SUMMARY REPORT AND RECOMMENDATIONS

FOR THE NOV/86 TO FEB/87 WORK PROGRAM

ON THE

ROBELE JOINT VENTURE

THORNELOE, BRISTOL AND DENTON TOWNSHIPS, ONTARIO

NTS 42A/5

FOR

ESSO MINERALS CANADA

AND

TOROGOLD RESOURCES INC.

March, 1987
Timmins, Ont.
Disk.joe

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Geologist

TAB

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MAPS

APPENDICES

SUMMARY AND RECOMMENDATIONS

A zone containing significant gold values has been identified on the Thorneloe East Property, part of a larger group of 161 claims in Bristol and Thorneloe Township currently being explored by Esso Minerals Canada and Torogold Resources Inc..

The zone varies in width from 2.5 to 3.2 meters and has been traced for a strike length of nearly 300 meters. The deepest intersection to date is at 190 meters below surface.

The gold is contained in a zone of intense quartz-carbonate flooding with between 5% and 25% pyrite. Narrow blue-grey quartz stringers are often found within this zone. This zone forms the core of a much wider alteration system (75-100 meters) which may contain gold values of up to 3.5 g/tonne over widths of 6.1 meters to 25 meters.

Recommendations for further work include 5,600 meters of diamond drilling as well as detailed magnetic surveys and linecutting over large parts of the Thorneloe property previously unexplored. Two drill holes totalling 400 meters are planned for the Denton Property. The total proposed budget is $600,000.00.

INTRODUCTION

The Thorneloe Property was originally staked by Esso Minerals in 1984. Extensive exploration work in the form of ground geophysics, reverse circulation drilling and diamond drilling has been completed on the property. The main result of this work was the delineation of a strong, wide alteration system with anomalous gold values on what is now called the West Thorneloe Group. In the fall of 1986, after Torogold agreed to participate in exploration of the property, a major program of detailed IP surveys and a total of 2,840 meters of diamond drilling was completed in February, 1987.

The Denton #1 Property was originally acquired by Labrador Mining and Exploration in 1980 and was included in a joint venture agreement with Esso Minerals. Labrador withdrew from active exploration in 1985, and Esso joint ventured the property to Torogold in the fall of 1986. Moderate discontinuous gold values over narrow widths have been intersected in diamond drilling. Geophysical and geological surveys as well as reverse circulation drilling have also been completed on the property.

PROPERTY

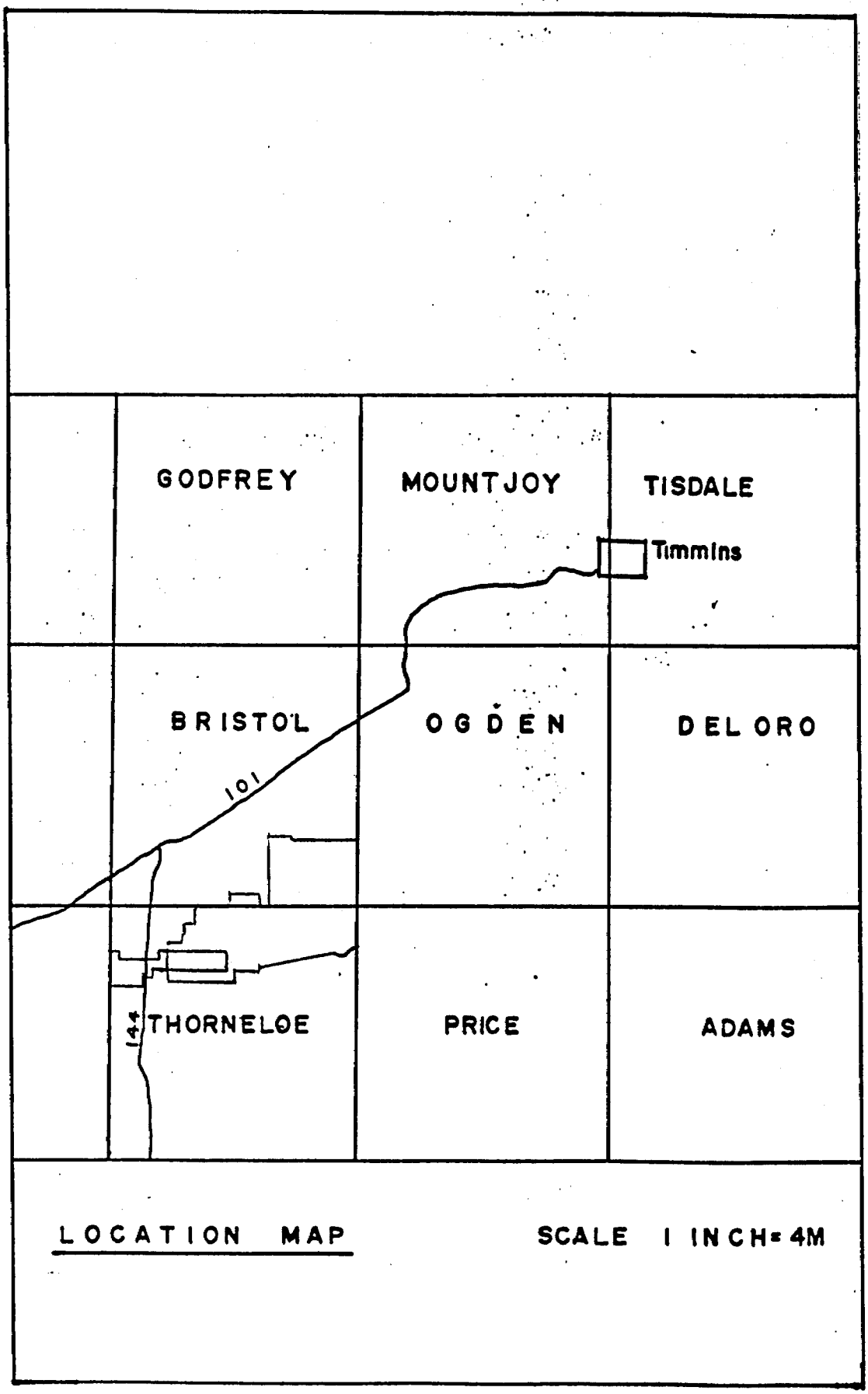
The Thorneloe Property currently consists of a total of 161 claims located in the north half of Thorneloe Township and the southeast corner of Bristol Township. There are 61 claims in Bristol Township (55 of these were staked after the current program) and 100 claims in Thorneloe Township.

LOCATION AND ACCESS

The center of the Thorneloe property is located 25 kilometers southwest of Timmins and straddles the border between Thorneloe and Bristol Townships (see Location Map).

Access to the property is via Highway 144 from the west and by a gravel road linking the Wawaitin Falls Power Dam and Timmins from the east. Both of these routes are all-weather, year-round roads. A network of bush roads provide good internal access west of the Tatachikapita River. East of the river the access is poor.

The Denton property is located 30 kilometers west of Timmins via Highway 101. A network of good quality gravel and bush roads provide access to most parts of the property.


GODFREY
MOUNTJOY
TISDALE
Timmins
BRISTOL
OGDEN
DELORO
101
THORNELOE
PRICE
ADAMS
LOCATION MAP
SCALE 1 INCH= 4M

TOPOGRAPHY AND RESOURCES

Relief on the properties is generally low, with the only change in elevation coming from sand dunes and gullies cut by the rivers where they cross the sand plains. Overburden consists almost entirely of sand and gravel with minor clay. Outcrop is restricted to the river banks and local topographic highs. The overburden cover varies from 2 meters to greater than 40 meters. Vegetation consists of mature spruce in the sandy areas and alders and stunted spruce in the swampy areas. West of the Tatachikapika River a large stand of spruce was harvested and replanted with white spruce, now about seven feet high. Parts of the northern claims of the Denton property have also been replanted with white spruce.

The Thorneloe property is traversed by two major rivers, the Mattagami and the Tatachikapika. Kenogamissi Lake is located 2 kilometers to the south. The Mattagami River has been dammed at the exit from the Kenogamissi and a hydroelectric station is currently operating there. Several beaver ponds and creek provide the only source of water on the Denton Property. A major hydroelectric transmission line transects the northern part of the claim group

GENERAL GEOLOGY

In relation to the well-known Timmins stratigraphy terminology, the Thorneloe property is underlain by a series of tightly, probably isoclinally folded turbidites of either the Temiskaming or Porcupine Group of Metasedimentary rocks (see Compilation Map, Pocket #6). The southern border of the property is underlain by a thin wedge of possibly Tisdale Group mafic and ultramafic volcanic rocks. The Tisdale rocks are locally heavily carbonatized in the vicinity of the Wawaitin Falls Power Dam and the Thibeault Showing. South of these rocks, Deloro Group rocks consisting of iron formation and felsic calc-alkalic volcanic rocks are exposed. These are cut off 2 kilometers to the south by the Kenogamissi Granitic Batholith.

To the north of the sedimentary package, Tisdale volcanic rocks are in an unconformable contact with volcanic rocks of the Godfrey Group. This contact trends roughly northeast-southwest, resulting in the Tisdale volcanics pinching out at the west end of Denton Township, on the Denton #1 Group 6 miles west of the Thorneloe property.

In Thorneloe Township the trend of the units is 90 to 105 degrees, with dips steep to vertical. The f1 foliation seems to parallel the strike direction of the bedding. A second foliation crosscuts the bedding at angles varying from 10 to 40 degrees.

Late felsic intrusions cut the above units. These vary from granite to quartz monzonite and may be porphyritic to massive. A second earlier stage of quartz and/or quartz-feldspar porphyry may also exist - evidence for this has been found in drill holes on the Thorneloe Property. A series of north-trending Matachewan diabase dykes, with some minor associated offset, appears to be the last form of intrusive activity in the area. Minor gold occurrences have been found on the Thibeault property and the Gertie Gold property in Thorneloe Township. The Holmer deposit, located 5 kilometers to the north, has been actively explored in recent years and modest tonnage of sub-economic grade has been developed. There are also several small gold occurrences in Denton Township to the west (Go-West, Brown-McDade, Aumo, Goldale, Wakemac part of the Denton #1 Group). All of these occurrences are located in either the Tisdale Volcanic rocks or the Temiskaming/Porcupine metasedimentary rocks. Minor amounts of base metals occur in the mafic intrusions and the ultramafic rocks of the Tisdale Group.

The property geology on the Denton #1 group consists of a series of felsic to intermediate tuffs, crystal tuffs and massive flows (the latter named "andesite" by Hollinger). In the vicinity of the Wakemac showing the rock type is predominantly felsic to intermediate tuff. These are locally sheared and deformed, trend 75-80 and dip steeply north.

South of the group of tuffs is a band of massive, uniform, fine-grained "andesite". Further south these rocks become well sheared and locally highly altered and quartz veined due to the effects of the McCoshen shear zone and the west extension of the Destor-Porcupine Fault System. Massive to weakly foliated ultramafic rocks are exposed on the surface south of the McCoshen Shear. Locally highly altered ultramafics have been intersected in drilling in and near the Destor-Porcupine Fault System.

The Denton Property is situated at the extreme west edge of the Abitibi Greenstone Belt. There is a pronounced thinning of the Godfrey, Tisdale (including Porcupine and/or Timiskaming sediments) and Deloro Groups in this area due to the emplacement of large granitic batholiths to the north, south and west. Late north-south faulting and crenulation cleavage and the emplacement of diabase dykes represent the last phase of geological activity in the area.

PREVIOUS WORK

Before the Torogold joint venture agreement, Esso had carried out exploration work on the property west of the Tatachikapika River in the form of ground geological and geophysical surveys (magnetic and IP), a small amount of reverse circulation drilling and six diamond drill holes totalling 1,212 meters.

Grids were cut and geophysical surveys in the form of magnetics and IP were completed over the entire property. The presence of a magnetic low was confirmed, and several east-west trending IP anomalies were also found. A limited amount of reverse circulation drilling was carried out. Results were inconclusive due to the lack of basal till and dominating sand and gravel cover.

Diamond drilling was then carried out on three strong IP anomalies in February of 1985. Two of these anomalies were centered over the magnetic low and were caused by graphitic slips in argillites. The magnetic low was subsequently reinterpreted to be a dipole effect caused by the highly magnetic Deloro Iron Formation to the south. The IP anomaly drilled in the area of L2400E, 400N was of equal strength and similar character to those to the south. However, in this case, it turned out to be caused by 5%-25% finely disseminated pyrite in a very intense quartz-carbonate-sericite alteration zone approximately 75 meters wide. Gold values for this zone averaged 400 ppb over 40 meters with spot highs of up to 3 g/tonne over 1.5 meters in T-4. A second hole, T-5, drilled along strike from T-4 also intersected the alteration system with anomalous gold values.

The results of this program encouraged Esso to stake another group of claims along strike with the alteration zone on the east side of the Tatachikapika River. Once again magnetic and IP surveys were run and several more weak to moderate IP trends were established. One of these trends was interpreted to be on strike from the gold-associated one drilled on the West Thorneloe property. In December of 1985 one hole (T-8) was drilled on an IP anomaly near the township boundary; this intersected argillite and fine grained arenites. Graphitic slips in the argillite explained the presence of the IP anomaly.

In October of 1986, a program of detailed IP surveying and some fill-in magnetics was done east of the Tatachikapita River in preparation for the upcoming drill program.

RESULTS OF THE PROGRAM

The primary drill target was the east extension of the IP anomaly with anomalous gold values. On the Thorneloe East Grid, this anomaly was flanked to the north by a moderate magnetic high 400 meters long and striking sub-parallel to the IP anomaly. The program was designed to test the mag high and the IP anomaly with several long holes and then move to some of the other IP anomalies elsewhere on the East Grid.

In all holes, the IP anomaly was caused by graphitic slips in argillites, suggesting that the anomalies on the east and west side were not caused by the same feature.

At this location just east of the river the magnetic anomaly was caused by up to 1% disseminated magnetite in an altered arenite. The arenite had a distinguishing red colour and locally was intensely silicified and carbonatized. It contained 5% pyrite and 1% hematite. Local fuchsite replacements were common and there was about 2% quartz veining, usually in the form of narrow stringers. Pervasive zones of quartz-carbonate alteration were characterized by up to 25% fine pyrite and gold values which averaged 6 g/t over widths varying from 2.5 to 3.2 meters. Lower gold values averaging around 3.5 g/t were also present around these high zones for core intervals in excess of 6.1 meters. This gold bearing zone is termed the Northern Alteration System.

A second wide alteration zone (Southern Alteration System) dominated by sericite is present 100 to 200 meters south of the silica-carbonate alteration zone and strikes sub-parallel to it. Its distinguishing characteristic is the presence of fine to coarse arsenopyrite needles often associated with narrow black quartz-carbonate stringers. These stringers are present in greater quantity than in the silica-carbonate alteration system to the north. The best assay received from this zone was 1.99 g/t over 2.07 meters. Several other assays of this order were also returned from the sericite alteration zone.

As a result of the encouraging gold values received early in the program, the gold zone was drilled along strike in several more locations and the gold values continued. Drilling was suspended at Christmas and in January, 1987 a further 790 meters were drilled on the gold zone.

It is now thought that the gold bearing Northern Ateration System consisting of intense quartz-carbonate flooding is a later cross-cutting feature and is not related to the "Red Zone", as the magnetite-bearing arenite is called. Hole T-18, drilled furthest to the east, intersected the gold values south of the Red Zone and at a greater depth than the holes 240 meters to the west.

The Northern zone is interpreted to strike 108 degrees and dip steeply to the north or vertically and it crosscuts the stratigraphy (095/70S) at a very shallow angle (10-20 degrees). There may be internal vertical controls on the gold within this zone and there is some evidence to suggest a moderate plunge of the whole system to the east. (On the Compilation Map (Pocket 6) the Red Zone and the Northern Alteration Zone can be seen to diverge as they trend eastwards).

The zone to date has been traced for a strike length of 300 meters and varies in width from 2.5 to 3.2 meters hosting potentially economic gold values. This central core of gold values is contained within a zone of values ranging from 1.8 to 4 g/tonne over widths ranging from 3.5 to 25 meters. The zone is open at depth and along strike.

RECOMMENDATIONS

Future work on the property should be directed towards tracing the existing gold zone and developing tonnage. Also, a substantial amount of work remains to be done on the rest of the property on similar geophysical features to those exhibited by the gold zone.

The following work program is recommended for the property:

Phase 1-Geophysics

Part of the gold bearing system is hosted by the "Red Zone", which has a geophysical signature in the form of a magnetic high. Detailing of this high was useful in helping to determine the internal structure of the zone. Several other magnetic highs exist on the Thorneloe East Property and all of these should be surveyed in detail.

Lines at 60 meter intervals between the existing lines should be surveyed, as well as several east-west lines in order to locate the diabase dykes where applicable.

The Mattagami River Group and the Bristol #1 and #2 Groups are recommended for linecutting, magnetic surveys,and IP surveys. This will help determine if there are any similar features to those of the gold zone on any of these groups.

Phase 2- Diamond Drilling

There are three areas of the property which are recommended for diamond drilling. The first of these is the gold zone itself, where holes are required to determine the orientation of the gold occurrences within the zone. A total of

1600 meters should be drilled on the zone between holes already done. This will help to fill in some of the 120 meter gaps within the current boundaries of the zone and at the same time will provide new structural information.

The second part of the diamond drilling program should be designed to follow the strike extent of the gold zone to the east of the current location. Accordingly, a total of 2000 meters of drilling is recommended for tracing the zone to the east from L3840E to L4440E. The plan is to drill a two-hole fence on each 120 meter spaced line for a total of 400 meters of drilling per line.

The third area targeted for diamond drilling will be several magnetic high zones outlined on the remainder of the Thorneloe East Property. Since gold values have been found associated with a magnetic high zone centered on L3600, 25ON, other zones with a similar magnetic signature become high priority targets. Therefore, a total of 2000 meters is recommended to test at least four separate magnetic highs with at least one relatively deep hole each (350 meters).

On the Denton #1 Property, two holes will be drilled on a weak IP anomaly which corresponds with the location of the Wakemac Showing. The holes will be located east of the showing and will be 200 meters each in length.

This will bring the total drilling recommended to 6000 meters. The budget for the proposed 1987 program totals $600,000.00 (Appendix 1).

APPENDIX I

THORNELOE BUDGET

PHASE I - GEOPHYSICS		
Thorneloe East Grid		
Linecutting 20 km @ $200	$ 4,000	
Detail Magnetics 20 km @ $100	2,000	
	$ 6,000	
Mattagami River Group		
Linecutting and Magnetics 30 km @ $300	$ 9,000	
Bristol #1 Group		
Linecutting and Magnetics 90 km @ $300	$ 27,000	
Bristol #2 Group		
Linecutting and Magnetics 10 km @ $300	$ 3,000	
IP Checking and Testing	$ 10,000	
TOTAL, GEOPHYSICS		$ 55,000
PHASE 2 - DIAMOND DRILLING		
6000 m @ $80	$480,000	$480,000
STAFF	$ 40,000	$ 40,000
MISCELLANEOUS		
Supplies, Services	$ 10,000	
Transportation	5,000	
Road Construction	$ 10,000	$ 25,000
TOTAL PROPOSED EXPENDITURE		$600,000

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CLAIM LIST, ROBELE JOINT VENTURE

CLAIM NO.	REC. DATE	CURR. # DAYS	DATE DUE
THORNELOE TOWNSHIP			
P-792829	MAR. 30/84	100	MAR. 30/88
P-796729	MAR. 30/84	200	MAR. 30/90
P-796730	MAR. 30/84	200	MAR. 30/90
P-796731	MAR. 30/84	200	MAR. 30/90
P-796732	MAR. 30/84	200	MAR. 30/90
P-796733	MAR. 30/84	200	MAR. 30/90
P-796734	MAR. 30/84	199	MAR. 30/89
P-796737	MAR. 30/84	140	MAR. 30/89
P-796738	MAR. 30/84	140	MAR. 30/89
P-796739	MAR. 30/84	140	MAR. 30/89
P-796740	MAR. 30/84	178	MAR. 30/89
P-805191	MAY 27/84	199	MAY 27/89
P-805192	MAY 27/84	199	MAY 27/89
P-805193	MAY 27/84	199	MAY 27/89
P-834158	DEC. 04/84	60	DEC. 4/87
P-834159	DEC. 04/84	60	DEC. 4/87
P-834367	DEC. 19/84	100	DEC. 19/88
P-834368	DEC. 19/84	100	DEC. 19/88
P-834369	DEC. 19/84	100	DEC. 19/88
P-838437	APR. 09/85	60	APR. 9/88
P-838438	APR. 09/85	60	APR. 9/88
P-838439	APR. 09/85	60	APR. 9/88
P-838440	APR. 09/85	60	APR. 9/88
P-838441	APR. 09/85	60	APR. 9/88
P-838442	APR. 09/85	60	APR. 9/88
P-838443	APR. 09/85	60	APR. 9/88
P-838444	APR. 09/85	60	APR. 9/88
P-838445	APR. 09/85	60	APR. 9/88
P-838446	APR. 09/85	60	APR. 9/88
P-838447	APR. 09/85	60	APR. 9/88
P-838448	APR. 09/85	60	APR. 9/88
P-892792	FEB. 5/87	0	FEB. 5/88
P-892793	FEB. 5/87	0	FEB. 5/88
P-892796	FEB. 5/87	0	FEB. 5/88
P-892797	FEB. 5/87	0	FEB. 5/88
P-892798	FEB. 5/87	0	FEB. 5/88
P-892799	FEB. 5/87	0	FEB. 5/88
P-892800	FEB. 5/87	0	FEB. 5/88
P-923601	MAY 09/86	140	MAY 9/91
P-923602	MAY 09/86	140	MAY 9/91
P-923603	MAY 09/86	140	MAY 9/91
P-923604	MAY 09/86	140	MAY 9/91
P-923605	MAY 09/86	140	MAY 9/91
P-923606	MAY 09/86	140	MAY 9/91
P-923607	MAY 09/86	140	MAY 9/91
P-923608	MAY 09/86	140	MAY 9/91
P-923609	MAY 09/86	140	MAY 9/91
P-923610	MAY 09/86	140	MAY 9/91
P-923611	MAY 09/86	140	MAY 9/91

