

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-28
Page: 1

Core size: BQ
Drilled by: HS-10A to 88m and JKS-300 to complete
Started: September 9, 1986 and September 9, 1987
Finished: September 10,1986 and September 10,1987
Logged by: Randy S. Hall; J. Farstad
Date logged: September 10, 1987
System:

Azimuth: 190
-60

Depth	Dip
18.59	191.0-59.0
39.93	192.5-58.0
61.26	193.0-58.0
82.60	192.0-57.0
128.02	-53.0

Grid:
Showing:
Northing: 00+28.1N
Easting: 02+80E
Elevation:
Length: 130.50m
Claims: 647065 and 827517

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n	
.00 6.40	OVERBURDEN										
6.40 18.03	PILLOWED MAFIC VOLCANIC Pillowed mafic volcanics with calcite infill amygdules. 17.93 18.03 Glassy white quartz vein.										
18.03 18.90	META-CHERT Brecciated sugary quartz after chert with quartz-rich bands alternating with chlorite-rich laminae. Trace pyrite.	351	18.03 18.90	.87	tr	-	-	-	-	-	
18.90 26.24	PILLOWED MAFIC VOLCANIC Pillowed and amygdaloidal mafic volcanics with calcite infilling vesicles. Minor pyrrhotite on pillow selvages.										
26.24 27.01	QUARTZ PORPHYRITIC FELSIC INTRUSION Moderately sericitized and foliated quartz porphyry to quartz feldspar porphyry. Foliation at 50 degrees to long core axis.										
27.01 34.58	PILLOWED MAFIC VOLCANIC Pillowed and amygdaloidal mafic volcanics with calcite infilling vesicles. Minor pyrrhotite on pillow selvages.										
34.58 37.19	QUARTZ PORPHYRITIC FELSIC INTRUSION Intensely foliated quartz porphyry with quartz phenocrystss in a fine-grained sericitized matrix.	353	36.88 37.19	.30	tr	-	-	-	-	-	

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-28
Page: 2

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	Lower contact contains abundant tourmaline in intensely foliated zone.									
37.19 60.20	PILLOWED MAFIC VOLCANIC									
	Pillowed and amygdaloidal mafic volcanics with calcite infilling vesicles. Minor pyrrhotite on pillow selvages.	354	37.19 37.49	.30	tr	-	-	-	-	-
		355	59.59 60.20	.61	tr	-	-	-	-	-
60.20 70.41	MASSIVE MAFIC METAVOLCANIC									
	Moderately to intensely carbonate massive to possibly pillowed mafic volcanics with 3% 1 disseminated pyrite.	356	60.20 60.96	.76	.34	-	-	-	-	-
		357	60.96 61.72	.76	tr	-	-	-	-	-
		358	61.72 62.48	.76	.34	-	-	-	-	-
	Locally intensely foliated with quartz tourmaline veinlets.	359	62.48 62.94	.46	tr	-	-	-	-	-
		360	62.94 63.40	.46	tr	-	-	-	-	-
	63.89 64.11 Quartz tourmaline veinlet in intensely foliated quartz porphyry.	361	63.40 63.89	.49	.34	-	-	-	-	-
		362	63.89 64.10	.21	6.17	-	-	-	-	-
		363	64.10 65.14	1.04	tr	-	-	-	-	-
	70.27 70.27 Quartz tourmaline veinlet in intensely foliated quartz porphyry.	364	65.14 65.84	.70	tr	-	-	-	-	-
		365	65.84 66.60	.76	tr	-	-	-	-	-
		366	66.60 67.36	.76	tr	-	-	-	-	-
	65.15 65.84 Possible interflow sediment with magnetite and abundant calcite.	367	67.36 68.12	.76	tr	-	-	-	-	-
		368	68.12 68.88	.76	.34	-	-	-	-	-
		369	68.88 69.65	.76	tr	-	-	-	-	-
	63.64 63.67 Hematite stained fault or joint at 55 degrees to long core axis.	370	69.65 70.41	.76	tr	-	-	-	-	-
	63.70 63.86 Hematite stained fault or joint at 55 degrees to long core axis.									
	64.71 64.92 Hematite stained fault or joint at 57 degrees to long core axis.									
	68.61 68.64 Hematite stained fault or joint at 52 degrees to long core axis.									
	68.95 69.07 Hematite stained fault or joint at 44 degrees to long core axis.									
	69.62 69.80 Hematite stained fault or joint at 45 degrees to long core axis.									
70.41 74.58	PILLOWED MAFIC VOLCANIC									
	Pillowed and weakly carbonate mafic volcanics with numerous iron- stained joints/faults.									
	70.93 71.08 Hematite stained fault or									

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-28
Page: 3

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	joint at 52 degrees to long core axis. 71.26 71.38 Hematite stained fault or joint at 65 degrees to long core axis. 74.25 74.43 Hematite stained fault or joint at 59 degrees to long core axis.									
74.58 79.49	QUARTZ PORPHYRITIC FELSIC INTRUSION Intensely foliated quartz porphyry with 20% 4mm 2 quartz phenocrystss in sericitic matrix.									
79.49 88.76	GABBRO Medium-grained massive mafic intrusive. Weakly carbonate and foliated. 1% Disseminated magnetite in dark green and chloritic matrix. Minor sugary calcite lensess and veinlets. 88.61 88.76 Intensely sericitized.	NS	84.12	88.76	4.63	.00	-	WK	-	-	WK
88.76 88.97	QUARTZ VEIN Glassy white quartz tourmaline chlorite vein with 1% coarse-grained pyrite in adjacent sericitized wallrock. Contact at 47 degrees to long core axis.	NS	88.76	88.97	.21	.00	-	-	INT	-	MOD
88.97 96.65	INTERMEDIATE DYKE Medium-grained , moderately sericitized and weakly foliated and carbonate INTERMEDIATE DYKE. Very rare tourmaline calcite veinlets on fractures.	31988	88.97	89.28	.30	tr	1%	WK	MOD	-	WK
		NS	89.28	96.65	7.38	.00	-	-	MOD	-	WK
96.65 101.38	PILLOWED MAFIC VOLCANIC Moderately carbonate and sericitized and weakly silicified pillow basalt. Very well foliated and bleached a pale grey-green colour. Locally vesicular with calcite infilling. Up to 1% pyrrhotite and pyrite. Minor calcite lensess and veinlets. 99.73 99.76 Fault-hematite stained. 97.54 97.54 Foliation at 47 degrees to	NS	96.65	101.38	4.72	.00	<1%	MOD	MOD	WK	INT

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-28
Page: 4

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	long core axis. 100.58 100.59 Foliation at 52 degrees to long core axis.									
101.38 114.30	PILLOWED MAFIC VOLCANIC Locally amygdaloidal pillow basalt. Moderately carbonate, intensely foliated and weakly sericitized with trace pyrite and pyrrhotite. Locally pillow breccia with calcite in fractures. Minor sugary calcite lenses and veins up to 2cm wide with accessory pyrite. 102.11 102.11 Foliation at 49 degrees to long core axis. 105.16 105.16 Foliation at 53 degrees to long core axis. 108.20 108.21 Foliation at 52 degrees to long core axis. 111.25 111.25 Foliation at 40 degrees to long core axis.	NS	101.38	114.30	12.92	.00	TR	MOD	WK	-	INT
114.30 119.05	MASSIVE MAFIC INTRUSIVE OR FLOW Massive fine-grained mafic intrusive or extrusive with 1% disseminated magnetite. Moderately carbonate and foliated. Magnetite occurs as disseminations and as 5mm clots in dark green chloritic matrix.	NS	114.30	119.05	4.75	.00	-	MOD	-	-	MOD
119.05 119.18	LAMPROPHYRE Dark brown to black dyke with olivine phenocrystss pseudomorphed by serpentine in a biotite-chlorite bearing matrix. Numerous calcite veinlets in fractures. Contact at 46 degrees to long core axis.	NS	119.05	119.18	.12	.00	-	INT	-	-	-
119.18 120.94	MASSIVE MAFIC INTRUSIVE OR FLOW Medium-grained and breccia massive mafic intrusive. Gabbro has a spotted texture with abundant (40%) calcite veins, open space filling veins: colliform and vuggy, throughout. Moderately carbonate.	NS	119.18	120.94	1.77	.00	-	MOD	-	-	-
120.94 121.22	LAMPROPHYRE										

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-28
Page: 5

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	Dark brown to black dyke with olivine phenocrystss pseudomorphed by serpentine in a biotite-chlorite bearing matrix. Numerous calcite veinlets in fractures. Contact at 43 degrees to long core axis.	NS	120.94 121.22	.27	.00	-	INT	-	-	-
121.22 121.80	MASSIVE MAFIC INTRUSIVE OR FLOW Medium-grained and slightly brecciated massive mafic intrusive. Gabbro has a spotted texture with abundant (40%) calcite veins, open space filling veins: colliform and vuggy, throughout. Moderately carbonate.	NS	121.22 121.80	.58	.00	-	MOD	-	-	-
121.80 121.92	LAMPROPHYRE Dark brown to black dyke with olivine phenocrystss pseudomorphed by serpentine in a biotite-chlorite bearing matrix. Numerous calcite veinlets in fractures. Contact at 45 degrees to long core axis.	NS	121.80 121.92	.12	.00	-	INT	-	-	-
121.92 130.45	GABBRO Fine-grained to medium-grained massive mafic intrusive. Moderately carbonate. Minor calcite lensess and veinlets. Locally foliated but typically massive and featureless. 2% 1 Disseminated magnetite.	NS	121.92 130.45	8.53	.00	-	MOD	-	-	WK
130.45 130.46	END OF HOLE									

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-32
Page: 1

Core size: BQ
Drilled by: JKS 300
Started: August 26, 1987
Finished: August 26, 1987
Logged by: Randy S. Hall
Date logged: August 27, 1987
System:

Azimuth: 190
Dip: -45

Depth	Dip
4.57	190.0-45.0
41.15	-46.0

Grid:
Showing:
Northing: 00+10S
Easting: 00+80E
Elevation:
Length: 44.50m

Claim 647064

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
.00 3.99	OVERBURDEN									
3.99 4.15	QUARTZ PORPHYRITIC FELSIC INTRUSION Moderately sericitized and foliated quartz porphyry. Foliation at 57 degrees to long core axis.	NS	3.99	4.15	.15	.00	-	MOD	-	MOD
4.15 5.12	QUARTZ-BEARING GABBRO Medium-grained quartz -phyric mafic intrusive with 5% 1-2mm quartz phenocrysts in medium-grained chlorite matrix foliated at 54 degrees to long core axis. Calcite pseudomorph after plagioclase phenocrysts. Locally disseminated calcite.									
5.12 19.20	MASSIVE MAFIC METAVOLCANIC OR GABBRO Fine-grained chloritic and weakly schistose massive mafic. Pervasive moderate carbonate with 3% calcite. Rare mm calcite veinlets. Finer grained massive rock at depth. Locally some sections more medium-grained with calcite pseudomorph plagioclase and chlorite pseudomorph pyroxene. Locally narrow foliated zones with more abundant calcite veinlets. Foliated zones at 5.91m at 41 degrees to long core axis and at 16.43m at 72 degrees to long core axis.	NS	5.12	5.91	.79	.00	<1%	WK	-	-	WK
		NS	5.91	5.97	.06	.00	<1%	MOD	-	-	INT
		NS	5.97	16.43	10.45	.00	<1%	WK	-	-	WK
		NS	16.43	16.46	.03	.00	<1%	MOD	-	-	INT
		NS	16.46	17.43	.98	.00	<1%	WK	-	-	WK
		NS	17.43	17.68	.24	.00	<1%	MOD	-	-	INT
		NS	17.68	18.04	.37	.00	<1%	WK	-	-	WK
		NS	18.04	18.11	.06	.00	<1%	MOD	-	-	INT
		NS	18.11	19.20	1.10	.00	<1%	WK	-	-	INT
19.20 20.15	MAFIC METAVOLCANIC Fine-grained massive mafic volcanic. Pervasive moderately carbonate and 3% disseminated calcite. Paler colour due to carbonate alteration. Weakly foliated chlorite schist with feldspars	NS	19.20	20.15	.94	.00	-	MOD	-	-	WK

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-32
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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	pseudomorph by calcite and numerous fine calcite veinlets.									
20.15 21.34	MAFIC METAVOLCANIC									
	Well foliated moderately carbonate massive mafic volcanic with 8% calcite. Pale coloration with possible minor biotite. Numerous joints with hematite stain along fractures.	NS	20.15	20.51	.37	.00	-	INT	-	-	INT
	20.36 20.39 Hematite stained joint and possible water-bearing fracture	31651	20.51	21.34	.82	tr	2%	MOD	-	-	MOD
	21.06 21.07 Hematite stained fracture at 54 degrees to long core axis.									
21.34 22.95	QUARTZ									
	Glassy white quartz vein with locally abundant muscovite on fractures and hematite staining on fractures and joints. Minor pyrite veneer along fractures.									
22.95 26.27	INTERMEDIATE DYKE									
	Intensely carbonatized with 15% calcite. Relict 2mm feldspar phenocrystss near upper contact with quartz vein. Weakly foliated and leucocratic-pale grey colour.	NS	22.95	24.44	1.49	.00	-	INT	MOD	-	WK
	23.53 23.74 Iron stained joint-groundwater access.	31652	24.44	26.27	1.83	tr	2%	INT	MOD	-	WK
	24.05 24.08 Iron stained joint-groundwater access.										
	24.26 24.51 Iron stained joint-groundwater access.										
	24.75 25.27 Iron stained joint-groundwater access.										
	25.76 25.94 Iron stained joint-groundwater access.										
	23.47 23.47 Foliation at 50 degrees to long core axis.										
	25.30 25.30 Foliation at 50 degrees to long core axis.										
	25.91 25.91 Foliation at 35 degrees to long core axis.										
	23.47 23.47 Foliation at 50 degrees to long core axis.										
	25.30 25.30 Foliation at 37 degrees to long core axis.										
	25.91 25.91 Foliation at 35 degrees to long core axis.										

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-32
Page: 3

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
26.27	31.70	QUARTZ PORPHYRITIC FELSIC INTRUSION Moderate sericitized and foliated felsic intrusion. 8% 3mm quartz phenocrysts in a quartz sericitized schist matrix. Trace pyrite. Possible relict feldspar phenocrysts. 28.96 28.96 Foliation at 47 degrees to long core axis. 30.48 30.48 Foliation at 58 degrees to long core axis.	NS	26.27	31.70	5.43	.00	TR	-	MOD	-	MOD
31.70	32.31	QUARTZ PORPHYRITIC FELSIC INTRUSION Moderately to well- foliated and intensely sericitized quartz porphyry with foliation at 75 degrees to long core axis. Minor narrow quartz-tourmaline veinlets with accessory calcite. Pale waxy green sericite and moderate destruction of quartz phenocrystss.	31653	31.70	32.31	.61	tr	1%	-	INT	WK	INT
32.31	33.71	QUARTZ PORPHYRITIC FELSIC INTRUSION Weakly to moderately foliated quartz porphyry with locally preserved quartz phenocrystss in a pale yellow and waxy matrix. Moderately sericitized. Minor mm calcite veinlets.	31654	32.31	33.71	1.40	tr	1%	-	INT	WK	MOD
33.71	34.78	QUARTZ PORPHYRITIC FELSIC INTRUSION Intensely deformed quartz porphyry. Intensely foliated and sericitized felsic intrusive with numerous mm quartz tourmaline pyrrhotite pyrite veinlets parallel to foliation. Numerous irregular quartz veinlets and quartz flooding with sugary quartz. Fine calcite on foliation at 59 degrees to long core axis. Minor pale green chlorite associated with sericite.	31655	33.71	34.78	1.07	tr	11%	-	INT	INT	INT
34.78	35.51	QUARTZ PORPHYRITIC FELSIC INTRUSION Moderate foliated and weakly sericitized quartz porphyry with pervasive weakly	31656	34.78	35.51	.73	tr	3%	WK	MOD	WK	MOD

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-32
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Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		carbonate and foliated at 54 degrees to long core axis.										
35.51	40.90	INTERMEDIATE DYKE Medium grey coloured intermediate dyke. Sericitized on foliation but weakly foliated. Local bleached and weakly carbonate zones. Minor mm and rare cm calcite veinlets and veins. Chlorite on foliation surfaces with foliation at 60 degrees to long core axis.	NS	35.51	40.90	5.39	.00	-	WK	WK	-	WK
40.90	44.50	APLITE DYKE Pervasive moderately siliceous, sericitized and foliated granodiorite. Abundant chlorite on thin fractures and pseudomorph biotite. Leucocratic with slight pink discolouration along calcite coated fractures and slight oxidation of chlorite. Rare mm quartz veinlets and minor tourmaline in mm fractures.	NS	40.90	44.50	3.59	.00	-	-	MOD	MOD	MOD
44.50	44.50	END OF HOLE HOLE LOST - BIT SHEARED OFF IN HOLE.										

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-33
Page: 1

Core size: BQ
Drilled by: Northwest Geophysics
Started: August 26, 1987
Finished: August 27, 1987
Logged by: Randy S. Hall
Date logged: August 28, 1987
System:

Azimuth: 190
Dip: -60

Depth	Dip
3.96	-59.0
64.01	-55.0

Grid:
Showing:
Northing: 0+10S
Easting: 0+80E
Elevation:
Length: 64.01m

Claim 647064

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
.00 4.24	OVERBURDEN										
4.24 5.06	QUARTZ PORPHYRITIC FELSIC INTRUSION Moderately foliated, silicified and sericitized quartz porphyritic felsic dyke with foliation at 41 degrees to long core axis. Pale coloured with local bleached sections in more intensely sericitized and silicified zones. <1% disseminated pyrite on foliation. Rare mm quartz veinlets. Rare mm tourmaline veinlets.	31657	4.24	5.06	.82	tr	1%	-	MOD	MOD	MOD
5.06 6.34	QUARTZ-BEARING GABBRO 3% Quartz phenocrystss in massive mafic intrusive. Dark green in colour with pervasive weakly carbonatization. Weakly foliated at 37 degrees to long core axis.	NS	5.06	5.79	.73	.00	-	WK	-	-	WK
		31658	5.79	5.97	.18	tr	2%	MOD	-	-	MOD
		NS	5.97	6.34	.37	.00	-	WK	-	-	WK
6.34 21.31	MASSIVE MAFIC METAVOLCANIC OR GABBRO Fine-grained to locally medium-grained chlorite schist. Dark green colour. Weakly to moderately foliated and weakly carbonate. Numerous mm calcite veinlets parallel to foliation. Trace disseminated pyrite, rare pyrrhotite, chalcopyrite. 7.62 7.62 Foliation at 36 degrees to long core axis. 10.67 10.67 Foliation at 41 degrees to long core axis. 12.19 12.19 Foliation at 42 degrees to long core axis. 16.76 16.77 Foliation at 56 degrees to	NS	6.34	21.31	14.97	.00	-	WK	-	-	WK

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-33
Page: 2

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		long core axis. 19.81 19.82 Foliation at 52 degrees to long core axis. 17.04 17.04 Fault zone at 55 degrees to long core axis. 20.09 20.39 Fault-30cm lost core at 55 degrees to long core axis.										
21.31	23.29	MASSIVE MAFIC METAVOLCANIC OR GABBRO-FINE GRAINED Fine-grained chloritic mafic intrusive. Pervasive weakly to moderately carbonate. Numerous mm calcite veinlets. Moderately bleached zones but generally dark to medium green colour. Minor carbonate veinlets parallel core axis Trace pyrrhotite, chalcopyrite. Very weakly foliated.	NS	21.31	23.29	1.98	.00	-	MOD	-	-	WK
23.29	23.84	MASSIVE MAFIC METAVOLCANIC OR GABBRO-FINE GRAINED Intensely carbonate massive fine-grained mafic: pale green colour. 40% Calcite veinlets at 018 degrees to long core axis. Weakly brecciated along calcite veinlets. Sugary calcite locally interlaminated with chlorite.	31659	23.29	23.84	.55	tr	1%	INT	-	-	BX
23.84	24.35	MASSIVE MAFIC METAVOLCANIC OR GABBRO-FINE GRAINED Massive mafic :pale green and pervasive moderately carbonate. Weakly foliated at 56 degrees to long core axis. Minor calcite veinlets.	NS	23.84	24.35	.52	.00	-	MOD	-	-	WK
24.35	24.54	MASSIVE MAFIC METAVOLCANIC OR GABBRO-FINE GRAINED Intensely foliated mafic at 57 degrees to long core axis. 70% Quartz carbonate veins :sugary and fine-grained. Locally intensely sericitized. 10% Pyrrhotite and 2% pyrite.	31660	24.35	24.54	.18	tr	12%	INT	MOD	MOD	INT

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-33
Page: 3

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
24.54 25.33	MASSIVE MAFIC METAVOLCANIC OR GABBRO Moderately carbonate massive mafic. Pale green, weakly sericitized and weakly foliated. 24.84 24.85 3 cm quartz tourmaline vein at 51 degrees to long core axis no sulfides.	31661	24.54 25.33	.79	tr	1%	MOD	WK	-	WK
25.33 26.61	QUARTZ PORPHYRITIC FELSIC INTRUSION Intensely foliated and sericitized felsic intrusive rock. Rare relict quartz phenocrystss. Pale yellow-green colour with minor chlorite on foliation surfaces. Less foliated at depth. Pervasive moderate carbonatization. 25.45 25.45 Foliation at 60 degrees to long core axis. 25.91 25.91 Foliation at 45 degrees to long core axis. 25.54 25.60 4 cm glassy quartz tourmaline vein with trace pyrrhotite.	NS	25.33 26.61	1.28	.00	-	MOD	INT	-	INT
26.61 31.39	QUARTZ PORPHYRITIC FELSIC INTRUSION Weakly to moderately foliated and sericitized felsic intrusive. Quartz phenocrystss are well preserved in moderately sericitized pale green matrix. Minor mm tourmaline veinlets in fractures at erratic angles to core axis. 27.07 27.28 -Glassy quartz vein at 74 degrees to long core axis. 28.04 28.19 -Glassy quartz vein at 69 degrees to long core axis.	NS	26.61 31.39	4.79	.00	-	MOD	-	-	MOD
31.39 35.33	INTERMEDIATE DYKE Fine-grained sericitized intermediate dyke with 5% feldspar phenocrystss at upper contact, but decrease with depth. Trace disseminated pyrrhotite. Pervasive moderately carbonate. Pale green-beige colour and very weakly foliated. Rare mm to cm calcite veinlets. 31.39 32.31 2% disseminated pyrrhotite.	31662	31.39 32.31	.91	tr	2%	MOD	MOD	-	-
		NS	32.31 35.33	3.02	.00	-	MOD	MOD	-	-

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-33
Page: 4

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
35.33 44.17	QUARTZ PORPHYRITIC FELSIC INTRUSION										
	Moderately foliated and sericitized quartz porphyritic felsic intrusive rock.	NS	35.33	36.58	1.25	.00	-	-	MOD	-	MOD
	Quartz phenocrystss locally well-preserved.	31663	36.58	38.10	1.52	tr	-	-	MOD	-	MOD
	Locally zones of intense sericitization.	NS	38.10	39.62	1.52	.00	-	-	MOD	-	MOD
	Rare mm tourmaline veinlets on fractures.	31664	39.62	40.45	.82	tr	-	-	INT	-	INT
	Locally brecciated with sericite infilling of fractures.	NS	40.45	44.17	3.72	.00	-	-	MOD	-	MOD
	Pale green colour and locally silicified and weakly carbonate.										
	35.36 35.36 Foliated at 57 degrees to long core axis.										
	36.58 36.58 Foliated at 33 degrees to long core axis.										
	38.10 38.10 Foliated at 50 degrees to long core axis.										
	39.62 39.63 Foliated at 47 degrees to long core axis.										
	42.67 42.67 Foliated at 41 degrees to long core axis.										
	36.76 36.88 Intensely foliated and sericitized at 53 degrees to long core axis.										
	39.62 40.45 Intensely foliated, sericitized and tourmalinized.										
	41.48 41.82 -glassy quartz tourmaline vein with minor dextral offset.										
44.17 51.02	INTERMEDIATE DYKE										
	Fine to medium-grained chlorite sericite schist.	NS	44.17	45.08	.91	.00	-	MOD	MOD	-	WK
	Pervasive weakly to moderately carbonate and weakly foliated.	31665	45.08	45.20	.12	tr	2%	INT	MOD	-	MOD
	Pale grey-green colour with sericite on foliation.	NS	45.20	51.02	5.82	.00	-	MOD	MOD	-	WK
	Numerous mm calcite veinlets with minor 3 1 cm glassy white quartz tourmaline veins.										
	Increase in intensity of foliation near contact with quartz porphyry.										
	45.72 45.72 Foliation at 40 degrees to long core axis.										
	48.16 48.16 Foliation at 47 degrees to long core axis.										
	51.02 51.02 Contact at 37 degrees to long core axis.										
51.02 55.05	APLITE DYKE										

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-33
Page: 5

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	Granodiorite to granite- weakly to moderately sericitized with more abundant chlorite on foliation and joints. Minor up to 1 mm feldspar phenocrysts and 3 1 mm quartz phenocrysts. Locally moderately silicified accompanied by less chlorite. Rare glassy quartz veinlets. 51.21 51.21 Foliation at 48 degrees to long core axis. 51.82 51.82 Foliation at 43 degrees to long core axis. 53.34 53.34 Foliation at 57 degrees to long core axis.	NS	51.02	55.05	4.02	.00	-	-	MOD	WK	MOD
55.05 55.32	APLITE DYKE										
	Highly deformed granodiorite. Intensely foliated, carbonate and locally sericitized Narrow zones of more mafic wallrock or chloritized granodiorite. Pervasive moderately to intensely carbonate	NS	55.05	55.32	.27	.00	-	INT	MOD	-	INT
55.32 64.01	GABBRO										
	Medium to fine-grained and highly magnetic massive mafic intrusion. 5% Disseminated magnetite. Pale green to dark green in colour with a salt and pepper texture. Minor calcite in narrow veinlets. Weakly to non-foliated. 62.48 64.01 Coarser grained gabbro.	NS	55.32	64.01	8.69	.00	-	-	-	-	WK
64.01 64.01	END OF HOLE										

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-34
Page: 1

Core size:	BQ	Azimuth:	190	Grid:	
Drilled by:	Northwest Geophysics	Dip:	-60	Showing:	
Started:	August 28, 1987				
Finished:				Northing:	0+10N
		Depth	Dip	Easting:	1+20E
Logged by:	Randy S. Hall	1.52	-60.0	Elevation:	
Date logged:	August 29, 1987	64.01	-56.0		
System:		85.34	-53.0	Length:	85.34m

Claim 647064

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
.00	1.52	OVERBURDEN										
1.52	15.36	QUARTZ-BEARING GABBRO Medium-grained quartz-bearing gabbro with 10% leucoxene after ilmenite, plagioclase pseudomorph by epidote and 3% disseminated magnetite. Dark green colour with 2% quartz phenocrysts which are 1-2mm diameter. Numerous erratic sugary calcite lenses up to 10cm wide. Very weakly to non-foliated. Minor epidote associated with sugary quartz-calcite veinlets and rare tourmaline in calcite veinlets at 32 degrees to long core axis.	NS	1.52	15.36	13.84	.00	-	-	-	-	WK
15.36	21.09	GABBRO Massive fine-grained mafic intrusive: gabbro. Gradational but rapid change from medium-grained to fine-grained with depth. Pervasive weakly carbonate and numerous calcite veinlets. 2% Disseminated fine-grained magnetite in dark green mottled matrix.	NS	15.36	21.09	5.73	.00	-	-	-	-	WK
21.09	23.77	GABBRO Massive fine-grained mafic intrusive: gabbro. 1% Disseminated magnetite and 2% disseminated 3mm pyrite. Fine-grained grey green in colour with minor irregular calcite veinlets.	31666	21.09	22.56	1.46	tr	2%	WK	-	-	-
			31667	22.56	23.77	1.22	tr	2%	WK	-	-	-

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-34
Page: 2

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
23.77 32.00	MASSIVE MAFIC METAVOLCANIC Massive mafic volcanic rock with local possible pillows. Contact with gabbro at 36 degrees to long core axis. Pervasive weakly to moderately carbonate. Pale grey- green colour and chloritic. Numerous calcite veinlets and rare glassy quartz chlorite veins with accessory calcite but. Contains no sulfides. 24.38 24.39 Foliated at 36 degrees to long core axis. 27.43 27.43 Foliated at 47 degrees to long core axis. 30.48 30.48 Foliated at 56 degrees to long core axis.	NS	23.77	32.00	8.23	.00	-	MOD	-	-	WK
32.00 32.31	MASSIVE MAFIC METAVOLCANIC Moderately carbonate and siliceous metabasalt. 1 Cm wide sugary quartz veins within a pale buff green matrix.	31668	32.00	32.31	.30	1.37	-	MOD	-	MOD	MOD
32.31 33.25	MASSIVE MAFIC METAVOLCANIC Pervasive weakly to moderately carbonate mafic volcanics-no obvious pillows.	NS	32.31	33.25	.94	.00	-	MOD	-	-	MOD
33.25 33.89	INTERMEDIATE DYKE Moderately chloritized and weakly sericitized fine-grained INTERMEDIATE DYKE with minor chlorite on fractures. Mottled pale grey colour and weakly silicified. Lower contact at 41 degrees to long core axis.	NS	33.25	33.89	.64	.00	-	WK	MOD	WK	-
33.89 38.04	MASSIVE MAFIC METAVOLCANIC Moderately carbonate and weakly foliated pale grey-green coloured mafic volcanics. Chloritic but weakly foliated and generally massive with no obvious extrusive textures. Numerous mm calcite veinlets and sugary calcite lenses. 35.08 35.14 Intensely carbonate and bleached zone with quartz vein	NS	33.89	38.04	4.15	.00	-	MOD	-	-	WK

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-34
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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	at 36 degrees to long core axis 36.18 36.33 Fault zone-gouge with 1m lost core at 47 degrees to long core axis. 36.58 38.40 Fault zone-badly broken and iron stained at 48 degrees to long core axis.									
38.04 41.27	QUARTZ PORPHYRITIC FELSIC INTRUSION Moderate to intensely sericitized and foliated QUARTZ PORPHYRITIC FELSIC INTRUSION. Quartz phenocrysts typically 1-3mm diameter and appear rounded. Pale beige-green colour and locally white and very sericitized. Minor rusty joints at 51 degrees to long core axis. 38.10 38.10 Foliated at 52 degrees to long core axis. 39.62 39.63 Foliated at 46 degrees to long core axis. 41.15 41.15 Foliated at 46 degrees to long core axis.	NS	38.04	41.27	3.23	.00	1%	-	INT	-	MOD
41.27 41.91	QUARTZ VEIN Quartz calcite tourmaline veins. Laminated glassy to sugary quartz veins in sericitic matrix. 70% Veins with 10% pyrrhotite and 2% pyrite Foliated at 42 to 47 degrees to long core axis.	31669	41.27	41.91	.64	8.91	11%	INT	INT	INT	INT
41.91 43.89	QUARTZ PORPHYRITIC FELSIC INTRUSION Moderately to intensely sericitized QUARTZ PORPHYRITIC FELSIC INTRUSION with rounded quartz phenocrysts (1-3mm) in white sericitic matrix. Intensely foliated at 52 degrees to long core axis. <1% disseminated pyrrhotite.	31670 31671 31672	41.91 42.67 43.43	42.67 43.43 43.89	.76 .76 .46	tr tr tr	1% 1% 1%	- - -	INT INT INT	- - -	INT INT INT
43.89 44.74	PILLOWED MAFIC VOLCANIC Pillowed mafic volcanics which are intensely carbonate and weakly sericitized. 5% Pyrrhotite throughout the unit.	31673	43.89	44.74	.85	tr	100%	-	-	-	-