CLAIM LIST, ROBELE JOINT VENTURE

CLAIM NO.	REC. DATE	CURR. # DAYS	DATE DUE
P-923612	MAY 09/86	140	MAY 9/91
P-923613	MAY 09/86	140	MAY 9/91
P-923614	MAY 09/86	140	MAY 9/91
P-923615	MAY 09/86	140	MAY 9/91
P-923616	MAY 09/86	140	MAY 9/91
P-923617	MAY 09/86	140	MAY 9/91
P-923618	MAY 09/86	140	MAY 9/91
P-923646	MAY 26/86	0	DEC. 31/87
P-923647	MAY 26/86	0	DEC. 31/87
P-923648	MAY 26/86	0	DEC. 31/87
P-923650	MAY 26/86	0	DEC. 31/87
P-930782	MAY 26/86	0	DEC. 31/87
P-930783	MAY 26/86	0	DEC. 31/87
P-930784	MAY 26/86	0	DEC. 31/87
P-930785	MAY 26/86	0	DEC. 31/87
P-930786	MAY 26/86	0	DEC. 31/87
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P-956077	FEB.11/87	0	FEB. 11/88
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P-956099	FEB.11/87	0	FEB. 11/88
P-956100	FEB.11/87	0	FEB. 11/88
P-956201	FEB.11/87	0	FEB. 11/88
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P-956227	FEB.11/87	0	FEB. 11/88
P-956228	FEB.11/87	0	FEB. 11/88
P-956229	FEB.11/87	0	FEB. 11/88
P-956230	FEB.11/87	0	FEB. 11/88
P-956231	FEB.11/87	0	FEB. 11/88
P-995645	MAY 19/87	0	MAY 19/88

CLAIM LIST, ROBELE JOINT VENTURE

CLAIM NO.	REC. DATE	CURR. # DAYS	DATE DUE
P-995646	MAY 19/87	0	MAY 19/88
BRISTOL TOWNSHIP			
P-923649	MAY 26/86	20	MAY 26/88
P-930787	MAY 26/86	20	MAY 26/88
P-930788	MAY 26/86	20	MAY 26/88
P-930789	MAY 26/86	20	MAY 26/88
P-930790	MAY 26/86	20	MAY 26/88
P-930791	MAY 26/86	20	MAY 26/88
P-952796	FEB. 5/87	0	FEB. 5/88
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P-952804	FEB. 5/87	0	FEB. 5/88
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P-952825	FEB. 5/87	0	FEB. 5/88
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P-955380	FEB. 5/87	0	FEB. 5/88
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P-955382	FEB. 5/87	0	FEB. 5/88
P-955383	FEB. 5/87	0	FEB. 5/88
P-955384	FEB. 5/87	0	FEB. 5/88
P-955385	FEB. 5/87	0	FEB. 5/88

CLAIM LIST, ROBELE JOINT VENTURE

CLAIM NO.	REC. DATE	CURR. # DAYS	DATE DUE
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P-955391	FEB. 5/87	0	FEB. 5/88
P-955392	FEB. 5/87	0	FEB. 5/88
P-955393	FEB. 5/87	0	FEB. 5/88
P-955394	FEB. 5/87	0	FEB. 5/88
P-955395	FEB. 5/87	0	FEB. 5/88
P-955396	FEB. 5/87	0	FEB. 5/88
P-955397	FEB. 5/87	0	FEB. 5/88
P-955398	FEB. 5/87	0	FEB. 5/88
DENTON TOWNSHIP			
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P-568489	MAY 15/80	200	MAY 15/86
P-568490	MAY 15/80	200	MAY 15/86
P-568491	MAY 15/80	200	MAY 15/86
P-568492	MAY 15/80	200	MAY 15/86
P-568493	MAY 15/80	200	MAY 15/86
P-568494	MAY 15/80	200	MAY 15/86
P-568495	MAY 15/80	200	MAY 15/86
P-568496	MAY 15/80	200	MAY 15/86
P-568497	MAY 15/80	200	MAY 15/86
P-568498	MAY 15/80	200	MAY 15/86
P-568499	MAY 15/80	200	MAY 15/86
P-568500	MAY 15/80	200	MAY 15/86
P-568501	MAY 15/80	200	MAY 15/86
P-568502	MAY 15/80	200	MAY 15/86
P-568503	MAY 15/80	200	MAY 15/86
P-568504	MAY 15/80	200	MAY 15/86
P-568505	MAY 15/80	200	MAY 15/86
P-568506	MAY 15/80	200	MAY 15/86
P-568507	MAY 15/80	200	MAY 15/86
P-831705	NOV 15/84	141.96	NOV 15/89
P-831706	NOV 15/84	141.96	NOV 15/89
P-831707	NOV 15/84	141.96	NOV 15/89
P-833256	NOV 15/84	141.96	NOV 15/89
P-833257	NOV 15/84	141.96	NOV 15/89
P-833258	NOV 15/84	141.96	NOV 15/89
P-833922	NOV 26/84	141.96	NOV 26/89
P-833923	NOV 26/84	141.96	NOV 26/89
P-833932	NOV 26/84	141.96	NOV 26/89
P-833933	NOV 26/84	141.96	NOV 26/89
P-833934	NOV 26/84	141.96	NOV 26/89
P-827591	MAY 21/85	200	MAY 21/91
P-827592	MAY 21/85	200	MAY 21/91
P-827593	MAY 21/85	200	MAY 21/91
P-827594	MAY 21/85	141.96	MAY 21/89
P-827595	MAY 21/85	141.96	MAY 21/89

CLAIM LIST, ROBELE JOINT VENTURE

CLAIM NO.	REC. DATE	CURR. # DAYS	DATE DUE
P-827596	MAY 21/85	141.96	MAY 21/89
P-827597	MAY 21/85	141.96	MAY 21/89

TOTAL CLAIMS: 199

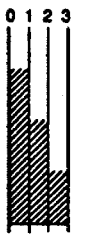
E1

ESSO RESOURCES CANADA LIMITED

ESSO MINERALS CANADA

DRILL LOG

PROJECT: ROBELE JOINT VENTURE (THORNLOE)	GROUND ELEV.
HOLE NO.: T-9	BEARING: 180°
LOCATION: L 3840 , 2750 N	DIP: -45° S
	TOTAL LENGTH: 251.76m 826'
LOGGED BY: J. MACPHERSON	HORIZONTAL PROJECT
DATE: DEC. 12/86	VERTICAL PROJECT
CONTRACTOR: J.T. THOMAS DIAMOND DRILLING	**ALTERATION SCALE**
CORE SIZE: BQ	
DATE STARTED: DEC. 6/86	
DATE COMPLETED:	**TOTAL SULPHIDE SCALE**
DIP TESTS: 300' (91.46m) : 37½ 826' (251.76m) : 36½ 600' (182.92m) : 38	
COMMENTS: Dec 6 - Dec 10 => problems with water line freezing.	LEGEND



PAGE 1 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-9

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN Q
				0-28.35 OVERBURDEN - SAND BOULDERS.							
5											
10											
15				28.35-46.3 Thinly bedded argillite and thicker beds (10-40 cm) of greywacke. Numerous chloritic stringers parallel to the latter. Some moderate silica replacement in greywackes. Numerous weathered sections (rusty, some broken core). 10% 5-15 cm Qtz-ank-chl veins, occ with sericitic margins.							
20				32.31-33.51 60% Qtz-ank veins, tr-1% Fine fg. veins sub // to CA							
25				36.86-37.70, as above, with 20 cm Qtz-chl-ank vein from 36.95-37.15.						7	10
30				Generally, lower contacts of coarser arenite beds are broken, with rounded fragments of arenaceous material being assimilated into the finer grained argillites for a distance of 5-10 cm.						7	10
35				Most Notable at 44.7 m, 45.3 m 46.3m							
				34.6-35.05 Weak IF - tr-1% mag in bedding // stringers.						6	10
40											
										6	15
45											

PAGE 2 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-9

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t		
28.25 - Tr - 1% py in bedding planes or more rarely in or at margins of qtz-chlorite-siderite veins.		28.25	30.76	2.51	2101	.24	.007		
		30.76	32.31	1.55	2102	.01	.001		
		32.31	33.81	1.50	2103	.01	.001		
		33.81	35.36	1.55	2104	.01	.001		
		35.36	36.86	1.50	2105	.01	.001		
		36.86	38.40	1.54	2106	.02	.001		
		38.40	39.90	1.50	2107	.01	.001		
		39.90	41.45	1.55	2108	.01	.001		
		41.45	42.95	1.50	2109	.01	.001		
		42.95	44.50	1.55	2110	.01	.001		
		44.50	46.0	1.50	2111	.18	.005		
45.3: 5 cm buff qtz-carb vein with 5% py									

N2/E2

PAGE 3 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-9

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN Q
				46.3-70.0 Interlayered finely bedded argillite and thicker bedded gwke. @49.05-53.24 Wk sericite alt'n. Numerous bedding // qtz stks. Unit generally unaltered. 5% Q.V. sub // to bedding. Locally 5-10% sub rounded quartz-ankerite clast replacements (?) - apparent late growths, as fol'n does not wrap around the "clasts".						6	10
										6	10
										3	5
				57.45-59.70 Siliceous bed. Contact with over + underlying units at 70° to C.A.						3	5
				AT 69m "clasts" described above exhibit signs of rotation during compression, suggesting they are replacements by sil + carb of original quartz-feldspathic clasts.						2	52
				70.0-81.2 Finely bedded argillite. Avg bed thickness 5 cm. At low angles to CA. Locally 1-5% "clast" of qtz-ankerite as per 46.3-70.0 A few scattered pyrite beds up to 1 cm thick.						3	4
				81.20-88.92 Generally thinly bedded argillite/mudstone with numerous chert/py interbeds (avg 1-2% of whole unit) Quartz-ankerite veins up to 20 cm wide cut unit.						3	4
				88.92-90.22 I/B siliceous sediment (chert) + thinly bedded argillite						5	3
										7	8

PAGE 4 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-9

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t
		46.0	47.55	1.55	2112	.02	.001
		47.55	49.05	1.50	2113	.48	.014
		49.05	50.60	1.55	2114	.01	.001
46.3-70.0 Locally 5-15% fine py in 2-5 cm Q.A.V. sub // to bedding.		50.6	52.1	1.50	2115	.01	.001
56.3-56.5 20% py in 1 cm bedding # seams.		52.1	53.64	1.54	2116	.17	.005
		53.64	55.14	1.50	2117	.03	.001
66.4-66.45 1.5 cm seam semi-massive py @ 40° to CA		55.14	56.69	1.55	2118	3.85	.112
		56.69	58.19	1.50	2119	.03	.001
		58.19	59.74	1.55	2120	.01	.001
		59.74	61.24	1.50	2121	.04	.001
		61.24	62.79	1.55	2122	.01	.001
		62.79	64.29	1.50	2123	.01	.001
		64.29	65.84	1.55	2124	.02	.001
		65.84	67.34	1.50	2125	.20	.006
		67.34	68.88	1.54	2126	.03	.001
81.2-88.92 - Avg py content (mainly in beds) is 3%. Most py in section 81.2-84.12 (81.2-81.7 ~ 40% py)		68.88	70.0	1.12	2127	.01	.001
		70.0	71.93	1.93	2128	.01	.001
		71.93	74.98	3.05	2129	.01	.001
85.32 Splash of cpy at edge of bedding // q.A.V.		74.98	78.03	3.05	2130	.01	.001
85.5-86.0 Q.A.V., 3-5% fine py, numerous chloritic inclusions.		78.03	81.20	3.17	2131	.13	.004
		81.2	82.58	1.38	2132	.04	.001
		82.58	84.12	1.54	2133	.92	.027
88.92-90.22 1-2% v. fine py		84.12	85.5	1.38	2134	.02	.001
		85.5	87.17	1.67	2135	.01	.001
		87.17	88.92	1.75	2136	.03	.001
		88.92	90.22	1.30	2137	.01	.001

PAGE 5 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T9

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN QTZ
				90.22-93.5 Conglomerate. Deformed, all clasts stretched to some degree at 45°-55° to C.A. Clast supported in a vfg qtz-ankerite matrix with local fuchsitic streaks. Frags are variably silicified & consist of 75% chert & 25% soft sediments. Numerous chloritic stringers rimming clasts & in matrix.					6	5
95											
										10	2
100											
				93.5-94.8 As above, with 1-2% fine magnetite in matrix & rimming some clasts. 93.5-93.8 1-3% fuchsitic stringers.						10	2
105											
				94.8-98.9 As per 90.22-93.5 ⇒ Conglomerate Becoming more siliceous downhole, pyrite up to 2% & inc d-hole.						3	<1
110											
				98.9-102.41 Heavily silicified & crackle fractured conglomerate. Wk sericite also - softer clasts - alt'ed mudstone. Mainly cherty clasts - edges indistinct due to silicification. Py in matrix & rimming clasts.						3	2
115											
				102.41-123.85 Variably weakly to moderately altered fine-grained argillite/ mudstone with occasional siltstone bed. 1-3% black Qtz-ank stringers ± 2% py. 115.1-115.3 Q.A.V. 2% py. 116.55-116.70 Q.A.V., 10% py. Sericite is main alt'n product.						3	2
120											
										2	<1
125				123.85-137.84 Graphitic Argillite. Unaltered. Numerous graphitic slips in this thinly bedded unit. 124.25 10cm graphitic fault gouge.						4	3
130				125.5-126 zone of 30% Q.A.V, weaker alt'n halo. 127.0-128.25 20% QAV, wk ser alt'n halo. Avg CA (beds) = 60° for section.						4	2
135											

PAGE 6 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO.

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
90.22-93.5 Tr-2% py locally in conglomerate.		90.22	93.5	1.28	2138	.02	.001			
		93.5	94.8	1.30	2139	.01	.001			
		94.8	96.32	1.52	2140	.01	.001			
92.8 m weakly magnetic										
		96.32	97.23	0.91	2141	.21	.006			
93.5-94.8 1-2% magnetite, 1-5% (locally) py.		97.23	98.9	1.67	2142	.20	.006			
		98.9	100.4	1.50	2143	.81	.024			
									.072/16.4'	(2.47/5.0)
98.9-102.41 Py in cong 2-10% locally.		100.4	102.41	2.01	2144	3.43	.104			.104/6.6'
		102.41	103.91	1.50	2145	2.52	.074		.09	
		103.91	105.46	1.55	2146	.15	.004		11.5'	
		105.46	106.96	1.5	2147	.08	.002			
		106.96	108.51	1.55	2148	.01	.001			
		108.51	110.01	1.50	2149	.01	.001			
		110.01	111.56	1.55	2150	.01	.001			
		111.56	113.06	1.50	2151	.01	.001			
		113.06	114.60	1.54	2152	.02	.001			
		114.6	116.1	1.50	2153	.01	.001			
		116.1	117.65	1.55	2154	.05	.001			
		117.65	119.15	1.50	2155	.01	.001			
		119.15	120.70	1.55	2156	.01	.001			
		120.7	122.20	1.50	2157	.04	.001			
		122.2	123.85	1.65	2158	.02	.001			
123.85 - 1-2% cubic py is cubic pyrite.		125.5	126.0	0.5	2159	.03	.001			
125.5-126.0 Zone of 20-30% quartz-carbonate veining with 5-15% py.		127.0	128.25	1.25	2160	.01	.001			
127.0-128.25, As above, 5-10% py in veins.										
		131.95	134.44	2.49	2161	.01	.001			

PAGE 7 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-9

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C CARB	D CAL	E CHL	FRACTURE INTENSITY	% VEIN QTZ
				131.95-134.44 Mod-wkly altered argillite 1-2% blacke qtz-carb veinlets ± 1-2% py						3	1
140				137.84-179.21 Sharp contact to weakly to moderately sericitic argillite/mudstone. Tr-locally 3% py in beds, more rarely in blach Q.C. stringers. A few 20-100cm beds of coarser material (silstone, arenite) - ie at 154.2-154.6 m						5	4
145											
				Below 155.73 m, alteration is v. uniform - ie mod ser, wk sill, wk ankerite.						3	1
150											
										3	1
155											
										3	1
160											
										3	1
165											
										3	1
170				179.21-181.4 Medium grained greywacke. Clast-supported - with fine quartz-ank matrix. Clasts are qtz + altered feldspar (± quartz + ankerite) More siliceous than above unit.						3	1
175											
										4	2
180											

PAGE 8 OF · | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-9

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t		
		137.84	138.99	1.15	2162	.06	.002		
		138.99	142.04	3.05	2163	.04	.001		
147.4 tr - ½% cpy ~2-3% py NW narrow qtz-ank str.		142.04	145.08	3.04	2164	.03	.001		
		145.08	146.58	1.50	2165	.01	.001		
148.0 - 148.13 - QA.V. 2-4% py		146.58	148.13	1.55	2166	.15	.004		
155.73 5 cm qtz anthecite vein, 1% py, 1% aspy (fine)		148.13	149.63	1.50	2167	.01	.001		
		149.63	151.18	1.55	2168	.17	.005		
Below 155.73, avg 1% py local, to 5% over 10-20 cm. - ie 156.3 - 156.8		151.18	152.68	1.50	2169	.06	.002		
166.9 - 167.2		152.68	154.23	1.55	2170	.04	.001		
167.4 - 167.85									
178.61 179.21		154.23	155.53	1.30	2171	.53	.015	.817 / 3.05m	
		155.53	157.28	1.75	2172	1.03	.030		
		157.28	158.78	1.50	2173	.50	.015		
		158.78	160.32	1.55	2174	.05	.001		
		160.32	161.82	1.50	2175	.02	.001		
		161.82	163.37	1.55	2176	.80	.023		
		163.37	164.87	1.50	2177	.27	.008		
		164.87	166.42	1.55	2178	.18	.005		
179.21 - 181.4		166.42	167.92	1.50	2179	.19	.006		
		167.92	169.47	1.55	2180	.17	.005		
		169.47	170.97	1.50	2181	.01	.001		
		170.97	172.52	1.55	2182	.19	.006		
		172.52	174.02	1.50	2183	.02	.001		
		174.02	175.56	1.54	2184	.06	.002		
		175.56	177.06	1.50	2185	.01	.001		
		177.06	179.21	1.65	2186	.01	.001		

NOTES

PAGE 10 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-9

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t
		179.21	181.4	2.19	2187	.03	.001
183.71 - 1% to locally 10% py as clots, apparent clast replacements & finely disseminated in matrix.		181.4	183.71	2.31	2188	.02	.001
		183.71	185.11	1.40	2189	.07	.002
		185.11	187.76	2.65	2190	.17	.005
		187.76	189.26	1.50	2191	.14	.004
		189.26	190.8	1.54	2192	.01	.001
		190.8	192.30	1.50	2193	.01	.001
		192.3	193.85	1.55	2194	.05	.001
		193.85	195.35	1.50	2195	.03	.001
		195.35	196.90	1.55	2196	.02	.001
		196.90	198.40	1.50	2197	.01	.001
200.9 - 202.0 - 2-10% v. finely discs py		198.40	199.95	1.55	2198	.12	.004
		199.95	200.90	0.95	2199	.06	.002
202.0 - 202.6 - 1-5% py, <1% aspy in sericitic mod		200.90	202.0	1.10	4750	.02	.001
		202.0	202.8	0.80	4751	.40	.012
202.6 - 203.2 1-5% py at 202.8 - sericitic fault gouge with 1-2% aspy		202.8	203.3	0.50	4752	.33	.010
		203.3	204.8	1.50	4753	.14	.004
203.0 - 2cm fault gouge/breccia with 15% aspy & 2% py		204.8	206.24	1.44	4754	.12	.004
203.3 - 206.24 - 5 - 30% py (locally) + 1% cpy - usually v fine in matrix of porphyry.		206.24	207.59	1.35	2200	.02	.001
		207.59	209.09	1.50	3167	.03	.001
		209.09	210.60	1.50	3168	.02	.001
		210.6	212.44	2.84	3169	.01	.001
206.24 - 210.6 1-4% cubic py rite-corners sub rounded due to rotation.		212.44	215.69	3.25	3170	.02	.001
		215.69	217.19	1.50	3171	.01	.001
		217.19	218.29	1.10	3172	.01	.001
		218.29	219.79	1.50	3173	.01	.001
		219.79	221.28	1.49	3174	.10	.003
		221.28	222.78	1.50	3175	.23	.007
		222.78	224.33	1.55	3176	.43	.013
		224.33	225.83	1.50	3177	1.02	.030

N2/E2

PAGE 11 OF | PROJECT: ROBELE JOINT VENTURE | HOLE NO.

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN QTZ
				1% fuchsitic fragments - usually angular, especially notable near Q+A Vts near 210.5 m.							
230				210.6-212.44 Mass, fg. sericitic mudstone						3	L1
				212.44-215.69 Similar to 206.24-210.60, except chl/fuch clots are smaller + are aligned at 45-60° to CA. Tr-Mupy							
235				215.69-221.28 Light grey with v. v. light green tinge, fairly thickly bedded siltstone. <1% Black Q.C. stringers.							
				221.28-239.45 Thinly bedded argillite/mudstone + minor siltstone. Locally streaky sericite, 2-8% black Q.C. veinlets + stringers, occ 5cm masses. V. local silicification of thin siltstone beds. Beds avg 60-75° to CA. Local slumping/folding of thin beds.						3	L1
240											
245				239.45-243.42 Series of moderately thickly bedded gritty arenites. Grain gradations indicate tops downhole 47/t'n vvws						3	L1
				243.42-251.76 1/B weakly alt'd argillitic mudstone 1-3% qtz-carb (black) stringers, 1% py. (locally 2-3% py)							
250				251.76 E.O.H.							
255											

 | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-9

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
		225.83	227.38	1.55	3178	.04	.001			
		227.38	228.88	1.50	3179	.14	.004			
231.28-239.45 Avg 2% diss to cubic py, locally 1% fine aspy needles - avg aspy content tr.		228.88	230.43	1.55	3180	.75	.022			
		230.43	231.93	1.50	3138	.04	.001			SPLIT ↓
2% fine aspy needles // to bedding at 229.32		231.93	233.48	1.55	3139	.02	.001			
		233.48	234.98	1.50	3140	.01	.001			
229.4-230.05: 5-8% py, usually in bedding // seams.		234.98	236.52	1.54	3141	.03	.001			
		236.52	238.02	1.50	3142	.01	.001			
239.45-243.42 Scattered cubes of py - avg <1%.		238.02	239.45	1.43	3143	.01	.001			
		239.45	241.3	1.85	3144	.01	.001			
		241.3	243.42	2.12	3145	.01	.001			
		243.42	245.67	2.25	3146	.02	.001			
		245.67	248.72	3.05	3147	.01	.001			
		248.72	251.76	3.04	3148	.03	.001			

N2/E2

PAGE	OF	PROJECT:	HOLE NO:

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN Q	
					A	B	C	D	E			

E1

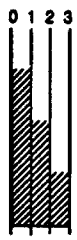
ESSO RESOURCES CANADA LIMITED

ESSO MINERALS CANADA

DRILL LOG

PROJECT: ROBELE JOINT VENTURE (THORNELOE)	GROUND ELEV.
HOLE NO.: T-11	BEARING: 180°
LOCATION: L 3600 E, 3+75 N	DIP: -50°
	TOTAL LENGTH: 462.2m (1516')
LOGGED BY: J. MACPHERSON	HORIZONTAL PROJECT
DATE: DEC. 1/86	VERTICAL PROJECT
CONTRACTOR: J.T. THOMAS DIAMOND DRILLING	
CORE SIZE: BQ	
DATE STARTED: NOV. 28/86	
DATE COMPLETED: DEC. 5/86	

ALTERATION SCALE



absent

slight

moderate

intense

TOTAL SULPHIDE SCALE

traces only

< 1%

1% – 3%

3% – 10%

> 10%

DIP TESTS

300' (91.46m) : 46° 900' (274.39m) : 43°

600' (182.92m) : 44.5° 1200' (365.85) : 44 1/2°

1516' (462.2) : 39°

COMMENTS

HOLE DRILLED TO CROSS-SECTION IP ZONE AND MAG HIGH ZONE.

LEGEND

PAGE 1 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-11

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CHL	E CAL	FRACTURE INTENSITY	% VEIN Q
				0-24.58 OVERBURDEN - Sand, gravel, boulders							
5											
10				24.58-60.6 Argillite ± mudstone. Fine-grained to very fine grained, variably sericitized, locally veined. Thinly bedded, locally slumped or folded.							
15				Moderately strong crenulation cleavage at 70° to CA. Bedding varies from 0-90° to CA. F_1 fol'n is sub-parallel to bedding.							
20				24.58-26.9 Highly deformed, very sericitic 30.85 5 cm fault zone, broken core.							
25				30.70-33.75 - 50% qtz-chl-ank veins, up to 80 cm wide, barren, v. sericitic margins.						3	1
30				41.40-41.7 Broken core, a little veining: fault zone? Unit is darker down hole = more chloritic? 46.85 m: 5 cm sil replacement of mg wacke - 15% py.						7	10
35										3	1
40										3	1
45											

PAGE 2 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-11

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t		
		24.38	26.21	1.83	4922	.01	.001		
24.58- Generally 1% py, locally up to 5% in areas of narrow qtz-carb veining.		26.21	27.71	1.5	4923	.01	.001		
		27.71	28.26	1.5	4924	.01	.001		
28.20-28.50 - more pyritic - 5% over section		28.26	30.80	1.54	4925	.02	.001		
		30.80	32.31	1.51	4926	.04	.001		
		32.31	33.81	1.50	4927	.01	.001		
		33.81	35.36	1.55	4928	.01	.001		
		35.36	36.86	1.50	4929	.01	.001		
		36.86	38.40	1.54	4930	.01	.001		
		38.40	39.90	1.50	4931	.02	.001		
		39.90	41.45	1.55	4932	.01	.001		
		41.45	42.95	1.50	4933	.03	.001		
		42.95	44.45	1.50	4934	.02	.001		
		44.45	46.0	1.50	4935	.01	.001		
		46.0	47.55	1.55	4936	.01	.001		

PAGE 3 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-11

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CHL	E CAL	FRACTURE INTENSITY	% VEIN QTZ
				Around 49 m, CA of bedding are 0°							
				51.2-51.5 - more intense sericite.							
				61.28 m 1cm Q.V., 2% py						6	3
50											
				60.6-61.35 Medium-grained greywacke. Matrix is qtz-ank-ser ± supports clasts of qtz-fsp (alt'd to ankr ser) which are subrounded. 20% py in matrix as cubes + fine							
										5	3
55				disseminations. Occ. rare fuchsitic fragment.							
				61.35-81.08 As per 24.58-60.6, except more sericitic + more pyritic 1-2cm qtz stringers Below 68.26, unit							
										4	2
60				is more buff coloured.							
				61.36 pyritic (1%) qtz strs.							
				62.1-62.85 numerous narrow pyritic qtz str's in sericitized argillite						4	3
65				Below 66m, arg/mudstone become							
				interbedded with thinly bedded f.g. siltstone - a little harder, tr py, wkly silicified, ankeritic.						5	4
				Below 68.4 m, unit is more							
70				sericitic							
				69.21-69.74 Mg wacke, 3-5% py, upper contact at 60° to C.A.							
				More so in the wackes, there are						8	10
				short, bedding ∥, discontinuous str's ± pyrite - a few cm long, often							
75				pinched out + offset a few cm							
				72.05-73.45 Quartz-chlorite-ankerite vein: No py, V.						7	8
				sericitic margins, tr py in W.R.							
				76.55-76.90 Breccia. V. Poorly							
80				sorted angular quartz-fsp-ser-ank clasts in a f.g. chloritic matrix							
				Fine dissting + occ cubes of py						4	3
				in matrix + clasts. All clasts							
85				similar in comp, but vary in							
				size from .5cm to 3-5cm.							
				Sharp upper contact, lower contact							
				marked by 1cm q.v. with							
				very sericitic margins. From						3	2
				76.9 - 81.08 rock is v. sericitic							
90				+ mod silic'd, tr py, very well recrystallized.							

PAGE 4 OF	PROJECT: ROBELE JOINT VENTURE (THORNELOE)	HOLE NO. T-11

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
										SPLIT
60.28m 2% py in 1cm Q.A.V.		47.55	49.10	1.55	3201	.01	.001			
61.35- py in bedding parallel stringers + X-cutting 1-2cm veinlets- avg py in these is 2-5%. Avg for whole section 1-2%.		49.10	50.60	1.50	3202	.01	.001			
		50.60	52.10	1.50	3203	.01	.001			
		52.10	53.64	1.54	3204	.01	.001			
		53.64	55.14	1.50	3205	.02	.001			
		55.14	56.69	1.55	3206	.03	.001			
		56.69	58.10	1.41	3207	.01	.001			
		58.10	59.74	1.64	3208	.01	.001			
		59.74	60.60	0.86	3209	.02	.001			
		60.6	61.35	0.75	4937	.01	.001			SAW
		61.35	62.79	1.44	4938	.02	.001			
		62.79	64.29	1.50	4939	.04	.001			
		64.29	65.84	1.55	4940	.03	.001			
		65.84	67.34	1.50	4941	.01	.001			
		67.34	68.88	1.54	4942	.01	.001			
		68.88	70.38	1.50	4943	.01	.001			
		70.38	71.93	1.55	4944	.01	.001			
		71.93	73.43	1.50	4945	.01	.001			
		73.43	75.08	1.65	4946	.02	.001			
		75.08	76.58	1.50	4947	.01	.001			
		76.58	78.03	1.45	4948	.10	.003			
		78.03	79.50	1.47	4949	.42	.012			
		79.50	81.08	1.58	4950	.01	.001			
		81.08	82.58	1.50	3210	.04	.001			SPLIT
		82.58	84.12	1.54	3211	.26	.008			
		84.12	85.62	1.50	3212	.19	.006			
		85.62	87.17	1.55	3213	.22	.006			
		87.17	88.67	1.50	3214	.01	.001			
		88.67	90.22	1.55	3215	.01	.001			

PAGE 5 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-11

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CHL	E CAL	FRACTURE INTENSITY	% VEIN QTZ
				81.08-90.8 Chloritic argillite/mudstone. Up to 5% pyrite assoc with silica replacements or narrow qtz veinlets						8	1
95				90.8-146.70 Weakly banded magnetic siltstone to massive cherty IF. Becoming wkly-mod'ly magnetic below 95.15 m. Numerous chloritic str's // to bedding in upper 5 m.						5	2
100				93.4-93.6 Fault zone Rusty, broken core to 95.25 m							
				Unit is red-brown, locally bleached grey + white - these areas are non magnetic & generally more pyritic. 1-3% magnetite as blebs & clots. Py as masses or fine dissemination, locally with silic'd IF or narrow qtz str's.						5	2
105				95.25-98.66 greenish-black, some f-g magnetite, a few 10cm red-brown areas						4	3
110				98.66-99.36 - weak crackle fracture, hem alt'n, 1% mag, tr py						5	2
				99.36-100.06 - as per 95.25-98.66							
115				NOTE: Where not described in detail, rock is orange-red with 1-3% diss mag & 1-2% py						4	2
				101.65-102.45 Crackle fractured, a few qtz-carb str's.							
120				105.0 10 cm qtz vein, 15% v. finely diss py							
				from 105.8- rock is moderately bleached & contains from 3-10% py diss in W.R. & in qtz carb stringers & narrow veins. Mod magnetite content.						5	3
125				105.35-106.90 Bleached IF						8	4
				106.06-106.46 more chloritic, no mag							
130				114.85-115.15 - 2cm Qtz vein with 10% py							
				116.15-117.75 - More chloritic (stringers), rock is prob. mg acenite.						9	6
				118.65-119.35 - bleached, tr mag							
135				119.7-120.7 - " "							
				Unit thinly bedded at 65° to C.A.							

PAGE 6 OF | PROJECT: ROBELE - JOINT VENTURE (THORNELOE) | HOLE NO. T-11

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
		90.22	91.80	1.58	3216	.28	.008			SPLIT
		91.8	93.27	1.47	3217	1.45	.042			
		93.27	94.77	1.50	4951	.34	.010	.89 / 55		SAW
		94.77	96.32	1.55	4952	.62	.018			
95.25-98.66 - Tr-1% py, locally 2% in bleached areas		96.32	97.82	1.50	4953	.01	.001			
		97.82	99.36	1.54	4954	.01	.001			
		99.36	101.65	2.29	4955	.01	.001			
		101.65	102.45	0.80	4956	7.45	.317			
		102.45	103.95	1.50	4957	1.37	.040			
		103.95	105.46	1.51	4958	.02	.001			
		105.46	106.96	1.50	4959	.21	.006			
		106.96	108.51	1.55	4960	.01	.001			
		108.51	110.01	1.50	4961	.01	.001			
		110.01	111.56	1.55	4962	.19	.006			
		111.56	113.06	1.50	4963	.04	.001			
		113.06	114.60	1.54	4964	.01	.001			
101.65-102.45 15% diss py in silic IF & narrow Q.C. veinlets		114.6	116.1	1.50	4965	.02	.001			
		116.1	117.65	1.55	4966	.01	.001			
		117.65	119.35	1.70	4967	.12	.004			
		119.35	120.7	1.35	4968	.03	.001			
108.0 - 3-10% diss py, 1% tr mag		120.7	122.15	1.45	4969	1.26	.037			
		122.15	123.75	1.60	4970	.30	.009			
105.35-106.90 3-10% py in bleached & alt'd IF.		123.75	125.30	1.45	4971	.03	.001			
		125.30	126.80	1.50	4972	.01	.001			
		126.80	127.85	1.05	4973	.01	.001			
118.65-119.35 - 3-7% py in bleached IF.		127.85	129.30	1.45	4974	.65	.019			
		129.30	131.30	2.0	4975	4.80	.140			
122.2 - 3-5 cm Q.V., 2-5% py.		131.3	132.89	1.59	4976	.58	.017			
123.2-125.5 5-10% py in heavy crackle fracture.		132.89	134.44	1.55	4977	1.27	.037			2.42 g - .07 oz
127.85-129.3 3-7% py as stringers & disseminations in silic'd cherty unit.		134.44	136.74	2.30	4978	2.38	.069			7.44m 24.4

N2/E2

PAGE #7 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-11

DEPTHS	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CHL	E CAL	FRACTURE INTENSITY	% VEIN QTZ
				122.2 3 cm Q.V., bleached to 122.9							
				123.2-123.5 Heavy crackle fracturer Q.V., few chloritic str's						6	3
140				127.85-129.3 Heavy crackle fracture in cherty unit - no mag							
				130.54-131.30 Broken core, 2% py - possible fault zone?							
				131.30-134.44 - Locally heavily crackle fractured, 5% 5cm Q.V. py from 1% - 10% locally						3	1/2+
145				134.44 -136.74 More chloritic bedding parallel stringers, tr. py to 5% py.							
				136.74-146.70 - Gradational alt'n contact Alt'n fading out coincident with gradational contact btw siltstone IF & underlying finely bedded sediments						3	20
150											
			146.7-189.0	Generally, thinly bedded cherty & argillaceous chloritic sediments, very little alteration. Beds vary from 1-3cm thick & are generally highly contorted & slumped or folded Moderately strong crenulation cleavage at 70°-90° to CA.						3	20
155											
										3	10
160				Local thin interbeds of magnetitic siltstone which exhibit alt'n of magnetite to hematite spatially associated with chlorite.						3	5
				Cherty beds often have semi-massive pyrite associated with them - blebs of 1 cm seams Py is also broken up & cut by very thin siliceous/chloritic stringers.							
165										2	<2
170				186.4-186.7 Weak IF, 3% Py							
										2	<1
175											
										2	<1
180											

PAGE 8 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-11

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
		136.94	138.99	3.05	3218	.34	.010	·		SPLIT
		138.99	142.04	3.05	3219	1.64	.048	·		
		142.04	145.08	3.04	3220	.02	.001	·	.053 / 30'	1.82 / 9.14
10-30% py in narrow quartz vnlt stringers, tr cpy avg g.v. = 25-30%		145.08	146.70	1.62	3221	1.51	.044	·		
		146.7	148.13	1.43	3222	.42	.012	·		
		148.43	151.18	3.05	3223	1.11	.032	·		
		151.18	154.23	3.05	3224	3.34	.097	·		
		154.23	157.28	3.05	3225	1.00	.029	·		
Mass py in beds, disappears		157.28	160.32	3.04	3226	.03	.001			
east 166m.		160.32	163.37	3.05	3227	.28	.008			
		163.37	166.42	3.05	3228	.07	.002			
		166.42	169.47	3.05	4777	.02	.001			SPLIT
		169.47	172.52	3.05	4778	.01	.001			
		172.52	175.57	3.05	4779	.01	.001			
		175.57	178.62	3.05	4780	.01	.001			
		178.62	181.67	3.05	4781	.01	.001			
		181.67	184.72	3.05	4782	.12	.004			
		184.72	186.21	1.49	4783	.01	.001			

N2/E2

PAGE 9 OF | PROJECT: ROBELE JOINT VENTURE (THOKNELOE) | HOLE NO. T-11

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CHL	E CAL	FRACTURE INTENSITY	% VEIN QTZ
				189.0-194.85 Fg greywacke. Fsp clasts alt to ankerite. Chloritic matrix. Thickly bedded. Gradational upper & lower contacts. Slightly altered in bottom meter. (Ser, weak silica)						2	8
185											
				194.85-201.7 Interbedded siltstone & argillite, top 2m wkly altered. Siltstone broken & argillite "flowed" around it. CA vary from 0-90° to CA. A few graphitic slips with narrow Q.V.						3	1
190											
										6	1
195				201.7-208.5 Conglomerate. Moderately altered, (silica, sericite), weakly pyritic. Alteration contacts correspond with bedding contacts. Mainly quartzo-feldspathic sub-rounded clasts in a sericite-quartz matrix. Clast-supported. V. sharp lower alteration & stratigraphic contact with:						3	4
200											
										4	<1
205				208.5-214.5 Thinly bedded graphitic argillite. Black, fine grained 1-2% cubic py in beds. Heavily veined with crenulated qtz-ankerite from 208.5-211.5. These veins have 1-10% py in veins - usually massive, rare dissemination noted. Numerous graphitic slips. Crenulation in beds & qtz veins is ~ 60°-80° to CA						6	5
210										6	8
215				214.5-215.5 Moderately altered mudstone/siltstone. 3% black qtz-ank veinlets.							
				215.5-234.18 1/B Black fg locally graphitic argillite & grey fg-mg siltstone. V. little alteration.						4	2
220				220.25-222.80 - 30% qtz-ankerite veining, some chlorite. Below the veined section, the black fg argillite is a minor component. Light grey mudstone is the most common unit - it has a very l. ..ly						5	5
225											

PAGE 10 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-11

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
		186.31	187.76	1.55	3229	.01	.001			SPLIT
		187.76	189.0	1.24	3230	.01	.001			
		189.0	190.80	1.80	3231	.01	.001			
		190.8	193.85	3.05	3232	.01	.001	Fr	To	
								196.9	198.4	1.5 #4784 .01 .001
		193.85	194.85	1.0	3233	.01	.001			
1-3% py in conglomerate		194.85	196.90	2.05	3234	2.31	.067	198.4	1999	1.5 #4785 .04 .001
		201.7	203.2	1.50	3235	.01	.001	199.9	201.7	1.7 #4786 .02 .001
		203.2	204.7	1.50	3236	.04	.001			
		204.7	206.6	1.90	3237	.11	.003			
		206.6	208.5	1.9	3238	.05	.001			
208.5-211.5 30% pyritic Q.V. in graphitic argillite. 5-10% in veins.		208.5	210.0	1.5	4979	.19	.006			SAW
		210.0	211.5	1.5	4980	.12	.004			SAW
		214.5	215.5	1.0	4981	.01	.001			SAW
214.5-215.5 3% py in Q.A.V. in alt'd mudstone/siltstone										
		220.25	222.80	2.55	4982	.07	.002			"
		222.80	224.33	1.53	3239	0.7	.02			SPLIT
		224.33	227.38	3.05	3240	.02	.001			"
		227.38	230.43	3.05	3241	.01	.001			"

REVEE

PAGE 11 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-11

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CHL	E CAL	FRACTURE INTENSITY	% VEIN Q
				green tinge due to weak sericite alt'n. Unit is cut by 10% qtz ankerite stringers, usually without pyrite. 231.8 - 233.3 75% black fg. argillite						7	10
230				234.18 - 235.0 234.18 2cm Q.A.V. & abrupt sericite alteration contact							
				235.0 - 257.40 1/8 black locally graphitic argillite or fg siltstone or mudstone. 1% diagenetic py. Sericite alteration very weak but increases very gradually to 257.40 The last 1.2 meters of section contains up to 15% black q.a.v. - no py.						7	8
235											
				257.40 - 261.50 More sericitic portion of 235-257.40. 5% black qtz-ankerite stgs w/ tr - 1% py.						3	<1
240				258.48 - 259.25 Quartz - ankerite arsenopyrite vein. Sericitic wallrock.						2	<1
245				261.50 - 294.15 As per 235-257.40 Locally v weakly sericitic. Tr zed py, locally up to 2%.						2	<1
250										2	<1
255										6	10
260										2	<1
265										2	<1
270											

PAGE 12 OF	PROJECT: ROBELE JOINT VENTURE (THORNELOE)	HOLE NO. T-11

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
		230.43	234.18	3.75	3242	.02	.001			SPLIT
213.5-234.8 - Mainly sedpy (1%), ocs py (tr-1%) in black Q.A.V. Possible aspy ???										
		234.18	235.0	0.82	3243	.15	.004			SPLIT
1-3% Py in section 234.18-235.0										
257.40-259.25 - Qtz-anhcrite vein with 2-5% arsenopyrite crystals - tetrahedron - in vein near sericitic aggregates		257.40	258.40	1.0	4983	.01	.001			SAW
		258.4	259.25	0.85	4984	.14	.004			SAW
		259.85	261.5	1.65	4985	.04	.001			SAW
tr-2% py in wallt - wkly sericitic seds.										