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Hole: 87-34
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Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		Pale grey colour with minor chlorite in well foliated matrix. Rare relict amygdules. 44.50 44.56 Massive coarse-grained pyrrhotite in 4 cm quartz calcite vein.										
44.74	48.07	PILLOWED MAFIC VOLCANIC Intensely carbonate and moderately sericitized pillow basalt with foliation at 41 degrees to long core axis. Pale grey colour and locally vesicular. 2% Disseminated pyrrhotite and trace chalcopyrite.	31674 31675 31676 31677	44.74 45.72 46.48 47.24	45.72 46.48 47.24 48.07	.98 .76 .76 .82	tr tr tr tr	2% 2% 2% 2%	INT INT INT INT	WK WK WK WK	- - - -	MOD MOD MOD MOD
48.07	51.97	QUARTZ PORPHYRITIC GRANITE TO GRANODIORITE Quartz porphyritic granite to granodiorite with 1-4mm quartz phenocrystss. Locally relict feldspar phenocrysts: 1-2mm diameter Minor chlorite on fractures. Moderately sericitized and silicified in moderately foliated matrix. Green-yellow colour with locally more abundant chlorite and darker green coloration. Minor tourmaline on fractures. Trace pyrrhotite. 49.38 49.38 Foliated at 32 degrees to long core axis.	31678 31679 31680 31681	48.07 48.77 49.90 50.78	48.77 49.90 50.78 51.97	.70 1.13 .88 1.19	tr tr tr tr	1% 1% 1% 1%	WK WK WK WK	MOD MOD MOD MOD	MOD MOD MOD MOD	MOD MOD MOD MOD
51.97	52.40	QUARTZ PORPHYRITIC GRANITE TO GRANODIORITE Intensely sericitized and silicified quartz porphyritic granodiorite with 3% pyrrhotite in quartz tourmaline sericite schist. 70% quartz tourmaline veins. Locally mylonitic texture with foliation at 48 degrees to long core axis.	31682	51.97	52.40	.43	tr	3%	WK	INT	INT	INT
52.40	53.46	PILLOWED MAFIC VOLCANIC Intensely carbonate and weakly sericitized and intensely foliated pillow basalt. 10% Pyrrhotite with minor sphalerite and chalcopyrite and trace tourmaline. Foliated at 53 degrees to long core axis.	31683	52.40	53.46	1.07	tr	10%	INT	WK	-	INT
53.46	56.24	PILLOWED MAFIC VOLCANIC										

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Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		Moderately carbonate and foliated pillow basalt with local relict vesicles. Locally abundant pyrrhotite (3%) in aa veinlets and possible pillow interstices. Foliated at 41 degrees to long core axis.	31684	53.46	54.22	.76	tr	3%	MOD	-	-	MOD
			31685	54.22	54.86	.64	tr	3%	MOD	-	-	MOD
			31686	54.86	55.63	.76	tr	3%	MOD	-	-	MOD
			31990	55.63	56.24	.61	tr	3%	MOD	-	-	MOD
56.24	56.42	PILLOWED MAFIC VOLCANIC										
		1cm Wide sugary quartz vein with 10 specks (<1mm) visible gold and 5% pyrite within intensely sericitized, silicified and foliated basalts. 7% Disseminated pyrite with foliated at 50 degrees to long core axis.	31687	56.24	56.42	.18	63.77	7%	MOD	INT	MOD	INT
56.42	59.25	PILLOWED MAFIC VOLCANIC										
		Moderately carbonate and weakly sericitized vesicular pillow basalt. Dark grey-green colour with locally abundant chlorite- sericite-carbonate and minor calcite veinlets. Moderately foliated at 54 degrees to long core axis.	31991	56.42	57.91	1.49	tr	-	MOD	-	-	MOD
			31688	57.91	58.13	.21	.34	3%	-	MOD	-	-
59.25	59.59	DIORITE										
		Feldspar-phyric diorite dyke with 2mm phenocrysts. Pervasive moderately carbonate with 3% pyrite in silicified zones. Pale to dark grey-green colour.	31689	59.25	59.59	.34	tr	3%	MOD	-	MOD	-
59.59	66.39	MASSIVE MAFIC METAVOLCANIC										
		Fine-grained massive mafic volcanic with pillowed top to massive flow. Non-foliated. Pervasive moderately carbonate.	NS	59.59	66.39	6.80	.00	-	MOD	-	-	-
66.39	68.21	INTERMEDIATE DYKE										
		Intermediate dyke or silicified basalt. Pervasive moderately carbonate and sericitized. Brecciated, jointed and moderately foliated at 22 degrees to long core axis. Pale grey-white colour with minor chlorite in fractures. Lower contact at 34 degrees to long core	NS	66.39	68.21	1.83	.00	-	MOD	MOD	-	MOD

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Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		axis.										
68.21	69.89	INTERMEDIATE DYKE Intensely foliated intermediate dyke? which is intensely silicified and sericitized. Grey-green colour and well foliated at 46-51 degrees to long core axis. 5% Pyrite and 2% pyrrhotite in silicified and sericitized unit.	31690 NS	68.21 69.13	69.13 69.89	.91 .76	tr .00	7% -	WK WK	INT INT	INT INT	INT INT
69.89	72.73	PILLOWED MAFIC VOLCANIC Moderately carbonate and foliated mafic volcanics with possible varioles. Massive and pale green colour-chloritic. Foliated at 33 degrees to long core axis.	NS	69.89	72.73	2.83	.00	-	MOD	-	-	MOD
72.73	73.21	MASSIVE MAFIC METAVOLCANIC Intensely carbonate and foliated mafic volanics with foliation at 43 degrees to long core axis. Numerous quartz carbonate tourmaline veinlets with up to 1% pyrrhotite. 73.03 73.21 Glassy quartz vein.	31691	72.73	73.21	.49	tr	1%	INT	-	-	INT
73.21	77.33	QUARTZ PORPHYRITIC FELSIC INTRUSION Moderately sericitized and foliated quartz porphyry with foliation at 49 degrees to long core axis. Minor fine-grained disseminated tourmaline on foliation. Increasingly silicified and sericitized with depth. Pale beige to white colour. Local destruction of 3mm quartz phenocrysts but typically rounded and brecciated. 73.67 74.07 Intensely sericitized and locally silicified with 2% disseminated pyrite on foliated and minor tourmaline. Foliated at 36 degrees to long core axis.	NS 31692 NS	73.21 73.67 74.31	73.67 74.31 77.33	.46 .64 3.02	.00 tr .00	- 2% -	WK WK WK	MOD INT INT	WK MOD WK	MOD INT INT
77.33	79.92	QUARTZ PORPHYRITIC FELSIC INTRUSION Moderately to intensely foliated,	31693	77.33	78.03	.70	.34	1%	WK	MOD	MOD	MOD

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Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	sericitized and silicified quartz porphyry.	31694	78.03	78.79	.76	tr	1%	WK	MOD	MOD	MOD
	1% Pyrite disseminated along foliation.	31695	78.79	79.55	.76	.69	1%	WK	MOD	MOD	MOD
	Minor irregular quartz lenses and silica flooding associated with disseminated and vein -hosted pyrite.	31696	79.55	79.92	.37	.34	1%	WK	MOD	MOD	MOD
	Anastomozing foliation at 56 degrees to long core axis.										
	Intensely silicified at bottom, altered to a pale yellow-white colour.										
	Minor tourmaline on fractures.										
79.92 80.71	PILLOWED MAFIC VOLCANIC										
	Laminated quartz tourmaline vein on contact with quartz porphyry (8cm vide) with 10% pyrite, 1% chalcopyrite and trace pyrrhotite.	31697	79.92	80.71	.79	.34	11%	WK	WK	INT	INT
	Dark green-black colour with abundant tourmaline on foliated surface.										
	Moderately silicified.										
	Contact at 35 degrees to long core axis.										
80.71 83.70	MASSIVE MAFIC METAVOLCANIC										
	Fine-grained massive and possibly vesicular Moderately carbonate and foliated at 41 degrees to long core axis.	NS	80.71	83.70	2.99	.00	-	MOD	-	-	MOD
	Pale grey-green colour.										
83.70 83.94	MASSIVE MAFIC METAVOLCANIC										
	Intensely foliated massive mafic volcanics with 2cm glassy quartz vein at 61 degrees to long core axis.	31698	83.70	83.94	.24	tr	2%	MOD	-	-	INT
	2% Disseminated pyrite.										
83.94 85.34	GABBRO										
	Massive and moderately foliated mafic intrusive.	NS	83.94	85.34	1.40	.00	-	WK	-	-	MOD
	Weakly carbonate with 2% disseminated magnetite and minor lenses of sugary calcite.										
85.34 85.35	END OF HOLE										

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Hole: 87-35
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Core size:	BQ	Azimuth:	190	Grid:	
Drilled by:	JKS 300	Dip:	-60	Showing:	
Started:	August 29, 1987				
Finished:	August 31, 1987			Northing:	00+50N
		Depth	Dip	Easting:	01+20E
Logged by:	Randy S. Hall	10.36	-60.0	Elevation:	
Date logged:	September 1, 1987	60.96	-54.0		
System:		121.92	-52.0	Length:	146.31m

Claim 647064

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
.00 10.36	OVERBURDEN									
10.36 34.66	GABBRO Medium-grained massive gabbro with 20% plagioclase or leucoxene pseudomorph by calcite. Non-foliated, dark green colour and chloritic with minor calcite veinlets. Locally epidote on calcite veinlets. Non-magnetic; rare quartz tourmaline veinlets. 11.10 11.10 Calcite veinlet at 46 degrees to long core axis. 18.26 18.26 Calcite veinlet at 50 degrees to long core axis. 20.64 20.64 Calcite veinlet at 54 degrees to long core axis. 21.34 21.34 Calcite veinlet at 35 degrees to long core axis. 22.86 22.86 Calcite veinlet at 35 degrees to long core axis. 30.78 30.79 Calcite veinlet at 30 degrees to long core axis.									
34.66 36.09	GABBRO Foliated gabbro at 50 degrees to long core axis. Medium-grained and leucoxene -bearing with sugary calcite veinlets and veins. Abundant disseminated tourmaline. Minor hematite on fractures and foliation. 35.66 35.67 Foliated at 58 degrees to long core axis.	NS	34.66	36.09	1.43	.00	-	INT	-	-	INT
36.09 57.30	QUARTZ-BEARING GABBRO Gabbro to quartz-bearing gabbro.									

Esso Minerals Canada - Cline Project (Ont-82)

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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
	Leucoxene -bearing and similar to above only non-foliated. Rare mm quartz phenocrysts. Increase in magnetite content with depth to a maximum of <1%. Trace pyrite and locally epidote-bearing on calcite veins. 43.22 43.28 Fault-badly broken core and very chloritic. 44.81 44.81 Fault-badly broken core;local hematite stain. 56.69 56.70 1cm quartz vein at 45 degrees to long core axis.							
57.30 65.11	QUARTZ-BEARING GABBRO Massive quartz -bearing gabbro with 3% quartz phenocrysts and up to 1% magnetite. Medium-grained and non-foliated. Locally 15% leucoxene with epidote. Gradual increase in quartz content with depth but matrix is dark green and chloritic.							
65.11 92.51	GABBRO Massive fine-grained mafic rock-likely gabbroic; with fine disseminated epidote. Pervasive weakly carbonate and weakly foliated at 68 degrees to long core axis. Slightly bleached and mottled appearance due to carbonatization. Trace pyrite and pyrrhotite with 1% disseminated magnetite. 70.10 70.11 Foliated at 64 degrees to long core axis. 73.15 73.15 Foliated at 38 degrees to long core axis. 76.20 76.20 Foliated at 51 degrees to long core axis. 79.25 79.25 Foliated at 79 degrees to long core axis. 82.30 82.30 Foliated at 47 degrees to long core axis. 85.34 85.35 Foliated at 54 degrees to long core axis. 88.39 88.39 Foliated at 60 degrees to long core axis.							

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Hole: 87-35
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Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
92.51	92.78	LAMPROPHYRE Gabbro with cm-wide lamprophyre dyke and veins at 47 degrees to long core axis. Breccia and moderately carbonate with calcite veins.										
92.78	92.99	LAMPROPHYRE Medium-grained massive intrusive with olivine pseudomorph by serpentine and biotite pseudomorphed by chlorite. Brown matrix with 1-3mm olivine phenocrysts within a fine-grained matrix. Foliated at 38 degrees to long core axis. Intensely carbonate.										
92.99	93.67	MASSIVE MAFIC INTRUSIVE OR FLOW Fine-grained well-foliated mafic rock with minor calcite veinlets on foliated. Moderately carbonate.	NS	92.99	93.67	.67	.00	-	MOD	-	-	INT
93.67	94.24	META-CHERT Very siliceous and cherty quartz-rich ironstone. Brecciated meta-chert beds with chlorite along fractures and joints. 15% Pyrrhotite and 1% pyrite along foliation and disseminated throughout. Possible quartz phenocrysts or tectonized quartz veinlets in bottom 10cm. Well foliated at 57 degrees to long core axis.	31699	93.67	94.24	.58	tr	16%	-	-	MOD	INT
94.24	94.52	LAMPROPHYRE Medium-grained massive intrusive with olivine pseudomorph by serpentine and biotite pseudomorphed by chlorite. Brown matrix with 1-3mm olivine phenocrysts within a fine-grained matrix. Foliated at 38 degrees to long core axis. Intensely carbonate.										
94.52	95.74	MASSIVE MAFIC INTRUSIVE OR FLOW Basalt or fine grained massive mafic volcanic. Pale grey-green colour and bleached	NS	94.52	95.74	1.22	.00	-	MOD	-	-	WK

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Hole: 87-35
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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	appearance within moderately to intensely carbonate and weakly foliated and brecciated matrix with trace sericite. Up to 1% disseminated pyrrhotite. Locally more medium grained but displays similar alteration. Minor calcite veinlets on fractures.									
95.74 100.83	MASSIVE MAFIC INTRUSIVE OR FLOW Massive fine-grained mafic rock which is very weakly foliated at 40 degrees to long core axis. 10% <1mm feldspar phenocrysts in chloritic dark green matrix. Up to 1% disseminated pyrrhotite.	NS	95.74 100.83	5.09	.00	1%	WK	-	-	WK
100.83 102.44	MASSIVE MAFIC METAVOLCANIC Moderately carbonate and weakly sericitized massive mafic volcanic. Pale to apple green and numerous bleached sections with 1% pyrrhotite. Weakly foliated at 42 degrees to long core axis.	NS 31700	100.83 101.86 101.86 102.44	1.04 .58	.00 tr	1% 1%	MOD MOD	WK WK	- -	WK WK
102.44 103.72	MASSIVE MAFIC METAVOLCANIC Intensely carbonate and moderately sericitized and bleached massive mafic. Pale green colour. Minor erratic sugary carbonate lenses and weakly silicified with 1% pyrrhotite. Moderately foliated at 58 degrees to long core axis.	31701	102.44 103.72	1.28	tr	1%	INT	MOD	WK	MOD
103.72 105.64	INTERMEDIATE DYKE Massive medium-grained INTERMEDIATE DYKE. Weakly carbonate and foliated at 45 degrees to long core axis with 1% disseminated pyrrhotite and 1% pyrite and weakly sericitized. Dark green colour but minor sericite on foliation. Minor 1-5 cm glassy quartz veins with rare tourmaline needles. Minor sugary calcite veins (1-2cm wide) parallel foliation at 29 degrees to long core axis.	31702 31703	103.72 104.85 104.85 105.64	1.13 .79	tr tr	2% 2%	WK WK	WK WK	- -	WK WK

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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
105.64 106.47	INTERMEDIATE DYKE Intensely foliated, deformed, silicified and sericitized INTERMEDIATE DYKE with numerous tourmaline veinlets parallel to foliation. Pale yellow and banded appearance. 8% pyrrhotite, 1% pyrite and 1% chalcopyrite within foliation parallel veinlets.	31704	105.64 106.47	.82	tr	10%	WK	INT	INT	INT
106.47 108.78	INTERMEDIATE DYKE Moderately deformed (banded), moderately sericitized and carbonate, and weakly silicified dyke. 4% Disseminated pyrrhotite and up to 1% chalcopyrite. Minor irregular quartz lenses parallel foliation and quartz augen and disaggregated quartz veins. Bleached pale buff-white colour with rare possible relict feldspar phenocrysts.	31705 31706 31707	106.47 107.44 107.44 107.90 107.90 108.78	.98 .46 .88	tr tr tr	4% 1% 5%	MOD MOD MOD	MOD MOD MOD	WK WK WK	MOD MOD MOD
108.78 117.29	INTERMEDIATE DYKE Moderately foliated, sericitized and carbonate but non-banded intermediate intrusive. <1% and trace pyrite. Similar to above but less foliated and minor sugary quartz veinlets. 109.73 109.73 Foliation at 45 degrees to long core axis. 112.78 112.78 Foliation at 38 degrees to long core axis. 115.82 115.83 Foliation at 44 degrees to long core axis.	31708 31709 NS 31710 NS	108.78 109.73 109.73 110.64 110.64 115.34 115.34 115.82 115.82 117.29	.94 .91 4.69 .49 1.46	tr tr .00 tr .00	1% 1% - 2% 1%	MOD MOD MOD MOD MOD	MOD MOD MOD MOD MOD	- - - - -	MOD MOD MOD MOD MOD
117.29 117.59	INTERMEDIATE DYKE Intensely foliated and sericitized INTERMEDIATE DYKE with foliation at 77 degrees to long core axis. Moderately carbonate and minor chlorite. Trace pyrite and tourmaline.	31711	117.29 117.59	.30	tr	-	MOD	INT	-	INT
117.59 119.27	INTERMEDIATE DYKE									

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Hole: 87-35
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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	Medium-grained intermediate dyke which is very weakly sericitized. Chlorite on fractures and along weak foliation at 36 degrees to long core axis. Mottled green-white colour with rough surface in core.	NS	117.59 119.27	1.68	.00	-	WK	WK	-	WK
119.27 120.30	INTERMEDIATE DYKE									
	Medium-grained intermediate rock; weakly foliated and moderately sericitized with cm zones of more intensely foliated and sericitized rock core by narrow quartz veins with 3% pyrite. Foliation at 56 degrees to long core axis.	31712	119.27 120.30	1.04	tr	1%	WK	MOD	-	WK
120.30 120.70	QUARTZ PORPHYRITIC FELSIC INTRUSION									
	Intensely foliated, silicified, and sericitized felsic dyke with abundant quartz tourmaline veins. Tectonically interleaved quartz porphyry and intermediate dyke with foliation at 68 degrees to long core axis. 1% Sugary pyrite on foliation.	31713	120.30 120.70	.40	tr	1%	WK	INT	INT	INT
120.70 128.93	QUARTZ PORPHYRITIC FELSIC INTRUSION									
	Moderately sericitized and foliated quartz porphyry with 2% disseminated tourmaline. Moderate rounding of quartz phenocrysts. Numerous cm wide glassy quartz veinlets. Narrow fractures with disseminated pyrite at 50 30 degrees to long core axis. Locally very bleached appearance to pale buff-white. Foliation varies from 54 to 58 degrees to long core axis.	31714	120.70 121.92	1.22	tr	1%	WK	INT	INT	INT
		31715	121.92 122.83	.91	tr	-	WK	MOD	-	MOD
		31716	122.83 123.75	.91	tr	-	WK	MOD	-	MOD
		31717	123.75 124.42	.67	tr	-	WK	MOD	-	MOD
		NS	124.42 128.93	4.51	.00	-	WK	MOD	-	MOD
128.93 129.24	QUARTZ PORPHYRITIC FELSIC INTRUSION									
	Moderately to intensely foliated and sericitized quartz porphyry. Numerous tourmaline veinlets on fractures and foliation at 51 degrees to long core axis. Weakly chloritized. Moderate to complete destruction of quartz phenocrysts.	31718	128.93 129.24	.30	tr	-	-	MOD	-	MOD

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Hole: 87-35
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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
129.24 129.48	QUARTZ PYRITE PYRRHOTITE IRONSTONE Massive pyrite. Well banded and likely an ironstone. Narrow cm-wide quartz tourmaline vein with 1% chalcopyrite oriented at 49 degrees to long core axis.	31719	129.24 129.48	.24	.34	100%	-	-	-	-
129.48 130.33	INTERMEDIATE DYKE Weakly sericitized, foliated and chloritized intermediate dyke. Minor carbonate and quartz veinlets. Moderately pervasive carbonate.	31720	129.48 130.33	.85	tr	-	MOD	WK	-	WK
130.33 140.51	INTERMEDIATE DYKE Medium-grained INTERMEDIATE DYKE, weakly sericitized and moderately foliated with trace accessory pyrite. Very minor carbonate veinlets. Foliation varies from 51-64 degrees to long core axis. 139.84 140.51 Weakly jointed along 8mm joints with 1% pyrite and <1% pyrrhotite :lower contact at 36 degrees to long core axis.	NS 31721	130.33 139.84 139.84 140.51	9.51 .67	.00 tr	- 2%	WK WK	WK WK	- -	MOD MOD
140.51 146.30	GABBRO Fine-grained to locally medium-grained massive mafic. Minor calcite veinlets 1-3mm on weakly developed foliation. <1% disseminated pyrite and moderately carbonate. Dark green colour and very chloritic and non-magnetic.	NS	140.51 146.30	5.79	.00	1%	MOD	-	-	WK
146.30 146.31	END OF HOLE									

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Hole: 87-35
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Core size: BQ
Drilled by: JKS 300
Started: September 1, 1987
Finished: September 2, 1987
Logged by: Randy S. Hall
Date logged: September 3, 1987
System:

Azimuth: 190
Dip: -45

Depth	Dip
.61	-45.0
33.53	-40.0
60.96	-41.0

Grid:
Showing:
Northing: 00+00
Easting: 02+40E
Elevation:
Length: 60.96m

43m Claim 647065
18m Claim 827517

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)		Carb.	Ser.	Silic.	Fol'n
.00	4.42 QUARTZ PORPHYRITIC FELSIC INTRUSION											
	Pervasively sericitized, moderately silicified and foliated felsic intrusive. Increased silicification with depth. Pale white colour. Minor quartz tourmaline veinlets 3 1 mm wide.	NS	.00	3.05	3.05	.00	-	-	INT	MOD	MOD
		31722	3.05	4.42	1.37	tr	-	-	INT	MOD	MOD
4.42	5.24 QUARTZ PORPHYRITIC FELSIC INTRUSION											
	Intensely deformed felsic intrusion at contact with INTERMEDIATE DYKE. Numerous 1-2 cm quartz veins with 5-50% sugary pyrite. Intensely foliated and silicified and locally brecciated. Foliated at 57 degrees to long core axis.	31723	4.42	5.24	.82	tr	10%	-	INT	INT	INT
5.24	5.49 INTERMEDIATE DYKE											
	Medium-grained weakly foliated and sericitized intrusive rock.	NS	5.24	5.49	.24	.00	-	-	WK	-	WK
5.49	15.79 MASSIVE MAFIC METAVOLCANIC											
	Massive mafic volcanic. Moderately carbonate and possibly amygdaloidal and dark green colour. Locally pyrite -bearing zones, 1-5cm wide with 10% pyrite and sugary carbonate veins 2% Disseminated calcite rhombs (6mm diameter) throughout. 7.74 8.35 10% pyrite in 1-3cm lenses associated with carbonate veinlet	NS	5.49	7.74	2.25	.00	-	MOD	-	-	-
		31724	7.74	8.35	.61	tr	10%	INT	-	-	-
		NS	8.35	14.78	6.43	.00	-	MOD	-	-	-
		31725	14.78	15.24	.46	tr	-	MOD	-	-	WK
		NS	15.24	15.79	.55	.00	-	MOD	-	-	-
15.79	19.20 GABBRO											
	Fine-grained massive mafic to gabbro with 1% disseminated magnetite.	NS	15.79	19.20	3.41	.00	-	MOD	-	-	-

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-36
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Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		Moderately carbonate with 2% disseminated calcite rhombs (6mm).										
19.20	27.65	PILLOWED MAFIC VOLCANIC Moderately carbonate amygdaloidal pillow basalts, foliated at 45 degrees to long core axis. Dark green chloritic matrix with disseminated 1-2mm carbonate rhombs. Weakly to moderately foliated at 44 degrees to long core axis. Fine-grained with locally pillows. Rare quartz tourmaline veinlets.	NS	19.20	27.65	8.44	.00	-	MOD	-	-	MOD
27.65	30.60	PILLOWED MAFIC VOLCANIC Pillow basalt with minor sugary calcite lenses. Moderately carbonate and weakly sericitized Pale grey-green colour with diffuse amygdules. Moderately foliated at 51 to 54 degrees to long core axis.	NS	27.65	30.60	2.95	.00	-	MOD	WK	-	MOD
30.60	30.94	INTERMEDIATE DYKE Intensely sericitized and silicified INTERMEDIATE DYKE with 3% pyrite and minor tourmaline. Pale green to apple green colour in sericite and foliated at 49 degrees to long core axis. Minor jointing infilled with quartz veinlets.	31738	30.60	30.94	.34	tr	3%	WK	INT	INT	WK
30.94	31.49	MYLONITE Mylonite and brecciated mylonite-foliated at 61 degrees to long core axis. Intensely silicified and sericitized possible mafic volcanics?. Breccia with tourmaline infill matrix. Wispy contacts of felsic fragments in siliceous matrix. Moderately carbonate and calcite in veinlets. 3% Disseminated pyrite.	31725	30.94	31.49	.55	.69	3%	MOD	INT	INT	INT

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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
31.49 32.10	AMYGDALOIDAL MAFIC VOLCANICS Moderately carbonate and sericitized and weakly silicified amygdaloidal basalt. Fine-grained and medium green colour with 30% sugary calcite lenses. Well-foliated at 49 degrees to long core axis.	31727	31.49 32.10	.61	tr	1%	MOD	MOD	WK	INT
32.10 32.86	AMYGDALOIDAL MAFIC VOLCANICS Weakly carbonate and sericitized pillow basalt. Minor sugary calcite lenses in moderately foliated matrix.	31728	32.10 32.86	.76	tr	-	WK	WK	-	MOD
32.86 34.69	QUARTZ FELDSPAR PORPHYRITIC INTRUSION Intensely sericitized and silicified QUARTZ FELDSPAR PORPHYRITIC INTRUSION to FELDSPAR PORPHYRITIC FELSIC INTRUSION. 10% Disseminated tourmaline and also concentrated along joints and fractures. Cross-cutting glassy quartz vein with dark green chlorite in fractures. Moderately foliated at 53 degrees to long core axis. 1% Disseminated pyrite. 32.86 32.92 Intensely foliated and tourmalinized vein with 10% pyrite.	31729 31730	32.86 33.53 33.53 34.69	.67 1.16	tr tr	5% 1%	- -	INT INT	INT INT	MOD MOD
34.69 36.88	PILLOWED MAFIC VOLCANIC Pillowed basalt: moderately carbonate and weakly sericitized. Moderately foliated at 55 degrees to long core axis. Pale green colour with rare calcite quartz tourmaline veinlets. Locally breccia but may be pillow breccia. Local lenses with 1% disseminated pyrite.	31731 31732	34.69 35.66 35.66 36.88	.98 1.22	tr tr	1% 1%	MOD MOD	WK WK	- -	MOD MOD
36.88 37.09	QUARTZ-CARBONATE-TOURMALINE VEIN Glassy quartz vein with accessory calcite and tourmaline and 1% pyrite with inclusions of intensely sericitized and siliceous mafic volcanics.	31733	36.88 37.09	.21	tr	1%	-	INT	INT	MOD

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-36
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Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
37.09	40.33	PILLOWED MAFIC VOLCANIC Weakly to moderately carbonate and weakly foliated mafic volcanics with foliation at 41 degrees to long core axis. Minor mm calcite veinlets and minor sugary calcite lenses.	NS	37.09	40.33	3.23	.00	-	WK	-	-	WK
40.33	42.79	PILLOW BRECCIA AND PILLOWED MAFIC VOLCANICS Moderately sericitized and weakly carbonate possible pillow breccia with sericitized fragments in a pale green matrix. 1% Disseminated pyrite. Locally more intensely sericitized and silicified associated with tourmaline veinlets. Clots of sericitized mafic volcanics oriented at 55 degrees to long core axis. Slightly mylonitic along lower contact at 72 degrees to long core axis.	31734	40.33	40.97	.64	tr	1%	WK	MOD	-	WK
			31735	40.97	41.76	.79	tr	1%	WK	MOD	-	WK
			31736	41.76	42.79	1.04	tr	1%	WK	MOD	-	WK
42.79	60.96	MASSIVE AND PILLOWED MAFIC VOLCANICS Pervasive moderately carbonate and foliated medium green massive and pilloved mafic volcanics with local 5% disseminated calcite rhombs. 46.39 50.34 Iron staining at 10 degrees to long core axis with calcite infilling-blocky. 45.72 45.72 Foliated at 46 degrees to long core axis. 51.82 51.82 Foliated at 40 degrees to long core axis. 57.91 57.92 Foliated at 52 degrees to long core axis.	NS	42.79	60.96	18.17	.00	-	MOD	-	-	MOD
60.96	60.96	END OF HOLE										

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Hole: 87-37
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Core size: BQ
Drilled by: JKS 300
Started: September 2, 1987
Finished: September 3, 1987
Logged by: Randy S. Hall
Date logged: September 8, 1987
System:

Azimuth: 190
Dip: -45

Depth	Dip
7.62	-43.0
30.48	-41.0
82.30	-35.0

Grid:
Showing:
Northing: 00+10N
Easting: 03+20E
Elevation:
Length: 82.30m

66m Claim 647065
16m Claim 827517

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
.00	7.86 OVERBURDEN										
7.86	9.14 MASSIVE MAFIC METAVOLCANIC Intensely fractured and jointed fine-grained massive mafic.										
9.14	18.56 MASSIVE MAFIC METAVOLCANIC Fine-grained massive mafic volcanic rock. Moderately foliated and weakly carbonate with local possible amygdules. Dark green and chloritic with minor sugary calcite lenses and veinlets. 9.14 9.15 Foliation at 47 degrees to long core axis. 12.19 12.19 Foliation at 50 degrees to long core axis. 15.24 15.24 Foliation at 57 degrees to long core axis. 18.29 18.29 Foliation at 57 degrees to long core axis. 17.50 17.53 Fault gouge at 35 degrees to long core axis. 17.99 17.99 Fault gouge at 35 degrees to long core axis.	NS	9.14	18.56	9.42	.00	-	WK	-	-	MOD
18.56	23.96 MASSIVE MAFIC METAVOLCANIC Fine-grained massive mafic: moderately carbonate and weakly sericitized and foliated. 10% disseminated 3-5mm calcite porphyroblasts. Trace pyrite within calcite veinlets. Medium green colour and chloritic.	NS	18.56	23.47	4.91	.00	-	MOD	-	-	-
		31750	23.47	23.96	.49	tr	1%	MOD	WK	-	-
23.96	24.41 QUARTZ VEIN										

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-37
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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	Glassy quartz vein with minor tourmaline and abundant dark green chlorite in fractures. Open space filling textures with numerous angular mafic fragments.	31751	23.96 24.41	.46	tr	1%	MOD	WK	-	-
24.41 25.12	MASSIVE MAFIC METAVOLCANIC Fine-grained chloritic massive mafic volcanic with 30% disseminated 3mm calcite. Non-foliated and featureless. 24.84 24.87 Iron-stained joint at 38 degrees to long core axis.	NS	24.41 25.12	.70	.00	-	INT	-	-	-
25.12 26.70	MASSIVE MAFIC METAVOLCANIC Moderately carbonate and moderately to intensely sericitized fine-grained massive mafic volcanics. Well-foliated and locally breccia at 75 degrees to long core axis. 30% Sugary calcite lenses and locally 1% disseminated pyrite. 25.51 25.60 Fault: iron stained and foliated at 71 degrees to long core axis. Bleached pale green colour with local pseudotachylite veinlets and foliation coated with pale brown sericite.	31752 31753	25.12 25.91 25.91 26.70	.79 .79	tr tr	1% 1%	MOD MOD	MOD MOD	- -	INT INT
26.70 27.52	MASSIVE MAFIC METAVOLCANIC Intensely carbonate, sericitized and moderately silicified metabasalt. Abundant mm tourmaline veinlets in foliated matrix. Well-foliated at 80 degrees to long core axis. Pseudotachylite along some tourmaline-coated foliation surfaces and <1% pyrite.	31754	26.70 27.52	.82	.34	1%	INT	INT	MOD	INT
27.52 28.29	MASSIVE MAFIC METAVOLCANIC Moderately carbonate massive fine-grained basalt with numerous calcite veinlets on fractures. 27.93 27.93 Fault-iron stained and oriented at 36 degrees to long	31755	27.52 28.29	.76	tr	1%	MOD	-	-	INT

Esso Minerals Canada - Cline Project (Ont-92)