PAGE 13 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-11

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CHL	E CAL	FRACTURE INTENSITY	% VEIN Q
										2	<1
275										2	<1
280				282.85 5 cm clay seam						2	<1
				294.15 3 cm Q.A.V.							
285				294.15-344.0 Moderately sericitic weakly silicified argillites & mudstones cut by 3-5% black to grey quartz anterite veinlets. Some with 2-5% py. Some minor siltstone in the section as well, & this is a little more siliceous.						2	<1
290										4	3
295				Bedding angles vary from 0-60° to CA & siliceous replacements are more or less parallel to the bedding.						4	2
300				Black quartz-anterite veinlets can be bedding parallel or X-cut bedding - generally are the former						4	2
305										4	2
310										4	2
315											

PAGE 14 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-11

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
		295.64	295.94	2.30	3244	.09	.003			SPLIT
		295.94	297.48	1.54	3245	.01	.001			
		297.48	298.98	1.50	3246	.09	.003			
		298.98	300.53	1.55	3247	.01	.001			
Avg 1-2% diss py in sericitic mudstone more rarely in narrow black quartz-ankerite stringers.		300.53	302.03	1.50	3248	.02	.001			
		302.08	303.58	1.55	3249	.01	.001			
		303.58	305.08	1.50	3250	.20	.006			
		305.08	306.63	1.55	3251	.12	.004			
		306.63	308.13	1.50	3252	.04	.001			
		308.13	309.68	1.55	3253	.01	.001			
		309.68	311.18	1.50	3254	.08	.002			
		311.18	312.72	1.54	3255	.03	.001			
		312.72	314.22	1.50	3256	.05	.001			
		314.22	315.77	1.55	3257	.04	.001			

N2/E2

PAGE 15 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-11

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CHL	E CAL	FRACTURE INTENSITY	% VEIN Q
				Section continues to 340m, variable sericite, low silica 1%-3% pyrite.						2	4
320											
										2	4
325											
										3	1
330				330-333.4 Moderate silicification, 2 2cm Q.V.							
										3	1
335											
				Below 335m, more thicker bedded siltstone - a few sericite stringers, locally 1-2% black qtz-carb stringers Bedding angles highly variable from 10°-60° to CA.						2	4
340											
										2	4
345				344.0-352.05 Medium grained weakly altered greywacke. Ankerite replacements of clasts up to 2mm in diameter							
				347-350 - 20% quartz crackle fracture, 1-2% py on slips.						8	15
350				352.05-355.19 Finely bedded fg 1/B mudstone & argillite. 2-4% py in bedding // seams about 5mm wide. 1% dark qtz-ank crackle stringers with 1-5% py. Bedding angles average 45° to CA, cross cleavage is at 70° to C.A.						3	1
355											
				355.19-361.0 Silicified fg-mg greywacke. Quite hard. Clasts replaced by qtz + ank [illegible] qtz + ank & late cross cut [illegible] 10° to CA						2	1
360											

PAGE 16 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-11

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
		315.77	317.27	1.50	3258	.01	.001			
		317.27	318.82	1.55	3259	.01	.001			
		318.82	320.32	1.50	3260	.01	.001			
		320.32	321.87	1.55	3261	.01	.001			
		321.87	323.37	1.50	3262	.02	.001			
		323.37	324.92	1.55	3263	.95	028			
		324.92	326.42	1.50	3264	.01	.001			
330 - 2-4% py assoc. with 2		326.42	327.96	1.54	3265	.03	.001			
2cm Q.A.V. + weakly silicified wallrock.		327.96	329.46	1.50	3266	.07	.002			
		329.46	331.01	1.55	3267	.01	.001			
		331.01	332.56	1.55	3268	.01	.001			
		332.56	334.06	1.50	3269	.01	.001			
		334.0	335.56	1.50	3270	.01	.001			
		335.56	337.11	1.55	3271	.02	.001			
		337.11	338.66	1.55	3272	.01	.001			
		338.66	340.16	1.50	3273	.01	.001			
		340.16	341.66	1.50	3274	.01	.001			
		341.66	343.20	1.54	3275	.01	.001			
352.05 - 355.19 2-4% py in bedding // strs + narrow Q.C. veinlets		343.20	344.0	0.80	3276	.03	.001			SPLIT
353.35 5 cm Q.A.V. 20% py		344.0	346.25	2.25	3277	.02	.001			
353.35 - 354.0 Avg 10% py.		346.25	347.7	1.45	3278	.01	.001			
355.19 - 361.0 Avg py = 2%, finely		347.7	349.3	1.60	3279	.01	.001			
disseminated throughout unit.		349.3	350.8	1.50	3280	.01	.001			
Occ 10% py associated with		350.8	352.05	1.25	3281	.04	.001			
1-3cm QAV, ie at 355.57m.		352.05	353.3	1.25	3282	.02	.001			
		353.3	355.19	1.89	3283	.01	.001			
		355.19	356.34	1.15	3284	.01	.001			SPLIT

N2/E2

PAGE 17 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-11

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CHL	E CAL	FRACTURE INTENSITY	% VEIN Q
				A few 10cm interbeds of sericitic argillite							
				355.19-358.82 Mainly fg finely bedded sericitic argillite/mudstone, upper part 1/2 with 20-40 cm greywacke (silicified) beds. Some slumping of beds - where						5	7
365				this occurs, angles to CA decrease to about 10-20° to CA - avg is about 45° to CA.							
				Black Q.A. stks // to bedding are present in amts up to 10% tot.							
370				Rare CA-parallel 1cm Q.A vlts (white) with asc py (notably at 376.82							
375											
380											
385				Medium to Fine grained silicified greywacke							
				358.82-388.80 Quartz replacement ocelets up to 3mm diameter, weak sericite, moderately altered						2	1
390				Sericitic argillite, Fg finely bedded							
				388.80-392.72 Dark QA stks // to bedding up to 5% tot. bed angles is about 40° to CA. fg. // stks remain up to 3% Py						5	3
395				392.72-394.90 Med. to Fg. silicified greywacke local Q.C. veinlets up to 1.5cm						3	2
				394.90 to 400.6 Sericitic argillite, fg. finely bedded Local QAC. veins up to 15cm thick bed angles avg 45° to CA							
400				400.6-407 Med. to Fg. silicified greywacke moderately filled. bedding at 30° to CA						2	1
405											

PAGE 18 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-11

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
Scattered throughout section are numerous .5cm - 2cm bedding parallel bands of qtz tourmaline (dark grey to black) with N1-20% pyrite. Avg content of these in argillite is N 10%, locally to 25%. Almost all have pyrite. Avg py content for section is 5-10%, locally higher. Coarse arsenopyrite needles noted from 375.5-378.47 In this section avg aspy content = 2-4%, avg py = 5-10%. Aspy occurs as well formed isolated needles (up to .5cm long) + as anhedral masses in black bedding parallel Q.A.V.'s		356.34	357.84	1.5	4986	.02	.001			SAW
		357.84	359.34	1.5	4987	.10	.003			
		359.34	361.0	1.66	4988	.02	.001			
		361.0	362.5	1.5	4989	.06	.002			
		362.5	364.0	1.5	4990	.79	.023			
		364.0	366.98	2.98	4991	.03	.001			
		366.98	368.48	1.50	4992	.01	.001			
		368.48	370.03	1.55	4993	.02	.001			
		370.03	371.53	1.50	4994	.04	.001			
		371.53	373.08	1.55	4995	.09	.003			
		373.08	374.58	1.50	4996	.44	.013			
		374.58	376.12	1.54	4997	.10	.003			
		376.12	377.62	1.50	4998	.92	.027			
		377.62	379.17	1.55	4999	.10	.003			
		379.17	380.67	1.50	5000	.11	.003			
		380.67	382.17	1.50	4755	.02	.001			
		382.17	383.67	1.50	4756	.18	.005			
		383.67	385.88	2.21	3285	.03	.001			
Avg Py ≈ 1% Finely disseminated local thin Q.C. veinlets		385.38	387.38	1.50	3286	.01	.001			
		387.38	388.92	1.54	3287	.01	.001			
Q.A. stringers throughout .2cm = 1cm/m // contains up to 25% Py. but avg ≈ 10% through Section		388.92	390.42	1.50	3288	.01	.001			
		390.42	391.97	1.55	3289	.01	.001			
		391.97	393.47	1.50	3290	.02	.001			
393.47 - 394.90 Grey Qtz Py up to 2%		393.47	395.02	1.55	3291	.04	.001			
394.90 - 400.6 Avg Py ≈ 2%, Finely disseminated S.A.C. veinlets		395.02	396.52	1.50	3292	1.19	.035			
		396.52	398.07	1.55	3293	.01	.001			
400.6 - 407 Avg Py = 3-5% local Q.A.C. vein 10cm thick at 403m		398.07	399.57	1.50	3294	.28	.008			
		399.57	401.12	1.55	3295	.37	.011			

PAGE 19 OF | PROJECT: Robele Joint Venture. (Thorneloe) | HOLE NO. T-11

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CHL	E CAL	FRACTURE INTENSITY	% VEIN Q
				401-423.85m Moderately sericitic weakly silicified argillites & mudstones with local QAC up to 8cm, Bedding avg 60° to CA from 407m to 413m then drops to almost 0 at 420m QAC veinlets // bedding						4	2
410										4	2
415										3	2
420										4	2
				423.85m-430.43m Medium to fine grained greywacke moderately altered ankerite rich. Thin QA veinlets up to 5% from 423.85m to 428m weakly sericitic						5	3
425											
430				430.43m-438.12m f.g. finely bedded mod. sericitic argillite/mudstone with ankerite rich-sericite poor beds from 433.35m to 434.3m local thin QAC veinlets // to bedding. Bedding avg. 50° to CA. QAC veinlets contain up to 25% Py						3	1
435											
				438.12m-441.03m Med. to fine grained greywacke weakly altered ankerite poor local QAC veins 3cm thick ie, 438.46m. bedding avg 45° 1-2% Py disseminated						2	1
440											
				441.03m-448.13m Sericitic argillite f.g. finely bedded with local QAC veins up to a few cm thick // beds Bedding avg 55° to CA Fine arsenopyrite needles up to 15% at 446.2m						2	2
445											
				448.13-462.08 Medium to f.g. greywacke with interbeds of gritty arenite up to 1.05m ie. 6mm 45° to CA 10.15m						2	1
450											

PAGE 20 OF | PROJECT: ROBELE JOINT VENTURE (THORNE Lot) | HOLE NO. T-11

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
		401.12	402.64	1.52	3296	.01	.001			
Avg 2-3% diss py throughout but more abundant (up to 5%) from 407 to 413		402.64	404.14	1.50	3297	.03	.001			
		404.14	405.66	1.52	3298	.01	.001			
		405.66	407.21	1.55	3299	1.02	.030			
		407.21	408.71	1.50	3300	.38	.011			
		408.71	410.26	1.55	3302	.02	.001			
		410.26	411.76	1.50	3303	.01	.001			
		411.76	413.31	1.55	3304	.07	.002			
		413.31	414.81	1.60	3305	.01	.001			
		414.81	416.36	1.55	3306	.01	.001			
		416.36	417.86	1.5	3307	.01	.001			
		417.86	419.40	1.54	3308	.01	.001			
		419.40	420.90	1.50	3309	.02	.001			
		420.90	422.45	1.55	3310	.01	.001			
		422.45	423.95	1.50	3311	.01	.001			
Avg 1-2% Py disseminated weakly silicified occ. 10% Py associated with QA veinlets ie at 426m		423.95	425.50	1.55	3312	.01	.001			
		425.50	427.0	1.50	3313	.01	.001			
		427.0	428.55	1.55	3314	.01	.001			
		428.55	430.55	2.0	3315	.01	.001			
Avg 2-3% Py disseminated and in QAC veinlets local green carb. alteration from 433.72 to 433.80 along bedding plane + also from 434.55 to 434.93m assoc. with sericite along bedding planes		430.55	431.60	1.05	3316	.01	.001			
		431.6	433.10	1.50	3317	.01	.001			
		433.10	434.64	1.54	3318	.02	.001			
		434.64	436.19	1.55	3319	.01	.001			
		436.19	438.12	1.93	3320	.01	.001			
		438.12	439.58	1.46	3321	.04	.001			
Avg 1-2% Py disseminated local QAC veins		439.58	441.03	1.45	3322	.03	.001			
		441.03	442.45	1.37	3323	.96	.028			
Avg 1-2% Py and up to 5% Arseno-pyrite needles from 444.2m to 446.86m		442.45	443.79	1.37	3324	.24	.007			
		443.79	445.29	1.5	3325	.38	.011			
		445.29	446.84	1.55	3326	.63	.018			
		446.84	448.12	1.28	3327	1.00	.029			
Avg 1-2% Py local thin QAC veins										
		448.12	449.58	1.46	3328	.02	.001			

PAGE 21 OF | PROJECT: Robele Joint Venture (Thorneloe | HOLE NO. T-11

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION SIL A	SER B	ANK C	CHL D	CAL E	FRACTURE INTENSITY	% VEIN QT
				448.13m - 462.08 Ankerite rich, sericite poor beds - C.G. gritty arenite beds from 448.2m to 449.1m, 452.78m to 452.86m, 453.78m to 453.98m, 454.2m to 454.4m, 460.3m to 460.42m - Bedding avg. 40-45°, 1% Py disseminated. Local thin q.A.C. veins (up to 1cm thick) - Top of gritty arenite beds not determined.						2	1
455											
											2
460											
465											

PAGE 22 OF | PROJECT: Robele Joint Venture (Thorncloe | HOLE NO. T-11

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t		
Avg 1-2% Py, local thin QFC veins		449.88	451.38	1.50	3129	.01	.001		
		451.38	452.93	1.55	3130	.01	.001		
		452.93	454.43	1.50	3131	.01	.001		
		454.43	455.98	1.55	3132	.01	.001		
		455.98	457.53	1.55	3133	.01	.001		
		457.53	459.03	1.50	3134	.01	.001		
		459.03	460.58	1.55	3135	.08	.002		
		460.58	462.08	1.50	31316	.14	.004		

N2/E2

PAGE _ OF | PROJECT: | HOLE NO.

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN

E1

ESSO RESOURCES CANADA LIMITED

ESSO MINERALS CANADA

DRILL LOG

PROJECT: ROBELE JOINT VENTURE (THORNELOE)	GROUND ELEV.
HOLE NO.: T-12	BEARING: 180°
LOCATION: L 3600 E, 3+25 N	DIP: -50°
	TOTAL LENGTH: 406' (123.4m)
LOGGED BY: J. MACPHERSON	HORIZONTAL PROJECT
DATE: DEC. 18/86	VERTICAL PROJECT
CONTRACTOR: J.T. THOMAS DIAMOND DRILLING	**ALTERATION SCALE**
CORE SIZE: BQ.	0 1 2 3 — absent; slight; moderate; intense
DATE STARTED: DEC. 14/86	**TOTAL SULPHIDE SCALE**
DATE COMPLETED: DEC. 16/86	0 1 2 3 4 — traces only; < 1%; 1% – 3%; 3% – 10%; > 10%
DIP TESTS: 406' (123.4m)	
COMMENTS: To test up-dip extension of gold intersection in T-11.	LEGEND

PAGE 1 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-12

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION SIL A	SER B	CARB C	CHL D	CAL E	FRACTURE INTENSITY	% VEIN QTZ
				0-25.6 OVERBURDEN - Sand, boulders.							
				25.6-43.65 Finely bedded argillite/mudstone. Locally highly deformed & brecciated. V. strong circulation cleavage at right angles to C.A.							
				25.6-27.52 - Sediment breccia. V. deformed. Med sericitic, fairly soft. - frags of chert/grey mudstone in matrix of ser-qtz-carb							
				27.52-29.66 Medium grey carb-sericite rock. 1-2% cubic py.							
				29.66-33.86 - Medium-dark green bands B/B with light grey bands. - chl?							
				31.65-32.31 Qtz-carb-ser vein, locally brecciated.							
				33.86-36.80 - A little coarser beds Grey carb alt'n.							
				40.65-41.2 White Qtz-carb-chl vein							
				42.05-42.75 AS ABOVE							
				43.65- Magnetite Iron Formation. Average 1%-5% fine subhedral magnetite grains in a f.g quartz-dankerite-hematite matrix. Orange buff colour. Bedding angles vary from 30-45° to the C.A. Locally heavily silicified & buff-coloured with 5-20% fine diss py.						9	2
				43.65-45.20 Grey buff colour, hard, 44.65-44.9 - Q.A.V., local crackle fraiture						8	4
										6	7
										6	4

PAGE 2 OF | PROJECT: ROBELE JOINT VENTURE | HOLE NO. T-12

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
25.6 - 43.65 Avg 1% py as fine disseminations or well formed cubes.		25.6	27.52	1.92	4757	.19	.006			SAW
		27.52	29.66	2.14	4758	1.81	.053	•		
		29.66	31.65	1.99	4759	.03	.001			
		31.65	32.31	0.66	4760	.01	.001			
		32.31	33.86	1.55	4761	.01	.001			
		33.86	35.36	1.50	4762	.04	.001			
		35.36	36.80	1.44	4763	.13	.004			
		36.80	38.30	1.50	4764	.02	.001			
31.65 - 32.31 QAV with 3-7% py in fractures.		38.30	39.75	1.45	4765	.03	.001			
		39.75	40.65	0.90	4766	.01	.001			
		40.65	41.2	0.55	4767	.01	.001			
		41.2	42.05	0.85	4768	.05	.001			
		42.05	42.75	0.70	4769	.02	.001			
		42.75	43.65	0.90	4770	.06	.002			
		43.65	45.20	1.55	4771	.32	.009			
43.65 - 1-5% fine magnetite grains.										
43.65 - 45.20 = Avg 3-5% py.										

PAGE 3 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-12

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CHL	E CAL	FRACTURE INTENSITY	% VEIN Q
				46.7-48.65 Zone of local crackle fracture, local semi-massive py 47.7-48.2 Q.A.V., 2-3% py. 51.52-52.75 Bleach grey white, with a q.A.v. (1% py) from 52.7-52.75 Local intense crackle, & near total magnetite destruction						6	3
50				53.85-54.45 Highly all'd buff colour From 52.0-52.3 w high all'n, 2cm Q.V. with large cubes of py.						6	4
55				54.45-59.10 Mag. Iron formation with local Q.A. veins @ 58.6m and 58.1m 57.8-57.95 Grey buff colour, hard.						6	3
60				59.10-59.74 Bleach grey to purple with local thin q.A.V., 10-15% From 59.10m to 59.74m 5-8% Py from 59.74m to 61.00m						6	3
65				61.00m-67.6m Mag. I.F. 62.65-62.63m buffed colour moderately hard. 2-3% Py up to 20% Py From 67.40m to 67.60m						5	3
70				67.60m-69.48m Medium to dark grey sericitized I.F. Local thin Q.A.V. 2-3% Py disseminated and locally in thin fractures moderately hard 69.48-71.98 Highly sericitized interbeds (up to 5m) of Q.A. and Q.A. Ser. with gradational contacts up to 50% Py in Q.A beds From 69.98m to 70.45m and						5	3
75				71.15m to 71.98m about 20% Py avg 73.74m to 74.76 Bleach grey to purple with local thin Q.A.V. 5-8% Py avg very hard.						6	3
80				74.76m to 79.60m brownish to grey silicified with local thin Q.A.V. 83.83m to 85.47 Bleach brownish to purple brecciated From 84.04 to 84.40m local fracture of semimassive Py at 84.28 Local Q.A.V 5cm thick at						6	4
85				83.85 and 84.00m						6	3
90											

PAGE 4 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-12

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
46.7-48.65 Locally 15% py over 5cm, several mass py bands. slib parallel to CA		45.2	46.70	1.5	4772	.03	.001			
		46.70	48.65	1.95	4773	.33	.010	•		
		48.65	51.52	2.87	4774	1.28	.037	•	.0	
51.52 - 52.75 Heavily sulfidized 20-30% py locally, avg 10-15%.		51.52	52.75	1.23	4775	4.2	.123	••		.15129
		52.75	53.85	1.10	4776	.15	.004			.0044
52.0-52.3 35% py 2cm Q.V. with 5% py as lg cubes Py - v. bright yellow, shiny.		53.85	54.45	0.60	4777	4.28	.123	•		.6739
		54.45	56.08	1.63	4778	1.00	.029	•		.04729
		56.08	57.65	1.57	4779	.02	.001			.00157 .04727
53.85-54.45m: 10-15% Py avg		57.65	59.10	1.45	4743	.01	.001			.00145
54.45m-59.10m 1-5% magnetite, 3-5% Py avg		59.10	59.74	0.64	4744	7.2	.210	••		.1344
59.10m-59.74m 10-15% Py avg		59.74	61.00	1.26	4745	.25	.007			.00882
59.74-61.00m 5-8% Py avg		61.00	62.79	1.79	4746	.27	.008			.01432
		62.79	64.34	1.55	4747	.03	.001			.00155
61.00-67.6m 1-5% magnetite grains 3-5% Py avg.		64.34	65.84	1.50	4748	.01	.001			.00150
		65.84	67.6	1.76	4748	3.18	.093	•		.16368
67.6m-69.47m 2-3% Py avg		67.6	69.49	1.88	4800	.23	.007			
		69.49	70.50	1.02	2201	.27	.008			.00784
69.48m-70.50m 25-30% Py avg		70.50	71.15	1.65	2202	.43	.013	*		.00845
70.50m-71.15m 10-15% Py avg		71.85	71.98	0.83	2203	6.48	.189	*		.15687
71.15m-71.89m 25-30% Py avg									.21oz/ton over 14 ft	
71.89m-73.74m 1-5% Mag 2-3% Py		71.98	73.74	1.76	2204	13.80	.403	*		.70928
73.74-74.76 5% Py avg		73.74	74.76	1.02	2205	1.31	.038	*		.03876
74.76-76.18 2-3% Py avg		74.76	76.18	1.42	2206	.07	.002			
76.18-78.03 3-5% Py avg		76.18	78.03	1.85	2207	.06	.002			
78.03-79.60 3-5% Py avg		78.03	79.60	1.57	2208	1.44	.042	•		
79.60-81.08 1% Mag. 3-5% Py avg		79.60	81.08	1.48	2209	.01	.001			
81.08-82.40 1% Mag 1-2% Py avg		81.08	82.40	1.32	2210	.01	.001			
82.40-83.85 2% Mag 3-5% Py avg		82.40	83.85	1.45	2211	.01	.001			
83.85-85-47		83.85	85.47	1.62	2212	.05	.001			
85.47-87.17 3-5% mag 2-3% Py		85.47	87.17	1.70	2213	.02	.001			
87.17-88.80m 2% Mag 2% Py avg		87.17	88.80	1.63	2214	.04	.001			
88.80-90.57 5% mag avg. grains up to .5cm 2-3% Py avg		88.80	90.57	1.77	2215	.06	.002			

N2/E2

PAGE 5 OF | PROJECT: Robele Joint Venture (Thorneloe) | HOLE NO. T-12

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CHL	E CAL	FRACTURE INTENSITY	% VEIN
				90.57 - 90.98 m Light grey to brown quartz rich zone with 3 Q.A Veins up to 6cm thick 10-15% Py						6	3
95				94.47 - 95.66 Light brown to grey quartz rich area brecciated locally with local Q.A.V. (up to 1cm) 1-2% Py							
				95.66 - 114.60 Finely bedded argillite/mudstone with crenulation cleavage at 85° to C.A. up to 40% Q.A veins up to 25cm thick ie. 102.16 to 102.41 bedding avg 45-50° 1-2% Py avg disseminated moderately hard						8	2
100											
105										8	2
110										5	3
115				114.60 - 122.75 Medium to fine grained greywacke bedding at 30-35° to C.A. greyish-green colour. 5% Q.A. vein // to bedding. moderately hard 1% Py avg disseminated						5	3
120				123.75 E.O.H.							
125											
130											

PAGE 6 OF | PROJECT: Thorneloe Joint Venture (Thorneloe | HOLE NO. T-12

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t		
90.57-90.98m 10-15% Py in Silica rich area		90.57	90.98	0.41	3216	.21	.006		
		90.98	92.10	1.12	3217	.02	.001		
90.98m-94.47 2-3% Mag avg 2-3% Py avg		92.10	93.27	1.17	3218	.22	.006		
		93.27	94.47	1.20	3219	.01	.001		
94.47-95.66m 1% Py		94.47	95.66	1.19	3220	.01	.001		
		95.66	97.50	1.84	3149	.21	.006		
95.66-114.60 1-2% Py avg disseminated		97.50	99.36	1.86	3150	.06	.002		
		99.36	100.91	1.55	3151	.60	.018	*	
		100.91	102.41	1.50	3152	.69	.020	*	
		102.41	103.96	1.55	3153	.85	.025	*	
		103.96	105.46	1.50	3154	.02	.001		
		105.46	107.01	1.55	3155	.04	.001		
		107.01	108.51	1.50	3156	.10	.003		
		108.51	110.06	1.55	3157	.03	.001		
		110.06	111.56	1.50	3158	.01	.001		
		111.56	113.10	1.54	3159	.01	.001		
		113.10	114.60	1.50	3160	.02	.001		
		114.60	116.10	1.50	3161	.01	.001		
114.60 - 123.75 1% Py avg disseminated		116.10	117.65	1.55	3162	.03	.001		
		117.65	119.15	1.50	3163	.06	.002		
		119.15	120.70	1.55	3164	.04	.001		
		120.70	122.20	1.50	3165	.08	.002		
		122.20	123.75	1.55	3166	.02	.001		
EOH									

N2/E2

AGE OF | PROJECT: | HOLE NO.

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	ALTERATION D	ALTERATION E	FRACTURE INTENSITY	% VEIN

E1

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DRILL LOG

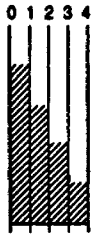
PROJECT: ROBELE JOINT VENTURE (THORNELOE)	GROUND ELEV.
HOLE NO.: T-13	BEARING: 160°
LOCATION: 60m W + 25m N of L 3600E, 3+25N	DIP: -50°
	TOTAL LENGTH: 506' (154.23m)
LOGGED BY: J. MACPHERSON	HORIZONTAL PROJECT
DATE: DEC. 19/86	VERTICAL PROJECT
CONTRACTOR: J.T. THOMAS DIAMOND DRILLING	ALTERATION SCALE
CORE SIZE: BQ	
DATE STARTED: DEC. 16/86	TOTAL SULPHIDE SCALE
DATE COMPLETED: DEC. 19/86	
DIP TESTS: 300' (91.46m) : 48°	
COMMENTS	LEGEND

absent

slight

moderate

intense



traces only

< 1%

1% – 3%

3% – 10%

> 10%

PAGE 1 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-13

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CHL	E CAL	FRACTURE INTENSITY	% VEIN
				0-23.16 OVERBURDEN - Sand, boulders.							
				23.16-24.35 Magnetite Iron Formation, 1-5% fine-grained subhedral magnetite grains scattered in a f.g. siliceous orange-red matrix. A few bedding parallel qtz str's. Bedding locally highly contorted + at low angles to core axis.							
				24.35-25.15 As above, darker matrix, weak carb alt'n (buff colour), nil py.							
				25.15-28.86 IF, as per 23.16-24.35							
				28.86-30.05 40 cm Qtz-ank-chl vein at top of section with moderate carb alt'n below for 80 cm. Lower alt'n contact gradational.							
				30.05-32.31 Alternating orange-red + greenish magnetite-bearing beds. Weak alteration							
				32.31 Beginning of moderate to strong alteration.						2	tr
				32.31-32.71 Qtz-ank-chlorite vein, sheared contacts, no py.							
				32.71-35.9 Medium orange red-buff IF, local magnetite. Appears kind of halfway between the unaltered IF + buff alt'n (silicification)						4	2
				35.9-38.65 Orange-red iron formation, v. similar to 23.16-24.35, except this section contains from 5-10% fine diss py. Higher amts of py occur where magnetite is trace or absent.						5	3
				38.65-45.80 Mainly buff-grey yellow carb rock. Finely banded/bedded at 0-20° to CA. Top 40 cm is blue-grey Qtz with 10% v. fine py. A few fuchsitic frags scattered throughout the unit (ie @ 40.45 m)						6	4
				41.2-41.7 orange-red IF, 3-5% mag, 5-10% py						6	4

PAGE 2 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-13

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
23.16-24.35 tr-1% py, 1-5% magnetite.		23.16	24.35	1.19	2221	.20	.006			
		24.35	25.15	0.80	2222	.01	.001			
		25.15	26.95	1.80	2223	.01	.001			
		26.95	28.86	1.91	2224	.13	.004			
		28.86	30.05	1.19	2225	.01	.001			
30.05-32.31 tr-1% py, inc d-hole		30.05	32.31	2.26	2226	1.02	.03			
32.31- trace to locally 5% diss py		32.31	33.81	1.50	2227	.74	.02			
		33.81	35.90	2.09	2228	1.41	.041	}	2.45 / 3.59	(.07 / 11.81)
35.9-38.65 5-10% finely diss py, locally in clots		35.9	37.4	1.50	2229	3.90	.114	)		
		37.4	38.65	1.25	22730	.05	.001			
		38.65	40.10	1.45	2231	.03	.001			
		40.1	41.2	1.1	2232	.01	.001			
		41.2	41.7	0.5						
		41.7	43.2	1.5	2026	.05	.001			
		43.2	44.50	1.3						
		44.5	45.8	1.30	see over					

PAGE 3 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-13

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CHL	E CAL	FRACTURE INTENSITY	% VEIN Q
				Generally, "carb rock" beds are highly deformed, show moderate crenulation cleavage ⊥ to CA & <1% sub-rounded fuchsitic fragments.						6	10
50			45.80-48.0	Gradational (in terms of alt'n) to above unit is a v. finely bedded unit with numerous bedding ∥ stringers of chlorite. Occ. fuchsitic fragment. Bedding locally contorted & angles vary from 0-60° to CA.						6	8
55			48.0-50.2	Quartz-ankerite-chlorite vein with numerous inclusions of sericitic sediments						5	4
60				48.55-48.75 - finely bedded siliceous seds, 20% py							
			50.2-52.05	Heavy qtz crackle fracture, blue-grey qtz flooding from 50.8-51.6 gradational contacts of alt'n. Local brecciation, v. hard, 2-20% crackle fracture. 51.3-51.5 15 cm qtz vein, grey, with 15% v. fine diss py.							
			52.05-53.8	Grey-green carb rock. Moderately hard, mod ser-ank, wk silicification v. well bedded/banded. Upper & lower contacts v. sharp with iron formation. Possibly unit was a mafic tuff or just finely bedded argillite-mudstone. Beds locally slumped/deformed from 0-30° to CA. Upper & lower contacts at 70° to CA. 1% fuchsitic frags.							
			53.8-58.84	Oxide IF, orange-red for top 1.0m, become grey to black, 1-3% magnetite locally diss'd thout section, v. well bedded at 50° to CA. little deformation. Lots of chloritic stgs. in the lower part of section.							
			58.84-61.79	Highly variable section. Some orange-red IF, CA = 0° (59.5-59.74) 59.74-60.35 - Mod-strong crackle fracture, CA 0-20°, 10-15% py. 60.35-60.55 - Tectonic breccia. 1-3 cm angular frags, some							

PAGE 4 OF	PROJECT: ROBELE JOINT VENTURE (THORNELOE)	HOLE NO. T-13

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
		45.8	46.7	0.9						
					2027	.22	.006			
		46.7	~~47.55~~ 48.0	1.3						
50.2-52.05 5-15% py as fine disseminations and partial fracture fillings.		~~47.55~~ 48.0	50.2	~~2.65~~	2028	.149	.014			
		50.2	52.05	1.85	2233	.18	.005			
52.05-53.8 Py content locally variable, avg 3%, varies from 2-10%		52.05	53.8	1.75	2234	.40	.012			
		53.8	55.3	1.50	2235	.02	.001			
53.8-58.84 3-7% Py avg., locally 10-15% over 10-30 cm.		55.3	56.7	1.4	2236	.02	.001	?		
		56.7	57.55	0.85	2237	.04	.001			
57.4 2cm band of semi-massive py, strong silicification-QV?		57.55	57.95	0.40	2238	1.15	.034	}	1.10	(.032
		57.95	58.84	0.89	2239	1.08	.032	}	1.29	4.23)
		58.84	59.74	0.90	2240	.40	.012			
		59.74	60.35	0.61	2241	1.70	.050			
		60.35	60.55	0.20	2242	.77	.022			
		60.55	61.79		2243	.06	.002			

PAGE 5 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-13

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN QT
				60.55-61.79 Local mars py in 1 cm bands esp. Rear 60.8 Numerous chloritic streaks & stringers giving unit a brecciated cg look. Quite siliceous.						10	60
65				61.79-63.45 Brecciated Quartz-ankerite pyrite vein. Upper contact at 10° to CA, lower contact at 60-70° to CA & appears to be abruptly cut off - maybe this section is an inclusion in the vein breccia system (?). Vein shows signs of numerous opening & remobilization, giving a classic crack-seal texture where not heavily brecciated. Pyrite occurs as masses & fracture fillings in the vein. Average py = 30%, locally to 60% over 10 cm. Interior fracture fillings of tourmaline, graphite (?), chlorite & fuchsite (?) are common. Section is an excellent example of a fracture system undergoing numerous opening & subsequent injection of mineralizing fluids.						6	20
70				63.45-66.05 Brecciated & heavily silicified weakly banded argillite or mafic tuff. Quite chloritic. Banding at 40-90° to CA, crenulation cleavage at 60° to CA. Banding dies out abruptly at 64.0 m From 64.0-66.05, unit is a quartz-chl-ankerite-pyrite breccia.							
				66.05 Sharp contact at 10° to CA.							
				66.05-67.6 Well banded sericite-quartz carbonate rock. Numerous bedding parallel quartz-ankerite veinlets, 1-3 cm wide, with 2-5% py. Numerous chloritic blebs 1-5 mm in diameter, avg 5% of rock. 67.15-67.35 - more chloritic, banding less ↓ to Py + no QAV.							

PAGE 6 OF	PROJECT: ROBELE JOINT VENTURE (THORNELOE)	HOLE NO. T-13

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
		61.79	63.45	1.66	2244	3.0	.088		3.0	(.088
									1.66	(5.4)
		63.45	64.0	0.55	2245	.17	.005			
Q.V. shows crack-seal texture.										
Py occurs as fracture fillings in vein & as amorphous masses.		64.0	65.0	1.0	2246	.19	.006			
Avg py = 30%, locally 60% over 10 cm.		65.0	66.05	1.05	2247	.21	.006			
		66.05	67.6	1.55	2248	.47	.014			
63.45 - 64.0 Py = 5%, diss & as bedding // seams.										
64.0 - 66.05 Py avg 20%, locally 30% over 10cm sections of most heavily brecciated sections.										
66.05 - 67.6 Py occurs as cubes and masses, usually in or near bedding // QAV. Avg Py is 7%, locally to 15%										

PROJECT: ROBELE JOINT VENTURE (THORNELOE)

HOLE NO. T-13

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CHL	E CAL	FRACTURE INTENSITY	% VEIN Q	
				66.05-67.6 (cont'd) Final 10cm of section is heavily silic'd & pyritic (40%), but still shows banding at 60-70° to CA.								
				67.6 Contact. Quartz-pyrite-carb-chlorite breccia vein margin?? Contact at ≤10° to CA., but lower part of contact is cut off at 60° to CA.))								
				well banded py tsil QAV. breccia 10cm down hole								
				Cut off vein may be due to late movement along fol'n plane.								
				67.6-68.3 Quartz-chlorite-pyrite breccia. Possibly brecciated qtz vein, Med greenish, Variably siliceous.								
				68.3-69.4 Quartz pyrite breccia, highest degree of sil/py in top 25cm. Shows moderately good crackle fracture with 5% chloritic stringers. Upper contact @ 75° to CA. Unit appears to have faint banding/bedding at 60-70° to CA, especially from 69.1-69.4m								
				69.4-70.08 Late pink quartz vein with 3% chloritic fracture fillings. Contact at ~60° to CA. Lower 15cm has inclusions of pyritic & sericitic wallrock.								
				70.08-72.75 Weakly to moderately banded at 60-70° to CA, locally heavily silicified & brecciated & in other places it is quite chloritic (stringers & clots). Lower contact heavily brecciated & at 70° to CA - quite sharp, though. 70.9-72.45 - More buff coloured, harder, avg 15% py								
				72.95-73.80 Locally sericitic & siliceous (crackle fracture) IF - no way. Well banded at 65° to CA								

PAGE 8 OF	PROJECT: ROBELE JOINT VENTURE (THORNELOE)	HOLE NO. T-13

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
67.6 - 68.3 5-15% py as poorly formed cubes & blebs.		67.6	68.3	0.70	2249	.38	.011	—		
		68.3	69.4	1.10	2250	1.22	.036			
68.3 - 69.4 Avg 20% py locally to 40-50% (esp from 68.3 = (68.55)		69.4	70.08	0.68	2251	0.43	.013		.74g / 6.7m	(.022 / 21.9)
		70.08	70.90	0.82	2252	.98	.029			
70.08 - 72.75 - Py occurs as subhedral cubes and blebs and also as fine dissemination in fractures. Avg py content is 10%, locally 20%.		70.90	72.45	1.55	2253	.81	.024			
		72.45	72.75	0.30	2254	1.00	.029	—		

PAGE 9 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-13

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CHL	E CAL	FRACTURE INTENSITY	% VEIN
				Bottom 30 cm heavily silic, fractured with 25% QV. Upper 25 cm mod. sericitic, with 25% py as clots + blebs stretched sub // to bedding / fol'n						8	20
70				73.90-75.76 Iron Formation. Still silicified + alt'd enough to destroy magnetite. Orange-red colour becomes more prominent down the hole.						6	15
75				75.76-77.0 Banded (at 65° To CA) orange-red IF, 1-2% locally 2-4mm anhedral magnetite grains.							
				77.0-78.83 Quartz vein. Light pink hue, 5% chloritic stringers, some sericite also. Tr py, usually near inclusions of wallrock. Upper contact at 15° to CA, lower contact undefined.						5	10
80										5	8
85				78.83-88.55 Iron Formation. Typical unit with magnetite grains locally max 5%. Variably pyritic. Usual pale orange-green colour. Weakly banded at 65° to CA. 79.25 rusted, muggy for 20 cm.						4	3
90				80.78-82.4 lighter colour, only trace of the orange-red colour, tr mag							
				86.6-88.55 - Pale grey green, v. slight orange tinge.						4	3
95				88.55-96.5 Moderately to strongly sericitic + mod. siliceous sediment (poss. alt'd mod thickly bedded siltstone/mudstone). Colour is pale green, locally darker due to chlorite. 91.1-97.7 3-5% py, grey buff						3	3
100				Below 93.5 - a few fuchsitic frags noted - subrounded or stretched // to f. fol'n (@ ~55° to CA)							
				96.5-97.7 Grey buff, well banded, mod. siliceous, abrupt upper + lower contacts. Numerous chloritic slips, some talcose (?) slip planes as well							
105				97.7-105.2 As per 88.55-96.5, except last 2 m are much more chloritic.							
110				101.55-102.41 CA ~0°, a 2cm QAV							

PAGE 10 OF : , PROJECT: ROBELE JOINT VENTURE (THORNELOE) HOLE NO. T-13

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t
Q.V. in bottom 30 cm of 72.95-73.90 have 20% py. Rest of section has 10% py.		72.95	73.80	0.85	2255	.38	.011
		73.80	74.51	0.71	2256	.36	.011
		74.51	74.98	0.48	2257	.27	.008
73.90-75.76 Py avg 5-7%, locally to 20-30%, esp at 74.50-74.80, where 2 2cm bands of mass py occur in a 20cm Q.V. or highly silicified section of the IF		74.98	75.76	0.82	2258	.21	.006
		75.76	77.00	1.24	2259	.19	.006
		77.00	78.83	1.83	2260	.04	.001
		78.83	80.78	1.95	2261	.01	.001
75.76-77.0 3-7% py, as poorly formed cubes + blebs.		80.78	82.4	1.62	2262	.01	.001
		82.4	84.12	1.78	2263	.02	.001
		84.12	86.6	2.48	2264	.01	.001
78.83 - Tr-2% py locally.		86.6	88.55	1.95	2265	.03	.001
		88.55	91.1	2.55	2266	.22	.006
88.55-96.5 Tr-2% py, usually as blebs or rarely as bedding // stringers		91.1	91.7	0.60	2267	.45	.013
		91.7	93.27	1.57	2268	.01	.001
		93.27	93.85	1.58	2269	.01	.001
		93.85	96.5	1.65	2270	.23	.007
96.5-97.7 3-5% py.		96.5	97.7	1.2	2271	4.34	.124
		97.7	99.36	1.66	2272	.02	.001
		99.36	101.55	2.19	2273	.03	.001
		101.55	102.7	1.15	2274	.01	.001
		102.7	104.2	1.5	2275	.01	.001
		104.2	105.2	1.0	2276	.01	.001
		105.2	106.3	1.10	2277	.01	.001
		106.3	107.8	1.50	2278	.01	.001
		107.8	109.35	1.50	2279	.01	.001
		109.35	110.85	1.50	2280	.03	.001
		110.85	112.1	1.25	2281	.01	.001

PAGE 11 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-13

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN
				at near 0° to CA contains 2-5% fine cubic py.							
				105.2-106.3 Orang-red 1F, 1-2% mag, 2% py						5	5
115				106.3-112.1 As per 97.7-105.2 Quite sericitic, mod well banded, mod hard. Qtz-sericite schist? Locally v. slumped/deformed. Similar to material in O/c on river.						4	3
120				112.1-117.6 Sericite-carbonate-quartz schist. Alternating bands of sericite (pale green, soft), ankerite (buff-brown) and silica (light grey to white, hard) - bands usually 1-2 cm thick. Unit v highly deformed. Becomes more Chloritic d-hole						2	4
125										2	4
170				117.6-138.7 Fg to Mg, gritty arenite, chloritic - as stringers and bedding parallel seams. U. weakly altered to unaltered. Occasional Q.A Vb, rarely with fr py. Gradational downhole to conglomerate which is matrix supported (chlorite/sericite) and consists of varied size clasts (1 cm - 3 cm diam) of greeloominantly mudstone/siltstone, with minor chert +/or porphyry. Contact with conglomerate is gradational + occurs around 130 m						2	1
135										2	1
140										3	2
145				Below 135.2, rock becomes weakly sericite altered - gradational alt'n contacts.						3	2
150				138.7-140.5 Weakly sericitic fg mudstone/argillite.							
				140.5-140.8 Qtz-ank veins, marking end of alteration.							
155				140.8-154.23 Graphitic argillite. Graphite on slip planes. 1-2% cubic py						3	2

PAGE 12 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-13

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
97.7-105.2 Avg py = 3%. Some semi-massive bands // to bedding, ~.5 cm thick.		112.1	113.1	1.0	2282	.20	.006			
		113.1	114.6	1.5	3190	.07	.002			SPLIT
		114.6	116.1	1.5	3191	1.82	.053			↓
106.3-112.1 Locally semi-massive py in lenses or beds.		116.1	117.60	1.5	3192	.04	.001			
		117.6	119.2	1.6	3193	.01	.001			SPLIT
112.1-117.6 Avg py 2-3%. as fine disseminations along bedding contacts.		119.2	120.7	1.5	3194	.01	.001			↓
		120.7	122.2	1.5	3195	.02	.001			
117.6- Tr-2% (only locally) py		122.2	123.75	1.55	3196	.01	.001			
		123.75	125.25	1.50	3197	.01	.001			
		125.25	126.8	1.55	3198	.01	.001			
		126.8	128.3	1.50	3199	.02	.001			
		128.3	129.84	1.54	3200	.01	.001			
		129.84	131.44	1.60	2001	.02	.001			
		131.44	132.99	1.55	2002	.01	.001			
		132.99	134.49	1.50	2003	.01	.001			
		134.49	135.94	1.55	2004	.01	.001			
		135.94	137.44	1.50	2005	.03	.001			
		137.44	138.99	1.55	2006	1.19	.035			
		138.99	140.5	1.56	2007	.04	.001			
		140.5	142.03	1.53	3181	.01	.001			
		142.03	143.53	1.50	3182	.02	.001			
		143.53	145.08	1.55	3183	.01	.001			
		145.08	146.58	1.50	3184	.01	.001			
		146.58	148.13	1.55	3185	.01	.001			
		148.13	149.63	1.50	3186	.02	.001			
		149.63	151.18	1.55	3187	.001	.001			
		151.18	152.68	1.50	3188	.001	.001			
		152.68	154.23	1.55	3189	.001	.001			

N2/E2

PAGE 13 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. TH3

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CHL	E CAL	FRACTURE INTENSITY	% VEIN QZ
				145.18 2cm Q.V., 2-3% py							
				147.78 10cm Q.A.V., 3% mass py blebs.							
				153.23 E.O.H.							