Hole: 87-37
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Interval (m)		Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		core axis. 28.01 28.29 Quartz vein. Quartz tourmaline carbonate vein within intensely carbonate mafic and 1% pyrite. Well foliated at 71 degrees to long core axis.									
28.29	30.60	MASSIVE MAFIC METAVOLCANIC Massive fine-grained mafic: moderately carbonate and non- foliated. Minor sugary white calcite. Medium to dark green chloritic matrix.	NS	28.29	30.60	2.32	.00	-	MOD	-	-	-
30.60	31.09	PILLOWED MAFIC VOLCANIC Moderately carbonate and moderately to intensely sericitized pillow basalts. Intensely foliated at 63 degrees to long core axis. Pale green and waxy textured due to abundant sericite. Minor calcite tourmaline veinlets with 1% chalcopyrite and trace arsenopyrite.	31757	30.60	31.09	.49	tr	1%	MOD	INT	-	INT
31.09	39.14	PILLOWED MAFIC VOLCANIC Moderately carbonate and weakly sericitized ,but locally intensely sericitized, pillow basalts. Numerous relict amygdules and well foliated Medium to pale green colour with minor sugary calcite lenses and veinlets. Rare mm tourmaline veinlets on fractures. 31.09 31.09 Foliation at 52 degrees to long core axis. 33.53 33.53 Foliation at 52 degrees to long core axis. 36.58 36.58 Foliation at 64 degrees to long core axis.	NS	31.09	39.14	8.05	.00	-	MOD	WK	-	INT
39.14	39.23	GRANITE Granite to granodiorite dyke to quartz porphyritic granodiorite. Well foliated and moderately sericitized and silicified. Minor quartz tourmaline veinlets.	31758	39.14	39.23	.09	tr	-	-	MOD	MOD	INT

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-37
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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
39.23 43.95	PILLOWED MAFIC VOLCANIC Moderately carbonate and intensely foliated pillow basalts. Locally amygdaloidal in medium green fine-grained matrix. Numerous calcite veinlets parallel foliation at 54 degrees to long core axis.	NS NS	39.23 39.44 39.44 43.95	.21 4.51	.00 .00	- TR	- MOD	MOD -	- -	- INT
43.95 45.14	MASSIVE MAFIC METAVOLCANIC Moderately carbonate and sericitized massive mafic volcanic with 20% brecciated sugary carbonate lenses and minor tourmaline. Trace pyrite and chalcopyrite. 3 Cm quartz carbonate tourmaline vein at 24 degrees to long core axis. Well foliated at 53 degrees to long core axis.	31759	43.95 45.14	1.19	tr	TR	MOD	MOD	-	INT
45.14 60.90	MASSIVE AND PILLOWED MAFIC VOLCANICS Massive and locally amygdaloidal and possible pillow basalt. Weakly carbonate and moderately foliated. Minor calcite veinlets and numerous sugary calcite lenses. 45.72 45.72 Foliation at 52 degrees to long core axis. 48.77 48.77 Foliation at 57 degrees to long core axis. 51.82 51.82 Foliation at 65 degrees to long core axis. 54.86 54.87 Foliation at 80 degrees to long core axis. 57.91 57.92 Foliation at 62 degrees to long core axis.	NS	45.32 60.90	15.58	.00	-	WK	-	-	MOD
60.90 67.91	INTERMEDIATE DYKE Moderately carbonate and weakly sericitized and foliated INTERMEDIATE DYKE. Upper contact at 77 degrees to long core axis and breccia. Rare sugary calcite lenses associated with <1% pyrite. Lower contact hematite-stained and oriented at 84 degrees to long core axis.	NS	60.90 67.91	7.01	.00	-	MOD	WK	-	WK

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-37
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Interval (m)		Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
67.91	82.30	GABBRO Fine-grained massive mafic intrusive. Very weakly to non- foliated and weakly to moderately carbonate. 1% Disseminated magnetite and trace pyrite. Minor sugary calcite veinlets (1-2mm) at 21 degrees to long core axis.	MS	67.91	82.30	14.39	.00	-	WK	-	-	WK
82.30	82.30	END OF HOLE										

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-33
Page: 1

Core size:	BQ	Azimuth:	190	Grid:	
Drilled by:	JKS 300	Dip:	-45	Showing:	
Started:	September 4, 1987				
Finished:	September 7, 1987			Northing:	00+90N
		Depth	Dip	Easting:	03+20E
Logged by:	Randy S. Hall	10.67	-44.0	Elevation:	
Date logged:	September 7, 1987	42.67	-44.0		
System:		57.91	-40.0	Length:	152.41m
		106.68	-35.0	Claim 647065	
		152.40	-30.0		

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
.00 9.94	OVERBURDEN									
9.94 22.59	GABBRO Medium-grained massive mafic intrusive with rare feldspar phenocrysts. Numerous fine pale green coloured fractures infilled with calcite and rare epidote. Rare sugary carbonate lenses within very weakly foliated matrix. Locally highly jointed and fractured. 15.55 16.76 Numerous 1cm calcite veins at 58-70 degrees to long core axis	NS	9.94	22.59 12.65	.00	-	-	-	-	WK
22.59 24.99	GRANODIORITE Quartz porphyritic granodiorite with 5% quartz phenocrysts and 2% feldspar phenocrysts in a fine-grained siliceous matrix. Abundant chlorite along fractures and joints but typically weakly foliated. Trace pyrrhotite in fractures.	NS	22.59	24.99 2.41	.00	TR	-	-	WK	-
24.99 25.60	FAULT ZONE Fault zone-lost water. Foliated at 40 degrees to long core axis. Localized along contact of granodiorite and gabbro and associated with iron staining and 1% pyrrhotite and pyrite within sugary calcite lenses. Local intense epidotization and intense fracturing of gabbro- 10cm lost core.	31749	24.99	25.60 .61	1.37	1%	-	-	-	INT
25.60 43.86	GABBRO									

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-38
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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	Medium-grained to fine-grained massive mafic intrusive with a pervasive weak carbonatization. Epidote pseudomorphed after the 5% plagioclase phenocrysts. Possible multiple intrusions or flows with chilled contacts between successive flows or sills which is oriented at 55 degrees to long core axis. Numerous anastomozing hairline fractures infilled with epidote and calcite. Locally moderately carbonate and finer grained zones. Minor sugary calcite lenses and veins and open space infilling. Non-foliated to weakly foliated. 33.53 33.53 Foliation at 47 degrees to long core axis.	NS	25.60 43.86	18.26	.00	-	WK	-	-	WK
43.86 52.95	GABBRO									
	Coarse-grained gabbro in sharp intrusive contact with fine-grained gabbro. Pervasive weakly carbonate and epidotized with minor sugary calcite veinlets in fractures and local epidote replacement of fragments in veinlets. Minor feldspar pseudomorph by epidote and possible leucoxene in upper portion of unit. Non-foliated. Non-magnetite bearing and no quartz phenocrysts at top but increase of both quartz phenocrysts and magnetite at depth.	NS	43.86 52.95	8.99	.00	-	WK	-	-	-
52.95 55.14	GRANODIORITE									
	Quartz porphyritic granodiorite with 6mm quartz phenocrysts in fine-grained white matrix. Weakly foliated and sericitized. Rare chlorite on fractures at random orientation. Decrease in quartz and increase in feldspar content with depth. Increase in jointing accompanied by chlorite infill with depth.	NS	52.95 55.14	2.29	.00	-	-	WK	-	WK
55.14 58.19	ULTRAMAFIC TO MAFIC DYKE									
	Fine-grained mafic to ultramafic dyke.	NS	55.14 58.19	3.05	.00	-	-	-	-	-

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-38
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Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		Black coloured and non-foliated but highly jointed with calcite infilling joints at approximately 10 cm intervals. Dyke contains minor magnetite. 55.47 55.80 5% pyrrhotite, 1% pyrite and trace chalcopyrite.										
58.19	59.34	GRANODIORITE Mylonitized granodiorite: pink stained and highly jointed. Foliated at 37 degrees to long core axis.	NS	58.19	59.34	1.16	.00	-	-	-	-	INT
59.34	77.05	ULTRAMAFIC TO MAFIC DYKE Dark green to black fine grained mafic to ultramafic dyke, and very similar to dyke above. Becomes more medium grained at depth and contains 1% disseminated magnetite. Very rare tourmaline on foliation planes. Highly jointed with numerous calcite veinlets and fractures. Lower contact at 62 degrees to long core axis.	NS	59.34	77.05	17.71	.00	-	-	-	-	-
77.05	80.04	MASSIVE AND PILLOWED MAFIC VOLCANICS Possible pillows and pillow breccia in fine-grained amygdaloidal mafic intrusive or extrusive. Moderately carbonate with numerous sugary calcite veinlets. Dark green and chloritic rock. 3% Disseminated pyrrhotite in 1-3mm clots and lenses-locally 10% po. Minor jointing. Very weakly foliated at 53 degrees to long core axis.	31737 31738 31739	77.05 78.03 79.25	78.03 79.25 80.04	.98 1.22 .79	tr tr tr	3% 3% 3%	MOD MOD MOD	- - -	- - -	WK WK WK
80.04	86.20	MASSIVE MAFIC METAVOLCANIC Medium to fine-grained and pervasive weakly to moderately carbonate gabbro or basalt. Minor cm veins of massive fine-grained pyrite in calcite veins. Very weakly foliated.	NS	80.04	86.20	6.16	.00	TR	WK	-	-	WK

Esso Minerals Canada - Cline Project (Ont-92)

Hole: 87-39
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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
86.20 93.18	MASSIVE MAFIC METAVOLCANIC Massive and locally amygdaloidal fine-grained mafic intrusive or extrusive weakly foliated and weakly to moderately carbonate. Minor sugary calcite lenses and veinlets interlaminated with massive mafics. 86.26 86.26 Foliation at 51 degrees to long core axis. 89.92 89.92 Foliation at 54 degrees to long core axis. 92.96 92.97 Foliation at 66 degrees to long core axis.	NS	86.20	93.18	6.98	.00	-	MOD	-	-	WK
93.18 97.99	GRANODIORITE Quartz porphyritic granodiorite with minor relict feldspar phenocrysts. Weakly foliated, silicified and sericitized with rare tourmaline along joints. Minor chlorite on fractures and joints. 93.18 93.18 Upper contact at 53 degrees to long core axis. 97.99 97.99 Lower contact at 66 degrees to long core axis.	NS	93.18	97.99	4.82	.00	-	-	WK	WK	WK
97.99 114.91	MASSIVE MAFIC METAVOLCANIC Fine-grained massive mafic volcanic. Pervasive weakly carbonate and weakly to moderately foliated. Pale to medium green colour and chloritic. Locally amygdaloidal with calcite infill vesicles. 98.15 98.15 Foliation at 58 degrees to long core axis. 100.59 100.59 Foliation at 51 degrees to long core axis. 103.63 103.64 Foliation at 51 degrees to long core axis. 106.68 106.68 Foliation at 68 degrees to long core axis. 109.73 109.73 Foliation at 68 degrees to long core axis. 112.78 112.78 Foliation at 71 degrees to long core axis.	NS	97.99	114.91	16.92	.00	-	WK	-	-	MOD
114.91 115.79	MASSIVE MAFIC METAVOLCANIC										

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-33
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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	Intensely foliated and breccia and moderately carbonate fine-grained massive mafic volcanic?. Minor calcite tourmaline lenses and veins with trace pyrite and chalcopyrite. Possibly mylonitic fabric in some tourmaline veinlets.	31740	114.31 115.79	.88	.00	TR	MOD	-	-	INT
115.79 118.69	MASSIVE MAFIC METAVOLCANIC									
	Moderately carbonate and weakly silicified fine-grained mafic volcanic. Weakly foliated with possible relict amygdules.	NS	115.79 118.69	2.90	.00	-	MOD	-	WK	WK
118.69 119.30	GRANODIORITE									
	Quartz porphyritic and highly foliated granodiorite. Moderately sericitized and weakly sericitized with minor chlorite on fractures. 118.90 119.18 Glassy white quartz vein with accessory tourmaline and dark green chlorite.	31741	118.69 119.30	.61	tr	-	-	MOD	WK	INT
119.30 121.95	MASSIVE MAFIC METAVOLCANIC									
	Amygdaloidal fine-grained basalt. Well foliated and weakly to moderately carbonate with minor calcite veinlets. 120.88 121.65 Quartz tourmaline vein (1cm wide) at 18 degrees to long core axis. Hematite stained on fractures with 1% pyrite and up to 1% chalcopyrite.	NS	119.30 120.88	1.58	.00	-	MOD	-	-	INT
		31742	120.88 121.04	.15	tr	2%	MOD	-	-	INT
		NS	121.04 121.95	.91	.00	-	MOD	-	-	INT
121.95 123.26	MASSIVE MAFIC METAVOLCANIC									
	Moderately carbonate and weakly to moderately sericitized fine-grained massive mafic. Numerous sugary carbonate veins and lenses at 67 degrees to long core axis. Locally 3-5cm wide sericitic and possibly mylonitic zones. 1% Pyrite in carbonate lenses. 122.68 122.71 5cm quartz tourmaline vein in intensely sericitized and silicified zone with 5%	31743	121.95 123.26	1.31	tr	1%	MOD	MOD	-	INT

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-38
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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	pyrite in 1mm veinlets with trace chalcopyrite oriented at 75 degrees to long core axis.									
123.26 123.87	MASSIVE MAFIC METAVOLCANIC Moderately carbonate, moderately foliated and weakly sericitized massive fine-grained pale green mafic volcanics. Trace pyrite and foliation at 61 degrees to long core axis.	NS	123.26 123.87	.61	.00	-	MOD	WK	-	-
123.87 126.37	MASSIVE MAFIC METAVOLCANIC Moderately carbonate, sericitized and foliated fine-grained mafic volcanics. Rare 2-10mm calcite veinlets with 3% 1 pyrite, 4% pyrrhotite. Possible fragmented or boudinaged calcite veinlets. 1% Disseminated magnetite. Local breccia textures which may be pillow breccia in narrow zones. Foliation at 60 degrees to long core axis.	31744 31745 31746	123.87 124.27 124.27 124.97 124.97 126.37	.40 .70 1.40	tr tr tr	2% 1% 1%	MOD MOD MOD	MOD MOD MOD	- - -	MOD MOD MOD
126.37 127.92	MASSIVE MAFIC METAVOLCANIC Fine-grained moderately carbonate and weakly foliated massive mafic volcanics. 127.13 127.16 2cm quartz tourmaline vein with 3% pyrite at 60 degrees to long core axis.	31747	126.37 127.92	1.55	tr	2%	MOD	-	-	WK
127.92 130.00	GRANODIORITE Quartz porphyritic granodiorite to quartz porphyry. Pale coloured fine-grained grey matrix with 10% 6mm quartz phenocrysts. Minor chlorite along joints and fractures. Moderately sericitized and well-developed spaced cleavage at 6mm intervals. Cleavage is locally anastomozing but averages 71 degrees to long core axis. Local 3mm crosscutting chlorite selvages to carbonate tourmaline veinlets. Lower contact is razor sharp at 66 degrees to long core axis.	NS	127.92 130.00	2.07	.00	-	-	MOD	-	MOD

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-38
Page: 7

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
130.00 133.84	MASSIVE AND PILLOWED MAFIC VOLCANICS Possible pillowed and amygdaloidal basalts. Moderately carbonate and weakly foliated with numerous zones with 70% disseminated calcite in veins with abundant accessory chlorite. Local brecciated calcite lensess and up to 1% disseminated pyrite. Foliation at 61 degrees to long core axis.	NS	130.00 133.84	3.84	.00	-	MOD	-	-	WK
133.84 139.57	INTERMEDIATE DYKE Weakly foliated and moderately sericitized and carbonate INTERMEDIATE DYKE. Trace tourmaline along the contact with basalts at 82 degrees to long core axis. Minor mm tourmaline veinlets on fractures at 10 degrees to long core axis.	NS	133.84 139.57	5.73	.00	-	MOD	MOD	-	WK
139.57 140.54	MASSIVE MAFIC METAVOLCANIC Moderately carbonate, sericitized and foliated fine-grained massive mafic volcanics. Numerous calcite lenses. <<1% pyrite and trace pyrrhotite.	31748	139.57 140.54	.98	tr	TR	MOD	MOD	-	MOD
140.54 152.40	MASSIVE AND PILLOWED MAFIC VOLCANICS Possible pillowed and amygdaloidal fine-grained mafic volcanics. Weakly to moderately carbonate with local sugary calcite lensess. Mediun green colour and chloritic matrix.	NS	140.54 152.40	11.86	.00	-	MOD	-	-	MOD
152.40 152.40	END OF HOLE									

Esso Minerals Canada - Cline Project (Ont-92)

Hole: 87-39
Page: 1

Core size: BQ
Drilled by: JKS 300
Started: September 8, 1987
Finished: September 9, 1987
Logged by: Randy S. Hall
Date logged: September 10, 1987
System:

Azimuth: 190
Dip: -45

Depth	Dip
3.47	-46.0
30.48	-44.0
60.95	-43.0
76.20	-40.0

Grid:
Showing:
Northing: 00+60S
Easting: 03+20E
Elevation:
Length: 76.21m
Claim 827515

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
.00 3.47	OVERBURDEN									
3.47 19.26	MASSIVE MAFIC METAVOLCANIC Fine-grained and locally vesicular and weakly carbonate mafic volcanics. Numerous narrow calcite veinlets and local sugary calcite lensess. Medium to dark green and chloritic. Weakly to moderately foliated. 5.39 5.97 Fault zone-rusty breccia. 6.43 6.39 Fault zone-rusty breccia. 4.57 4.57 Foliation at 61 degrees to long core axis. 9.14 9.15 Foliation at 43 degrees to long core axis. 12.19 12.19 Foliation at 49 degrees to long core axis.	NS 31984	3.47 18.84	18.84 19.26	15.36 .43	.00 tr	- 1%	WK WK	- -	- -	MOD MOD
19.26 26.09	INTERMEDIATE DYKE Moderately foliated fine-grained, weakly carbonate and sericitized INTERMEDIATE DYKE Minor pyrite on chloritic joints at 18 degrees to long core axis. Grain size coarsens to medium-grained at depth. Pale grey-green colour with mottled texture Upper contact is weakly breccia at 72 degrees to long core axis.	NS	19.26	26.09	6.83	.00	-	WK	WK	-	-
26.09 34.26	MASSIVE MAFIC METAVOLCANIC Weakly to locally moderately carbonate fine-grained mafic volcanic. Medium to dark green and moderately foliated with abundant chlorite. Numerous narrow calcite veinlets parallel to foliation and on fractures.	NS 31985 NS	26.09 27.43 28.25	27.43 28.25 34.26	1.34 .82 6.00	.00 tr .00	TR 2% TR	WK WK WK	- - -	- - -	MOD MOD MOD

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-39
Page: 2

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		Minor sugary calcite lenses and rare quartz veinlets.										
		Up to 1% disseminated pyrite and in calcite veinlets.										
		27.43 27.43 Foliation at 60 degrees to long core axis.										
		30.48 30.48 Foliation at 56 degrees to long core axis.										
		33.53 33.53 Foliation at 55 degrees to long core axis.										
		29.57 30.02 Disseminated magnetite on possible pillow interstices.										
		27.43 28.25 2% pyrite in cm quartz veinlets										
34.26	35.94	MASSIVE AND PILLOWED MAFIC VOLCANICS										
		Possible pillowed and pillow breccia mafic volcanics.	NS	34.26	35.94	1.68	.00	-	MOD	-	-	INT
		Fine-grained and intensely foliated with moderately to intense carbonatization.										
		Pale green, bleached appearance with numerous 1-20mm calcite lenses.										
		3% Disseminated and lenses of magnetite and rare 2mm massive magnetite veinlets parallel to banding.										
		Foliated at 52 degrees to long core axis.										
35.94	49.13	MASSIVE MAFIC METAVOLCANIC										
		Massive but locally vesicular fine-grained mafic volcanics with calcite infilling vesicles.	NS	35.94	49.13	13.20	.00	-	MOD	-	-	MOD
		Minor sugary calcite veinlets in moderately foliated matrix.										
		48.22 48.25 1 cm massive fine-grained pyrite on pillow selvage.										
		48.36 48.39 1 cm quartz carbonate vein with 1% pyrite.										
		49.07 49.10 1 cm quartz carbonate vein with 1% pyrite.										
		36.58 36.58 Foliation at 66 degrees to long core axis.										
		39.62 39.63 Foliation at 63 degrees to long core axis.										
		42.67 42.67 Foliation at 63 degrees to long core axis.										
		45.72 45.72 Foliation at 57 degrees to long core axis.										
		48.77 48.77 Foliation at 68 degrees to long core axis.										

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-39
Page: 3

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
49.13	58.61	MASSIVE MAFIC INTRUSIVE OR FLOW Fine-grained to medium-grained massive basalt or gabbro. Weakly carbonate and foliated in featureless matrix with 1% magnetite.	NS	49.13	58.61	9.48	.00	-	WK	-	-	WK
58.61	59.59	FINE GRAINED FELSIC DYKE Fine-grained felsic dyke with 5% 1-2mm quartz phenocrystss in fine-grained sericitic matrix. 1% Disseminated pyrite oriented on foliation. Intensely sericitized and intensely foliated at 55 degrees to long core axis. 59.31 59.59 Glassy quartz chlorite vein with minor coarse pyrite.	31986	58.61	59.59	.98	tr	1%	-	INT	-	INT
59.59	68.09	MASSIVE MAFIC INTRUSIVE OR FLOW Medium-grained and moderately carbonate massive mafic volcanic to gabbro with 1% disseminated pyrite. Numerous mm calcite veinlets and local sugary calcite lenses. Moderately foliated and 1% disseminated magnetite. Possible intrusive or flow contacts with narrow (1-3mm) breccia zones. Moderately deformed and boudinaged carbonate veinlets and more intensely carbonate at depth. 60.96 60.96 Foliation at 67 degrees to long core axis. 64.01 64.01 Foliation at 66 degrees to long core axis. 67.06 67.06 Foliation at 44 degrees to long core axis.	NS 31987 NS	59.59 64.28 65.23	64.28 65.23 68.09	4.69 .94 2.87	.00 tr .00	TR 2% -	MOD INT MOD	- - -	- - -	MOD MOD MOD
68.09	76.20	MASSIVE MAFIC INTRUSIVE OR FLOW Moderately carbonate and foliated medium-grained to fine-grained massive mafic intrusive or extrusive. Pale green and chloritic matrix with minor sugary calcite lenses and veinlets. 70.10 70.11 Foliation at 49 degrees to long core axis.	NS	68.09	76.20	8.11	.00	-	MOD	-	-	MOD

Esso Minerals Canada - Cline Project (Ont-92)

Hole: 87-39
Page: 4

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
76.20	76.20 Foliation at 70 degrees to long core axis.							
76.20	76.20 END OF HOLE							

Esso Minerals Canada - Cline Project (Ont-92)

Hole: 87-40
Page: 1

Core size: BQ
Drilled by: JKS 300
Started: September 11, 1987
Finished: September 12, 1987

Logged by: Randy S. Hall
Date logged: September 13, 1987
System:

Azimuth: 190
Dip: -45

Depth	Dip
.91	-45.0
21.34	-44.0
60.96	-39.0
91.44	-36.0

Grid:
Showing:

Northing: 00+10S
Easting: 00+40E
Elevation:

Length: 91.45m

Claim 647064

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb. Ser.	Silic. Fol'n
.00 .91	GABBRO							
.91 1.28	GABBRO Massive mafic intrusive.							
1.28 1.55	GRANODIORITE Intensely jointed, fractured and foliated quartz porphyry granodiorite. Foliated at 41 degrees to long core axis.							
1.55 1.77	GABBRO Massive mafic intrusive with contact at 47 degrees to long core axis.							
1.77 6.28	GRANODIORITE Granodiorite. Weakly foliated with quartz and feldspar phenocrystss and locally quartz porphyritic. Abundant chlorite on fractures with 1% disseminated pyrrhotite and chalcopyrite. Medium grey colour and increasingly hornfelsed at depth with increased jointing and silicification. Numerous minor calcite filled joints and fractures.							
6.28 21.76	GABBRO Medium-grained and massive gabbro to massive mafic volcanic. Numerous fine calcite -filled fractures and joints in non- foliated and non-magnetic massive chloritic matrix. Upper contact at 52 degrees to long core axis and lower contact breccia at 38							

Esso Minerals Canada - Cline Project (Ont-92)

Hole: 87-40
Page: 2

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		degrees to long core axis.										
21.76	22.46	GRANODIORITE Granodiorite: moderately silicified and massive and weakly foliated with chlorite on fractures and joints and trace pyrite. Rare cm quartz veins.	31760	21.76	22.46	.70	tr	TR	-	-	MOD	-
22.46	24.26	GRANODIORITE Intensely silicified and weakly sericitized and foliated granodiorite. Pale yellow-green colour and aphanitic. Minor cm quartz tourmaline veinlets with up to 1% chalcopyrite and pyrite in joints and fractures and 1% pyrrhotite.	31761 31762	22.46 23.47	23.47 24.26	1.01 .79	tr tr	TR 1%	- -	- WK	MOD INT	- WK
24.26	24.32	QUARTZ VEIN Laminated quartz tourmaline vein with 1% pyrite and trace pyrrhotite oriented at 64 degrees to long core axis.	31763	24.26	24.32	.06	1.37	1%	-	INT	-	-
24.32	27.37	QUARTZ PORPHYRITIC FELSIC INTRUSION Quartz porphyry to quartz porphyritic granodiorite. Moderately sericitized and intensely foliated with very minor chlorite. Well-developed spaced cleavage at 8 mm interval. Dark white to glassy white appearance with 10% 1-3mm quartz phenocrysts. Minor cm-wide quartz tourmaline veins with 1% pyrite and minor local silicified. 24.38 24.39 Spaced cleavage at 57 degrees to long core axis. 27.13 27.13 Spaced cleavage at 52 degrees to long core axis.	31764 31765 31766	24.32 25.30 26.21	25.30 26.21 27.37	.98 .91 1.16	tr tr 2.74	TR TR TR	- - -	MOD MOD MOD	- - -	INT INT INT
27.37	27.61	QUARTZ VEIN Glassy white quartz vein with minor tourmaline needles on fractures. Vein oriented at 42 degrees to long core axis, perpendicular to foliation.	31767	27.37	27.61	.24	tr	-	-	-	INT	-
27.61	27.65	FAULT ZONE										

Esso Minerals Canada - Cline Project (Ont-92)

Hole: 87-40
Page: 3

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	Fault zone: intensely hematite stained and oxidized. Oriented at 53 degrees to long core axis.										
27.65 34.59	QUARTZ PORPHYRITIC FELSIC INTRUSION Quartz porphyry to quartz porphyritic granodiorite with 1% disseminated pyrite. Intensely sericitized and moderately silicified with minor tourmaline and minor chlorite on joints and fractures. 30% 5 3 mm quartz phenocrysts. 34.59 34.84 Iron stained and highly jointed 30.48 30.48 Foliation at 57 degrees to long core axis. 33.53 33.53 Foliation at 51 degrees to long core axis.	31768	27.65	28.65	1.01	tr	1%	-	INT	MOD	MOD
		31769	28.65	29.57	.91	2.06	1%	-	INT	MOD	MOD
		31770	29.57	30.48	.91	tr	1%	-	INT	MOD	MOD
		31771	30.48	32.00	1.52	tr	1%	-	INT	MOD	MOD
		31772	32.00	33.53	1.52	tr	1%	-	INT	MOD	MOD
		31773	33.53	34.59	1.07	tr	1%	-	INT	MOD	MOD
34.59 36.09	INTERMEDIATE DYKE Medium-grained , weakly carbonate and moderately sericitized and foliated INTERMEDIATE DYKE. Contact at 47 degrees to long core axis.	NS	34.59	36.09	1.49	.00	-	WK	MOD	-	MOD
36.09 41.27	QUARTZ PORPHYRITIC FELSIC INTRUSION Moderately sericitized and weakly foliated quartz porphyry felsic intrusive. 40% 2-5mm Quartz phenocrysts in fine-grained sericitic matrix. Lower contact at 58 degrees to long core axis. 36.27 36.27 Foliation at 41 degrees to long core axis. 38.10 38.10 Foliation at 37 degrees to long core axis. 37.31 37.31 Hematite-stained joint at 38 degrees to long core axis. 38.86 38.87 Hematite-stained joint at 52 degrees to long core axis. 41.15 41.15 Hematite-stained joint at 40 degrees to long core axis.	NS	36.09	41.27	5.18	.00	-	-	MOD	-	WK
41.27 44.20	PILLOWED MAFIC VOLCANIC Pillowed basalt: intensely carbonate and sericitized amygdaloidal pillow basalt with numerous calcite lenses. Moderately foliated and bleached to a pale	31774	41.27	42.67	1.40	tr	1%	INT	INT	-	MOD
		31775	42.67	44.20	1.52	tr	1%	INT	INT	-	MOD

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-40
Page: 4

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		green colour. 1% Pyrite in possible pillow interstices with vein fine-grained massive pyrite in cm wide lenses. 42.06 42.06 Foliation at 57 degrees to long core axis. 44.20 44.20 Foliation at 46 degrees to long core axis.										
44.20	55.57	MASSIVE MAFIC METAVOLCANIC Moderately carbonate and weakly sericitized and foliated massive mafic volcanics. Less bleached and foliated than above and a darker green colour. Trace pyrite and locally brecciated with minor black sugary calcite lenses. 46.94 46.94 Quartz carbonate tourmaline vein and lenses. 50.29 50.29 Foliation at 52 degrees to long core axis. 53.34 53.34 Foliation at 45 degrees to long core axis.	NS	44.20	55.57	11.37	.00	TR	MOD	WK	-	WK
55.57	56.94	PILLOW BRECCIA AND PILLOWED MAFIC VOLCANICS Intensely carbonate and weakly sericitized pillow basalt and possible pillow breccia. 30% Dark grey-black sugary carbonate. Trace pyrite.	31776	55.57	56.94	1.37	.34	TR	IN	WK	-	WK
56.94	58.00	PILLOWED MAFIC VOLCANIC Pillowed and amygdaloidal fine-grained basalt. Intensely carbonate and weakly foliated and sericitized. Pale grey-green colour. Lower contact at 52 degrees to long core axis.	NS	56.94	58.00	1.07	.00	-	INT	WK	-	WK
58.00	70.71	INTERMEDIATE DYKE Weakly foliated, carbonate and sericitized INTERMEDIATE DYKE. Fine-grained and siliceous. Minor calcite on joints at 10 degrees to long core axis.	NS	58.00	70.71	12.71	.00	TR	WK	WK	-	WK

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-40
Page: 5

Interval (m)	Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	Up to 1% pyrite on calcite -filled joints.										
	69.86 69.89 1.5 cm glassy quartz tourmaline vein at 32 degrees to long core axis.										
70.71 74.49	PILLOWED MAFIC VOLCANIC										
	Pillowed and amygdaloidal basalt.	31777	70.71	71.38	.67	tr	TR	INT	MOD	-	MOD
	Intensely carbonate and moderately sericitized with local breccia zones which may be pillow or tectonic breccia.	31778	71.38	71.93	.55	tr	TR	INT	MOD	-	MOD
		31779	71.93	73.15	1.22	tr	TR	INT	MOD	-	MOD
		31780	73.15	74.49	1.34	tr	TR	INT	MOD	-	MOD
	Breccia zones contain 60% sugary carbonate and 20% quartz with up to 1% fine-grained pyrite.										
	Breccia fragments are more sericitic and pale grey-brown colour.										
	Moderately foliated.										
	70.71 70.72 Foliation at 42 degrees to long core axis.										
	73.76 73.76 Foliation at 40 degrees to long core axis.										
74.49 77.02	MASSIVE MAFIC METAVOLCANIC										
	Amygdaloidal and possibly pillowed basalt.	NS	74.49	77.02	2.53	.00	1%	MOD	WK	-	WK
	Moderately carbonate and weakly sericitized and foliated with numerous 1-5mm calcite infilled vesicles.										
	Minor narrow quartz tourmaline veinlets parallel foliation with 1% pyrite (1-5mm wide).										
	74.99 74.99 Foliation at 57 degrees to long core axis.										
	76.20 76.20 Foliation at 62 degrees to long core axis.										
77.02 78.79	INTERMEDIATE DYKE										
	Weakly to moderately carbonate and sericitized and weakly foliated massive INTERMEDIATE DYKE.	NS	77.02	78.79	1.77	.00	-	WK	MOD	-	WK
	More abundant chlorite on foliation and joints.										
	Numerous minor tourmaline -filled fractures										
	Minor sugary calcite lenses.										
78.79 79.31	INTERMEDIATE DYKE										
	Intensely carbonate INTERMEDIATE DYKE with 70% sugary carbonate and minor quartz	31781	78.79	79.31	.52	.34	TR	INT	-	WK	WK