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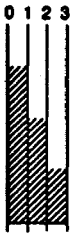
DRILL LOG

PROJECT: ROBELE JOINT VENTURE (THORNELOE)	GROUND ELEV.
HOLE NO.: T-14	BEARING: 180°
LOCATION: 25 m W + 40 m N of L3600E, 3+25 N	DIP: -45°
	TOTAL LENGTH: 145.08 m
LOGGED BY: J. MACPHERSON	HORIZONTAL PROJECT
DATE: DEC. 22/86	VERTICAL PROJECT
CONTRACTOR: J. T. THOMAS DIAMOND DRILLING	
CORE SIZE: BQ	
DATE STARTED: DEC. 19/86	
DATE COMPLETED: DEC. 21/86	
DIP TESTS: 70.12 m : 40° 145.12 m : 39.5°	

ALTERATION SCALE



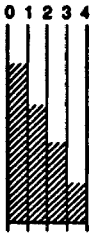
absent

slight

moderate

intense

TOTAL SULPHIDE SCALE



traces only

< 1%

1% – 3%

3% – 10%

> 10%

COMMENTS

LEGEND

PAGE 1 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-14

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION SIL A	SER B	ANK C	CAL D	CHL E	FRACTURE INTENSITY	% VEIN QTZ.
				0-24.39 OVERBURDEN - SAND, BOULDERS.							
5				24.39-66.24 Finely to thickly bedded sequence of mudstone ± argillite, very sericitic, mod ank, wk sil, V. low py content, tr asp (?) Locally slightly more silicified May be some v. fine py in v. narrow q.v. at low angles to CA, but these make up v small % of total core.							
10											
15											
20				59.95-62.75 Quartz vein. Numerous inclusions of sericitic C.R. - some of these have tr-1% py.							
25										3	<1
30										3	<1
35										3	<1
40										3	<1
45											

PAGE 2 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-14

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
		24.39	26.21	1.82	2008	.05	.001			SPLIT
		26.21	29.26	3.05	2009	.03	.001			"
		29.26	32.31	3.05	4791	.01	.001			SAW
		32.31	35.36	3.05	2021	.02	.001			SPLIT
		35.36	38.41	3.05	4790	.02	.001			SAW
		38.41	41.46	3.05	2022	.05	.001			SPLIT
		41.46	44.51	3.05	2026	.05	.001			SPLIT
		44.51	47.55	3.04	2027	.22	.006			"

N2/E2

PAGE 3 OF | PROJECT: ROBELE J.V. | HOLE NO. T-14

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN QTZ
				66.24-79.90 More siliceous, less sericitic, more carb. Buff grey colour, locally highly brecciated. 66.24-69.59 more siliceous, 30-40% py locally Q.A.V. sub // to CA with 10-15% py in them. 2% chl str's.						3	4
50				Strong crenulation cleavage @ 60° to C.A.						3	4
55				71.12-71.94 Well banded, with 20° py in bands.							
				71.94-73.94 Mod sil, weak local brecciation, 2-10% py latter locally over 5-10cm						6	50
60				73.94-75.12 Poss. crack-seal vein at v. shallow angles to CA.						6	40
65				77.63-79.1 High silicin, up to 40% disc py, well banded at 70° to C.A.						7	20
				79.90-103.50 Orange-red Iron Formation locally to ~3% subhedral magnetite grains. Usually well banded @ 60-70° to C.A.						3	4
75				Massive, very uniform, little alteration other than v. local silicification						3	4
80										3	4
85										3	4
90											

PAGE 4 OF | PROJECT: | HOLE NO. T-14

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	TO	WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	Au oz/t			
		47.55	50.60	3.05	2028	.49	.014			SPLIT
		50.60	53.65	3.05	2792	.01	.001			SAW
		53.65	56.70	3.05	2023	.04	.001			SPLIT
		56.70	59.75	3.05	2024	.16	.005			SPLIT
		59.75	62.79	3.04	2025	.01	.001			SPLIT
		62.79	66.24	3.45	2283	.01	.001			SAW ↓
		66.24	66.75	0.51	2284	.03	.001			
		66.75	68.12	1.37	2285	.28	.008			
		68.12	69.59	1.47	2286	.20	.006			
66.75 - 68.12 - well mineralized with py, 20% QAV sub // to C.A.		69.59	71.12	1.53	2290	.04	.001			
		71.12	71.94	0.82	2291	.60	.018			
71.12 - 71.94 20% py as bands		71.94	73.94	2.00	2292	1.05	.031			
73.94 - 75.12 20-30% py in narrow crack-seal vein - drilling sub-// to vein.		73.94	75.12	1.18	2293	3.12	.091	1.31 5.69	.038 .18.67	
		75.12	77.63	2.51	2294	.66	.019			
77.63 - 79.1 40% py locally over 15 cm		77.63	79.1	1.47	2295	.37	.011			
		79.1	79.90	0.80	2296	.02	.001			
		79.90	81.08	1.18	2297	.01	.001			
79.90 - in IF, 1-3% mag, tr - 5% (locally) py to 103.50 m		81.08	82.58	1.50	2298	.22	.006			
		82.58	84.12	1.54	2299	.80	.023			
		84.12	85.62	1.50	2300	.06	.002			
		85.62	87.17	1.55	2024	.01	.001			
		87.17	88.67	1.50	2030	.20	.006			
		88.67	90.22	1.55	2031	.02	.001			
		90.22	91.72	1.50	2032	.14	.004			

PAGE 5 OF | PROJECT: | HOLE NO. T-14

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANH	D CAL	E CHL	FRACTURE INTENSITY	% VEIN
				103.50-116.45 Still IF, but showing effects of wk-mod sil alt'n & inc. py content.						3	4
95				103.50-103.80 Intense sil'n, banded 70° to CA.							
				104.86-106.12 Silic'd section, weak crackle.						4	1
100				107.0-109.05 Qtz-ank vein, with 5% sericitic inclusions, 3% chlorite fracture fills. Contacts @ ~ 80° to CA.						5	3
105				109.05-110.0 Buff grey-brown carb rock. 3% angular jasper clasts (?), well banded at 60° to CA. Gradational lower contact, sharp upper contact with Q.A.V.						5	3
110				110.0-116.45 Blue-grey (purple?) IF, locally highly crackle fractured. Several 2cm vuggy Q.V. with 23% py near end of section						6	8
115				116.45-118.25 Wk alt'd orange-red alt'n IF, wk py.						5	5
120				118.25-119.80 Slightly more chloritic, 1% mag, tr-1% py							
				119.80-120.45 As per 116.45-118.25							
				120.45-121.25 Highly silic, 10-15% py in Q.A.V.						5	3
125				121.25-128.30 IF, locally crackle fractured with 5-15% py. Heavy bluish crackle from 124.4-124.55							
				128.3-145.08 Finely bedded v weakly alt'd to unalt'd argillite & mudstone, tr-2% py. locally deformed, but common CA = 60°. Locally brecciated & silic'd over a few cm (ie at 137.25m)						5	3
130										8	2
135											

PAGE 6 OF | PROJECT: | HOLE NO. T-14

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t
		91.72	93.27	1.55	2033	.01	.001
		93.27	94.77	1.50	2034	.01	.001
		94.77	96.32	1.55	2035	.01	.001
		96.32	97.82	1.50	2036	.02	.001
		97.82	99.37	1.55	2037	.03	.001
		99.37	100.87	1.50	2038	.04	.001
		100.87	102.41	1.54	2039	.01	.001
103.5 - 103.80 Banded silic'd		102.41	103.50	1.09	2040	.01	.001
section, 20% py over 30cm		103.50	103.80	0.30	2041	.07	.002
		103.80	104.86	1.06	2042	.03	.001
		104.86	106.12	1.26	2043	.13	.004
104.86-106.12 5-7% py, locally		106.12	107.0	0.88	2044	.10	.003
10% over 10 cm.		107.0	109.05	2.05	2045	.69	.020
		109.05	110.0	0.95	2046	.01	.001
107.0 - 109.05 1% py in		110.0	111.56	1.56	2047	.06	.001
sericitic inclusions in Q.V.		111.56	113.06	1.50	2048	.01	.001
		113.06	114.60	1.54	2049	.01	.001
109.05 - 110.0 1-2% py		114.60	116.45	1.85	2050	.01	.001
		116.45	118.25	1.80	2051	.02	.001
110.0 - 2-10% py, dep on degree		118.25	119.80	1.55	2052	.02	.001
112 at crackle fracture		119.80	120.45	0.65	2053	.01	.001
		120.45	121.25	0.80	2054	.02	.001
115.15 - 115.35 More py (10%),		121.25	122.75	1.50	2055	.02	.001
3-4% v.fine py in		122.75	123.75	1.0	2056	.01	.001
vuggy Q.V. at 115.30		123.75	125.25	1.50	2057	.02	.001
		125.25	126.80	1.55	2058	.03	.001
		126.80	128.30	1.50	2059	.01	.001
1cm vuggy Q.V. at 116.30		128.30	129.84	1.54	2010	.02	.001
with 2% v.finely diss py		129.84	131.34	1.50	2011	.16	.005
		131.34	132.89	1.55	2012	.10	.003
		132.89	134.39	1.50	2013	.06	.002

N2/E2

PAGE 7 OF | PROJECT: | HOLE NO. T-14

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CHL	E CAL	FRACTURE INTENSITY	% VEIN	
140				Weakly chloritic over the last 5 m.								
145				145.08 E.O.H.								

PAGE 8 OF 8 | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-14

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
		134.39	135.94	1.55	2014	.73	.021			
Py content < 1%		135.94	137.44	1.50	2015	.55	.016			
		137.44	138.99	1.55	2016	.01	.001			
		138.99	140.49	1.50	2017	.05	.001			
		140.49	142.04	1.55	2018	.15	.004			
		142.04	143.54	1.50	2019	.04	.001			
		143.54	145.08	1.54	2020	.10	.003			

N2-E2

PAGE OF | PROJECT: | HOLE NO.

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN	

E1

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DRILL LOG

PROJECT: ROBELE JOINT VENTURE (THORNELOE)	GROUND ELEV.
HOLE NO.: T-15	BEARING: 180°
LOCATION: 60 m E of L 3600 E, 3+25 N	DIP: -45°
	TOTAL LENGTH: 160.32 m (526')
LOGGED BY: J. MACPHERSON	HORIZONTAL PROJECT: 113.36 m
DATE: JAN. 21/87	VERTICAL PROJECT: 113.36 m
CONTRACTOR: LONGYEAR DRILLING Co.	
CORE SIZE: BQ	
DATE STARTED: JAN. 18/86	
DATE COMPLETED: JAN 21/86	
DIP TESTS: —	

ALTERATION SCALE

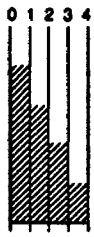
absent

slight

moderate

Intense

TOTAL SULPHIDE SCALE



traces only

< 1%

1% – 3%

3% – 10%

> 10%

COMMENTS

LEGEND

PAGE 1 OF 10 | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-15

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN QTZ
				0-32.3 OVERBURDEN; SAND, GRAVEL, BOULDERS							
				32.3-53.7 Heavily sericite-altered finely bedded mudstone-argillite + siltstone. (Sericite-ankerite schist). Consists of || sericite-rich + qte tourm rich (≤ 1.5cm) beds, at 60° to CA. Rock mod. soft, tr - 0.5% fine py. Quite uniform, very locally (esp at top of hole), beds are deformed @ 10-30° to CA. 53.4-53.8 - alth (sericite) fades rapidly, + rock is still I/B mudstone-arg + siltstone.							
				53.7-60.1 I/B argillite + siltstone, weakly carb + sericite altered. 55.9-59.4 - beds deformed at 0-30° to CA.							
				57.7 Strong foliation (crenulation cleavage?) at 90° to CA - at 60-70° to beds (which are at 10-30° to CA) - late fracturing?							

PAGE 2 OF 10 | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-15

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
32.3-53.7 Tr-1% fine py		32.31	33.40	1.09	2301	0.65	.019			
		33.40	34.44	1.04	2302	1.40	.041			.89 g/t (.025 / 16') / 4.88 m
		34.44	35.75	1.31	2303	0.57	.017			
53.7-60.1 Avg <1% py, 1-2 cm seam semi-massive py		35.75	37.19	1.44	2304	1.01	.029			
		37.19	28.40	1.21	2305	0.14	.004			
		38.40	39.90	1.50	2306	.04	.001			
		39.90	41.45	1.55	2307	.18	.005			
		41.45	42.95	1.50	2308	1.41	.041			
		42.95	44.50	1.55	2309	0.23	.007			
		44.50	46.00	1.50	2310	.02	.001			
		46.00	47.55	1.55	2311	.01	.001			
		47.55	49.05	1.50	2312	.01	.001			
		49.05	50.6	1.55	2313	.01	.001			
		50.6	52.40	1.50	2314	.05	.001			

N2/E2

PAGE 3. OF 10 | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-15

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN QTZ
50											
55				60.1-69.2 argillite + mudstone containing up to 5% magnetite grains locally (up to 3mm) local reddish alteration colour (i.e. 60.2 to 60.3m, 61.1m to 61.43m, 61.55 to 61.70m) foliation still around 90°, tr-1% Py Q.A. rich beds							2 1
60										3	1
65				69.2-70.1 Mod-str alt'd "ironstone" in gradational contact up-hole with v. finely banded carb-sericite rock. Lower contact gradational in to much weaker altered f.g. arenites. Alt'd section has typical orange (kein?) colour, + contains ca 1-2% magnetite. Weak crenulation cleavage at 45° to CA. F. fol'n at 70° to CA						4	1
70				70.1-71.73 Moderately thickly bedded wk alt'd f.g. gritty arenite. Patchy orange Fe alt'n, v. grad. contacts of alt'n.						4	1
75				71.73-73.48 As above, stronger alt'n.							
				73.48-74.86 Intensity of alt'n less again, v. similar to 70.1-71.73. Well banded @ 45° to CA, cren. cleavage at 30° to CA. (⊥ to f. fol'n)							
				74.86-76.15 Carb-qtz-ser schist. Strong alt'n Well banded carb/qtz + ser layers < 1.5cm thick - also v. narrow ser str's ~ 90° to CA. Locally qtz phyric, especially near lower contact. <1% Black fol'n // stringers. Good sulphide content, as subhedral blebs							

PAGE 4 OF '10 | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-15

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t
		52.1	53.64	1.54	2315	0.72	.021
		53.64	55.14	1.50	2316	.03	.01
		55.14	56.69	1.55	2317	1.05	.031
		56.69	58.39	1.70	2318	.01	.001
		58.39	60.02	1.63	2319	.01	.001
		60.02	61.15	1.13	2320	.01	.001
		61.15	61.46	.31	2321	.01	.001
		61.46	61.96	.50	2322	.02	.001
		61.96	62.98	1.02	2823	.01	.001
61.01-69.2 Tr-1% Py		62.98	63.77	0.79	2324	.01	.001
		63.77	65.30	1.53	2325	.01	.001
69.2-70.1 1-2% mag as fol'n //		65.30	66.7	1.4	2326	.02	.001
stringers x discrete subhedral		66.7	68.0	1.3	2327	.01	.001
grains 1% py as streaks		68.0	69.2	1.2	2328	.05	.001
subll to f. fol'n.		69.2	70.1	0.9	2329	.03	.001
70.1-71.73 Tr py		70.1	71.73	1.63	2330	.01	.001
71.73-73.48 2% mag, 1-2% py		71.73	73.48	1.75	2331	.14	.004
		73.48	74.86	1.38	2332	.09	.003
		74.86	76.15	1.29	2333	3.38	.100

N2/E2

PROJECT: ROBELE JOINT VENTURE (THORNELOE)

HOLE NO. 7-15

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN QTZ
				which may be replacements of original Magnetite as seen in above sections.							
				76.16-77.0 Magnetite-rich alteration section. Top 25 cm ~ 2-3% mag, remainder of section 1-2% mag. Top 25 cm reddish in colour, patchy strong to intense purple qtz-carb alt'n, with accompanying pyritization.						9	2
				Numerous dark narrow stringers roughly oriented @ 65° to CA. Local (1-2 cm) spots of buff alt'n with mod-heavy py. Partial magnetite destruction by py replacement.						9	5
				77.0-77.72 Mod-heavy crackle fracture. Colour is blue-purple, a few mag specks visible. A few v narrow pyritic qtz v at 0-5° to CA.						6	<1
				77.72-80.76 Moderately to well banded magnetite-rich unit. Locally crackle fractured, not as intense as 77.0-77.72. Reddish-orange colour patchy, is dir correlated with % of magnetite. Appears that the orange colour is broken by intruding patches of qtz-carb which have v. indistinct boundaries.						3	2
				80.76-85.60 Heavy to intense crackle fracture - blue-purple, well pyritized, only tr local magnetite. 20% irregular qtz str's, some of which are very sulfidic. Most intense section is from 81.9-84.15							
				85.6-87.89 Weak mag ironstone. Tr mag, Tr py. Upper contact v. sharp, marked by 2 cm chloritic shear. Locally v. patchy crackle fractured over 5-10 cm.							