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-40
Page: 6

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		tourmaline veinlets at 16 degrees to long core axis. Trace pyrite.										
79.31	79.58	QUARTZ PORPHYRITIC FELSIC INTRUSION Quartz porphyry. Moderately silicified and sericitized felsic intrusive, dark white colour with 2% disseminated pyrite and 3% tourmaline on foliation and fractures.	31782	79.31	79.58	.27	tr	2%	-	MOD	MOD	WK
79.58	80.04	QUARTZ PORPHYRITIC FELSIC INTRUSION Intensely sericitized, moderately foliated and weakly silicified felsic intrusive with 2% disseminated sugary 1mm pyrite. Pale and waxy yellow sericitic matrix with 20% 3-5mm quartz phenocrysts. Foliation at 44 degrees to long core axis.	31783	79.58	80.04	.46	tr	2%	-	INT	WK	MOD
80.04	80.80	INTERMEDIATE DYKE Intensely carbonate and sericitized massive INTERMEDIATE DYKE. 70% quartz -sugary carbonate tourmaline veins , at 24 degrees to long core axis. 5% Pyrite. Pale yellow green colour with lenses of glassy quartz-relict veins ?.	31784	80.04	80.80	.76	tr	5%	INT	INT	MOD	MOD
80.80	83.73	QUARTZ PORPHYRITIC FELSIC INTRUSION Moderately foliated and sericitized quartz porphyry felsic dyke. Minor chlorite in veinlets at 43 degrees to long core axis. 82.91 82.94 2 cm quartz tourmaline vein at 70 degrees to long core axis.	31785 31786	80.80 82.30	82.30 83.73	1.49 1.43	tr tr	- -	- -	MOD MOD	- -	MOD MOD
83.73	83.85	MASSIVE MAFIC METAVOLCANIC Fine-grained amygdaloidal mafic volcanic. Moderately carbonate with 10% sugary carbonate lenses.	NS	83.73	83.85	.12	.00	-	MOD	-	-	-
83.85	84.52	QUARTZ VEIN Glassy quartz vein with 20% sugary pale beige carbonate and numerous 1 cm by 1 mm tourmaline needles and cm clots of	NS	83.85	84.52	.67	.00	TR	INT	-	INT	-

Esso Minerals Canada - Cline Project (Cnt-82)

Hole: 87-40
Page: 7

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		fine-grained chlorite. Trace chalcopyrite. Minor lenses of intensely sericitized wallrock with minor coarse muscovite on fractures at 40 degrees to long core axis.										
84.52	86.93	PILLOW BRECCIA AND PILLOWED MAFIC VOLCANICS Mafic lapilli tuff, pillow breccia or tectonic breccia. 30% 1cm Lenses of sugary carbonate in moderately carbonate chloritic matrix. Moderately foliated at 66 degrees to long core axis. Numerous mm calcite veinlets parallel foliation.	NS	84.52	86.93	2.41	.00	-	INT	-	-	MOD
86.93	87.78	QUARTZ VEIN Glassy quartz vein with abundant needle tourmaline and rare sugary carbonate and abundant sericite-muscovite on foliation. Lenses and fragments of intensely sericitized wallrock. Trace chalcopyrite. Foliation at 80 degrees to long core axis.	NS	86.93	87.78	.85	.00	-	-	INT	INT	-
87.78	88.15	GRANODIORITE Moderately siliceous and sericitized granodiorite dyke with 1% pyrite. Highly fractured and blocky.	NS	87.78	88.15	.37	.00	1%	-	MOD	MOD	-
88.15	91.44	MASSIVE MAFIC METAVOLCANIC Weakly carbonate and moderately foliated amygdaloidal basalt. 10% Sugary carbonate lenses and vesicle infilling. Foliated at 62 degrees to long core axis.	NS	88.15	91.44	3.29	.00	-	WK	-	-	INT
91.44	91.44	END OF HOLE										

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-41
Page: 1

Core size: BQ
Drilled by: JKS 300
Started: September 13, 1987
Finished: September 16, 1987

Logged by: Randy S. Hall
Date logged: September 17, 1987
System:

Azimuth: 190
Dip: -65

Depth	Dip
4.57	-64.0
30.48	-63.0
60.96	-62.0
91.44	-61.0
121.92	-59.0
152.40	-44.0

Grid:
Showing:

Northing: 00+35N
Easting: 00+50W
Elevation:

Length: 155.50m

Claim 647064

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
.00 4.88	OVERBURDEN									
4.88 36.94	GABBRO Medium-grained and very weakly carbonate massive mafic intrusive. Very weakly to non-foliated. Minor mm calcite and sugary calcite veinlets. Minor weakly epidotized zones. Locally 1% pyrite in sugary calcite veins. 28.35 28.38 1cm quartz vein with 1% pyrite at 53 degrees to long core axis	NS	4.88	36.94 32.06	.00	TR	WK	-	-	-
36.94 49.68	QUARTZ-BEARING GABBRO Quartz-bearing medium-grained gabbro with up to 10% disseminated magnetite. Locally leucoxene -bearing (3-5%) and plagioclase pseudomorph by epidote. Weakly foliated and carbonate. Typically 1% disseminated blue 1-3mm quartz phenocrysts in dark green chloritic matrix. 49.07 49.58 More intensely foliated at 57 degrees to long core axis with 5% mm-wide calcite veinlets.	NS	36.94	49.68 12.74	.00	-	WK	-	-	WK
49.68 52.27	GRANODIORITE Quartz porphyritic granodiorite dyke. Weakly foliated, sericitized and carbonate with abundant chlorite on fractures and foliation. Minor sugary calcite veinlets with chlorite on contacts. Locally 1% pyrite in calcite veinlets.	NS	49.68	52.27 2.59	.00	<1%	WK	WK	-	WK

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-41
Page: 2

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	Medium grey-green colour.									
52.27 53.74	GRANODIORITE Quartz porphyritic granodiorite. Moderately carbonate and sericitized but very weakly foliated. 5% 1mm Quartz tourmaline veinlets oriented at 33 degrees to long core axis. 1% Pyrite in narrow fracture and veinlets.	31787	52.27	53.74	1.46	tr	1%	MOD	MOD	-	WK
53.74 54.01	GRANODIORITE Bleached and intensely sericitized and silicified quartz porphyritic granodiorite along the contact of a 3cm wide quartz carbonate tourmaline vein. Weakly carbonate.	31788	53.74	54.01	.27	tr	-	WK	INT	INT	WK
54.01 55.41	GRANODIORITE Moderately siliceous, sericitized and bleached granodiorite with numerous 3mm 1 tourmaline veinlets at 34 degrees to long core axis. Weakly carbonate.	31789	54.01	55.41	1.40	tr	TR	WK	MOD	MOD	WK
55.41 65.81	GRANODIORITE Weakly carbonate and foliated quartz porphyritic granodiorite. Massive grey-green felsic intrusive which is vein weakly foliated at 37 degrees to long core axis. Minor 1-3mm sugary calcite quartz tourmaline veinlets at 18-30 degrees to long core axis and perpendicular to foliation. Locally sinistral offsets of veinlets. Numerous cm to dm glassy white quartz veins with no alteration of wallrock. Lower contact at 30 degrees to long core axis.	NS	55.41	60.96	5.55	.00	-	WK	-	-	WK
		NS	61.57	65.81	4.24	.00	-	WK	-	-	-
	60.96 61.57 2% tourmaline veinlets.	31790	60.96	61.57	.61	tr	-	WK	-	-	WK
65.81 77.02	GABBRO Medium-grained to fine-grained massive dark green and chloritic mafic intrusive. Locally weakly magnetic but typically	NS	65.81	77.02	11.22	.00	-	WK	-	-	-

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Interval (m)		Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		non-magnetic. Very weakly foliated and weakly carbonate. Minor sugary calcite lense and ptygmatic and open-space fill veins.									
77.02	79.99	MASSIVE MAFIC INTRUSIVE OR FLOW Massive mafic volcanic or intrusive. Fine-grained and moderately foliated and carbonate with weak to moderate bleaching of the dark green chloritic matrix. Trace pyrrhotite on foliation. 77.11 77.12 Foliation at 43 degrees to long core axis. 79.25 79.25 Foliation at 50 degrees to long core axis.	NS	77.02	79.99	2.97	.00	-	MOD	-	-	MOD
79.99	82.51	MASSIVE MAFIC METAVOLCANIC Massive mafic volcanic or fine-grained gabbro. Moderately to intensely carbonate and weakly sericitized and silicified. Bleached pale grey-green colour. Well foliated and locally brecciated with carbonate and quartz carbonate flooding and up to 2% pyrrhotite. 80.53 81.20 Moderately silicified with 3% pyrrhotite. 80.77 80.78 Foliation at 63 degrees to long core axis.	31756 31791 31792	79.89 80.53 81.20	80.53 81.20 82.51	.64 .67 1.31	tr tr tr	1% 1% 1%	INT INT INT	WK WK WK	WK WK WK	INT INT INT
82.51	84.03	INTERMEDIATE DYKE Moderately carbonate, sericitized and bleached INTERMEDIATE DYKE with 1% disseminated pyrrhotite. Pale to medium green colour and very fine grained. Weakly foliated at 64 degrees to long core axis.	31793	82.51	84.03	1.52	tr	1%	MOD	MOD	-	WK
84.03	84.73	INTERMEDIATE DYKE Intensely sericitized and silicified INTERMEDIATE DYKE with 10% disseminated pyrrhotite , trace pyrite and up to 1% disseminated tourmaline. Moderately carbonate. 1cm Glassy quartz vein at 87 degrees to	31794	84.03	84.73	.70	tr	10%	MOD	INT	INT	MOD

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Hole: 87-41
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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	long core axis.									
84.73 92.81	INTERMEDIATE DYKE Weakly carbonate and sericitized and very weakly foliated INTERMEDIATE DYKE. Minor mm calcite veinlets at 24 degrees to long core axis.	NS	84.73 92.81	8.08	.00	-	WK	WK	-	WK
92.81 92.90	QUARTZ-TOURMALINE VEIN Quartz tourmaline vein with minor calcite. Well-laminated vein with 3% 1-2mm pyrite and up to 1% sphalerite. Foliation at 51 degrees to long core axis.	31795	92.81 92.90	.09	tr	4%	MOD	-	INT	INT
92.90 108.36	QUARTZ PORPHYRITIC FELSIC INTRUSION Intensely sericitized quartz porphyritic felsic intrusive with 10% 5mm quartz phenocrysts in a pale yellow and waxy matrix. Minor mm tourmaline veinlets on foliation. 94.82 95.07 Intensely carbonate and silicified with 10% dolomite, 5% pyrite and fine-grained tourmaline. 96.86 97.05 Intensely carbonate and silicified with 10% dolomite, 5% pyrite and fine-grained tourmaline. 97.35 97.44 Quartz vein at 38 degrees to long core axis. 99.97 99.98 Foliation at 50 degrees to long core axis.	NS 31796 NS 31797 NS	92.90 94.82 94.82 95.07 95.07 96.87 96.87 97.54 97.54 108.36	1.92 .24 1.80 .67 10.92	.00 tr .00 tr .00	- 5% - 5% -	- INT - INT -	INT INT INT INT INT	- INT - INT -	MOD MOD MOD MOD MOD
108.36 110.40	QUARTZ PORPHYRITIC FELSIC INTRUSION Intensely foliated and sericitized quartz porphyritic felsic intrusive. Moderate to complete absence of quartz phenocrysts and only rare preservation of feldspar phenocrysts.	NS	108.36 110.40	2.04	.00	-	-	INT	-	INT
110.40 110.76	QUARTZ PORPHYRITIC FELSIC INTRUSION Intensely foliated, siliceous and sericitized quartz porphyry with up to 1% disseminated pyrite and tourmaline. Foliation at 55 degrees to long core axis.	31798	110.40 110.76	.37	tr	<1%	-	INT	INT	INT

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Hole: 87-41
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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	110.67 110.76 More intensely foliated and silicified.									
110.76 111.74	QUARTZ PORPHYRITIC FELSIC INTRUSION Intensely foliated and sericitized quartz porphyry with foliation at 56 degrees to long core axis. Numerous glassy quartz veins and up to 1% pyrite and tourmaline. Weakly carbonate. 110.76 110.86 Quartz tourmaline vein with 2% pyrite and 1% pyrrhotite at 57 degrees to long core axis. Crack and seal texture in vein in glassy quartz.	31799	110.76 111.74	.98	tr	3%	-	INT	INT	INT
111.74 112.26	INTERMEDIATE DYKE Intensely sericitized and moderately silicified fine-grained pale yellow sericite schist. 1% Disseminated pyrrhotite. Minor glassy quartz veinlets. Intensely foliated at 55 degrees to long core axis.	31800	111.74 112.26	.52	7.54	1%	WK	INT	MOD	INT
112.26 113.29	QUARTZ PORPHYRITIC FELSIC INTRUSION Intensely sericitized and foliated and weakly silicified quartz porphyry. Minor 1-2mm glassy quartz veinlets and up to 1% pyrite. Foliation at 53 degrees to long core axis.	945	112.26 113.29	1.04	tr	<1%	WK	INT	WK	INT
113.29 113.84	QUARTZ-TOURMALINE VEIN Quartz tourmaline calcite vein with cm-scale banding and sericite and minor chlorite on foliation. Wallrock is intensely sericitized, silicified and foliated at 54 degrees to long core axis. Vein contains 1% pyrite and up to 1% chalcopyrite.	946	113.29 113.84	.55	tr	2%	INT	INT	INT	INT
113.84 114.64	QUARTZ PORPHYRITIC FELSIC INTRUSION Quartz porphyry which is intensely	947	113.84 114.64	.79	tr	<1%	WK	INT	MOD	MOD

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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	sericitized and moderately silicified and foliated at 57 degrees to long core axis. 1% Tourmaline and up to 1% pyrite. Pale yellow-beige colour with rare relict quartz phenocrystss. Minor ca quartz lenses and veins.									
114.64 115.37	INTERMEDIATE DYKE Moderately sericitized and carbonate and weakly silicified and foliated INTERMEDIATE DYKE. Green to dark grey-green colour and chloritic with 1% disseminated pyrite. Minor calcite lenses and veinlets. Foliated at 47 degrees to long core axis.	948	114.64 115.37	.73	tr	1%	MOD	WK	-	MOD
115.37 118.17	INTERMEDIATE DYKE Moderately foliated and carbonate and weakly sericitized INTERMEDIATE DYKE. Dark grey-green in colour and chloritic with <1% pyrite and minor calcite tourmaline veinlets. Foliated at 57 degrees to long core axis.	NS	115.37 118.17	2.80	.00	<1%	MOD	WK	-	MOD
118.17 120.43	INTERMEDIATE DYKE Moderately sericitized, foliated and carbonate INTERMEDIATE DYKE. Locally tourmalinized, especially along foliation. Locally breccia and foliated at 30 degrees to long core axis. Contains and average of 2% pyrite.	949 950	118.17 118.87 118.87 120.43	.70 1.55	tr tr	2% 2%	MOD MOD	MOD MOD	- -	MOD MOD
120.43 125.24	INTERMEDIATE DYKE Weakly sericitized and carbonate and moderately foliated dark grey INTERMEDIATE DYKE. Up to 1% disseminated pyrrhotite. Foliation at 36 degrees to long core axis.	NS	120.43 125.24	4.82	.00	<1%	WK	WK	-	MOD
125.24 126.67	INTERMEDIATE DYKE Intensely sericitized and carbonate and moderately sericitized INTERMEDIATE DYKE. Locally brecciated and contains 3% pyrrhotite.	951	125.24 126.67	1.43	tr	3%	INT	MOD	-	WK

Esso Minerals Canada - Cline Project (Ont-82)

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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	Minor tourmaline in carbonate lenses. Weakly foliated. Lower contact at 36 degrees to long core axis.									
126.67 137.50	QUARTZ PORPHYRITIC FELSIC INTRUSION Quartz porphyry to quartz feldspar porphyry with 20% 5mm 3 quartz phenocrystss in a pale yellow and waxy matrix. Moderately sericitized and very weakly foliated. Minor mm quartz tourmaline calcite veinlets 1% Disseminated tourmaline throughout matrix.	NS	126.67	137.50	10.82	.00	-	-	MOD	-	WK
137.50 137.56	QUARTZ-TOURMALINE VEIN Quartz tourmaline vein with up to 1% pyrite Glassy quartz with tourmaline on contact. Oriented at 80 degrees to long core axis.	NS	137.50	137.56	.06	.00	<1%	-	-	INT	-
137.56 141.31	QUARTZ PORPHYRITIC FELSIC INTRUSION Quartz porphyry to quartz feldspar porphyry with 20% 5mm 3 quartz phenocrystss in a pale yellow and waxy matrix. Moderately sericitized and vein weakly foliated. Minor mm quartz tourmaline calcite veinlets 1% Disseminated tourmaline throughout matrix.	NS	137.56	141.31	3.75	.00	-	-	MOD	-	WK
141.31 141.49	QUARTZ VEIN Quartz tourmaline sericite vein within intensely sericitized foliated and silicified quartz porphyry with 60% glassy quartz. Abundant tourmaline on foliation at 58 degrees to long core axis. 5% disseminated 2mm pyrite. 141.40 141.49 Intensely foliated basalt?: chlorite schist with 1% pyrite and foliated at 60 degrees to long core axis.	952	141.31	141.49	.18	tr	5%	-	INT	INT	INT

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Hole: 87-41
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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
141.49 155.45	MASSIVE MAFIC METAVOLCANIC Fine-grained to locally medium-grained massive mafic intrusive or extrusive. Dark green and chloritic. Moderately carbonate and weakly foliated with locally possible vesicular sections. Numerous cm sugary calcite lenses and veinlets with rare 5mm lenses of fine-grained pyrite in calcite lense. More massive and medium grained with depth and 5% disseminated 3mm calcite. 144.78 144.78 Foliation at 56 degrees to long core axis. 147.83 147.83 Foliation at 84 degrees to long core axis. 150.88 150.88 Foliation at 43 degrees to long core axis.	NS	141.49	155.45	13.96	.00	-	MOD	-	-	WK
155.45 155.45	END OF HOLE									

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-42
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Core size: BQ
Drilled by: JKS 300
Started: September 17, 1987
Finished: September 19, 1987

Logged by: Randy S. Hall
Date logged: September 19, 1987
System:

Azimuth: 190
Dip: -45

Depth	Dip
2.29	-46.0
30.48	-45.0
60.96	-40.0
91.44	-37.0

Grid:
Showing:

Northing: 01+40S
Easting: 01+20W
Elevation:

Length: 112.78m

42m Claim 647064
71m Claim 827515

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
.00 2.19	OVERBURDEN									
2.19 2.62	GABBRO Possible boulder of medium-grained to fine-grained gabbro to massive mafic.									
2.62 4.60	GRANODIORITE Non-porphyritic granodiorite. Moderately foliated and sericitized with a well-developed spaced cleavage and minor chlorite on fractures. Minor glassy quartz carbonate veins with 1% disseminated pyrite and minor tourmaline 5 Cm glassy quartz vein. Foliated at 43 degrees to long core axis.	4901	2.62	4.60	1.98	tr	-	MOD	-	MOD
4.60 5.82	MASSIVE AND PILLOWED MAFIC VOLCANICS Massive to pillowed mafic volcanics. Numerous minor sugary calcite veinlets. Weakly foliated at 70 degrees to long core axis.	NS	4.60	5.82	1.22	.00	-	MOD	-	WK
5.82 6.04	META-CHERT Chert-rich ironstone with 3% pyrite in sugary quartz matrix. Weakly foliated at 15 degrees to long core axis.	4902	5.82	6.04	.21	tr	3%	-	INT	-
6.04 8.84	PILLOWED MAFIC VOLCANIC Possible pillowed basalts. Dark green and chloritic fine-grained mafic volcanics. Very weakly foliated at 54 degrees to long core axis.	NS	6.04	8.84	2.80	.00	-	-	-	WK

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-42
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Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		Numerous sugary calcite veinlets and lenses in fractures and joints.										
8.84	9.39	MASSIVE MAFIC METAVOLCANIC Moderately foliated and weakly carbonate chloritic massive mafic volcanic. Foliation at 74 degrees to long core axis. 3 Cm glassy quartz vein with 3% pyrite.	4903	8.84	9.39	.55	tr	3%	WK	-	-	MOD
9.39	9.57	QUARTZ PYRITE PYRRHOTITE IRONSTONE Ironstone or sugary quartz vein with 15% pyrrhotite, 2% sphalerite and 1% pyrite and trace magnetite. Chlorite-rich with minor tourmaline on foliation at 75 degrees to long core axis.	4904	9.39	9.57	.18	tr	18%	-	-	INT	WK
9.57	10.88	QUARTZ PORPHYRITIC FELSIC INTRUSION Quartz porphyry with 10% 5mm quartz phenocrystss within an intensely sericitized and moderately foliated pale yellow-green matrix. Foliated at 46 degrees to long core axis.	NS	9.57	10.88	1.31	.00	-	-	INT	-	MOD
10.88	11.40	MASSIVE MAFIC METAVOLCANIC Moderately carbonate and sericitized massive mafic volcanic with upper contact at 11 degrees to long core axis. 1% Disseminated pyrite in weakly breccia matrix. Pale beige-green colour and very fine-grained.	NS	10.88	11.40	.52	.00	1%	MOD	MOD	-	WK
11.40	13.96	QUARTZ PORPHYRITIC FELSIC INTRUSION 10% 5mm Quartz phenocrystss in intensely sericitized yellow-green coloured matrix. Intensely foliated at 15 degrees to long core axis.	NS	11.40	13.96	2.56	.00	-	-	INT	-	INT
13.96	14.33	MASSIVE MAFIC METAVOLCANIC Fine-grained and moderately carbonate massive mafic volcanic. Razor-sharp contact with quartz porphyry at 79 degrees to long core axis.	NS	13.96	14.33	.37	.00	-	MOD	-	-	-

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-42
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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
14.33 25.24	QUARTZ PORPHYRITIC GRANODIORITE Moderately silicified and weakly sericitized and foliated felsic intrusive with minor fractures infilled with calcite 5% 3mm Quartz phenocrysts. Very weakly brecciated. Slight increase in intensity of jointing at depth. 17.53 17.56 Hematite stained joints at 27 degrees to long core axis.	NS	14.33 25.24	10.91	.00	-	-	WK	MOD	MOD
25.24 29.63	MASSIVE AND PILLOWED MAFIC VOLCANICS Fine-grained moderately carbonate and possibly vesicular and pilloved mafic volcanics. Locally brecciated with sugary calcite on fractures and <<1% pyrite.	NS	25.24 29.63	4.39	.00	<1%	MOD	-	-	-
29.63 30.14	MASSIVE MAFIC METAVOLCANIC Intensely foliated, moderately carbonate and sericitized and weakly silicified mafic volcanics. Locally mylonitic textures. 30% Carbonate lenses and veins.	4905	29.63 30.14	.52	tr	-	MOD	MOD	WK	INT
30.14 31.88	MASSIVE MAFIC INTRUSIVE OR FLOW Basalt or fine-grained gabbro- massive mafic rock. Weakly carbonate and foliated.	NS	30.14 31.88	1.74	..00	-	WK	-	-	WK
31.88 41.76	INTERMEDIATE DYKE Weakly sericitized, carbonate and chloritized INTERMEDIATE DYKE. Locally relict feldspar phenocrystss in fine-grained matrix. Trace pyrite. Rare sugary calcite veinlets parallel to foliation. 32.00 32.03 Fault-return water lost. 35.05 35.06 Foliation at 38 degrees to long core axis. 38.10 38.10 Foliation at 41 degrees to long core axis. 41.15 41.15 Foliation at 52 degrees to long core axis.	NS	31.88 41.76	9.88	.00	-	WK	WK	-	WK

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-42
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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
41.76 44.81	GABBRO Fine-grained to medium-grained massive mafic intrusive. Weakly to moderately carbonate chloritic rock which is pale green colour in fresh surface. Non-magnetic and non-foliated.	NS	41.76 44.81	3.05	.00	-	MOD	-	-	-
44.81 46.51	INTERMEDIATE DYKE Fine-grained black coloured massive INTERMEDIATE DYKE. Very weakly sericitized and has a somewhat cherty (aphanitic) appearance. Numerous joints infilled with calcite at 52 degrees to long core axis.	NS	44.81 46.51	1.71	.00	-	-	WK	-	-
46.51 60.17	GABBRO Massive medium-grained mafic intrusive. Moderately carbonate and non-foliated. 2% Disseminated magnetite in pale apple green coloured matrix. Locally minor epidote pseudomorph plagioclase. Minor sugary calcite lenses and veinlets.	NS	46.51 60.17	13.66	.00	-	MOD	-	-	-
60.17 60.72	GABBRO Mylonitized gabbro with foliation at 85 degrees to long core axis. Numerous glassy white quartz tourmaline lenses 3-4 cm wide.	NS	60.17 60.72	.55	.00	-	-	-	-	INT
60.72 64.98	GABBRO Moderately carbonate massive mafic intrusive. Medium-grained to fine-grained and weakly to non-foliated. Chloritic and bleached and carbonate to a medium green colour. Minor sugary calcite veinlets.	NS	60.72 64.98	4.27	.00	-	MOD	-	-	WK
64.98 72.09	PILLOWED MAFIC VOLCANIC Pillowed and vesicular mafic volcanic flows Weakly carbonate and moderately foliated.	NS	64.98 72.09	7.10	.00	-	WK	-	-	MOD

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Hole: 87-42
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Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	65.53 65.54 Foliation at 58 degrees to long core axis. 67.06 67.06 Foliation at 73 degrees to long core axis. 70.10 70.11 Foliation at 68 degrees to long core axis. 71.63 71.63 Foliation at 58 degrees to long core axis.									
72.09 73.00	GRANODIORITE Medium-grained granodiorite with both feldspar and quartz phenocrystss. Abundant chlorite pseudomorph after biotite Very weakly foliated and rare mm calcite veinlets. Contact at 58 degrees to long core axis.	NS	72.09	73.00 .91	.00	-	-	-	-	WK
73.00 75.53	PILLOWED MAFIC VOLCANIC Pillowed and vesicular mafic volcanic. Medium green colour with rare sugary calcite lenses. Weakly foliated and carbonate. Foliation at 61 degrees to long core axis.	NS	73.00	75.53 2.53	.00	-	WK	-	-	WK
75.53 76.38	GRANODIORITE Medium-grained granodiorite with both feldspar and quartz phenocrystss. Abundant chlorite pseudomorph after biotite Very weakly foliated at 64 degrees to long core axis and rare mm calcite veinlets.	NS	75.53	76.38 .85	.00	-	-	-	-	WK
76.38 86.72	PILLOWED MAFIC VOLCANIC Pillowed and vesicular fine-grained mafic volcanics. Moderately carbonate and weakly foliated. Rare fine-grained pyrrhotite and pyrite on pillow selvages. Minor sugary calcite lenses and veinlets. 77.72 77.73 Foliation at 60 degrees to long core axis. 79.25 79.25 Foliation at 80 degrees to long core axis. 82.30 82.30 Foliation at 75 degrees to long core axis. 82.33 82.42 Sugary calcite lenses with chlorite.	NS	76.38	86.72 10.33	.00	-	MOD	-	-	WK

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-42
Page: 6

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
86.72 95.77	GABBRO Fine-grained to medium-grained massive mafic intrusive. Moderately carbonate and weakly foliated at 61 degrees to long core axis. Minor sugary calcite lenses and veinlets. 1% Disseminated magnetite.	NS	86.72 95.77	9.05	.00	-	MOD	-	-	WK
95.77 100.16	PILLOWED MAFIC VOLCANIC Pillowed and locally vesicular mafic volcanics. Very minor pillow breccia. Locally 5 cm zones with 10% disseminated pyrite. Weakly carbonate and foliated at 77 degrees to long core axis. 98.54 99.09 15% pyrite in 10 3 cm veins on pillow selvages.	NS	95.77 98.24	2.47	.00	-	WK	-	-	WK
		4906	98.24 99.09	.85	tr	15%	WK	-	-	WK
		NS	99.09 100.16	1.07	.00	-	WK	-	-	WK
100.16 108.94	GABBRO Fine-grained to medium-grained massive mafic intrusive. Chloritic and weakly carbonate and foliated with locally 1% disseminated magnetite. Numerous minor sugary calcite lensess.	NS	100.16 108.94	8.78	.00	-	WK	-	-	WK
108.94 112.78	PILLOWED MAFIC VOLCANIC Locally vesicular pillow basalt. Weakly carbonate and foliated dark green chloritic mafic volcanics. Minor 5 cm sugary white calcite lensess and infilled breccia. Trace pyrite. 108.20 108.21 Foliation at 61. 112.17 112.17 Foliation at 56.	NS	108.94 112.78	3.84	.00	-	WK	-	-	WK
112.78 112.78	END OF HOLE									

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-43
Page: 1

Core size:	BQ	Azimuth:	190	Grid:	
Drilled by:	JKS 300	Dip:	-45	Showing:	
Started:	September 20, 1987				
Finished:	September 21, 1987			Northing:	03+50S
		Depth	Dip	Easting:	03+50W
Logged by:	Randy S. Hall	2.13	-48.0	Elevation:	
Date logged:	September 21, 1987	30.48	-45.0		
System:		60.96	-42.0	Length:	85.35m
		85.34	-41.0		

Claim 647066

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
.00	2.07	OVERBURDEN										
2.07	2.38	GABBRO Possible boulder or bedrock of medium-grained massive gabbro with 1% magnetite.										
2.38	4.66	CHERTY RHYOLITIC FELSIC VOLCANIC Fine-grained cherty rhyolite. Moderately sericitized and weakly foliated with minor chlorite on joints. Pale green and waxy appearance with a weakly developed jointing at 26 degrees to long core axis.	NS	2.38	4.66	2.29	.00	-	WK	MOD	-	WK
4.66	12.68	MASSIVE MAFIC METAVOLCANIC Pervasive moderately carbonate and weakly foliated massive mafic volcanics. Minor sugary carbonate lensess and veins at 17 degrees to long core axis. Up to 1% pyrite in sugary carbonate lensess 8.47 8.49 Very minor interflow sediments: cherty and siliceous with fine-grained massive pyrite (3mm wide). 11.37 11.37 Hematite stained joint at 41 degrees to long core axis. 11.67 11.68 Hematite stained joint at 41 degrees to long core axis.	NS	4.66	12.68	8.02	.00	<1%	MOD	-	-	WK
12.68	14.08	QUARTZ VEIN Glassy white quartz chlorite vein in foliated mafic volcanics. 1% Pyrite and trace chalcopyrite with minor tourmaline needles.	4907	12.68	14.08	1.40	tr	1%	-	-	INT	INT

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-43
Page: 2

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		Vein oriented at 46 degrees to long core axis. Vein contains intensely siliceous and sericitized metabasalt fragments.										
14.08	15.79	MASSIVE MAFIC METAVOLCANIC Moderately carbonate and weakly foliated massive mafic volcanics. Foliation at 52 degrees to long core axis. 14.57 14.57 Hematite stained fracture.	NS	14.08	15.79	1.71	.00	-	MOD	-	-	MOD
15.79	16.15	META-CHERT Ironstone comprised dominantly of fine-grained cherty quartz with 1-3% pyrrhotite and 1-2% pyrite. The pyrite tends to be localized along fractures in the pyrrhotite and quartz. 15.88 16.06 Moderately carbonate metabasalt. Foliation at 65-75 degrees to long core axis	4908	15.79	16.15	.37	tr	3%	-	-	INT	MOD
16.15	16.86	MASSIVE MAFIC METAVOLCANIC Moderately carbonate and silicified mafic volcanics and more intensely silicified with depth. 1% Disseminated pyrite. Intensely foliated at 47 degrees to long core axis.	4909	16.15	16.86	.70	tr	1%	MOD	-	MOD	INT
16.86	17.80	QUARTZ PORPHYRITIC FELSIC VOLCANIC ROCKS Quartz porphyritic rhyodacite. 30% 1-2mm Quartz phenocrystss in a quartz sericite schist matrix. Quartz phenocrystss display brecciation and jointing. Matrix is a pale yellow-green colour with a waxy lustre and locally displays a mylonitic fabric.	4910	16.86	17.80	.94	tr	-	-	INT	WK	INT
17.80	17.92	META-CHERT Chert-rich ironstone comprised dominantly of fine-grained sugary quartz with 5% pyrrhotite distributed along the banding in the ironstone, and trace chalcopyrite. Very weakly mylonitized.	4911	17.80	17.92	.12	tr	5%	-	-	INT	WK

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-43
Page: 3

Interval (m)	Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
	Foliated at 60 degrees to long core axis.									
17.92 18.44	MASSIVE MAFIC METAVOLCANIC Moderately carbonate and weakly foliated and sericitized pale green coloured massive mafic volcanic.	NS	17.92	18.44	.52	.00	-	MOD	WK	-	WK
18.44 19.14	META-CHERT Intensely folded cherty quartz-rich ironstone with 10% pyrrhotite, 2% pyrite and 1% chalcopyrite. Chaotic folding and local possible mylonitic textures. Foliation at approximately 70 degrees to long core axis but highly variable.	4912	18.44	19.14	.70	tr	13%	-	-	INT	MOD
19.14 20.67	MASSIVE MAFIC METAVOLCANIC Intensely carbonate and moderately sericitized but weakly foliated massive mafic volcanic. Fine-grained and locally contains <1% pyrite.	NS	19.14	20.67	1.52	.00	<1%	INT	MOD	-	WK
20.67 20.88	META-CHERT Ironstone with 15% pyrrhotite, 2% pyrite and 1% chalcopyrite in a well laminated cherty quartz matrix. Weakly brecciated and foliated at 67 degrees to long core axis.	4913	20.67	20.88	.21	tr	18%	-	-	INT	MOD
20.88 22.25	MASSIVE MAFIC METAVOLCANIC Intensely carbonate and moderately sericitized but weakly foliated massive mafic volcanic. Fine-grained and locally contains <1% pyrite. 20.94 20.95 Fault: hematite stained and highly jointed at 44 degrees to long core axis.	NS	20.88	22.25	1.37	.00	-	INT	MOD	-	WK
22.25 22.65	CHERTY RHYOLITIC FELSIC VOLCANIC ROCKS Cherty rhyolite to rhyolite flow. Moderately sericitized and jointed, and moderately foliated at 64 degrees to long	4914	22.25	22.65	.40	tr	<1%	-	MOD	-	MOD

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-43
Page: 4

Interval (m)		Description	Sample No.	Interval (m)	Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		core axis. Contains up to 1% 2mm quartz phenocrystss in fine-grained sericitic matrix. Minor 1cm sugary quartz veins.									
22.65	23.32	META-CHERT 60% Cherty quartz and recrystallized cherty quartz with 10% pyrrhotite, 1% pyrite and 1% chalcopyrite. Well banded parallel foliation at 68 degrees to long core axis. Minor mafic volcanic? interbedded with ironstone. Weakly brecciated.	4915	22.65	23.32	.67	tr	11%	-	-	INT	INT
23.32	24.87	MASSIVE MAFIC METAVOLCANIC Basalt or possible intermediate volcanic to dacite?. Moderately carbonate, sericitized and silicified with numerous cm quartz veins and locally brecciated and silicified zones Matrix is a pale green siliceous fine-grained schist.	4916	23.32	24.87	1.55	tr	TR	MOD	MOD	MOD	MOD
24.87	27.68	INTERMEDIATE DYKE Possible INTERMEDIATE DYKE but differs from those in main zone as is slightly coarser grained. Pale grey-green in colour and is moderately carbonate, sericitized and foliated. Rare mm calcite veinlets and locally blocky-jointed and more intensely carbonate	NS	24.87	27.68	2.80	.00	-	MOD	MOD	-	-
27.68	28.59	META-CHERT Cherty quartz-bearing ironstone with 5% pyrrhotite and 1% pyrite within a highly folded but well-laminated matrix. 28.35 28.59 Hematite stained joints and fractures at 15 degrees to long core axis.	4917	27.68	28.59	.91	tr	6%	-	-	INT	INT
28.59	30.94	MASSIVE FELSIC VOLCANIC ROCKS Massive felsic flow or siliceous dyke. Fine-grained and very siliceous with	NS	28.59	30.94	2.35	.00	-	-	MOD	MOD	-

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-43
Page: 5

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		abundant fine-grained sericite. Pale grey-green in colour and minor concoidal fractures.										
30.94	32.55	META-CHERT Cherty-quartz bearing ironstone. Well banded with minor intercalated mafic volcanics. Ironstone contains 15% pyrrhotite, 1% pyrite and 1% chalcopyrite.	4918	30.94	32.55	1.62	tr	16%	-	-	INT	INT
32.55	36.27	MASSIVE MAFIC METAVOLCANIC Massive fine-grained mafic volcanics. Moderately carbonate and weakly foliated.	NS	32.55	36.27	3.72	.00	-	MOD	-	-	WK
36.27	39.93	GABBRO Fine-grained to medium-grained massive mafic intrusive or possibly extrusive. Chlorite-rich and very weakly foliated and carbonate. Minor mm to cm carbonate veinlets.	NS	36.27	39.93	3.66	.00	-	WK	-	-	WK
39.93	52.85	GABBRO Leucocratic gabbro to diorite. 30% 1mm Plagioclase phenocrystss in medium-grained and moderately carbonate massive chloritic matrix. Moderately foliated at 66 degrees to long core axis.	NS	39.93	52.85	12.92	.00	-	MOD	-	-	MOD
52.85	73.37	GABBRO Moderately carbonate medium-grained gabbro. Moderately foliated at 67 degrees to long core axis. Numerous calcite lensess and veinlets. Locally contains 50% carbonate lensess. 54.86 73.36 Gabbro contains <1% quartz phenocrystss. 58.37 58.52 Chlorite-tourmaline vein-possibly mylonitic with folded laminations. Oriented at 56 degrees to long core axis 58.52 61.33 1% tourmaline on foliation and minor quartz phenocrystss. 72.12 72.54 Glassy quartz chlorite carbonate vein at erratic	NS 4919 NS	52.85 72.12 72.54	72.12 72.54 73.37	19.26 .43 .82	.00 tr .00	- TR -	MOD INT MOD	- - -	- INT -	MOD - MOD

Esso Minerals Canada - Cline Project (Ont-82)

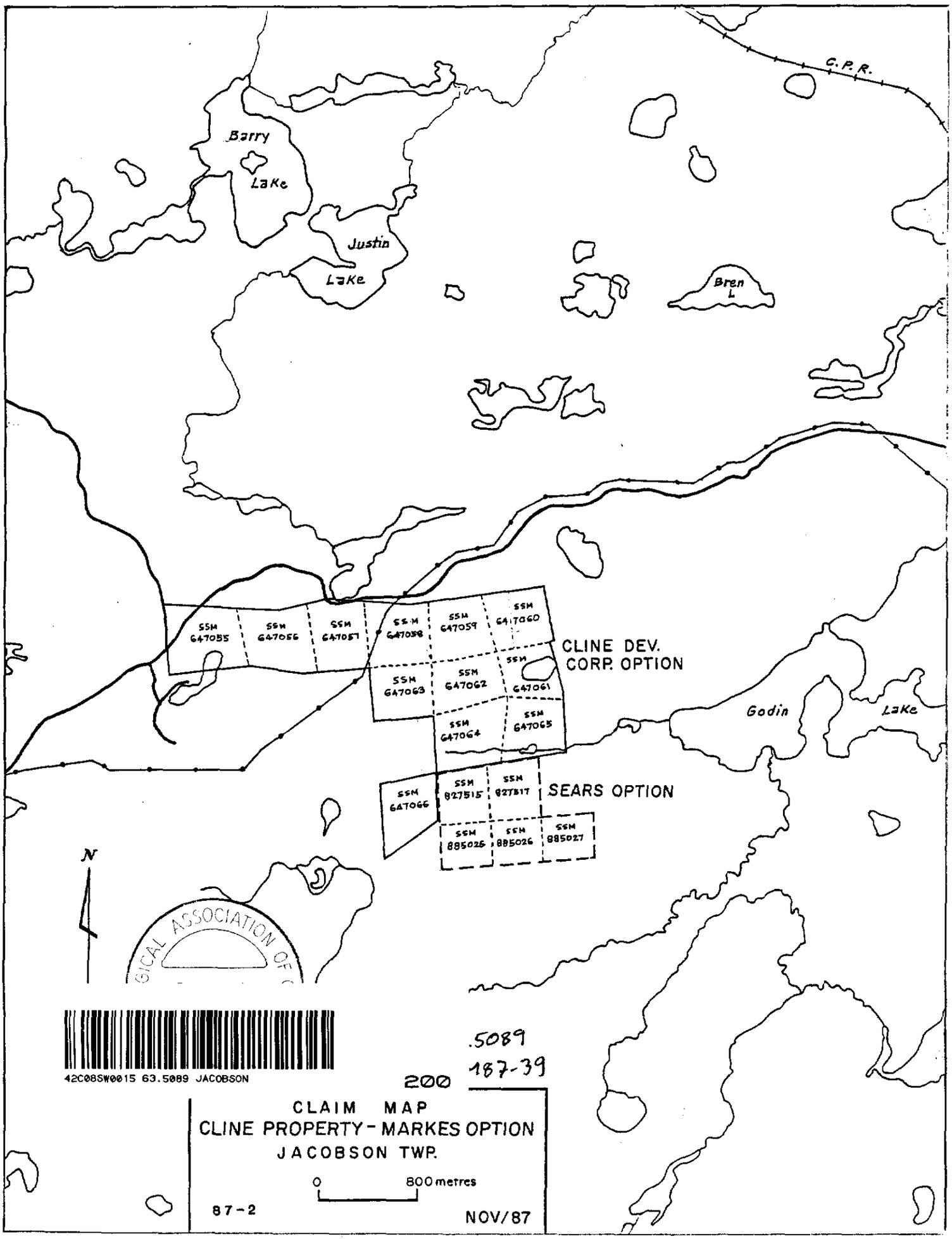
Hole: 87-43
Page: 6

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
		angles to core axis. Trace pyrite.										
73.37	73.76	META-CHERT Sugary quartz -bearing ironstone:more extensively recrystallized chert. Ironstone contains 10% pyrrhotite, 1% chalcopyrite and up to 1% pyrite. Moderately banded at 80 degrees to long core axis.	4920	73.37	73.76	.40	tr	12%	-	-	INT	MOD
73.76	77.42	MASSIVE MAFIC METAVOLCANIC Fine-grained chlorite schist-possibly altered mafic volcanics. 40% Mm to dm carbonate veins and numerous glassy quartz carbonate lensess and veins at 10 degrees to long core axis. Moderately foliated and locally folded foliation. Trace magnetite.	NS	73.76	77.42	3.66	.00	-	MOD	-	-	MOD
77.42	77.85	QUARTZ MAGNETITE IRONSTONE 70% Sugary quartz, 2% magnetite and 4% pyrrhotite in poorly laminated ironstone. Banding at 82 degrees to long core axis.	4921	77.42	77.85	.43	tr	4%	-	-	INT	WK
77.85	78.09	MASSIVE MAFIC METAVOLCANIC Moderately carbonate fine-grained massive mafic-volcanic?. 60% Carbonate veinlets parallel foliation at 56 degrees to long core axis.	NS	77.85	78.09	.24	.00	-	MOD	-	-	MOD
78.09	80.44	QUARTZ MAGNETITE IRONSTONE Moderately to well-banded quartz magnetite ironstone with 10% pyrrhotite and 2% chalcopyrite, but locally massive pyrrhotite. Minor cm crosscutting sugary quartz tourmaline veins at 5 degrees to long core axis. Zones with better preserved banding contain 5% disseminated magnetite at 80 degrees to long core axis. Minor isoclinal folds of lamination in ironstone.	4922 4923	78.09 79.25	79.25 80.44	1.16 1.19	tr tr	15% 15%	- -	- -	INT INT	MOD MOD

Esso Minerals Canada - Cline Project (Ont-82)

Hole: 87-43
Page: 7

Interval (m)		Description	Sample No.	Interval (m)		Length (m)	Au (g/t)	Sulfide (%)	Carb.	Ser.	Silic.	Fol'n
80.44	81.53	MASSIVE MAFIC METAVOLCANIC Fine-grained massive basalt. Weakly carbonate and foliated with minor calcite veinlets.	NS	80.44	81.53	1.10	.00	-	WK	-	-	WK
81.53	81.66	QUARTZ VEIN Quartz vein with 5% pyrite in recrystallized ironstone or sugary quartz vein oriented at 44 degrees to long core axis. 1% Pyrrhotite distributed along a poorly developed banding.	4924	81.53	81.66	.12	tr	1%	-	-	INT	WK
81.66	82.11	MASSIVE MAFIC METAVOLCANIC Fine-grained massive basalt. Weakly carbonate and foliated with minor calcite veinlets.	NS	81.66	82.11	.46	.00	-	WK	-	-	WK
82.11	83.06	QUARTZ MAGNETITE IRONSTONE Quartz magnetite ironstone with 3% magnetite, 2% pyrrhotite, 1% chalcopyrite and accessory grunerite in sugary quartz matrix. Trace pyrite except 2% coarse pyrite on upper contact. Ironstone is poorly laminated but displays some compositional banding with locally more abundant chlorite. Weakly banding at 57 degrees to long core axis.	4925	82.11	83.06	.94	tr	3%	-	-	INT	WK
83.06	85.34	MASSIVE MAFIC METAVOLCANIC Fine-grained massive mafic-intrusive or extrusive. Vein weakly carbonate and foliated.	NS	83.06	85.34	2.29	.00	-	WK	-	-	-
85.34	85.35	END OF HOLE										



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187-39

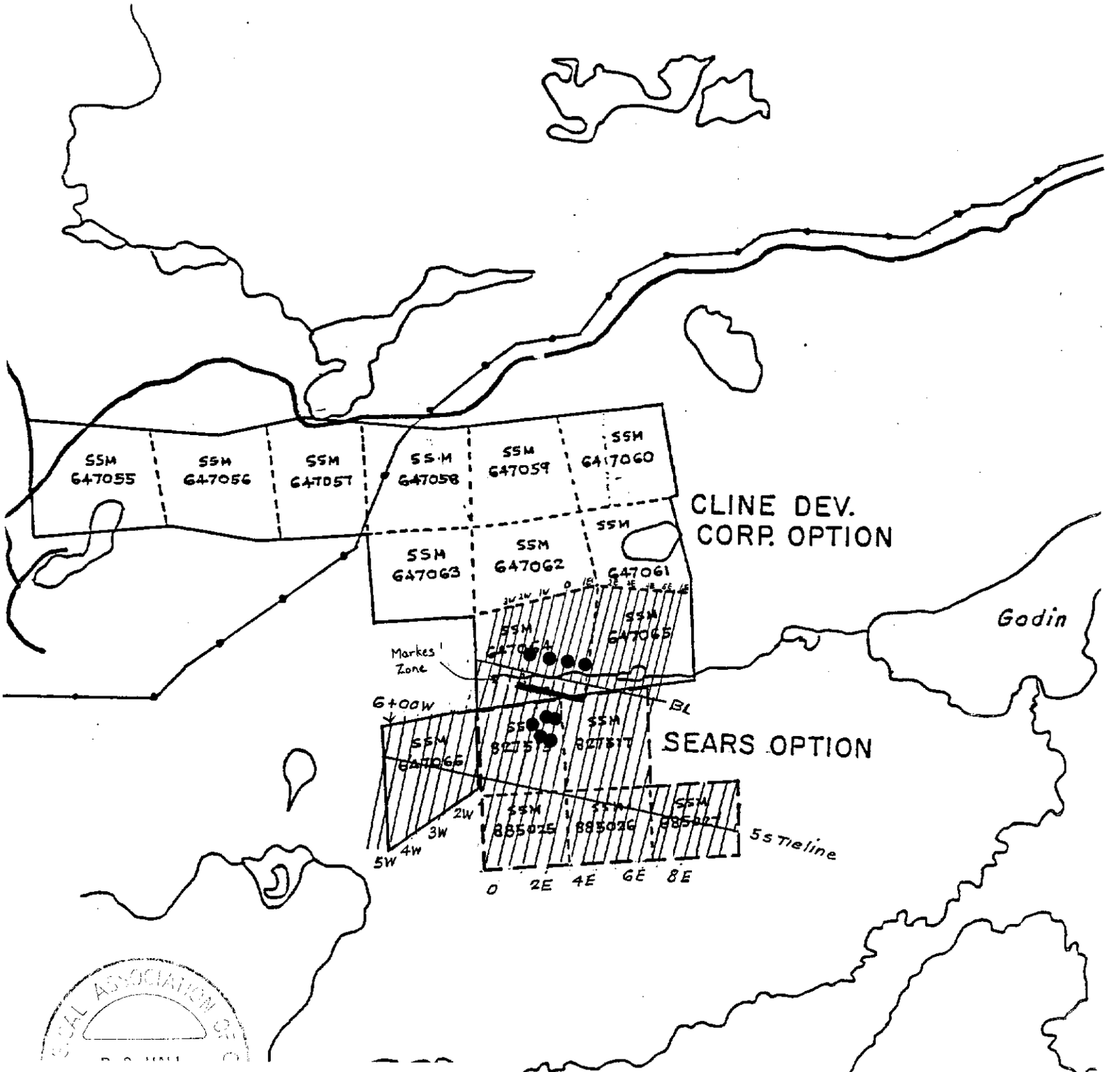
200

CLAIM MAP
CLINE PROPERTY - MARKES OPTION
JACOBSON TWP.

0 800 metres

87-2

NOV/87



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OM97-39

210

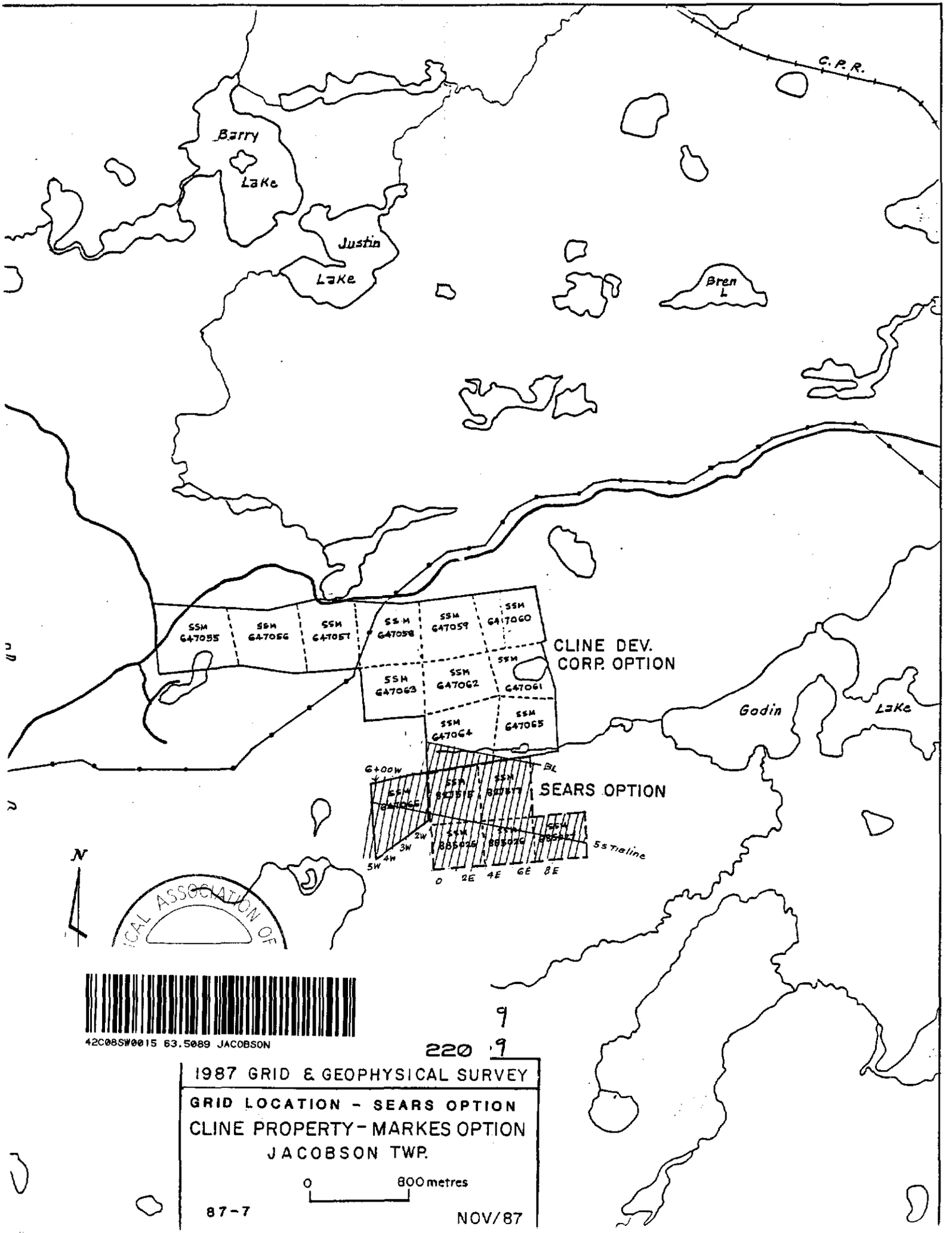
1988 PROPOSED DRILLING

CLINE PROPERTY - MARKES OPTION
JACOBSON TWP.

0 800 metres

87-12

NOV/87



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1987 GRID & GEOPHYSICAL SURVEY

GRID LOCATION - SEARS OPTION

CLINE PROPERTY - MARKES OPTION

JACOBSON TWP.

0 800 metres

87-7

NOV/87

600W 500W 400W 300W 200W 100W 0E 100E 200E 300E 400E 500E 600E 700E 800E 900E

N

0N
100S
200S
300S
400S
500S
600S
700S
800S
900S

DRILL ROAD
DDH 87-36
BASELINE
MARKES OCCURRENCE
87-40
87-43
87RH-100 to 1002.034
GULF MINERALS (1977) MD-3
GULF MINERALS (1977) MD-2
GULF MINERALS (1977) MD-1
P1
P2
P3
P4
P5
827515
827517
647066
885025
885026
885027
TRAIL
POND
PIT
PIT (Sand)
PIT (Sand)
TIELINE
TIELINE

1 MAFIC METAVOLCANICS
1A,E Massive
1P Pillowed
1PV Pillowed and vesicular
1PBR Pillow breccia
1AP Massive and pillowed
1AMG Amygdaloidal
1ALT Intensely carbonatized-pyritized-sericitized
1C Carbonatized

3 FELSIC VOLCANICS
3A Massive
3AQP Quartz porphyritic-massive
3T Tuff
3A,J Cherty rhyolite

4 CHEMICAL SEDIMENTARY ROCKS
4A Quartz-magnetite ironstone
4C Quartz-pyrite-pyrrhotite ironstone
4S Meta-chert

5 METASEDIMENTARY ROCKS
5G Greywacke-wackestone

6 PORPHYRITIC FELSIC INTRUSIONS
6A Quartz-feldspar porphyry
6B Feldspar porphyry
6C Quartz porphyry

7 FELSIC INTRUSIONS
7A Granite
7AQP Quartz porphyritic granite
7G Granodiorite
7GQP Quartz porphyritic granodiorite
7D Diorite
7S Aplite
7L Fine-ground felsic dyke
7INT Intermediate dyke

8 MAFIC INTRUSIONS
8A,B1A Gabbro
8AQ,B Quartz-bearing gabbro
8C,D Lamprophyre Dyke
8I Massive mafic volcanic or gabbro
8IP Massive mafic volcanic or fine ground gabbro.
8MD Ultramafic to mafic dyke

MYL Mylonite
EOH End of Hole
FLT Fault Zone

PROPOSED DRILLHOLE
63.5089
ON87-39

ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

PROSPECT:
MARKES-SEARS OPTION
GEOLOGY
and Proposed Drilling

ACCOUNT Nº M682 | FILE Nº 1682 | TORONTO

DRAWN BY: | DATE NOV/87 | NTS 42C-8

DWG. Nº 87-8 | MAP Nº

SCALE
0 100 metres

To Accompany A Report By: R. HALL
Dated NOV/87

GEOLOGICAL ASSOCIATION OF CANADA
R. S. HALL
FELLOW

1 MAFIC METAVOLCANIC
1A,G Massive
1P Pillowed
1PV Pillowed and vesicular
1PBX Pillow breccia
1AP Massive and pillowed
1AMG Amygdaloidal
1ALT Intensely carbonatized-pyritized-sericitized
1GC Carbonatized

3 FELSIC VOLCANICS
3A Massive
3AQP Quartz porphyritic-massive
3B Tuff
3H,J Cherty rhyolite

4 CHEMICAL SEDIMENTARY ROCKS
4A Quartz-magnetite ironstone
4C Quartz-pyrite-pyrrhotite ironstone
4G Meta-chert

5 METASEDIMENTARY ROCKS
5D Greywacke-mudstone

6 PORPHYRITIC FELSIC INTRUSIONS
6A Quartz-feldspar porphyry
6B Feldspar porphyry
6C Quartz porphyry

7 FELSIC INTRUSIONS
7A Granite
7AQP Quartz porphyritic granitic
7B Granodiorite
7BQP Quartz porphyritic granodiorite
7D Diorite
7G Aplite
7L Fine-grained felsic dyke
INT Intermediate dyke

8 MAFIC INTRUSIONS
8A,81A Gabbro
8AQ,B Quartz-bearing gabbro
8C,D Lamprophyre Dyke
8I Massive mafic volcanic or gabbro
8IF Massive mafic volcanic or fine grained gabbro
UMD Ultramafic to mafic dyke

MYL Mylonite
EOH End of Hole
FLT Fault Zone

Note: Tick marks adjacent to holes indicate samples below assayed <0.67 g/t

63.5089
OM87-39

ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

PROSPECT: MARKES (CLINE OPTION)

OBLIQUE DRILL SECTION 1+60-2+10W

LOOKING EAST

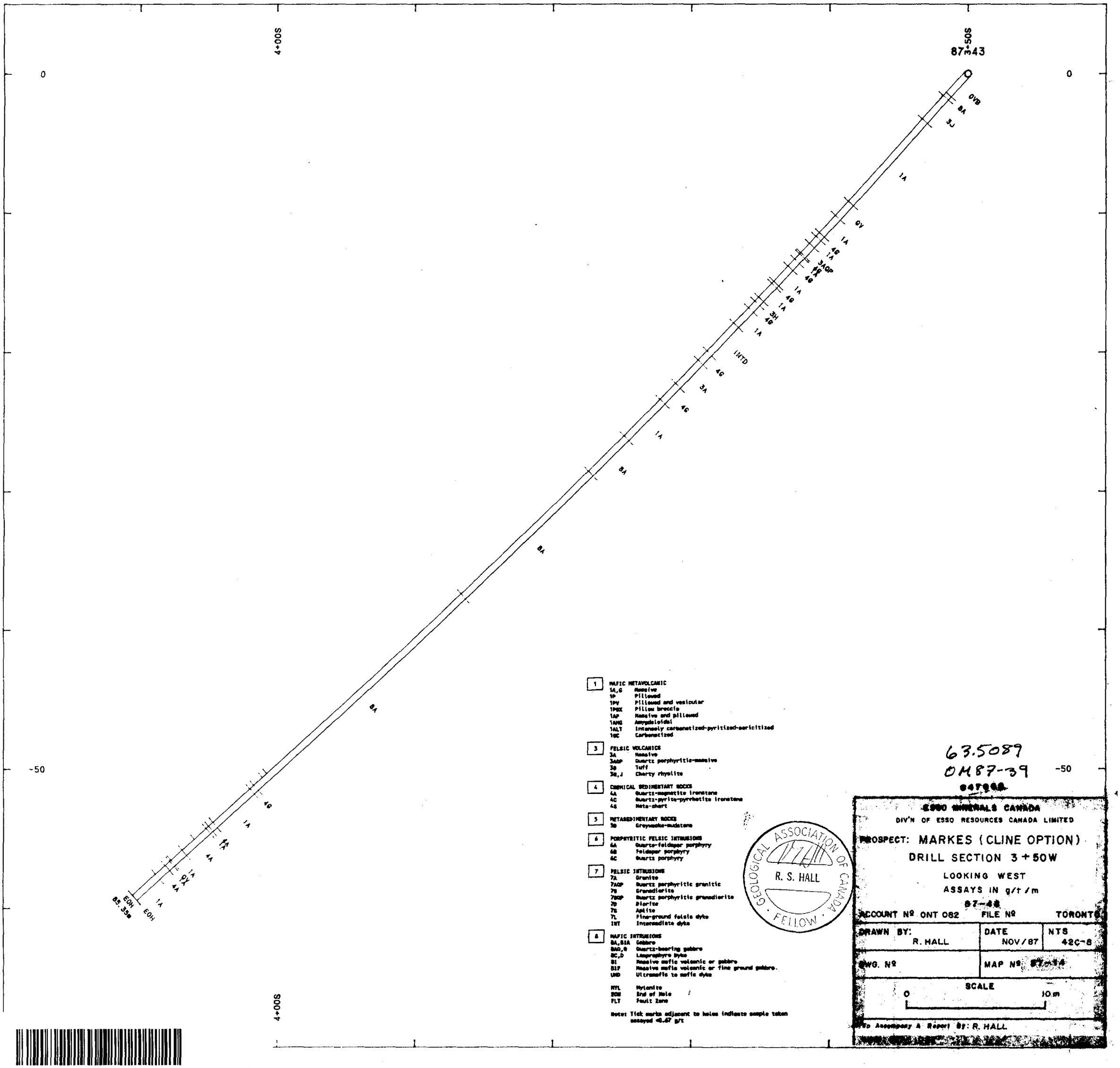
ASSAYS IN g/t / m

ACCOUNT Nº ONT 082	FILE Nº	TORONTO
DRAWN BY: R. HALL	DATE NOV/87	NTS 42C-8
DWG. Nº	MAP Nº 87-16	
SCALE 0 — 10 m		

To Accompany A Report By: R. HALL

Dated: NOV. 1987

240



1 MAFIC METAVOLCANIC
- 1A,G Massive
- 1P Pillowed
- 1PV Pillowed and vesicular
- 1PBX Pillow breccia
- 1AP Massive and pillowed
- 1AMG Amygdaloidal
- 1ALT Intensely carbonatized-pyritized-sericitized
- 1QC Carbonatized

3 FELSIC VOLCANICS
- 3A Massive
- 3AQP Quartz porphyritic-massive
- 3B Tuff
- 3H,J Cherty rhyolite

4 CHEMICAL SEDIMENTARY ROCKS
- 4A Quartz-magnetite ironstone
- 4C Quartz-pyrite-pyrrhotite ironstone
- 4G Meta-chert

5 METASEDIMENTARY ROCKS
- 5B Greywacke-mudstone

6 PORPHYRITIC FELSIC INTRUSIONS
- 6A Quartz-feldspar porphyry
- 6B Feldspar porphyry
- 6C Quartz porphyry

7 FELSIC INTRUSIONS
- 7A Granite
- 7AQP Quartz porphyritic granitic
- 7G Granodiorite
- 7GQP Quartz porphyritic granodiorite
- 7D Diorite
- 7E Aplite
- 7L Fine-ground felsic dyke
- INT Intermediate dyke

8 MAFIC INTRUSIONS
- 8A,8IA Gabbro
- 8AQ,Q Quartz-bearing gabbro
- 8C,D Lamprophyre Dyke
- 8I Massive mafic volcanic or gabbro
- 8IF Massive mafic volcanic or fine ground gabbro.
- UMD Ultramafic to mafic dyke