PAGE 6 OF 10 | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-15

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
75.16-77.0 Avg 2% mag, diss, subhedral, 3-7% py locally variable, as fine diss'ng, may replacements, rare stringers.		76.08	77.0	0.84	2334	.12	.004			
77.0-77.72 Py occurs as thin fracture fillings & fine diss'ns. Avg 2%.		77.0	77.72	0.72	2335	.83	.024			
77.72-80.76 - +2% mag, 2-3% py, up to 5% py over 10-20cm.		77.72	79.22	1.50	2336	.03	.001			
		79.22	80.76	1.54	2337	5.32	.155			8.192 / 1.094
80.76-85.60 - 5-15% py in crackle fractures (near 100% in a few v narrow strs), as fine diss'ns. Tr mag.		80.76	81.9	1.14	2338	.96	.028			
		81.9	82.71	0.81	2339	1.22	.036			.988
Note at 83.11 m - a subhedral "cube" - with pyrite habit - but still magnetic - halfway btw mag & py?		82.71	84.13	1.42	2340	.49	.014			.696
		84.13	85.60	1.47	2341	1.28	.037			1.882
Highest py content in 82.71-84.13 - near 15% avg.									3.98 / 9.57	17.633
		85.6	87.89	2.29	2342	7.70	.221	7.92 / 3.19	231 / 10.5	
85.6-87.89 - Tr-1% py, 1% mag		87.89	88.79	0.90	2343	8.49	.248			7.641
				9.57						38.126
						.116 oz/t / 81.4 Ft				3.98 g/t / 9.57 m

8/E2

PAGE 7 OF 10 | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-15

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION SIL A	SER B	ANK C	CAL D	CHL E	FRACTURE INTENSITY	% VEIN QTZ
				87.89-88.79 Fault zone. Badly broken. V. crumbly.							
				88.79-91.39 Med carb alt'n, wk ser alt'n, fg arenite. Weakly chloritic. Cut by 25 cm Qtz vn at 90 m.						4	2
95				91.39-93.9 Med grained weakly foliated arenite - locally magnetic, locally red-orange stained, weak crackle fracture. A few chloritic wisps + blebs - replacement of mafic clasts?						2	4
100				93.9-95.35 As above, slightly less altered.						2	4
				95.35-95.82 Heavy qtz-carb crackle fracture, 15 cm Q.V. with 10% V. finepy in vein, late vein (Qtz) at lower contact.						3	4
105				95.82-97.05 Fg green arenite, Wk alt'n, (Pds Tuff?) 3-5% py							
110				97.05-99.1 Mg arenite - Dark grey green, clasts cloudy - obscured by alt'n. Good py content. Massive, little fracturing, some minor slumping of fg beds.						3	4
				99.1-114.83 Mainly dark green-grey to black fg thickly bedded arenite. Patchy weak alt'n with minor assoc. py. V. uniform except for local alt'n patches. Bedding angles at top of section 60-70° to CA, in middle 10-20°, + inc again to end of section.						3	4
115											
120										3	4
125				Patchy alt'n sections as follows: 107.40 - 107.95 105.95 108.51 - 108.65 106.20 111.75 - 112.5						4	2
130				114.93-131.05 I/B fg arg + mudstone, thin beds, locally quite convoluted, v. weak sericite alt'n. Below 120 m, arg. becomes I/B with mg-cg arenites + thin (<10 cm) conglomerate beds. Below 126m % of QV rises to ~5%, mainly						3	1
135											

 | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-15

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS			
88.79 - 91.39 Tr - 1% py, 1% avg		88.79	90.22	1.43	2344	.07	.002		
		90.22	91.39	1.17	2345	.03	.001		
		91.39	93.9	2.51	2346	.02	.001		
91.39 - 93.9 - 2% py as cubes & fracture fillings		93.9	95.35	1.45	2347	.05	.001		
		95.35	95.82	0.47	2348	.01	.001		
95.35 - 95.82 10% py in 15cm QV.		95.82	97.05	1.23	2349	.01	.001		
95.82 - 97.05 - 3.5% py - cubes, dissemination.		97.05	98.05	1.0	2350	.01	.001		
97.05 - 99.1 avg 5% py.		91.05	99.1	1.05	2351	.01	.001		
99.1 - 114.83 avg 1% cubic py. May be 2-3% locally.		99.1	100.86	1.76	2352	1.05	.039		
		100.86	102.41	1.55	2353	1.01	.029		
115.8 - 2cm Q.V. with 20% cubic py.		102.41	103.91	1.50	2354	0.41	.012		
		103.91	105.46	1.55	2355	0.50	.015		
		105.46	106.96	1.50	2356	0.46	.013		
		106.96	108.51	1.55	2357	.01	.001		
		108.51	109.25	0.74	2358	.01	.001		
		109.25	111.56	2.29	2359	.01	.001		
		111.56	112.50	0.94	2360	.02	.001		
		112.50	114.83	2.33	2361	.03	.001		
		114.83	116.15	1.32	2362	.01	.001		
		116.15	117.85	1.60	2363	.26	.008		
		117.85	119.2	1.35	2364	.01	.001		
		119.2	120.7	1.50	2365	.02	.001		
		120.7	122.25	1.55	2366	.01	.001		
		122.25	123.75	1.50	2367	.01	.001		
		123.75	125.25	1.50	2368	.01	.001		
		125.25	126.8	1.55	2369	.02	.001		
		126.8	128.3	1.54	2370	.01	.001		
		128.3	129.84	1.54	2371	.01	.001		
		129.84	131.05	1.21	2372	.01	.001		
		131.05	132.89	1.84	2373	.01	.001		
		132.89	134.42	1.53	2374	.01	.001		
		134.42	135.94	1.52	2375	.02	.001		
		135.94	137.44	1.50	2376	.01	.001		
		137.44	138.99	1.55	2377	.01	.001		
		138.99	140.49	1.50	2378	.01	.001		

 PROJECT: ROBELE JOINT VENTURE (THORNELOE) HOLE NO. T-15

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION SIL A	SER B	ANK C	CAL D	CHL E	FRACTURE INTENSITY	% VEIN
				as bedding // veinlets +/or boud replacements. 128.6-128.9: 2 1cm seam of semi-mass py. Bedding + f_1 foln: @ 60-75° to CA f_2 (crenul.): @ 80-90° to CA						2	K1
140				131.05-135.3 Conglomerate. Coarsening downhole. Clast-supported. Poorly sorted. Clasts generally sub-rounded + vary in size from a few mm to in excess of 3 cm. Types of clasts seen are (in order of abundance): 1) Fg to aphanitic quartz-feldspathic, 2) Fg, dark green to green-grey-ser/chl +						2	K1
145											
150				3) Mg, green, v chloritic, soft, usually stretched // to f_1 foln. Unaltered to 132.7 m, where the QF clasts take on the typical orange tinge which becomes						2	K1
				tops up-hole							
155				stronger down-hole to 135.1, where it drops off dramatically + terminates completely at 135.3 m. Strongest alt'ed section contains ~1-2% magnetite (in matrix, which is ser+chl). Only mod. alt'n intensity.						3	K1
				135.3-143.5 Mass thickly bedded arenite Mg., Fp replaced by ank/wk calcite, Dark grey with light greenish tinge. Unalt. Tr py							
				143.5-150.68 Gradational with above is arg, with thin 10 cm congl. beds. Towards end of section, coarse congl dominates - breakdown sim to 131.05-135.3, except majority of clasts are fg siltstone + fg wacke.							
				150.68-156.73 Graphitic Argillite - gr on slip planes in vfg arg, <1% diagenetic py.							
				156.73-160.32 Weakly alt'ed fg argillite, arenite + a few thin congl beds. Ser+carb = alt'n. 1-2% py							
				160.32 E.O.H.							

Gradation of pebble size in congl from 149.63-150.43 suggests tops up-hole.

PAGE 10 OF 10	PROJECT: ROBELE JOINT VENTURE (THORNELOE)	HOLE NO. T-15

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t
131.05-135.3 Unalt: 1% diagenetic py cubes Alt: 0½% mag (max) 1-3% py usually as cubes		140.49	142.04	1.55	2379	.01	.001
		142.04	143.5	1.46	2380	.03	.001
		143.5	145.08	1.58	2381	.75	.022
		145.08	146.58	1.50	2382	.01	.001
		146.58	148.13	1.55	2383	.20	.006
		148.13	149.63	1.50	2384	.46	.013
		149.63	151.18	1.55	2385	.01	.001
		151.18	152.68	1.50	2386	.01	.001
		152.68	154.23	1.55	2387	.21	.006
		154.23	155.73	1.50	2388	1.13	.033
		155.73	156.43	0.70	2389	.04	.001
		156.43	157.28	0.85	2390	.01	.001
		157.28	158.78	1.50	2391	.02	.001
		158.78	160.32	1.54	2392	.01	.001

N2/E2

PAGE OF . | PROJECT: | HOLE NO.

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN

E1

ESSO RESOURCES CANADA LIMITED

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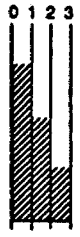
DRILL LOG

PROJECT: ROBELE J.V. (THORNELOE)	GROUND ELEV.
HOLE NO.: T-16	BEARING: 180°
LOCATION: 60 m E of L3600 E, 3+75 N	DIP: -45°
	TOTAL LENGTH
LOGGED BY: J. MACPHERSON	HORIZONTAL PROJECT
DATE: JAN. 25/87	VERTICAL PROJECT
CONTRACTOR: LONGYEAR DRILLING	
CORE SIZE: BQ	
DATE STARTED: JAN 22/87	
DATE COMPLETED: JAN 24/87	
DIP TESTS	

ALTERATION SCALE



absent

slight

moderate

intense

TOTAL SULPHIDE SCALE

traces only

< 1%

1% – 3%

3% – 10%

> 10%

COMMENTS

LEGEND

PAGE 1 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-16

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C CARB	D CAL	E CHL	FRACTURE INTENSITY	% VEIN QTZ.
				0-35.55 OVERBURDEN, sand, gravel, boulders.							
35.5-41.9 I/B f.g. arenite, siltstone & argillite. Rock is uniform dark grey, unaltered, tr py, 1% late qtz-carb str's. Beds at 80° -70° to CA, f, fol'n sub ∥.											
41.9-43.48 Zone of qtz stringers. 60% qtz. Numerous sericitic inclusions, 1% py in inclusions											
43.48-61.9 Weakly to moderately altered fine grained thinly bedded argillites with V. minor arenite component. Locally beds are highly deformed & dip sub ∥ to CA. Strongest sericite is for 1 m d-hole past the Q.V. str zone descr. above. Good crenulation cleavage at 80-90° to CA. A few very localized zones of hematitic alt'n noted - these are < 10 cm long & py content is low										1 tr	
										3	2

PAGE 2 OF	PROJECT: ROBELE J.V. (THORNECOE)	HOLE NO. T-16

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
		41.9	43.48	1.58	2401	.01	.001			
		43.48	45.08	1.60	2402	.01	.001			
		45.08	46.63	1.55	2403	.01	.001			

N2/E2

PAGE 3 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-16

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION SIL A	SER B	CANK C	CAL D	CNL E	FRACTURE INTENSITY	% VEIN
				Section from 49.9-52.42 contains ~25% hem stain in form of bed replacements - beds are always carbonaceous. Below 52.42, alt'n decreases to end of section, which is marked by a 30 cm qtz stringer zone. Same as top of section. Slightly stronger alt'n from 53.9-55.6 - 10% hem staining.						4	2
				61.9-75.5 Sequence of (50%) f.g arenite + (50%) f.g thinly bedded argillite. Unaltered, except for v. local sericitization of argillite beds. Tr. py. 1% qtz-carb stgrs (late).						3	1
				75.5-78.2 Shear zone. Broken rock. 3% 10-15 cm QC V. V. sericitic. Tr py.						4	2
				78.2-108.7 Moderately to highly altered argillite + mudstone. Generally complete replacement of beds by sericite, qtz + ankerite, giving a well banded appearance. Well foliated at 60° to CA, roughly sub // to bedding. Locally beds are deformed sub // to CA. Local strong crenulation cleavage at 80° to CA. 2-3% 10-20 cm late Q.V.						4	3
				100.9-102.6 Zone of most intense alt'n. From 100.9-101.4 a bulk qtz-carb bed repl., 2-3% py, badly deformed beds. From 101.6-102.6 - Qtz-carb-ser-py vein. 2-3% py as fg diss'ns clustered together in the sericitic inclusions. Good crackle for 10 cm in vein.						10	5
										6	2
										6	2

PAGE 4 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-16

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t
49.9-52.42 1-2% v. fine py in hematite-stained beds.		46.63	48.13	1.50	2404	.01	.001
		48.13	49.63	1.50	2405	.01	.001
		49.63	51.13	1.50	2406	.01	.001
		51.13	52.42	1.29	2407	.01	.001
		52.42	53.54	1.12	2408	.01	.001
		53.54	55.04	1.50	2409	.01	.001
		55.04	56.7	1.66	2410	.01	.001
		56.7	58.2	1.5	2411	.01	.001
		58.2	59.7	1.5	2412	.02	.001
		59.7	61.9	2.2	2413	.01	.001
		75.5	78.2	2.7	2414	.01	.001
		78.2	79.6	1.4	2415	.01	.001
		79.6	81.1	1.5	2416	.01	.001
		81.1	82.6	1.5	2417	.01	.001
		82.6	84.1	1.5	2418	.01	.001
		84.1	85.6	1.5	2419	.01	.001
		85.6	87.1	1.5	2420	.59	.017
		87.1	88.7	1.6	2421	.01	.001
		88.7	90.2	1.5	2422	.20	.006
		90.2	91.7	1.5	2423	.23	.007
		91.7	93.2	1.5	2424	.04	.001
		93.2	94.7	1.5	2425	.01	.001
		94.7	96.3	1.6	2426	.05	.001

N2/E2

PAGE 5 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-16

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CAL	FRACTURE INTENSITY	% VEIN QTZ
				105.4-108.5 Good buff carb alt'n local hematite bed replacements. 106.75-108.3 ~5% fuchsitic frags. in a mg arenite - buff, mg, a few sub-rounded qtz clasts.						3	2
95				108.7 abrupt end to alt'n - v weak past this point.						4	2
100				108.7-127.7 Much weaker calt'd argillites with minor arenaceous component. The usual bed slumping + cren cleavage (70° to CA) present.						6	4
105											
				127.8-148.13 Diabase Dyke. Vfg chill margin with epidote. Further down hole, dyke is black, fg + weakly magnetic. Occ. small inclusions (10-40 cm) of country rock.						5	3
110											
										3	1
115				148.13 E.O.H.						3	4
120										2	4
125										6	1
130										2	1
135										1	1

PAGE 6 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-76

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/A		
		96.3	97.8	1.5	2427	.01	.001		
		97.8	99.36	1.56	2428	.01	.001		
		99.36	100.9	1.54	2429	.01	.001		
100.9 - 102.6 1-2% v. fine py, locally 5% in 2cm sericitic inclusions in QAV		100.9	101.55	0.65	2430	.33	.010		
		101.55	102.6	1.05	2431	.01	.001		
		102.6	104.1	1.5	2432	.01	.001		
		104.1	105.4	1.3	2433	.01	.001		
		105.4	106.75	1.35	2434	.01	.001		
106.75 - 108.7 tr-1% py		106.75	108.7	1.95	2435	.01	.001		
		108.7	111.5	2.8	2436	.04	.001		
		111.5	114.6	3.1	2437	.05	.001		
		114.1	117.6	3.5	2438	.01	.001		
108.7 - 127.8 tr-1% py		117.6	120.6	3.0	2439	.01	.001		
127.8 - 148.13 tr po, py, mag in db dyke.		120.6	123.7	3.1	2440	.02	.001		
		123.7	126.7	3.0	2441	.02	.001		

N2/E2

PAGE OF | PROJECT: | HOLE NO.

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.	

E1

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DRILL LOG

PROJECT: ROBELE JOINT VENTURE (THORNELOE)	GROUND ELEV.
HOLE NO.: T-17	BEARING: 180°
LOCATION: L3600E, 4+25 N	DIP: -50°
	TOTAL LENGTH: 756' (230.43 m)
LOGGED BY: J. MACPHERSON	HORIZONTAL PROJECT
DATE: JAN. 30/87	VERTICAL PROJECT
CONTRACTOR: LONGYEAR DRILLING Co.	
CORE SIZE: BQ.	
DATE STARTED: JAN. 28/87	
DATE COMPLETED: JAN. 29/87	

DIP TESTS	App	True
75.0 m	53°	43.5°
151.2 m	50°	40°
227.4 m	46°	37.5°

ALTERATION SCALE

absent

slight

moderate

intense

TOTAL SULPHIDE SCALE

traces only

< 1%

1% – 3%

3% – 10%

> 10%

COMMENTS

LEGEND

PAGE 1 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-17

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION SIL A	SER B	CANK C	CAL D	CHL E	FRACTURE INTENSITY	% VEIN Z
0				0- OVERBURDEN - SAND, GRAVEL, BOULDERS.							
5											
10											
15				30.3-35.05 Fine grained arenite (greywacke), Medium gray colour, thickly bedded, rare argillaceous interbed. Massive. Cut by <5% qtz-carb str's. Notable at 30.6-30.0 & 31.8 & 33.0 - red-brown						3	1
20				colour usually gradational, feldspar rich, containing 1-2% bright cubic py. Overall, unit is unaltered.						4	1
25				35.05-88.6 As above, except more argillite component. Note several qtz-carb seam infillings with 30-50% (of seam) bright cubic pyrite. These cut the core at various angles not exceeding 45°.						4	1
30				Locations: 35.65 m, 37.49-37.70, 39.9-40.05, 41.03-41.20, 42.70 m, 45.6-45.8 (45° to CA). Often these zones have a 2-5 cm alt'n halo around them. Beds avg 60° to CA → recumulation						3	1
35				cleavage at 70-80° to CA, fol'n sub// to bedding. More vuggy Q.V. with 10-50% brown cubic py at: 47.0-47.35, 49.4-49.5, 50.7-50.9						3	1
40				51.5-51.6, Below 50 m argillite component is ~40%, ser alt'n slightly more in evidence,						3	1
45											

PAGE 2 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-17

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t		
30.5 - 31.0 2% bright cubic py.		29.2	30.2	1.0	2442	.01	.001		
31.8 - 31.85 1% cubic py.		30.2	31.7	1.5	2443	.01	.001		
34.8 - 35.05 1-2% bright cubic py.		31.7	33.2	1.5	2444	.01	.001		
		33.2	35.05	1.85	2445	.01	.001		
		35.05	35.7	0.65	2446	.01	.001		
		35.7	37.2	1.50	2447	.01	.001		
Locally 1 cm seams contain		37.2	38.0	0.80	2448	.01	.001		
10% 50% bright cubic py - veins		38.0	39.7	1.7	2449	.01	.001		
are vuggy.		39.7	40.1	0.4	2450	.01	.001		
		40.1	41.3	1.2	2451	.01	.001		
		41.3	42.6	1.3	2452	.01	.001		
		42.6	44.0	1.4	2453	.01	.001		
		44.0	45.5	1.5	2454	.02	.001		
		45.5	46.0	0.5	2455	.01	.001		
		46.0	47.0	1.0	2456	.01	.001		
		47.0	48.0	1.0	2457	.01	.001		
		48.0	49.3	1.3	2458	.01	.001		
		49.3	50.3	1.0	2459	.01	.001		
		50.3	51.3	1.0	2460	.01	.001		
		51.3	52.0	0.7	2461	.01	.001		

PAGE 3 OF | PROJECT: ROBELE J.V. (THORNELOE | HOLE NO. T-17

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANH	D CAL	E CHL	FRACTURE INTENSITY	% VEIN QTZ
50				Local slumping 10-30° to CA. Vuggy Q. Vts sub // to CA scattered 5 cm out section. 10-30% bright cubic py in these vts. 10 cm buff alt'n sections make up 1% of core. Grain gradation in arenite suggests tops uphole (N) 54.1-54.2 10cm QAV, late. Gradual increase in sericite as bed replacements, slips- coincident with increase in arg content. Also, core becomes much more deformed towards 88.6 m.						3	1
55											
60										3	1
65										2	1
70										2	1
75										2	1
80										3	2
85				88.6-92.8 Zone of qtz-anhydrite veining. Numerous 10-30 cm Q.V., with v. sericitic margins and inclusions. V. locally within zone, there may be 10% py over a few cm, usually near the sericitic sections.						4	2
90				92.8-99.0 Primarily fine-grained finely bedding argillites. Moderately - locally highly deformed. Numerous sericitic slips						7	10

PAGE 4 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-17

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t		
		52.0	53.34	1.34	2462	.02	.001		
		53.34	54.8	1.46	2463	.01	.001		
		54.8	56.39	1.59	2464	.01	.001		
		56.39	57.91	1.52	2465	.01	.001		
		57.91	59.74	1.83	2466	.01	.001		
		59.74	60.96	1.22	2467	.01	.001		
		60.96	62.46	1.50	2468	.01	.001		
		62.46	64.0	1.54	2469	.01	.001		
		64.0	65.6	1.6	2470	.01	.001		
		65.6	67.06	1.46	2471	.01	.001		
		67.06	68.56	1.50	2472	.01	.001		
		68.56	70.06	1.50	2473	.01	.001		
		70.06	71.32	1.26	2474	.01	.001		
		71.32	72.82	1.50	2475	.01	.001		
		72.82	74.07	1.25	2476	.01	.001		
up to 10% py ass w sericitic inclusions in Q.A.V's.		88.6	90.6	2.0	2477	.02	.001		
		90.6	92.8	2.2	2478	.01	.001		
		92.8	94.37	1.57	2479	.01	.001		
		94.37	96.37	2.0	2480	.01	.001		
92.8-99.0 Tr-/locally 2% py as fine disseminations, blebs, cubes, masses in v. thin stringers.		96.37	97.87	1.50	2481	.01	.001		

N2/E2

PAGE 5 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-17

DEPTH	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CAL	FRACTURE INTENSITY	% VEIN QTZ
				99.0-110.1 Primarily very fine-grained arenite, variably ser-ank-sil alt'd, beds 10-40 cm thick. <10% f.g argillaceous beds, usually highly deformed. Cut by a few late 10-20 cm Q.V. (<1% of section) 1% narrow qtz-ank stringers.					3	<1
95											
				101.0-101.4 Strongly sil-ank alt'd arenite. Qtz clasts (or fsp?) alt'd & partially replaced by cubic py &/or ankerite (black, usually rimming pyrite). Contacts gradational over 10 cm. Cut by several 1 cm QA Qtz with 2-5% py.					4	1
100											
										5	2
105											
				110.1-134.19 As above, but dominantly arg/ mudstone - usually alt'd & brighter (more sericitic) green than the minor f/B f.g arenite. Locally deformed & recrystallized at 50° to CA. Avg foln (bedding ∥) is at 60-70° to CA, except where slumped & recrystallized as above.					5	2
110											
										5	1
115											
				115.3 10 cm broken qtz-ser vein						5	2
				116.03 2 cm q str with 5% py at 35° to CA							
120				128.3-128.7 Qtz ser vein, tr py.							
										5	3
				134.19-135.4 Medium to coarse grained arenite. Sub-rounded to rounded clasts totally to partially replaced by qtz-ankerite combination - occ there may be py cube in the core. Matrix is ser/qtz/ank. Numerous sericitic str's. Matrix supported.					5	1
125											
130											
				135.4-136.3 Qtz vein. Numerous sericitic inclusions with 10% py. Lower contact broken. Below the vein sericite alt'n is intense & unit is more siliceous.					6	1
135											

PAGE 6 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-17

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t
		97.87	99.0	1.23	2482	.01	.001
		99.0	100.86	1.86	2483	.01	.001
101.0 - 101.4 5-8% py as cubes & masses in qtz-carb matrix		100.86	101.80	1.04	2484	.01	.001
		101.80	103.30	1.4	2485	.01	.001
		103.30	104.70	1.5	2486	.01	.001
		104.7	106.1	1.4	2487	.01	.001
		106.1	107.4	1.3	2488	.02	.001
		107.4	108.51	1.11	2489	.01	.001
		108.51	110.1	1.61	2490	.01	.001
110.1 - Avg py content for section = 1% (locally 2-4%)	→	110.1	111.6	1.5	2491	.01	.001
		111.6	113.1	1.5	2492	.01	.001
		113.1	114.6	1.5	2493	.01	.001
		114.6	116.15	1.55	2494	.01	.001
		116.15	117.65	1.50	2495	.01	.001
		117.65	119.15	1.50	2496	.01	.001
		119.15	120.70	1.55	2497	.01	.001
		120.7	122.2	1.50	2498	.01	.001
134.19 - 135.40 1-3% fine py as clast cores & rimming others		122.2	123.75	1.55	2499	.01	.001
		123.75	125.25	1.50	2500	.01	.001
		125.25	126.80	1.55	2393	.01	.001
		126.80	128.30	1.50	2394	.01	.001
		128.30	129.84	1.54	2395	.01	.001
		129.84	131.40	1.57	2396	.01	.001
		131.40	132.89	1.49	2397	.01	.001
		132.89	134.19	1.30	2398	.01	.001
		134.19	135.40	1.21	2399	.01	.001
		135.40	136.30	0.90	2400	.02	.001

N2/E2

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DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C CARB	D CHL	E CHL	FRACTURE INTENSITY	% VEIN QTZ
				136.3-148.30 Quartz-ser-carb schist. Avg 20% free quartz, 60% ser, 20% ankerite. V. fissile in sericitic sections. Jump in silica content below the Q.V. at top of this section. Towards end of section (last 3m), ser drops off, silica drops, ank slight decrease.						6	5
140										6	5
145				148.30-148.60 Heavy sil-carb alt'n, good thin crackle veining, upper + lower contacts at 65° to C.A.						7	3
				148.60-152.1 Sericite-carb rock, not as sericitic or as hard as 136.3-148.30. Well foliated, locally slumped + crenulated. Splashes of buff grey carb colour.						9	1
150				152.1-154.13 Shear zone V. well sheared ser-carb rock, V. fissile, most intense from 153-153.5 m.							
155				154.13-154.94 Fault breccia. Cement is med. chloritic. Frags up to 3 cm - v angular - rimmed by pyrite.						9	1
160				154.94-157.9 Med. chlorite finely bedded seds, locally deformed, 3-5% py							
				157.9-158.55 Transition btw above chloritic unit + ser-carb schist below. Med green-buff grey, weak crackle fracture. 3% py						9	2
				158.55-160.07 Sericite-carb schist. Pale buff-green, soft, well foliated. 1% V. fine tourm stc's // to fol'n. Tr py, tr fuxsitic frags (angular)						6	3
				160.07-160.5 Sil-carb rock. Faintly banded at 65° to CA. Hard. Contacts mod sharp to sil/carb rock at 65° to CA.							
				160.5-161.8 Slightly chloritic transition zone, as per 157.9-158.55.							
				161.8-162.75 Sil-carb-ser schist - more silic towards 162.60 - where there is a 5 cm shear. Porphyritic? Faintly banded at 65° to CA.							