- MYL Mylonite
- EOH End of Hole
- FLT Fault Zone

Note: Tick marks adjacent to holes indicate sample taken assayed <0.67 g/t

GEOLOGICAL ASSOCIATION OF CANADA
R. S. HALL
FELLOW

63.5089
OM87-39

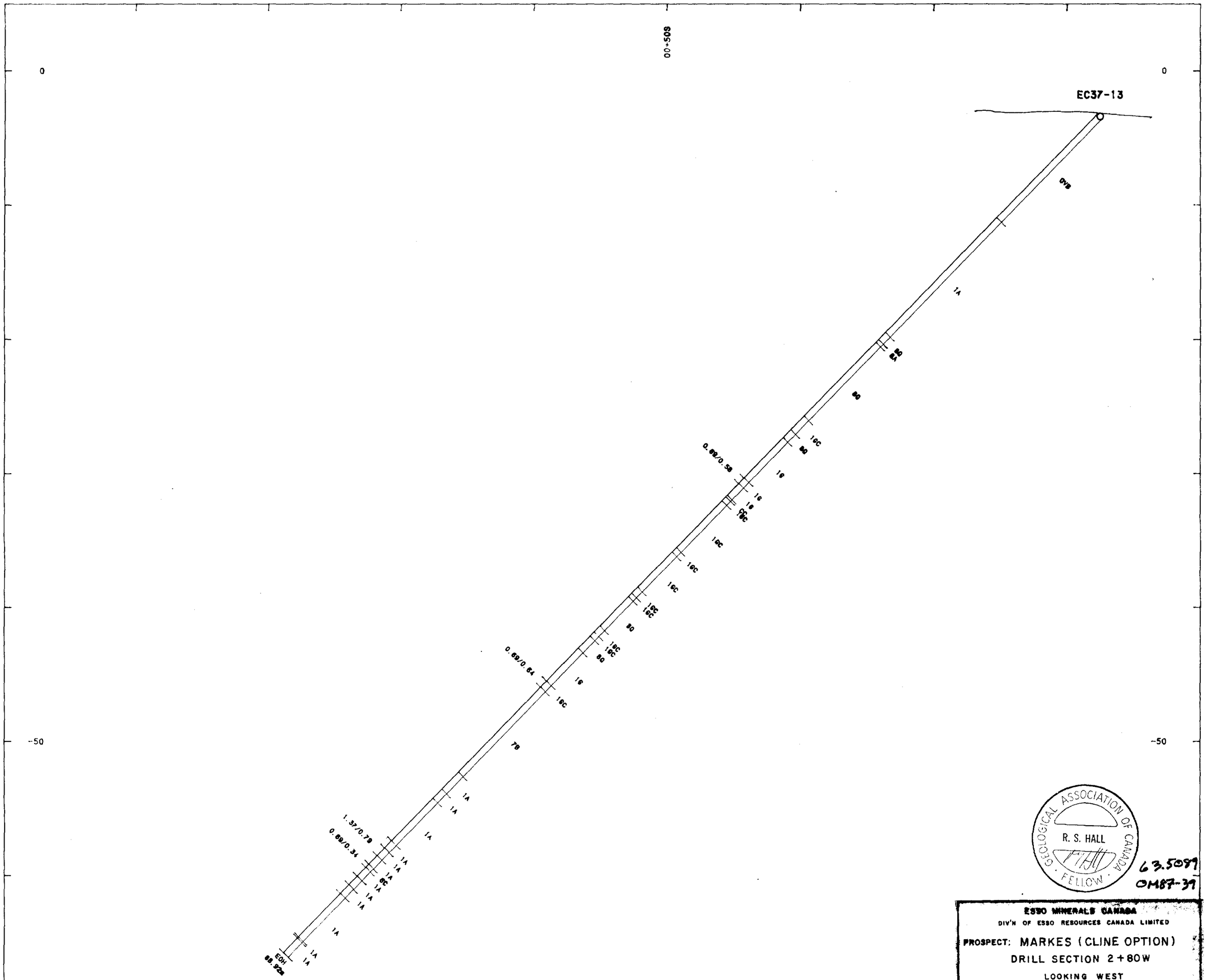
ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

PROSPECT: MARKES (CLINE OPTION)
DRILL SECTION 3+50W
LOOKING WEST
ASSAYS IN g/t / m
87-88

ACCOUNT Nº ONT 082	FILE Nº	TORONTO
DRAWN BY: R. HALL	DATE NOV/87	NTS 42C-8
DWG. Nº	MAP Nº 87-14	

SCALE 0 10m

To Accompany A Report By: R. HALL



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FELLOW

63.5089
OM87-39

ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

PROSPECT: MARKES (CLINE OPTION)
DRILL SECTION 2+80W
LOOKING WEST
ASSAYS IN g/t/m
EC87-13

ACCOUNT Nº ONT 082 FILE Nº TORONTO

DRAWN BY: R. HALL	DATE NOV/87	NTS 42C-8
DWG. Nº	MAP Nº 87-16	

SCALE 0 10m

To Accompany A Report By: R. HALL
Dated: NOV. 1987

63.5087
OM87-37

1 MAFIC METAVOLCANIC
1A,6 Massive
1P Pillowed
1PV Pillowed and vesicular
1PBX Pillow breccia
1AP Massive and pillowed
1AMG Amygdaloidal
1ALT Intensely carbonatized-pyritized-sericitized
1CC Carbonatized

3 FELSIC VOLCANICS
3A Massive
3AQP Quartz porphyritic-massive
3B Tuff
3H,J Cherty rhyolite

4 CHEMICAL SEDIMENTARY ROCKS
4A Quartz-magnetite ironstone
4C Quartz-pyrite-pyrrhotite ironstone
4G Meta-chert

5 METASEDIMENTARY ROCKS
5b Greywacke-mudstone

6 PORPHYRITIC FELSIC INTRUSIONS
6A Quartz-feldspar porphyry
6B Feldspar porphyry
6C Quartz porphyry

7 FELSIC INTRUSIONS
7A Granite
7AQP Quartz porphyritic granitic
7B Granodiorite
7BQP Quartz porphyritic granodiorite
7D Diorite
7G Aplite
7L Fine-grained felsic dyke
INT Intermediate dyke

8 MAFIC INTRUSIONS
8A,81A Gabbro
8AQ,4 Quartz-bearing gabbro
8C,D Lamprophyre Dyke
8E Massive mafic volcanic or gabbro
8EF Massive mafic volcanic or fine grained gabbro
UMD Ultramafic to mafic dyke

MYL Mylonite
EOH End of Hole
FLT Fault Zone

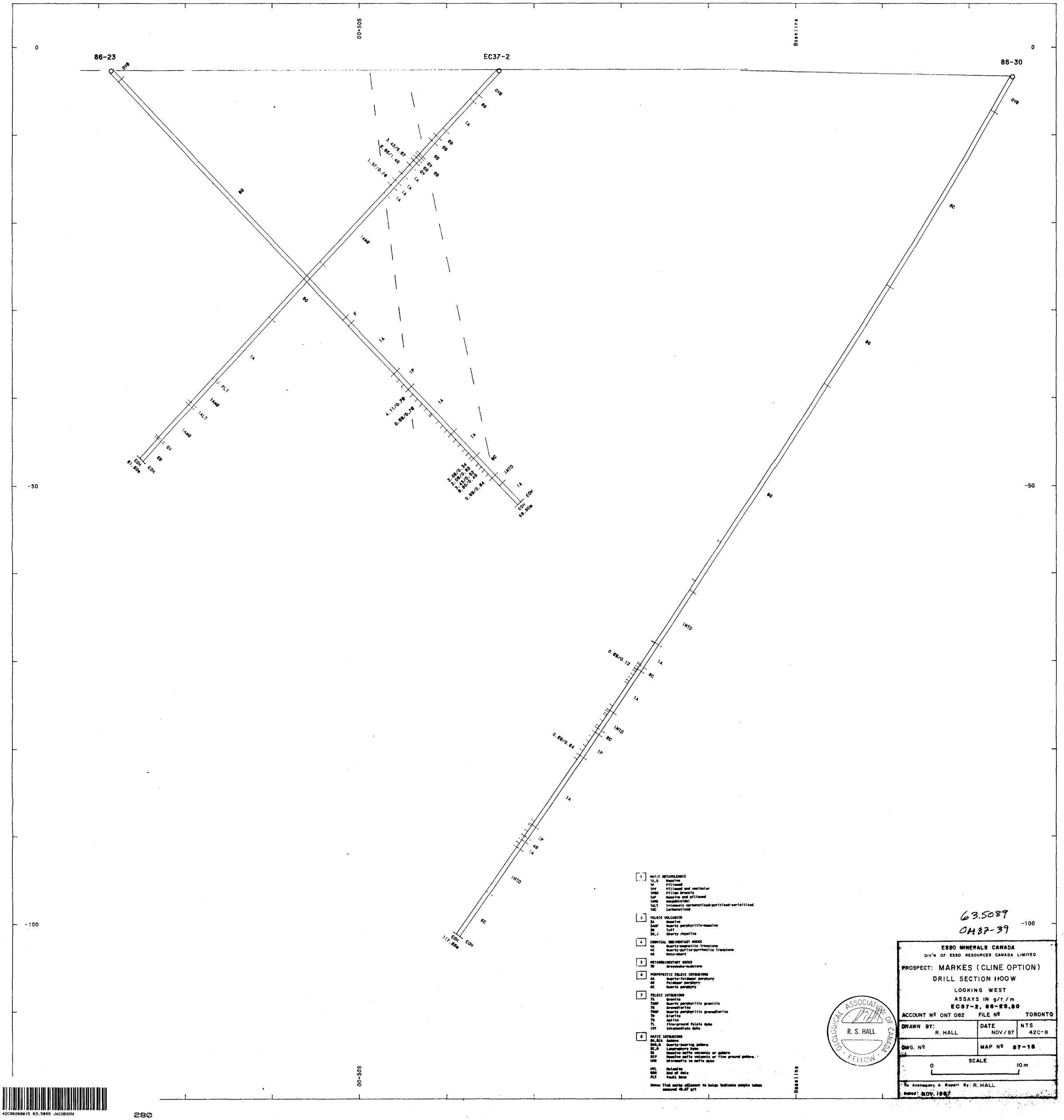
Note: Tick marks adjacent to holes indicate sample taken assayed <0.67 g/t

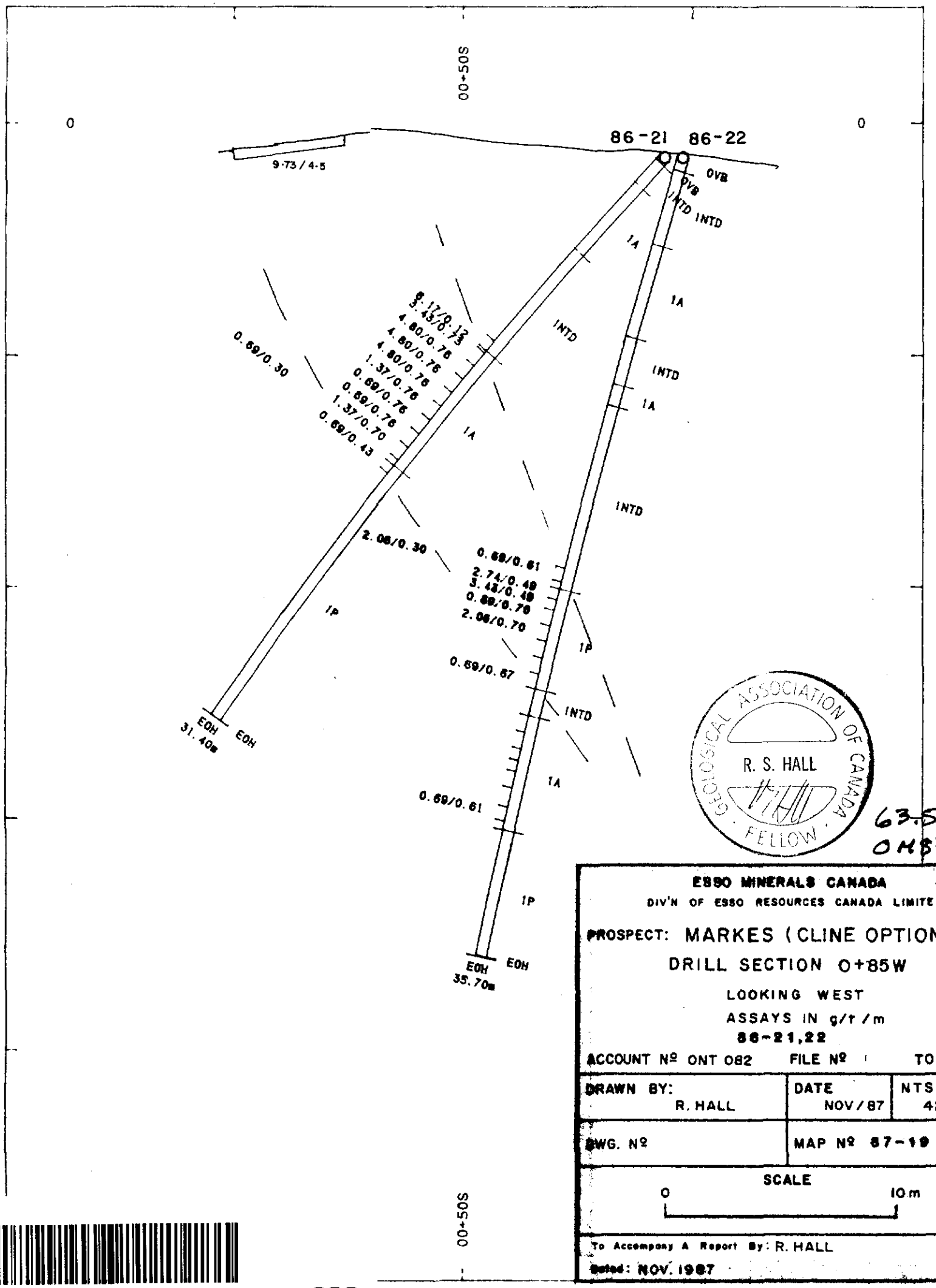
ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED
PROSPECT: MARKES (CLINE OPTION)
DRILL SECTION 420 W
LOOKING WEST
ASSAYS IN g/t/m

ACCOUNT Nº ONT 082	FILE Nº	TORONTO
DRAWN BY: R. HALL	DATE NOV/87	NTS 42C-8
DWG. Nº	MAP Nº	
SCALE 0 — 10 m		

To Accompany A Report By: R. HALL

270





GEOLOGICAL ASSOCIATION OF CANADA
R. S. HALL
FELLOW

63.5089
OM87-39

ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

PROSPECT: MARKES (CLINE OPTION)

DRILL SECTION 0+85W

LOOKING WEST

ASSAYS IN g/t / m

86-21,22

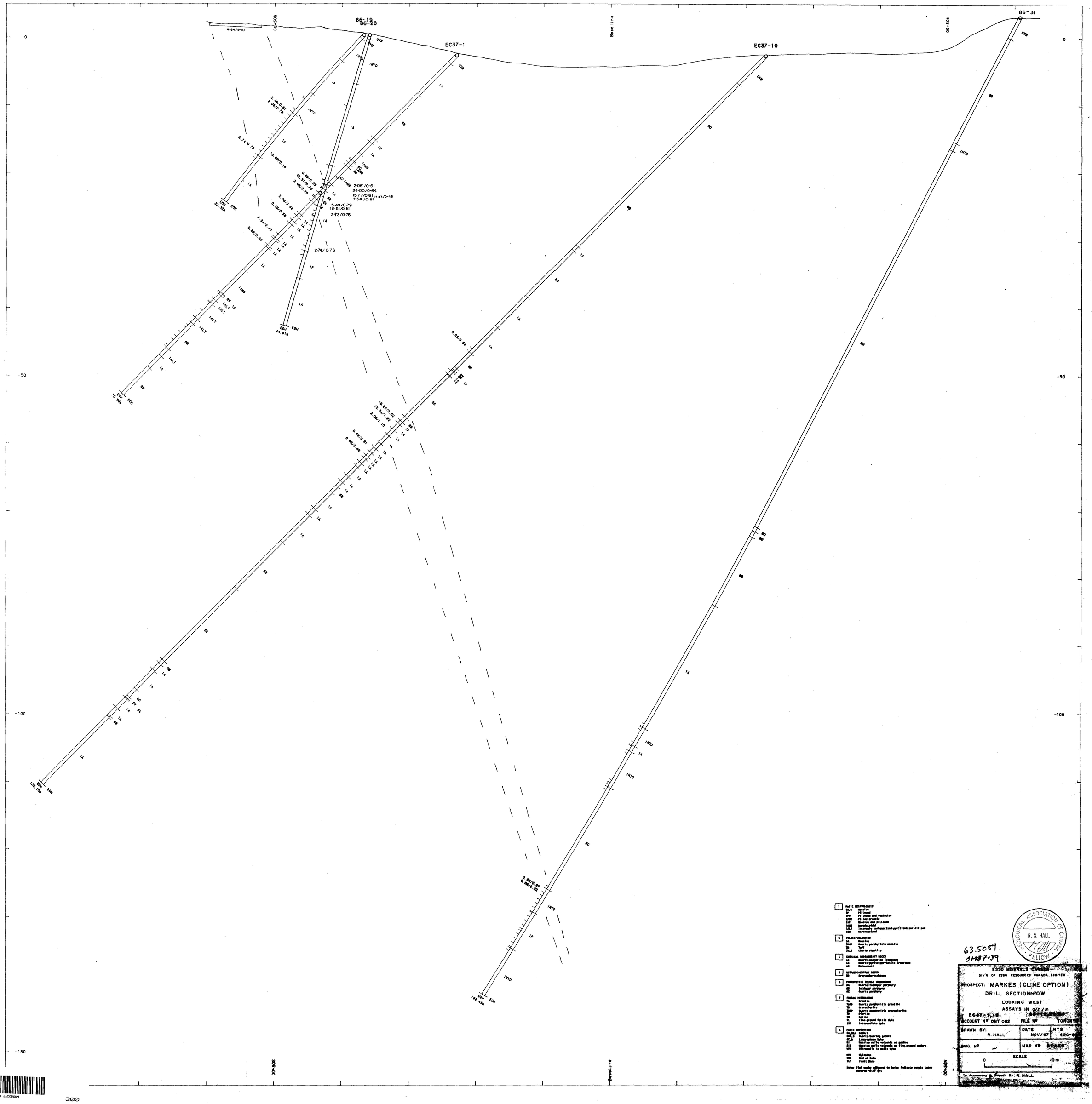
ACCOUNT Nº ONT 082 FILE Nº TORONTO

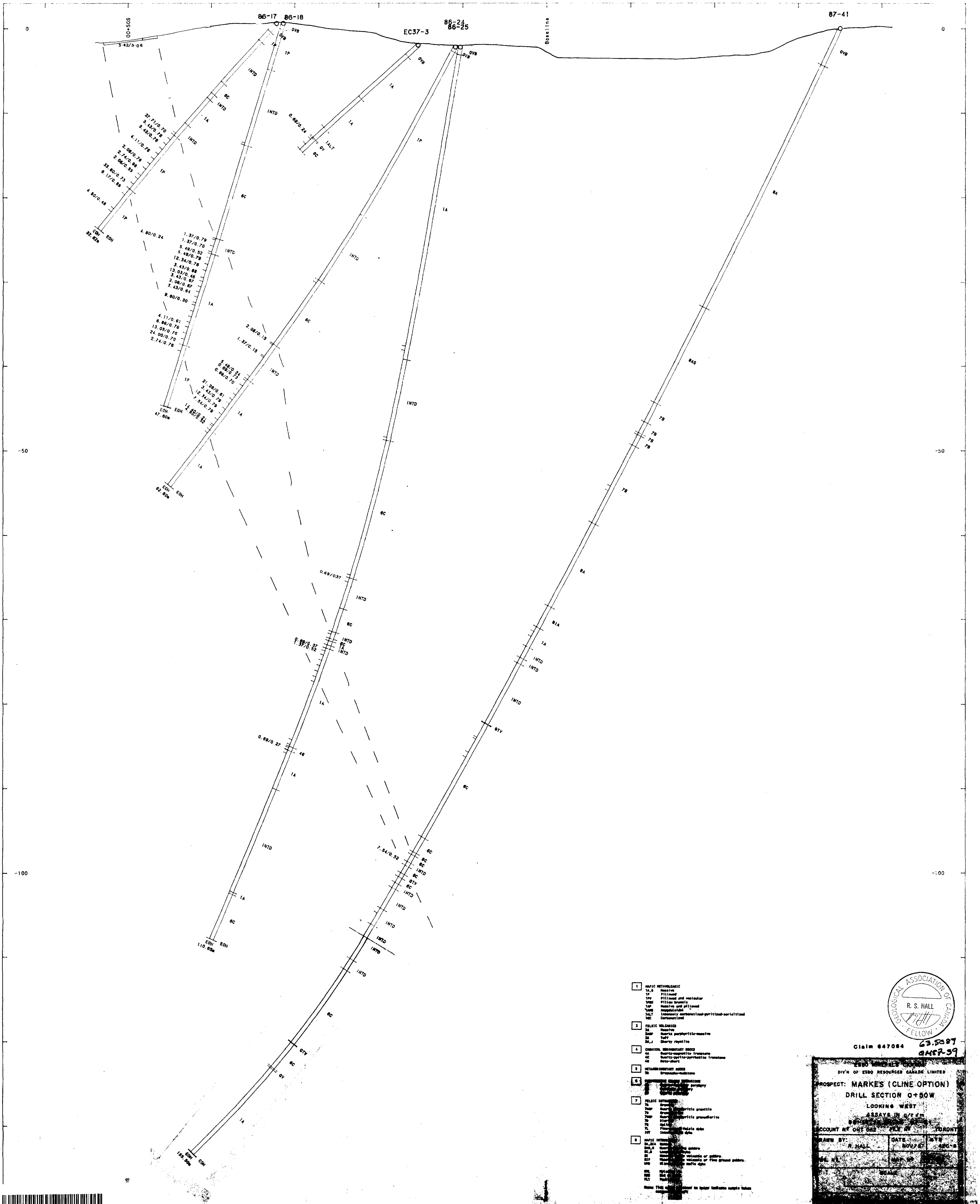
DRAWN BY: R. HALL	DATE NOV/87	NTS 42C-8
DWG. Nº	MAP Nº 87-19	

SCALE 0 — 10 m

To Accompany A Report By: R. HALL

Dated: NOV. 1987





00+50S
3.42/3.06
86-17
86-18
EC37-3
86-24
86-25
Baseline
87-41
0
-50
-100
OVB
1P
INTD
6C
1A
1ALT
QV
8A
8AQ
7B
81A
QTV
4B
37.71/0.70
3.43/0.76
3.43/0.76
4.11/0.76
2.06/0.76
2.74/0.98
2.06/0.55
33.60/0.73
6.17/0.88
4.80/0.46
0.69/0.24
EOH 32.62m
4.80/0.24
1.37/0.79
1.37/0.70
5.49/0.52
5.49/0.79
12.34/0.76
3.43/0.88
13.03/0.46
3.43/0.67
2.06/0.67
3.43/0.64
9.60/0.30
4.11/0.61
6.86/0.76
13.03/0.76
24.00/0.70
2.74/0.76
EOH 47.60m
2.06/0.15
1.37/0.15
5.49/0.24
0.69/0.73
0.69/0.70
21.26/0.61
3.43/0.79
12.34/0.79
7.54/0.79
EOH 62.80m
0.69/0.37
1.37/0.52
0.69/0.27
EOH 110.65m
7.54/0.52
EOH 155.50m
S

1 MAFIC METAVOLCANIC
- 1A,6 Massive
- 1P Pillowed
- 1PV Pillowed and vesicular
- 1PBX Pillow breccia
- 1AP Massive and pillowed
- 1AMG Amygdaloidal
- 1ALT Intensely carbonatized-pyritized-sericitized
- 1OC Carbonatized

3 FELSIC VOLCANICS
- 3A Massive
- 3AQP Quartz porphyritic-massive
- 3B Tuff
- 3E,J Cherty rhyolite

4 CHEMICAL SEDIMENTARY ROCKS
- 4A Quartz-magnetite ironstone
- 4C Quartz-pyrite-pyrrhotite ironstone
- 4B Meta-chert

5 METASEDIMENTARY ROCKS
- 5b Greywacke-mudstone

6

7 FELSIC INTRUSIVES
- 7AQP ... ritic granitic
- 7BQP ... yritic granodiorite

8 MAFIC INTRUSIVES
- 8A,81A
- 8I ... volcanic or gabbro.
- 8IF ... volcanic or fine grained gabbro.

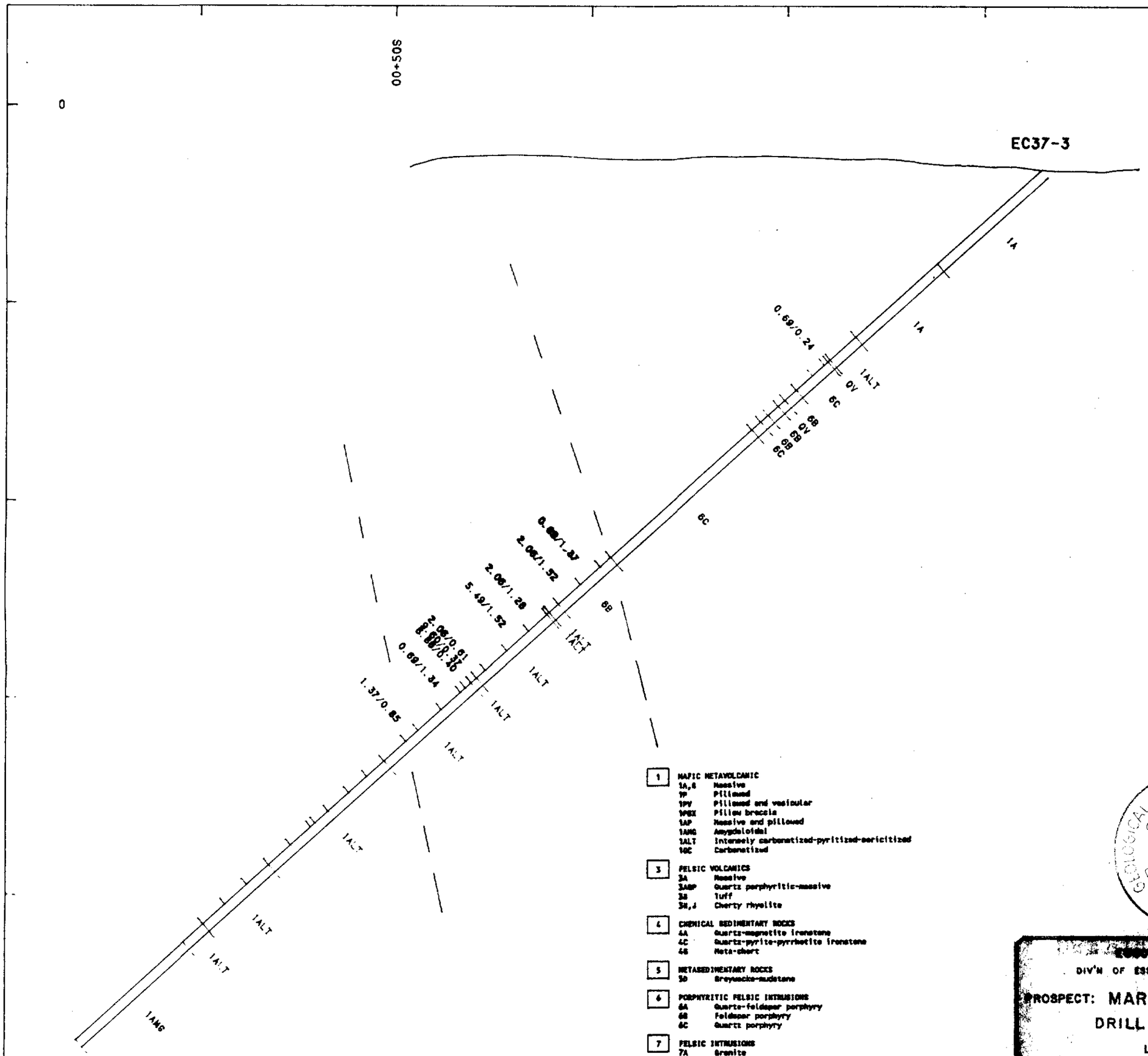
Note: Tick ... to hole indicate sample taken

Claim 647064

63.5089
OM87-39

ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED
PROSPECT: MARKES (CLINE OPTION)
DRILL SECTION 0+50W
LOOKING WEST
ASSAYS IN g/t / m

ACCOUNT Nº ONT 062	FILE Nº	TORONTO
DRAWN BY: R. HALL	DATE NOV/87	NTS 42C-8



1 MAFIC METAVOLCANIC
- 1A,6 Massive
- 1P Pillowed
- 1PV Pillowed and vesicular
- 1PBX Pillow breccia
- 1AP Massive and pillowed
- 1AMG Amygdaloidal
- 1ALT Intensely carbonatized-pyritized-sericitized
- 16C Carbonatized

3 FELSIC VOLCANICS
- 3A Massive
- 3AQP Quartz porphyritic-massive
- 3B Tuff
- 3H,J Cherty rhyolite

4 CHEMICAL SEDIMENTARY ROCKS
- 4A Quartz-magnetite ironstone
- 4C Quartz-pyrite-pyrrhotite ironstone
- 4S Meta-chert

5 METASEDIMENTARY ROCKS
- 5D Greywacke-mudstone

6 PORPHYRITIC FELSIC INTRUSIONS
- 6A Quartz-feldspar porphyry
- 6B Feldspar porphyry
- 6C Quartz porphyry

7 FELSIC INTRUSIONS
- 7A Granite
- 7AQP Quartz porphyritic granitic
- 7B Granodiorite
- 7BQP Quartz porphyritic granodiorite
- 7D Diorite
- 7G Aplite
- 7L Fine-ground felsic dyke
- 1NT Intermediate dyke

8 MAFIC INTRUSIONS
- 8A,81A Gabbro
- 8AQ,8 Quartz-bearing gabbro
- 8C,D Lamprophyre dyke
- 8I Massive mafic volcanic or gabbro
- 81F Massive mafic volcanic or fine ground gabbro.
- 8MD Ultramafic to mafic dyke

- MYL Mylonite
- EOH End of Hole
- FLT Fault Zone

Note: Tick marks adjacent to holes indicate sample taken assayed <0.67 g/t

63.5089
OM87-39

ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

PROSPECT: MARKES (CLINE OPTION)

DRILL SECTION 0+30W

LOOKING WEST

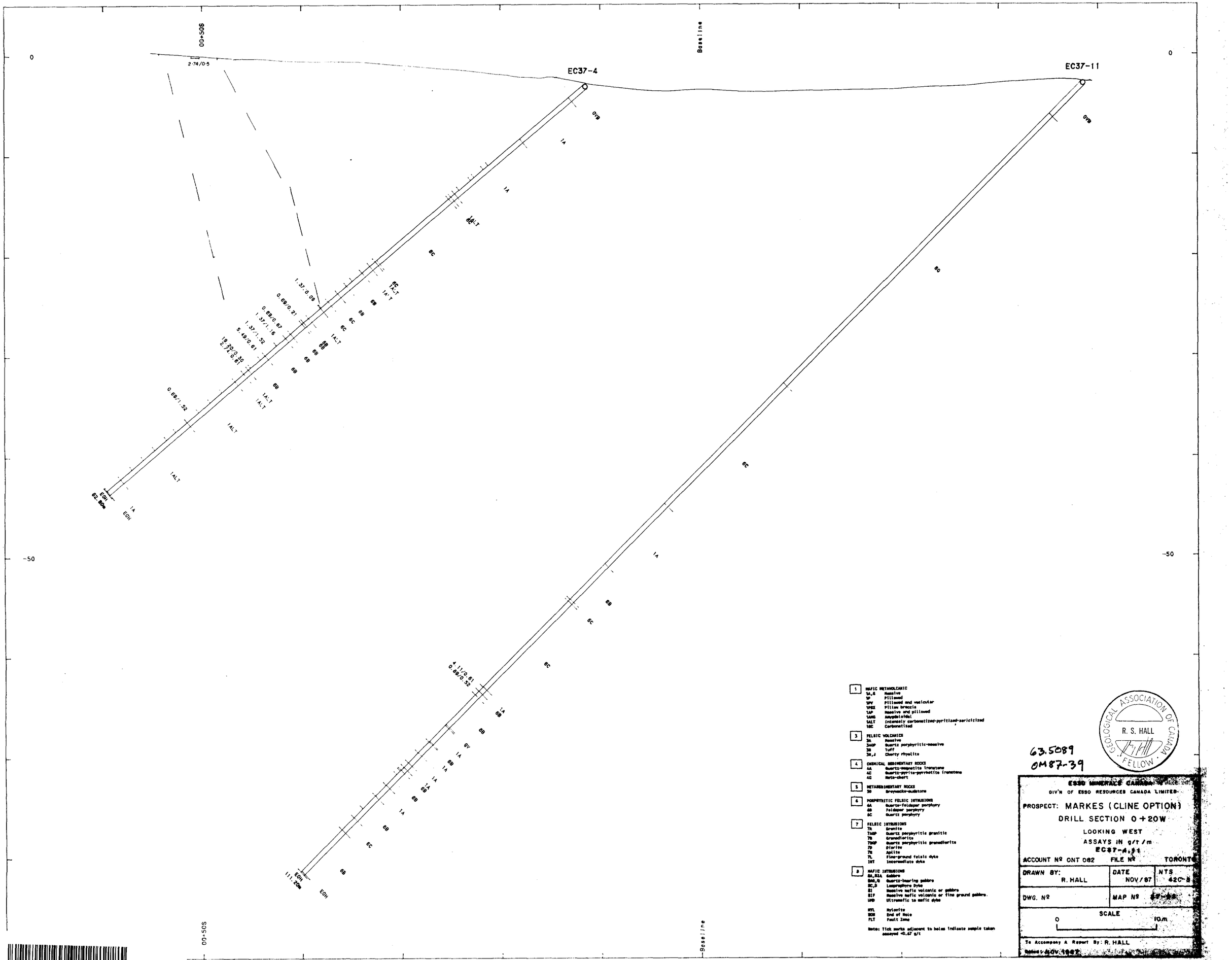
ASSAYS IN g/t / m

ACCOUNT Nº ONT 082 FILE Nº TORONTO

DRAWN BY: R. HALL	DATE NOV/87	NTS 42C-8
DWG. Nº	MAP Nº	

SCALE 0 10m

Compiled & Plotted By: R. HALL



1 MAFIC METAVOLCANIC
- 1A,G Massive
- 1P Pillowed
- 1PV Pillowed and vesicular
- 1PBX Pillow breccia
- 1AP Massive and pillowed
- 1AMB Amygdaloidal
- 1ALT Intensely carbonatized-pyritized-sericitized
- 1BC Carbonatized

3 FELSIC VOLCANICS
- 3A Massive
- 3AQP Quartz porphyritic-massive
- 3B Tuff
- 3H,J Cherty rhyolite

4 CHEMICAL SEDIMENTARY ROCKS
- 4A Quartz-magnetite ironstone
- 4C Quartz-pyrite-pyrrhotite ironstone
- 4G Meta-chert

5 METASEDIMENTARY ROCKS
- 5D Greywacke-mudstone

6 PORPHYRITIC FELSIC INTRUSIONS
- 6A Quartz-feldspar porphyry
- 6B Feldspar porphyry
- 6C Quartz porphyry

7 FELSIC INTRUSIONS
- 7A Granite
- 7AQP Quartz porphyritic granite
- 7B Granodiorite
- 7BQP Quartz porphyritic granodiorite
- 7D Diorite
- 7E Aplite
- 7L Fine-grained felsic dyke
- 7MT Intermediate dyke

8 MAFIC INTRUSIONS
- 8A,B1A Gabbro
- 8AQ,G Quartz-bearing gabbro
- 8C,D Lamprophyre Dyke
- 8I Massive mafic volcanic or gabbro
- 8IF Massive mafic volcanic or fine ground gabbro.
- 8MD Ultramafic to mafic dyke

- MYL Mylonite
- EOH End of Hole
- FLT Fault Zone

Note: Tick marks adjacent to holes indicate sample taken assayed <0.67 g/t

63.5089
OM87-39

GEOLOGICAL ASSOCIATION OF CANADA
R. S. HALL
FELLOW

ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

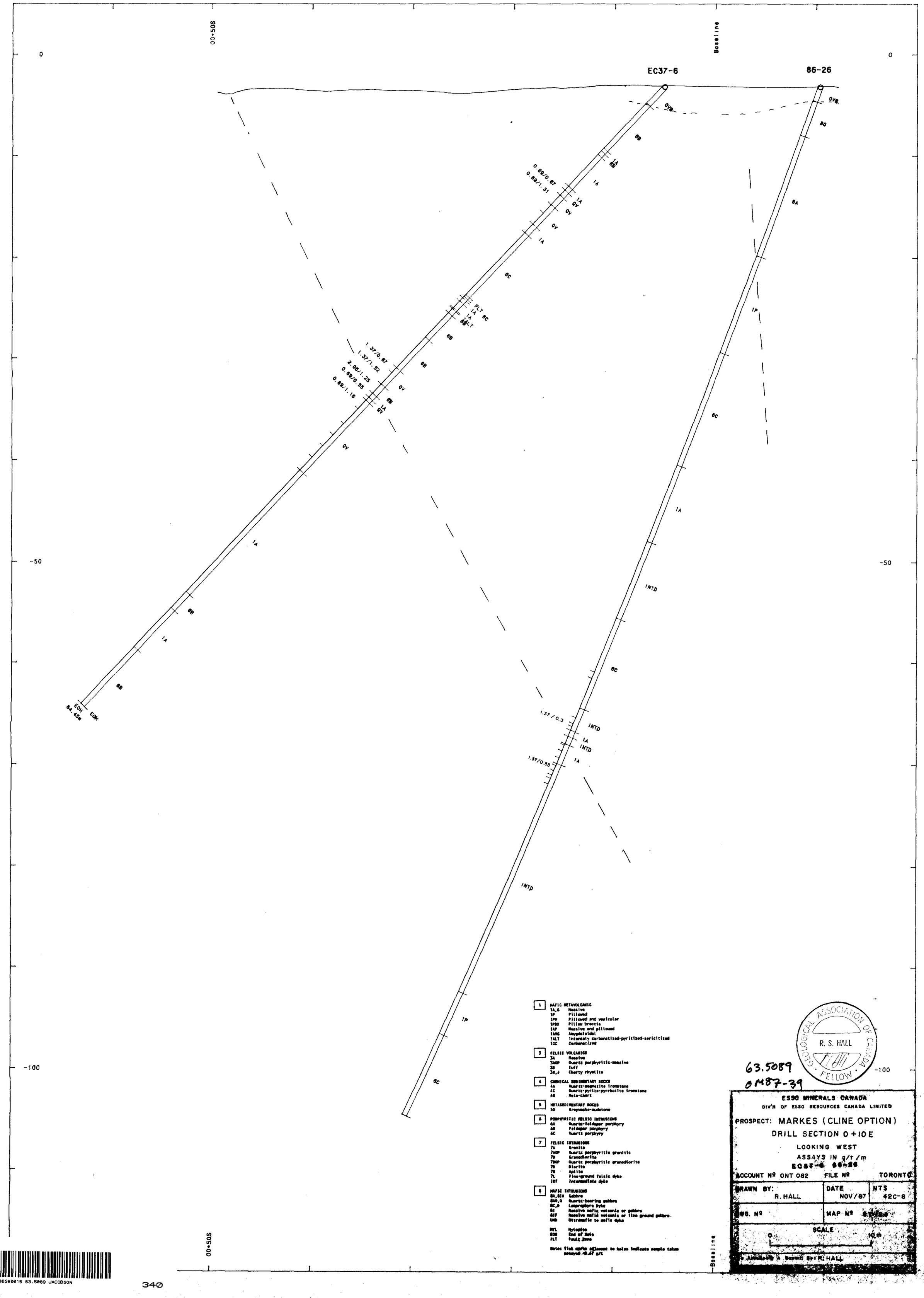
PROSPECT: MARKES (CLINE OPTION)
DRILL SECTION 0+20W
LOOKING WEST
ASSAYS IN g/t/m
EC87-4,11

ACCOUNT Nº ONT 082 FILE Nº TORONTO

DRAWN BY: R. HALL	DATE NOV/87	NTS 42C-8
DWG. Nº	MAP Nº	

SCALE 0 10m

To Accompany A Report By: R. HALL
Dated: NOV 1987



63.5089
OM87-39

Claim 647064

GEOLOGICAL ASSOCIATION OF CANADA
R. S. HALL
FELLOW

ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

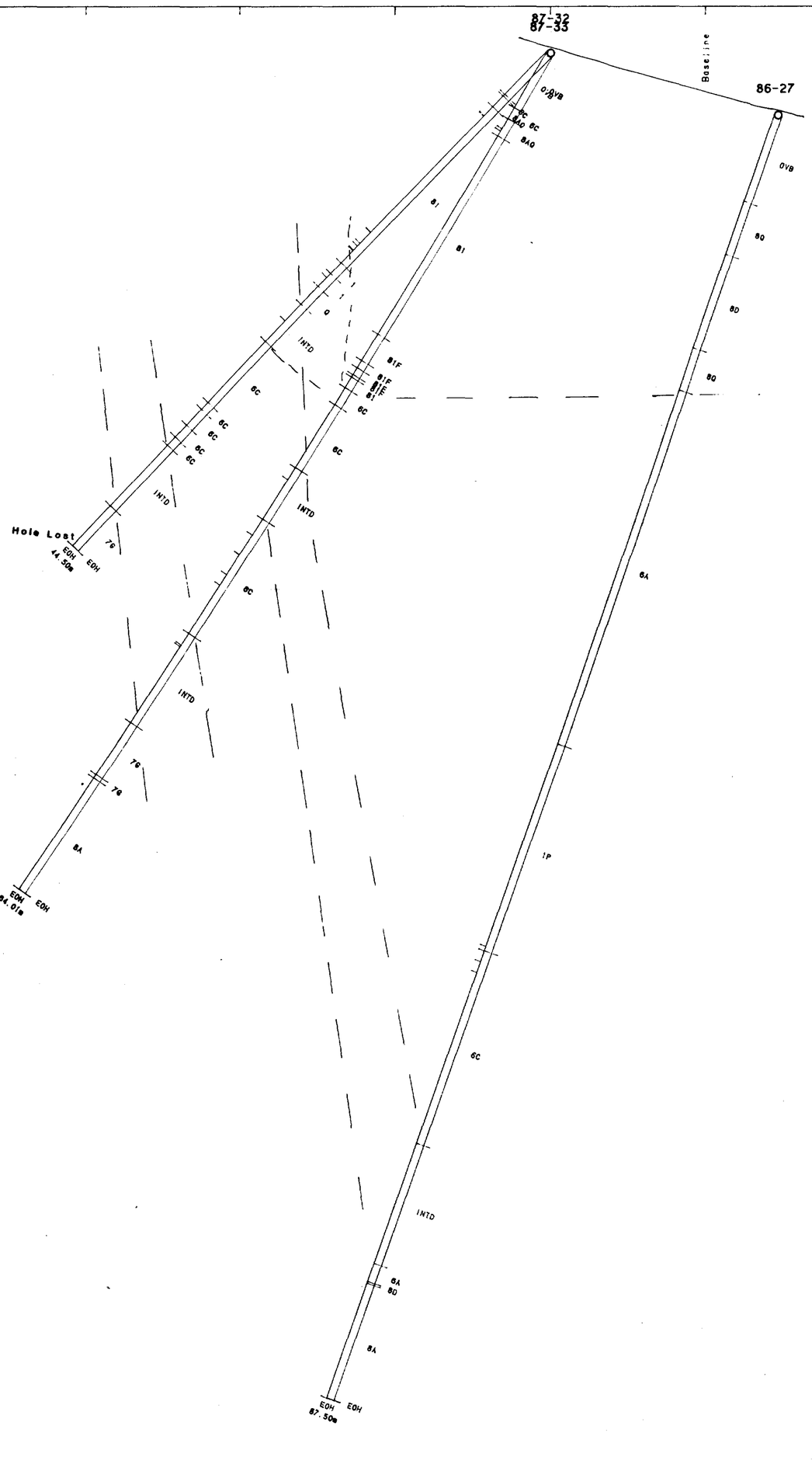
PROSPECT: MARKES (CLINE OPTION)
DRILL SECTION 0+40E
LOOKING WEST
ASSAYS IN g/t / m
EC87-7 87-40

ACCOUNT Nº ONT 082 FILE Nº TORONTO

DRAWN BY:	DATE	NTS
R. HALL	NOV/87	42C-8
DWG. Nº	MAP Nº	87-25

SCALE
0 10 m

To Accompany A Report By: R. HALL
Dated: NOV. 1987



1 MAFIC METAVOLCANIC
- 1A,6 Massive
- 1P Pillowed
- 1PV Pillowed and vesicular
- 1PBX Pillow breccia
- 1AP Massive and pillowed
- 1AMB Amygdaloidal
- 1ALT Intensely carbonated-pyritized-sericitized
- 1GC Carbonatized

3 FELSIC VOLCANICS
- 3A Massive
- 3AQP Quartz porphyritic-massive
- 3T Tuff
- 3H,J Cherty rhyolite

6 CHEMICAL SEDIMENTARY ROCKS
- 6A Quartz-magnetite ironstone
- 6C Quartz-pyrite-pyrrhotite ironstone
- 6D Meta-chert

8 METAMORPHOSED ROCKS
- 8Q Orthoquartzite-quartzose

8 PORPHYRITIC FELSIC INTRUSIONS
- 8A Quartz-feldspar porphyry
- 8D Feldspar porphyry
- 8Q Quartz porphyry

7 FELSIC INTRUSIONS
- 7A Albitite
- 7AQP Quartz porphyritic granitic
- 7G Granodiorite
- 7GQP Quartz porphyritic granodiorite
- 7P Pegmatite
- 7S Aplite
- 7V Fine-grained felsic dyke
- INT Intermediate dyke

8 MAFIC INTRUSIONS
- 8A,8M Gabbro
- 8AQ,M Quartz-bearing gabbro
- 8C,M Lamprophyre dyke
- 8I Massive mafic volcanic or gabbro
- 8IF Massive mafic volcanic or fine grained gabbro
- 8M Intermediate to mafic dyke

- 8N Diorite
- 8SE Sill of dyke
- 8U Basalt dyke

Note: Rock names adjacent to basic indicate mafic rock
Numbers in brackets

Baseline

42C085W0015 63.5089 JACOBSON

360

635089
OM87-39

GEOLOGICAL ASSOCIATION OF CANADA
R. S. HALL
FELLOW

Claim 635089

ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

PROSPECT: MARKES (CLINE OPTION)

DRILL SECTION 0+80E

LOOKING WEST

ASSAYS IN g/t / m

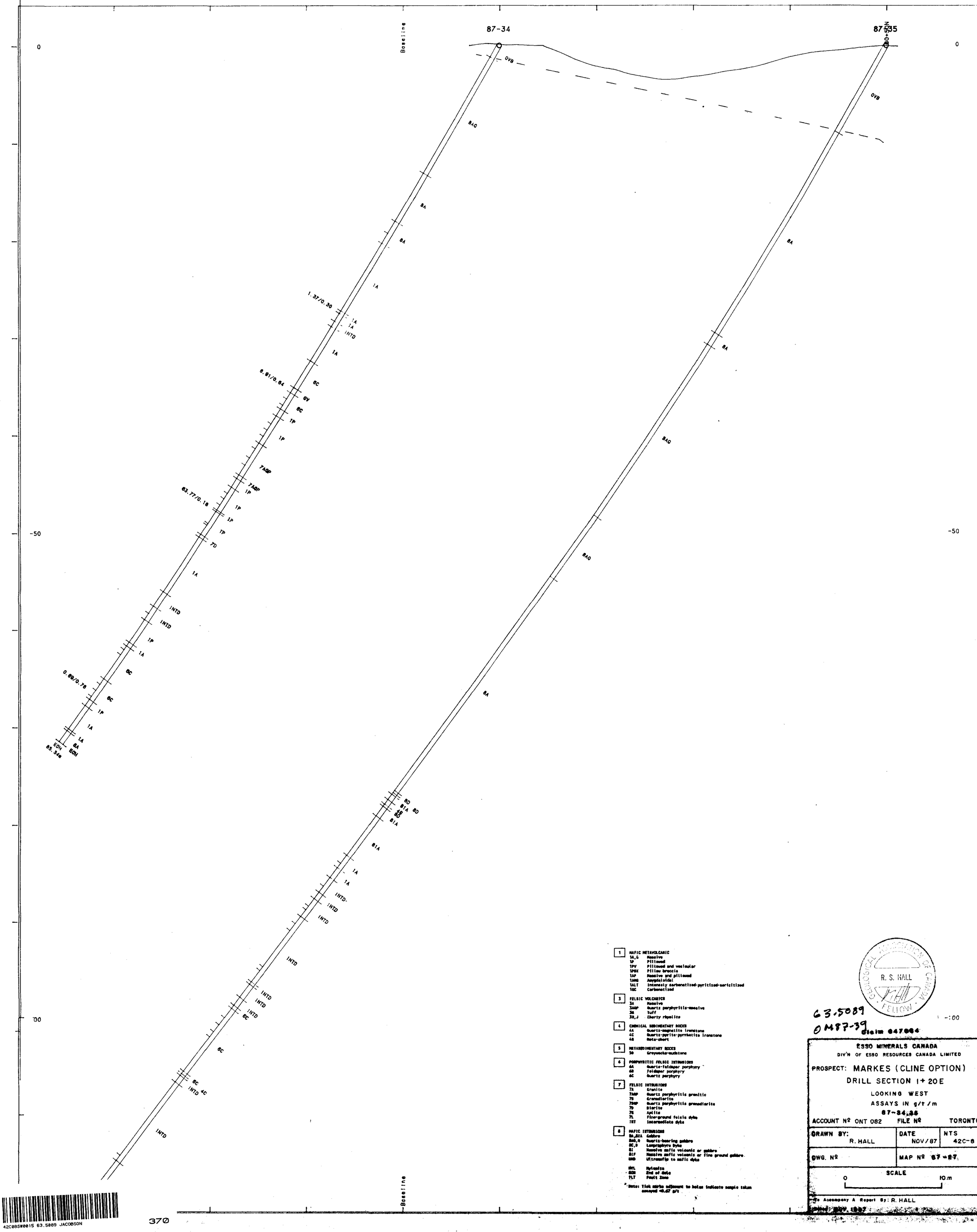
Cu-Ni: 87-32,33

ACCOUNT Nº ONT 082. FILE Nº TORONTO

DRAWN BY: R. HALL	DATE NOV/87	NTS 42C-8
DWG. Nº	MAP Nº 87-35	

SCALE 0 10m

To Accompany A Report By: R. HALL



1	MAFIC METAVOLCANIC
	1A,G Massive
	1P Pillowed
	1PV Pillowed and vesicular
	1PBX Pillow breccia
	1AP Massive and pillowed
	1AMG Amygdaloidal
	1ALT Intensely carbonatized-pyritized-sericitized
	1QC Carbonatized
3	FELSIC VOLCANICS
	3A Massive
	3AQP Quartz porphyritic-massive
	3B Tuff
	3B,J Cherty rhyolite
4	CHEMICAL SEDIMENTARY ROCKS
	4A Quartz-magnetite ironstone
	4C Quartz-pyrite-pyrrhotite ironstone
	4B Meta-chert
5	METASEDIMENTARY ROCKS
	5D Greywacke-mudstone
6	PORPHYRITIC FELSIC INTRUSIONS
	6A Quartz-feldspar porphyry
	6B Feldspar porphyry
	6C Quartz porphyry
7	FELSIC INTRUSIONS
	7A Granite
	7AQP Quartz porphyritic granitic
	7B Granodiorite
	7BQP Quartz porphyritic granodiorite
	7D Diorite
	7E Aplite
	7L Fine-ground felsic dyke
	INT Intermediate dyke
8	MAFIC INTRUSIONS
	8A,81A Gabbro
	8AQ,Q Quartz-bearing gabbro
	8C,D Lamprophyre Dyke
	8I Massive mafic volcanic or gabbro
	81F Massive mafic volcanic or fine ground gabbro
	8MD Ultramafic to mafic dyke
	MYL Mylonite
	EOH End of Hole
	FLT Fault Zone

* Note: Tick marks adjacent to holes indicate sample taken assayed <0.07 g/t

GEOLOGICAL ASSOCIATION OF CANADA
R. S. HALL
FELLOW

63.5089
OM87-39 Claim 647064

ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

PROSPECT: MARKES (CLINE OPTION)

DRILL SECTION 1+20E

LOOKING WEST

ASSAYS IN g/T / m

87-34,35

ACCOUNT Nº ONT 082 FILE Nº TORONTO

DRAWN BY: R. HALL	DATE NOV/87	NTS 42C-8
DWG. Nº	MAP Nº 87-87	

SCALE 0 10.m

To Accompany A Report By: R. HALL

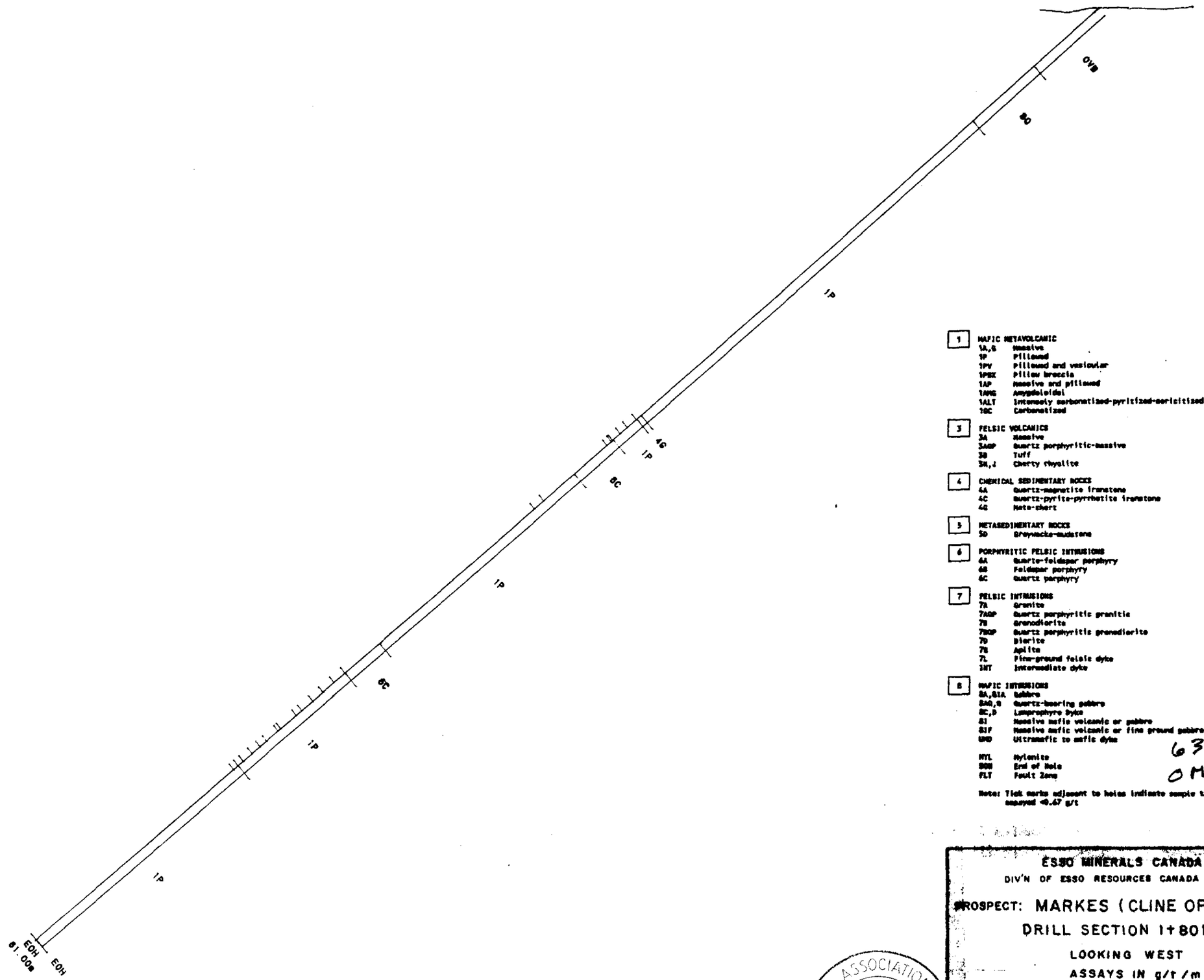
Date: NOV. 1987

Baseline

0

0

81-14 (J-7)



50

-50

1 MAFIC METAVOLCANIC
1A,G Massive
1P Pillowed
1PV Pillowed and vesicular
1PBX Pillow breccia
1AP Massive and pillowed
1AMG Amygdaloidal
1ALT Intensely carbonatized-pyritized-sericitized
1BC Carbonatized

3 FELSIC VOLCANICS
3A Massive
3AQP Quartz porphyritic-massive
3B Tuff
3H,J Cherty rhyolite

4 CHEMICAL SEDIMENTARY ROCKS
4A Quartz-magnetite ironstone
4C Quartz-pyrite-pyrrhotite ironstone
4G Mate-chert

5 METASEDIMENTARY ROCKS
5D Greywacke-mudstone

6 PORPHYRITIC FELSIC INTRUSIONS
6A Quartz-feldspar porphyry
6B Feldspar porphyry
6C Quartz porphyry

7 FELSIC INTRUSIONS
7A Granite
7AQP Quartz porphyritic granitic
7D Granodiorite
7DQP Quartz porphyritic granodiorite
7D Diorite
7E Aplite
7L Fine-ground felsic dyke
INT Intermediate dyke

8 MAFIC INTRUSIONS
8A,81A Gabbro
8AQ,B Quartz-bearing gabbro
8C,D Lamprophyre Dyke
8I Massive mafic volcanic or gabbro
81F Massive mafic volcanic or fine ground gabbro
UMD Ultramafic to mafic dyke

MYL Mylonite
EOH End of Hole
FLT Fault Zone

Note: Tick marks adjacent to holes indicate sample taken
assayed <0.67 g/t

63.5089
OM87-39

ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

PROSPECT: MARKES (CLINE OPTION)

DRILL SECTION 1+80E

LOOKING WEST

ASSAYS IN g/t / m

81-14 (J7)

ACCOUNT Nº ONT 082 FILE Nº TORONTO

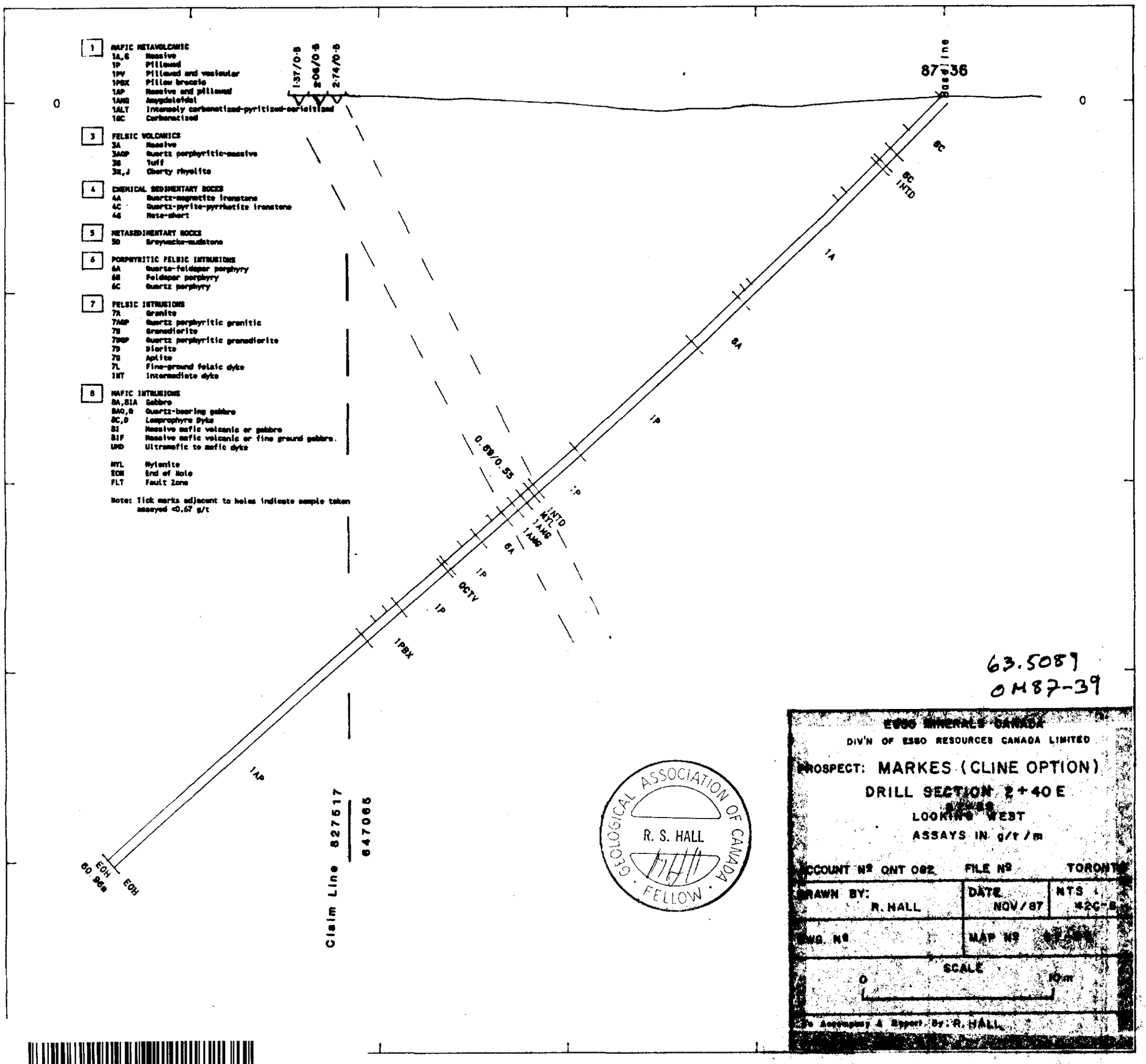
DRAWN BY: R. HALL	DATE NOV/87	NTS 42C-8
DWG. Nº	MAP Nº 87-28	

SCALE 0 10 m

Accompany A Report By: R. HALL

GEOLOGICAL ASSOCIATION OF CANADA · FELLOW · R. S. HALL

Baseline



0

00+50S

Baseline

00+50N

0

87-28

-50

-50

Claim Line 647065

827517

End of 1986 Drilling

EOH 130.30m

EOH

-100

-100

Baseline

400

42C08SW0015 63.5089 JACOBSON

1 MAFIC METAMORPHIC
MM Massive
PM Pillowed
PMV Pillowed and vesicular
PMB Pillow breccia
MAP Massive and pillowed
AMPH Amygdaloidal
MALT Intensely carbonated-pyritized-sericitized
MC Carbonated

3 FELSIC VOLCANICS
FA Massive
FPOR Quartz porphyritic-massive
FT Tuff
FM,I Chert magnetite

4 CHEMICAL SEDIMENTARY ROCKS
CA Quartz-magnetite ironstone
CC Quartz-pyrite-pyrrhotite ironstone
CG Nore-chert

5 METASEDIMENTARY ROCKS
SD Greywacke-mudstone

6 PORPHYRITIC FELSIC INTRUSIONS
QFP Quartz-feldspar porphyry
FDP Feldspar porphyry
QP Quartz porphyry

7 FELSIC INTRUSIONS
FA Aplite
FPOR Quartz porphyritic granite
FG Granodiorite
FPOR Quartz porphyritic granodiorite
FPG Diorite
FA Aplite
FM Fine-grained felsic dyke
INT Intermediate dyke

8 MAFIC INTRUSIONS
MA,MA Gabbro
MOR,M Quartz-bearing gabbro
MP,M Lamprophyre dyke
MA Massive mafic volcanic or gabbro
MB Fine mafic volcanic or fine grained gabbro
MM Chloritized to mafic dyke

MP Ultramafic
MSP Mafic dyke
QV Quartz vein

Veins with varying proportions of milky bullseye quartz, chlorite, carbonate and pyrite

GEOLOGICAL ASSOCIATION OF CANADA
R. S. HALL
FELLOW

63.5089
OM87-39

DIV'N OF ESSO RESOURCES CANADA LIMITED

PROSPECT: MARKES (CLINE OPTION)

DRILL SECTION 2+50E

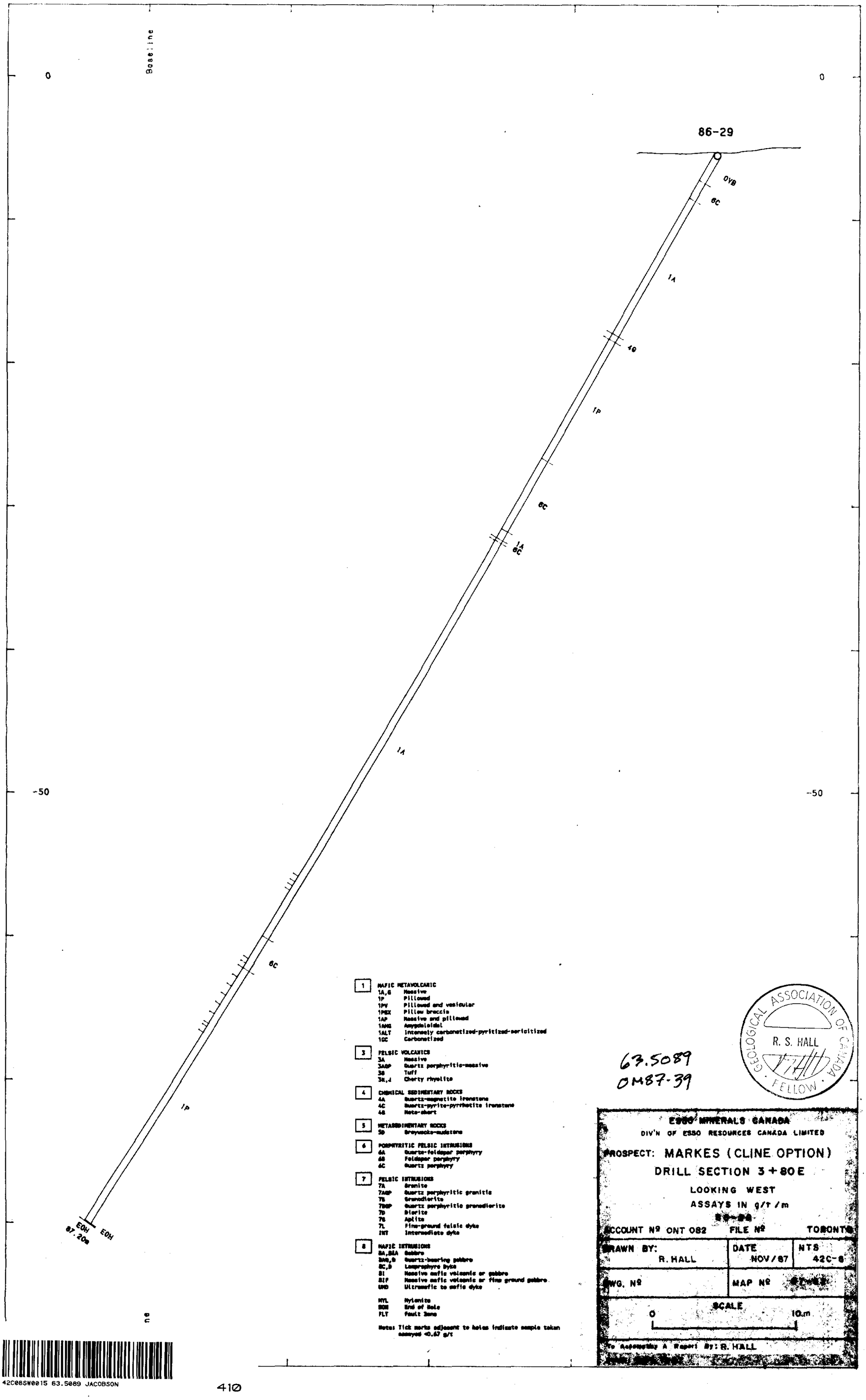
LOOKING WEST

ASSAYS IN g/t Au

ACCOUNT NO ONT 088 FILE NO

DRAWN BY R. HALL DATE NOV/87 NTS

NO. OF WHAT



1 MAFIC METAVOLCANIC
- 1A,G Massive
- 1P Pillowed
- 1PV Pillowed and vesicular
- 1PBX Pillow breccia
- 1AP Massive and pillowed
- 1AMG Amygdaloidal
- 1ALT Intensely carbonatized-pyritized-sericitized
- 1CC Carbonatized

3 FELSIC VOLCANICS
- 3A Massive
- 3AQP Quartz porphyritic-massive
- 3B Tuff
- 3H,J Cherty rhyolite

4 CHEMICAL SEDIMENTARY ROCKS
- 4A Quartz-magnetite ironstone
- 4C Quartz-pyrite-pyrrhotite ironstone
- 4B Meta-chert

5 METASEDIMENTARY ROCKS
- 5D Greywacke-mudstone

6 PORPHYRITIC FELSIC INTRUSIONS
- 6A Quartz-feldspar porphyry
- 6B Feldspar porphyry
- 6C Quartz porphyry

7 FELSIC INTRUSIONS
- 7A Granite
- 7AQP Quartz porphyritic granite
- 7G Granodiorite
- 7GQP Quartz porphyritic granodiorite
- 7D Diorite
- 7K Aplite
- 7L Fine-ground felsic dyke
- INT Intermediate dyke

8 MAFIC INTRUSIONS
- 8A,8GA Gabbro
- 8AQ,B Quartz-bearing gabbro
- 8C,D Lamprophyre Dyke
- 8I Massive mafic volcanic or gabbro
- 8IF Massive mafic volcanic or fine ground gabbro
- UMD Ultramafic to mafic dyke

- MYL Mylonite
- EOH End of Hole
- FLT Fault Zone

Note: Tick marks adjacent to holes indicate sample taken assayed <0.67 g/t

63.5089
OM87-39

ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

PROSPECT: MARKES (CLINE OPTION)

DRILL SECTION 3+80E

LOOKING WEST

ASSAYS IN g/t / m

86-29

ACCOUNT Nº ONT 082 FILE Nº TORONTO

DRAWN BY: R. HALL	DATE NOV/87	NTS 42C-8
DWG. Nº	MAP Nº	

SCALE 0 10m

To Accompany A Report By: R. HALL

63.5089
ON87-39

ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

PROSPECT: MARKES (CLINE OPTION)

DRILL SECTION 3+20E

LOOKING WEST

ASSAYS IN g/t / m

87-38, 87-39

ACCOUNT Nº ONT 082 FILE Nº TORONTO

DRAWN BY: R. HALL | DATE NOV/87 | NTS 42C-8

DWG. Nº | MAP Nº 87-

SCALE 0 10m

To Accompany A Report By: R. HALL
Dated: NOV. 1987

ASSOCIATION OF CANADA
R. S. HALL
GEOLOGICAL

1 MAFIC METAVOLCANIC
1A,G Massive
1P Pillowed and vesicular
1PBX Pillow breccia
1AP Massive and pillowed
1AMD Intermediate dyke
1AWC Intensely carbonatized-pyritized-sericitized
1CC Carbonatized

2 FELSIC VOLCANICS
2A Massive
2AQP Quartz porphyritic-massive
2K,J Cherty rhyolite

3 CHEMICAL SEDIMENTARY ROCKS
4J Quartz-pyritic-pyrrhotite ironstone
4C Metachert

4 METASEDIMENTARY ROCKS
5G Greywacke-mudstone

5 PORPHYRITIC FELSIC INTRUSIONS
6A Quartz-feldspar porphyry
6B Feldspar porphyry
6C Quartz porphyry

6 FELSIC INTRUSIONS
7A Granite
7AQP Quartz porphyritic granite
7B Granodiorite
7BQP Quartz porphyritic granodiorite
7D Aplite
7L Fine-ground felsic dyke
7MT Intermediate dyke

7 MAFIC INTRUSIONS
8A,B1A Gabbro
8AG,A Gabbro-hosting gabbro
8C,D Lamprophyre Dyke
8I Massive mafic volcanic or gabbro
8IV Intermediate to mafic dyke
8MU Ultramafic to mafic dyke

8 PEGMATITE
8PL Pegmatite
8QT Quartz-tourmaline
8QV Quartz vein
8VL Fault Zone

Notes: Tick marks adjacent to holes indicate sample taken
downhole at 10.67 m

N

2+80W 2+40W 2+00W 1+60W 1+20W 0+80W 0+40W 0+00 0+40E 0+80E 1+20E 1+60E 2+00E 2+40E 2+80E 3+20E 3+60E 4+00E 4+40E 4+80E 5+20E

BASELINE

Markes Occurrence
(see detail map for sample locations)

1.37 31836
0.68 31835
2.74 31833
2.06 31832
1.37 31831

647065
827517

647064
827515

647066

BASELINE

DRILL ROAD
STRIPPED AREA (1987)
STRIPPED AREA (1986)

R. S. HALL
GEOLOGICAL ASSOCIATION OF CANADA
FELLOW

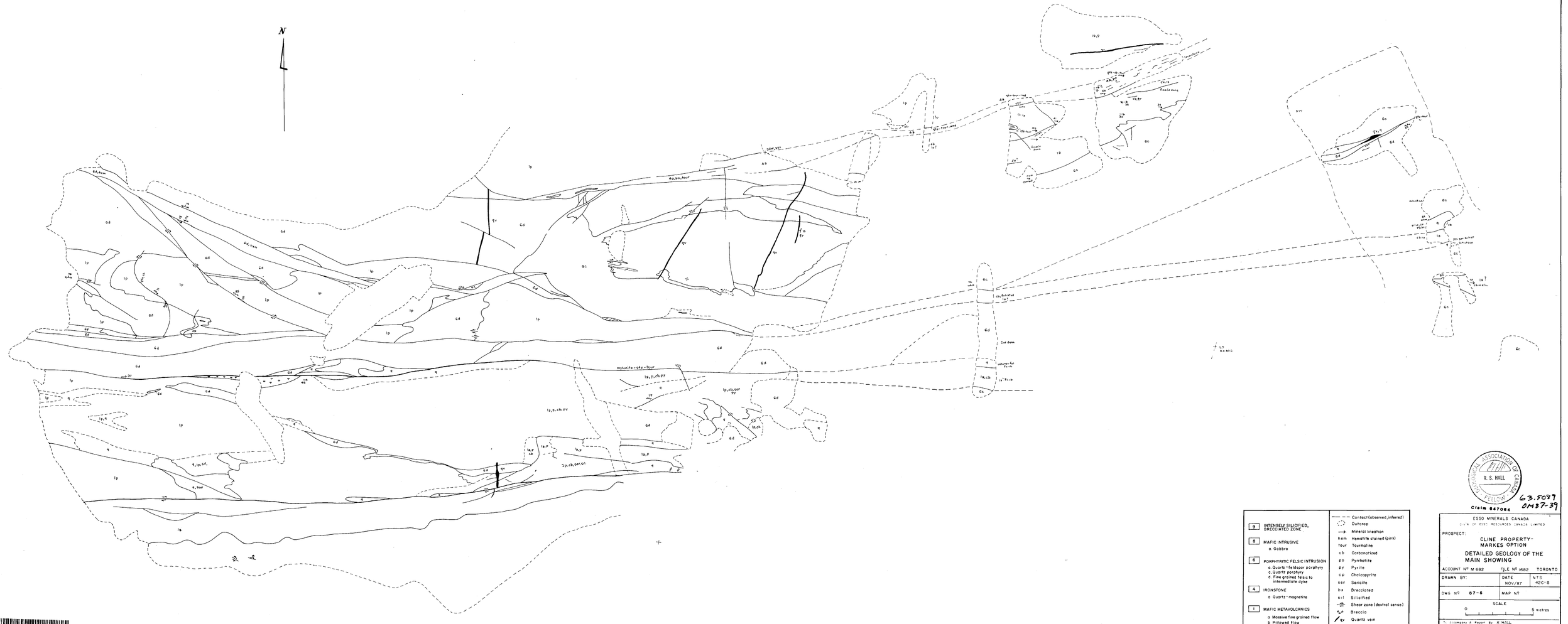
63.5089
OM87-39

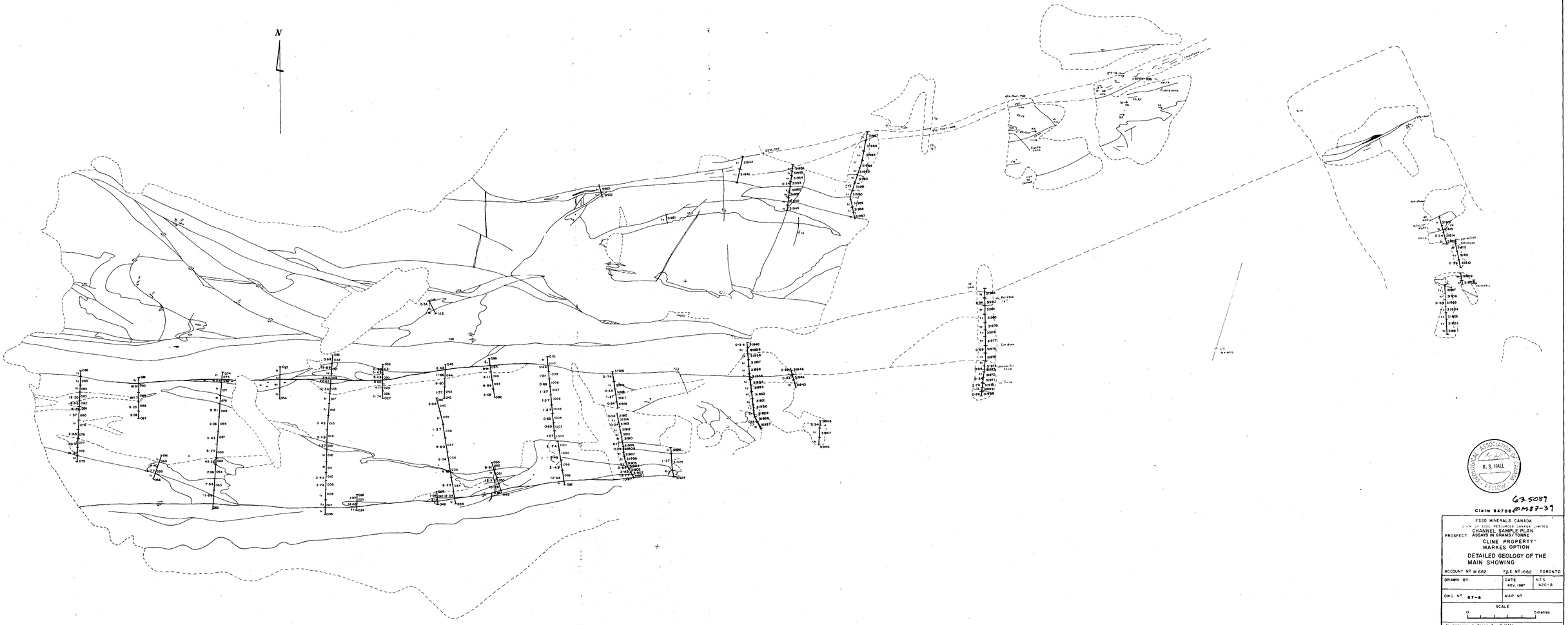
ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

PROSPECT:
MARKES (CLINE OPTION)
1987 STRIPPING AND
CHANNEL SAMPLING

ACCOUNT Nº M 682	FILE Nº 16-82 TORONTO
DRAWN BY: R.HALL	DATE
NTS 42 C/8	
DWG Nº 11085	MAP Nº 87-4
SCALE 0 50 metres	

*: Disempany A Report By R.HALL
Dated NOV.1987





GEOLOGICAL ASSOCIATION OF CANADA
R. S. HALL
FELLOW - MEMBER

63.5087
Claim 647068 #M87-37

ESSO MINERALS CANADA
A DIV. OF ESSO RESOURCES CANADA LIMITED

CHANNEL SAMPLE PLAN
PROSPECT: ASSAYS IN GRAMS/TONNE
CLINE PROPERTY-
MARKES OPTION

DETAILED GEOLOGY OF THE
MAIN SHOWING

ACCOUNT Nº M 682	FILE Nº 1682	TORONTO
DRAWN BY:	DATE NOV. 1987	NTS 42C-8
DWG Nº 87-8	MAP Nº	

SCALE
0 5metres

To Accompany A Report By R.HALL
Dated NOV/87

N

2+80W 2+40W 2+00W 1+60W 1+20W 0+80W 0+40W 0+00 0+40E 0+80E 1+20E 1+60E 2+00E 2+40E 2+80E 3+20E 3+60E 4+00E 4+40E 4+80E 5+20E

BASELINE

Markes Shear Zone

647064
827515

647065
827517

5+60E

BASELINE

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ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

PROSPECT: **Markes (Cline Option)**

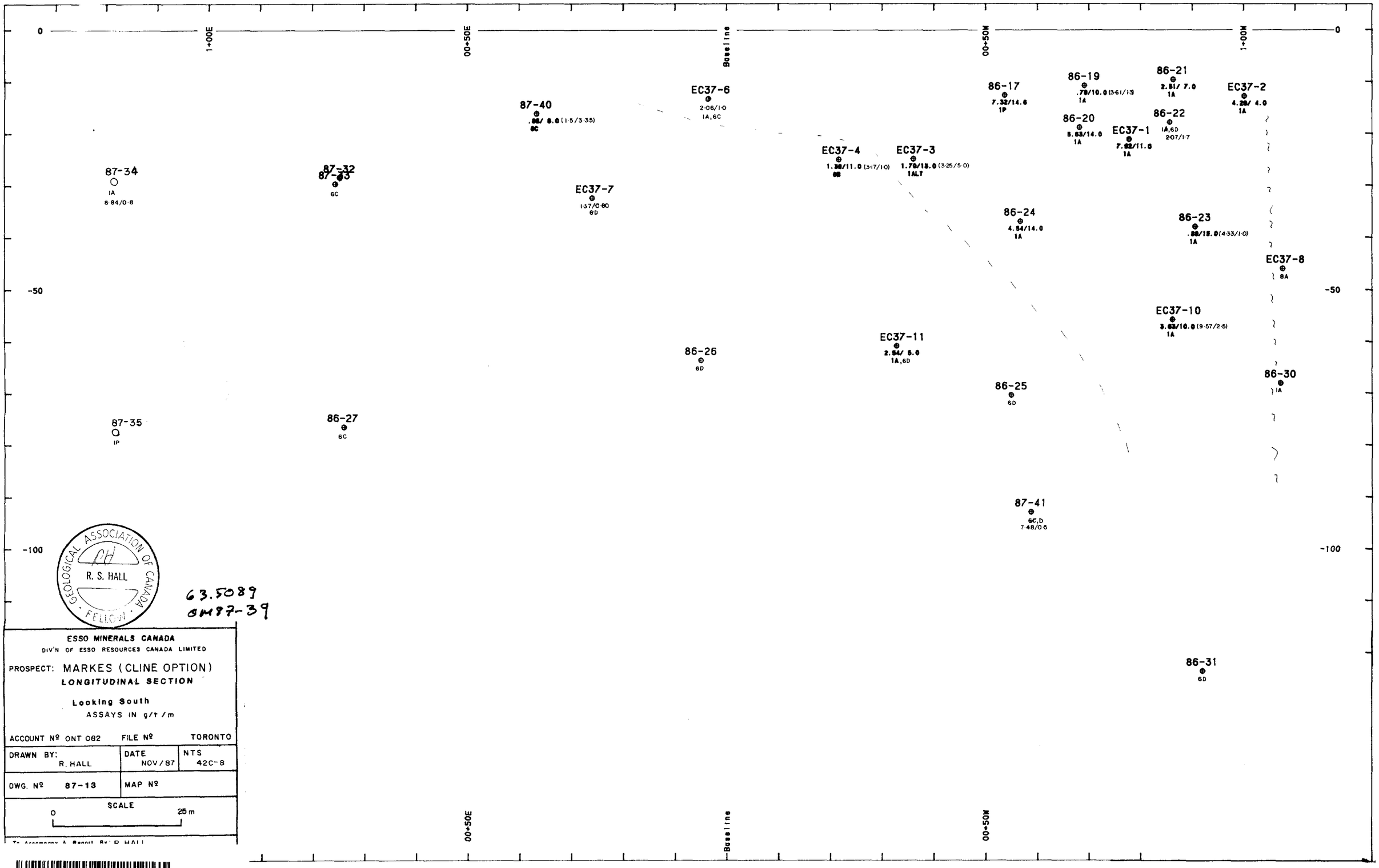
Geology and Compilation

ACCOUNT Nº	FILE Nº 16-82	TORONTO
DRAWN BY:	DATE	N.T.S. 42C-8
DWG Nº 87-3	MAP Nº	
SCALE 0 50m		

Accompany A Report By: **R. Hall**
Dated **Nov/87**

GEOLOGICAL ASSOCIATION OF CANADA
R. S. HALL
FELLOW

42C8019915 63.5089 JACOBSON



63.5089
GM87-39

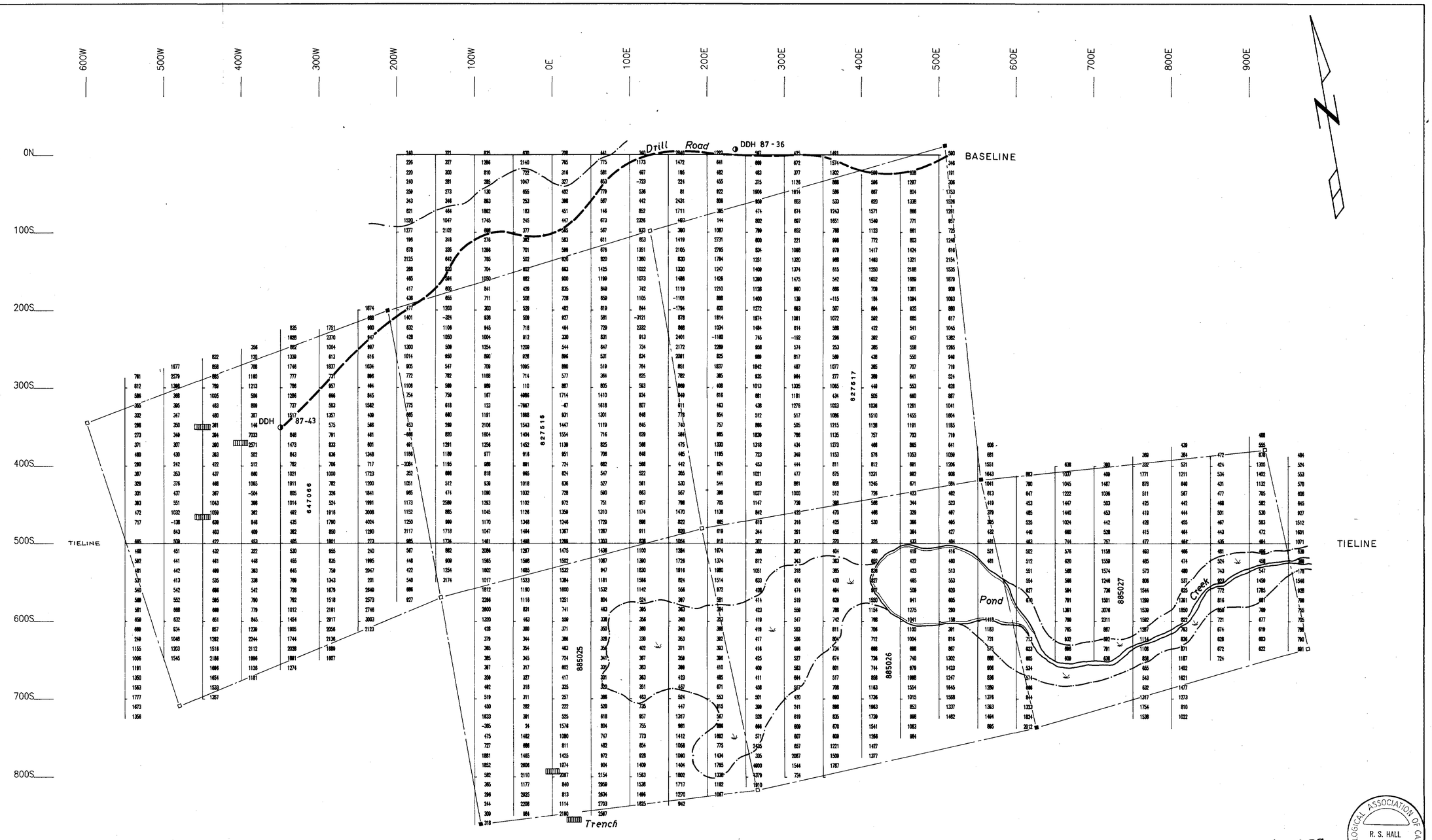
ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

PROSPECT: MARKES (CLINE OPTION)
LONGITUDINAL SECTION

Looking South
ASSAYS IN g/t / m

ACCOUNT Nº ONT 082	FILE Nº	TORONTO
DRAWN BY: R. HALL	DATE NOV/87	NTS 42C-8
DWG. Nº 87-13	MAP Nº	
SCALE 0 — 25 m		

To Accompany A Report By R. HALL



63.5089
OM87-39

GEOLOGICAL ASSOCIATION OF CANADA
R. S. HALL

Instrument : OMNI
Field : TOTAL
Datum : 58000.0 nT

Contour Interval :

Conductor Axis :

50m 25m 0m 50m 100m

ESSO MINERALS CANADA

MAGNETOMETER SURVEY

CORRECTED READINGS

PROJECT: CLINE-MARKES PROJECT # : 1682

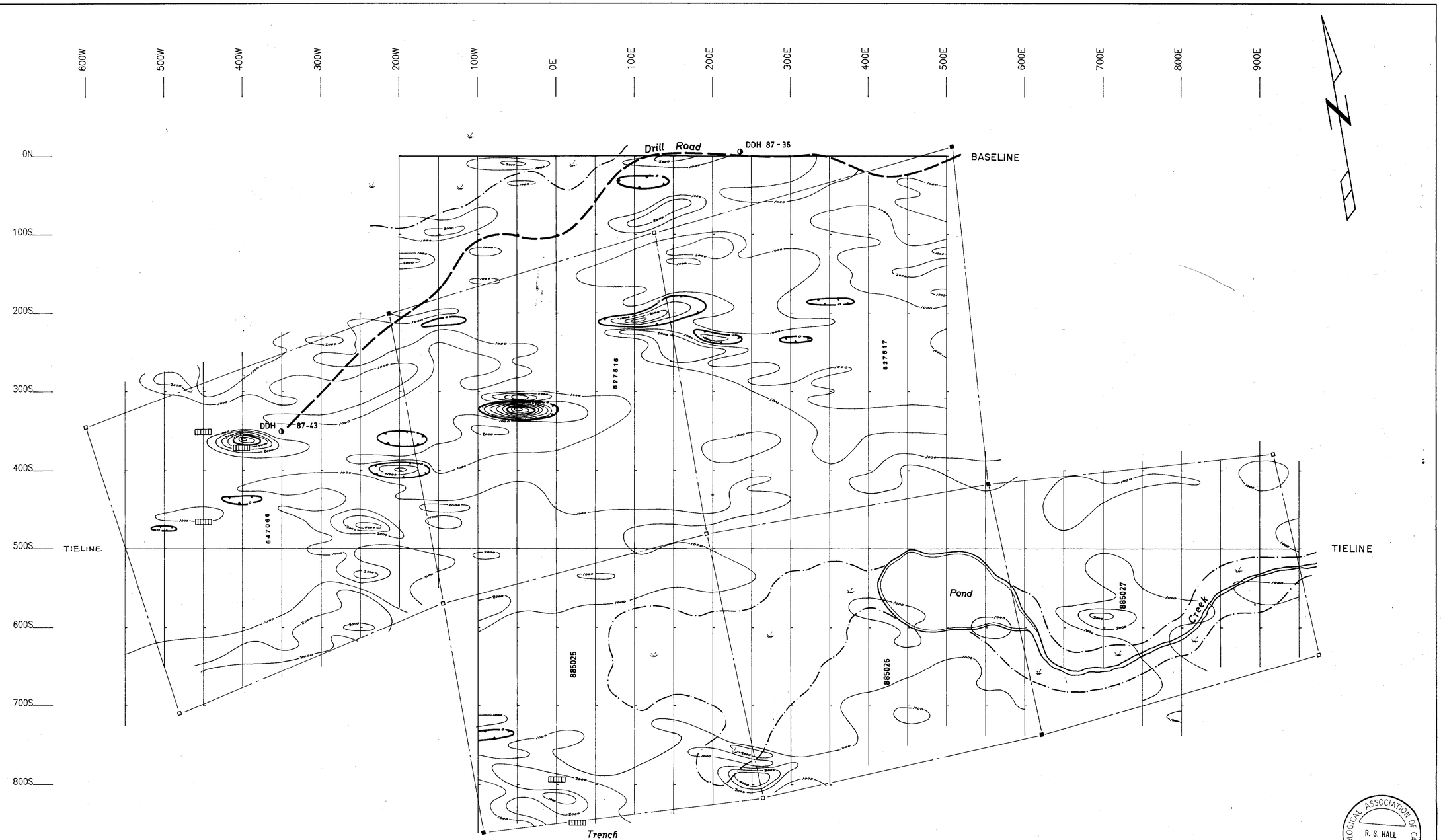
BASELINE AZIMUTH : 100 Deg.

SCALE = 1: 2500 DATE : 9/24/87

SURVEY BY : NWG NTS : 42 C/8

FILE: MCLINE

NORTHWEST GEOPHYSICS LTD. 87-70



63.5089
OM87-39

Instrument : OMNI
Field : TOTAL
Datum : 58000.0 nT

Contour Interval : 1000 GAMMAS

Conductor Axis :

50m 25m 0m 50m 100m

ESSO MINERALS CANADA

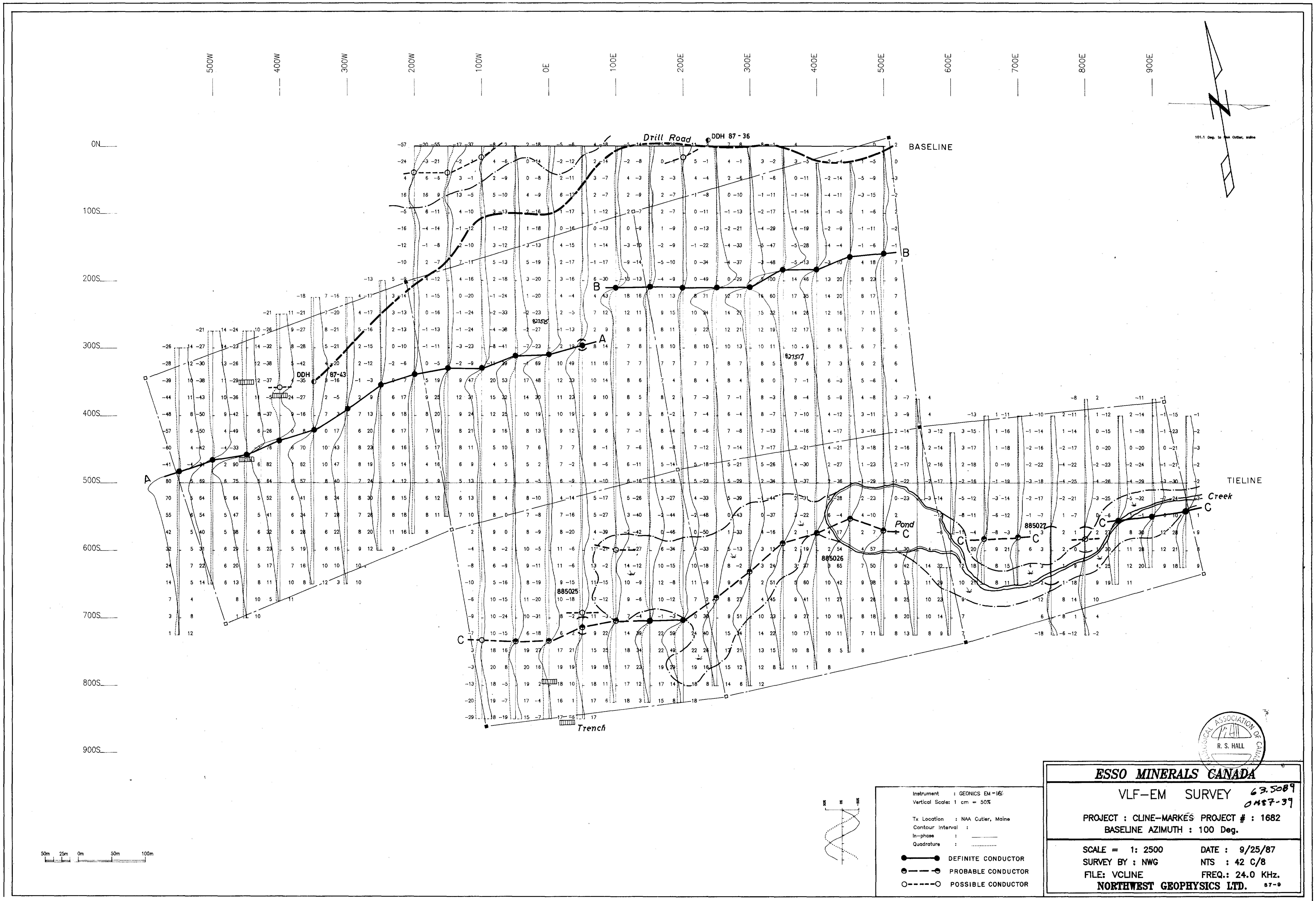
MAGNETOMETER SURVEY

CONTOURED DATA

PROJECT: CLINE-MARKES PROJECT # : 1682
BASELINE AZIMUTH : 100 Deg.

SCALE = 1: 2500 DATE : 9/24/87
SURVEY BY : NWG NTS : 42 C/8
FILE: MCLINE

NORTHWEST GEOPHYSICS LTD. 87-11



23:32 Normal Profile Centre of plot at 200.0E / 425.0S

Serial # V87182 Registered User : NORTHWEST GEOPHYSICS LTD.

42C08SW0015 63.5089 JACOBSON

500