PAGE 8 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-17

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t
136.3-148.32-5% fine py in unit - occurs semi-massive over .5 cm - strr // to f. fol'n Majority of py in upper 6-7m of section.		136.3	138.6	1.3	2060	.01	.001
		138.6	138.99	1.39	2061	.01	.001
		138.99	140.5	1.51	2062	.01	.001
		140.5	142.04	1.54	2063	.01	.001
		142.04	143.50	1.46	2064	.01	.001
		143.50	145.08	1.58	2065	.01	.001
		145.08	146.58	1.50	2066	.01	.001
148.3-148.6 5-10% fine py in sil-carb crackle.		146.58	148.30	1.72	2067	.03	.001
		148.30	148.60	0.30	2068	1.22	.636
148.6-152.1 - 1% py avg.		148.6	150.1	1.50	2069	.03	.001
		150.1	152.1	2.0	2070	.06	.002
152.1-154.13 1-3% fine py in more siliceous fissile (qtz filled) partings		152.1	154.13	2.03	2071	.04	.001
		154.13	154.94	0.81	2072	.02	.001
154.13-154.94 1-3% fine py in clasts + rimming matrix		154.94	156.5	1.46	2073	.10	.003
		156.5	157.9	1.40	2074	.03	.001
154.94-157.9 - 3-5% cubic py.		157.9	158.55	0.65	2075	.04	.001
157.9-158.55 - 3% fine-mg py in transition zone.		158.55	160.07	1.52	2076	.01	.001
		160.07	160.5	0.43	2077	.02	.001
158.55-160.07 Trpy		160.5	161.8	1.3	2078	.01	.001
		161.8	162.75	0.95	2079	.03	.001
160.07-160.5 20% cubic + fine py.							
160.5-161.8 5% cubic py		162.75	165.52	2.77	2080	.01	.001

N2/E2

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DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN QTZ
				162.75-165.52 Quartz vein Massive, a few sericitic inclusions, no py. v sericitic margins.							
				165.52-166.87 Well foliated orange-red iron-rich unit 1% diss subhedral magnetite						6	20
165				Mod hard, chloritic shear at top of section.							
				166.87-167.5 Transition btw total buff-grey sil/carb alt'n + iron alt'n. Colour is grey with orange tinge Mod-strong crackle breccia. <1% narrow grey qtz str's.						8	2
170				167.5-168.2 Intense buff sil-carb alt'n, 15% q.v. with pyrite, a few (<5%) tourmaline fracture fillings.						5	2
				Heavy crackle fracture. Possible V.G. at 167.75 m. Heaviest py 10 cm either side of that point							
175				168.2-171.82 Mod-heavy crackle fracture. V. hard. Blue-purple alteration						6	2
				Purple mottled look locally. Numerous py str's + qtz str's. Fairly sharp contact with foliated iron-rich alt'n system.							
				171.82-173.65 Well foliated iron-rich unit							
				1% subhedral magnetite grains. 3-5% py as fracture fillings + subhedral cubes 1-3mm in size.							
				173.65-175.4 Sil-ser-carb schist - Grey-green, moderately soft to chloritic stringers. Unit v weakly foliated - not a true schist.							
				175.4-176.26 Mod crackle fracture - not as heavy as above section (168.2-171.82) - fol'n is still visible. - occasional ~~sub~~ mag grain still visible. V. locally purple alt'n - section is quite hard							
				176.26-177.16 Orange-red foliated magnetite-bearing unit. 5% mag. Fol'n at 65° to CA							
				177.16-177.86 More sericitic, no magnetite, 1% py numerous chloritic stringers - colour is buff greenish-grey, med hard							

PAGE 10 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-17

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t
		165.52	166.87	1.32	2081	.03	.001
165.52 - 166.87 1% mcgg, 2% py		166.87	167.5	0.63	2082	.68	.020
166.87 - 167.5 3-5% cubic + finely diss. py.		167.5	168.2	0.70	2083	.23	.007
		168.2	169.7	1.50	2084	.07	.002
167.5 - 168.2 avg 10% py; fr 167.60 - 167.85 - 20% py		169.7	171.82	2.12	2085	.18	.005
168.2 - 171.82 Avg py content = 5%, locally to 10% py in str's + as subhedral cubes.		171.82	173.65	1.83	2086	.16	.005
		173.65	175.4	1.75	2087	.09	.003
		175.4	176.26	1.26	2088	.01	.001
171.82 - 173.65 - Avg 3% py as cubes + str's.		176.26	177.16	0.90	2089	.10	.003
173.65 - 175.4 1-3% cubic py - usually occurring clustered together as masses in more siliceous sections.		177.16	177.86	0.70	2090	.02	.001
185.4 - 176.26 - 5-10% py as fracture fillings + amorphous masses in highly silicified sections.							
176.26 - 177.16 - 5% mag, 2% py as cubes.							
177.16 - 177.86 5% py as cubes + masses.							

N2/E2

PAGE 11 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-17

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C CARB	D CAL	E CHL	FRACTURE INTENSITY	% VEIN QTZ
				177.86-178.67 Orange mag-bearing alt'n, as per 176.26-177.16 - stronger mag - up to 2%							
				178.67-179.05 Gradational from above, mod-str crackle fracture with qtz						6	2
185				str's, mag destruction, 15 cm of purple crackle fracture - this has highest py content.						6	3
				179.05-180.35 Orange-red alt'n, as per 177.86-178.67. Well fol'd, 1% mag, local buff carb alt'n at 179.4-179.55 - with mag destruction + purple alt'n system.							
190											
195				180.35-180.85 Mod crackle fracture, some remnant mag., 2% py							
				180.85-182.0 Orange-red alt'n, as per 179.05-180.35							
				182.0-182.8 Mod-heavy crackle - but no purple colour. Numerous black str's at 65° to CA (tourm? chl? black ank?) Good py content. No mag. Tendency for fol'n to decrease towards end of section to sub // to CA							
				182.8-184.75 V. similar to above sections re colour & degree of alt'n, except py content is v. lower (~5%) & fol'n is sub // to CA. Numerous irregular black stringers - v thin. Qtz here has a vuggy appearance.							
				184.75-185.65 Orang-red alt'n zone 1% mag							
				185.65-186.2 Mod buff grey surb-sil alt'n Mag destruction. 1-3 cm areas of sil flooding with 20% py							
				186.2-186.85 Orange-red alt'n, 1% mag, 2-4% py, weak ser towards end of section							
				186.85-187.6 Qtz-chl vein - sericitic margins, tr py							

PAGE 12 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-17

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t
2% mag, 1% py		177.86	178.67	0.79	2091	.01	.001
178.67-179.05 - 7% py in heavy 15 cm section of crackle - avg for section = 4%		178.67	179.05	0.38	2092	.19	.006
		179.05	180.35	1.30	2093	.10	.003
		180.35	180.85	0.50	2094	.02	.001
179.05-180.35 - Avg <1% mag, 2% py, except btw 179.4-.55 where py = 5%, mag = 0		180.85	182.0	1.15	2095	.02	.001
180.35-180.85 tr mag, 2-3% py.		182.0	182.8	0.80	2096	.39	.011
182.0-182.8 5-10% py, avg 7%							
182.8-184.75 Avg 5% py, v. finely diss'd. Py content highly variable, from tr to 10% over 10-20 cm. Diff btw this & above section is py much more finely diss'd here than in 182.0-182.8.		182.8	184.75	1.95	2097	.02	.001
184.75-185.65 2% py, <1% mag		184.75	185.65	0.90	2098	.01	.001
185.65-186.2 up to 20% py in 1-3 cm wide areas of pil flooding. Avg py ~ 10%.		185.65	186.2	0.55	2099	.42	.012
186.2-186.85 1% mag, 2-4% py		186.2	186.85	0.65	2100	.24	.007
186.85-187.6 tr py => Q.V.		186.85	187.6	0.75	2501	.51	.015

N2/E2

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DEPTH	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN
				187.6-189.26 Orange red altn, 1% mag, 2% py, mod-well fol'd @ 75° to CA.							
				189.26-190.6 As above, only deformed & fol'n is sub ∥ to CA. Agglomerate of qtz & mag - only weakly magnetic. Tr 2% py. Unit quite hard, & towards end of section it has more of a buff colour. Black chts - 2% - subhedral - specular hematite & magnetite.						7	2
195											
200				190.6-192.55 Carb rock. Med orangy-brown with 10-30 cm sections showing a buff-grey tinge. Massive to very weakly foliated, a few angular fuchsitic fragments. Trace of rectangular siliceous frags, usually altered a deeper orange colour.							
205				192.55-193.45 As above (ie orange-brown carb rock), except the rock contains 20% angular rectilinear clasts of what may be original chert. These show banding at right angles to the long side of the clasts. Clasts vary in size from 5cm to almost 2cm (long axis). They are oriented (long axis) sub ∥ with the foliation - ie at 70° to CA. There is also about 3-5% mafic clasts which have undefined edges & are subrounded.							
				193.45-194.75 Mod-heavy crackle fracture. Purple-blue colour, massive, crackle is not preferably oriented. Upper & lower contacts are gradational.							
				194.75-197.33 Iron-rich altn system. Variable magnetite content from 5% to 1%. Py varies ½x to magnetite. Weakly foliated at 70° to CA. Narrow qtz ank strs often contain slightly higher conc of mag - seems <2mm							

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t		
		187.6	189.26	1.66	2503	.02	.001		
189.26-190.6 Tr-2% py, tr mag.		189.26	190.6	1.34	2502	.01	.001		
190.6-192.55 Tr to locally 1% py in v. narrow qtz stringers. A few small cubes as well.		190.6	192.55	1.95	2504	.40	.012		
192.55-193.45 0% py		192.55	193.45	0.90	2505	.10	.003		
193.45-194.75 Py occurs as cubes in narrow 2-4mm seams running parallel to fol'n. Tot. py = 1%.		193.45	194.75	1.30	2506	.12	.004		
		194.75	196.0	1.25	2507	.04	.001		

N2/E2

PROJECT: ROBELE J.V. (THORNELOE)

HOLE NO. T-17

DEPTH	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN QTZ
				197.33-197.9 Qtz-ank flooding. Weak crackle fracture. No mag. 1cm Q.V. with tourmaline contacts.						6	2
200				197.9-199.45 Mod well fol'd iron alt'n system, orange-red, 1% mag, hard. Py. Cut by occ. Q.V. 1-2 cm wide.							
205				199.45-199.95 As above, except it contains a 20cm section of buff qtz-ank alt'n with elevated py contents total magnetite destruction.							
210				199.95-200.85 Typical mag unit - except it has a 15cm carb (banded) section - little py.							
				200.85-201.5 Weak mag unit. Colour fades from orange-red to buff towards end of section & there is a corresponding drop in mag content. Top 25 cm is intensely buff-carb alt'd with QAV (2cm) & sil-carb flooding. Contacts v. gradational.							
				201.5-202.15 Qtz-carb-ser schist. V. finely banded at 45° to CA. Thin alt bands of sil, ank, ser + py make up unit. Occ. small fuchsite fragment. 5% 1-2cm foln parallel grey Q.V. with assoc py. Rare v. thin tourm fracture fillings.							
				202.15-203.85 Weak-mod fol'd iron alt'n unit. Orange red. Top 1m < 5% mag, decreases d-hole. Slightly more buff coloured downhole.							
				203.85-205.2 As above, except fr mag. 1% py only. More massive, little sil/carb flooding or veining.							

PAGE 16 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-17

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t
194.75-197.33 tr-1% mag, avg 1% cubic py		196.0	197.33	1.33	2508	.01	.001
		197.33	197.9	0.57	2509	1.53	.045
197.33-197.9 - tr mag, 5-8% py as cubes & fine dissemination							
		197.9	199.45	1.45	2510	.07	.002
197.9-199.45 1% mag, 2-3% cubic py - sometimes occuring together as masses.		199.45	199.95	0.50	2511	.02	.001
199.45-199.95 avg 5% py, in buff section, pyrite = 20%.							
199.95-200.85 - contains 1% mag, 2-3% cubic py		199.95	200.85	0.90	2512	.21	.006
200.85-201.5 - avg mag < .5%, py avg 3%, top 20cm py = 20%.		200.85	201.50	0.65	2513	.20	.006
201.8-202.15 Avg py < 3%. Locally 10% over 5 cm - usually in/near sil/carb replacements of grey q.v.		201.5	202.15	0.65	2514	.08	.002
202.15-203.15 < .5% mag 1-2% py Note: At 202.7' = 73cm Q.V. with good tourmaline & 5% pyrite (cubic)		202.15	203.15	1.70	2515	.01	.001
203.85-205.2 Tr mag, < 1% py		203.85	205.2	1.35	2516	.03	.001

N2/E2

AGE 17 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-17

	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN QTZ
205				205.2-206.1 Siliceous carb-chlorite rock. Chloritic fracture fillings + several masses of chl up to .5 cm wide - usually with 5-15% py.						6	2
210				206.1-206.66 Buff grey to yellow alt'n of 1F. Intense sil-carb flooding over 25cm acc by 1% thin tourm fracture fillings. Several thin grey Q.V.						6	2
				206.66-207.22 Red-orange alt'n unit. Locally sil/carb flooded (5 cm) with acc mag destruction + py inc. Mod fol'd at 50° to CA. Minor chl as fracture fillings.						5	1
				207.22-209.68 Transition btw orang-red alt'n + tot. buff carb alt'n. Mod well banded at 55° to CA. locally 10-20 cm sections of inc sil/carb with inc in py. Wkly mag. A few narrow tourm str's in sil/carb alt'n.							
				209.68-210.3 Orange-red 1F, cut by a 10 cm section of more intense sil/carb alt'n, some tourm little py increase.							
				210.3-211.16 As above, except zone of grey-yellow alt'n is a little wider (~30 cm)							
				211.16-212.14 Orange-red 1F - .5% mag, avg 10% py in narrow .5cm-1cm Q.V. (grey) - v. high py in these veinlets - some local sil/carb alt'n over 5-15 cm.							
				212.14-214.0 Orange-red 1F, Sharp lower contact to much less alt'd + more sericitic rock							

PAGE 18 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-17

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t		
205.2-206.1 Avg 1% py, 5-10% py in narrow chloritic fracture fillings.		205.2	206.1	0.9	2517	.01	.001		
206.1 - 206.66 Avg 5% py locally 15-20% over 5 cm in intense sil/carb flood zone		206.1	206.66	0.56	2518	.02	.001		
		206.66	207.22	0.48	2519	.01	.001		
206.66-207.22 1% mag Avg 1-2% py as fol R// strg diss cubes.		207.22	209.68	1.46	2520	.01	.001		
207.22-209.68 Tr mag Avg 2-3% py locally 10% over 5 cm of sil/carb flooding.									
209.68-210.3 <.5% mag, 1% cubic py.		209.68	210.3	0.62	2521	.02	.001		
210.3-211.16 - <.5% mag, 1% py.		210.3	211.16	0.86	2522	.01	.001		
211.16-212.14 Avg 10% py, 1% mag		211.16	212.14	0.98	2523	.01	.001		
		212.14	214.0	1.86	2524	.80	.023		

N2/E2

PAGE 19 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-17

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN QTZ
				214.0-214.8 Qtz-carb rock, with chl-high local py content - up to 25% over 10-20 cm in heavy sil flood.						8	3
215				214.8-215.9 Qtz-carb ser schist. Well banded at 60° to CA. Local qtz flooding. Gray-green.						6	2
220				215.9-217.6 Well banded qtz-chl schist. Alt bands of chl-rich & qtz rich material - boa replacements? Locally deformed to 10-30° to CA, Crenulation cleavage at 70° to CA.						6	2
225				217.6-218.5 Variable section of qtz-carb-ser schist, qtz chl schist & bottom 20 cm of v. weak orange-red alt'n. Bottom 20 cm shows good buff sil/carb flooding						5	2
230				218.5-230.43 Weakly alt'ed finely bedded arg sandstone, mod chloritic, cut by several sections of weak-mod sil/carb flooding 10-20 cm wide, with inc py conc. Local pods & lenses of py - similar to section below 1F in T-11. Mod-well fol'n at 60-70° to CA, Cren cleavage at 45° to CA.							
				230.43 E.O.H.							

PAGE 18 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-17

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t
214.0-214.8 - 10% avg py, up to 25% py over 10-20 cm		214.0	214.8	0.8	2525	.04	.001
214.8-215.9 1-3% cubic py		214.8	215.9	1.1	2526	1.50	.044
215.9-217.6 1-2% dis cubic py		215.9	217.6	1.7	2527	1.13	.033
217.6-218.5 - avg 3% py. Bottom 20 cm = 20% py as v. fine dissemination + local large blebs.		217.6	218.5	0.9	2528	.14	.004
		218.5	220.0	1.5	2529	.50	.015
218.5-230.93 Avg py 1%, locally to 5% as masses + lenses // to CA (+brecciating)		220.0	221.28	1.28	2530	?	
		221.28	222.78	1.5	2531	.15	.004
		222.78	224.37	1.59	2532	.02	.001
		224.37	225.83	1.46	2533	.01	.001
		225.83	227.33	1.50	2534	.05	.001
		227.33	228.83	1.50	2535	.01	.001
		228.83	230.43	1.6	2536	.01	.001

N2/E2

PAGE OF | PROJECT: | HOLE NO.

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN

E1

ESSO RESOURCES CANADA LIMITED

ESSO MINERALS CANADA

DRILL LOG

PROJECT: ROBELE J.V.	GROUND ELEV.
HOLE NO.: T-18	BEARING: 180°
LOCATION: L 3840 E, 3+50 N	DIP: -45°
	TOTAL LENGTH: 248.18
LOGGED BY: J. MACPHERSON	HORIZONTAL PROJECT: 175.5
DATE: FEB. 5/87	VERTICAL PROJECT: 175.5
CONTRACTOR: LONGYEAR DRILLING LTD	
CORE SIZE: BQ	
DATE STARTED: JAN 31/87	
DATE COMPLETED: FEB 2/87	

DIP TESTS

	App.	True
77.7 m :	50°	40°
154.3 m :	48.5°	39°
245.7 m :	41.5°	34°

ALTERATION SCALE

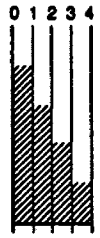
absent

slight

moderate

intense

TOTAL SULPHIDE SCALE



traces only

< 1%

1% – 3%

3% – 10%

> 10%

COMMENTS

LEGEND

PAGE 1 OF | PROJECT: ROBELE J.V. (THORNELOE) | HOLE NO. T-18

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% QTZ
				0.-54.75 OVERBURDEN - SAND, GRAVEL, CLAY, BOULDERS - possible cave at bedrock surface.							
				54.75-64.72 1/B fg finely bedded arg + coarser grained siltstone. Uniform dark grey with occ. sericitic slip. Locally deformed 0-20° to CA up to 60° to CA, Cross cleav is at 70° to CA. Some v. local sericitic areas with 5-7% fine py assoc'd.						3	1
50											
55				64.72-72.83 Zone of Quartz veining Numerous Q.V. with sericitic margins + sericitic inclusions, sep. by .5m - 1m of mod sericitic arg, with occ. 20cm section of good buff sil/carb alt'n. (Note thic at 68.18-68.58m) Proble top of alt'n system.						5	2
60											
				72.83-79.4 Well fol'd thinly bedded weakly sericitic argillites, local py to 2% avg 1% cut by 10% v. thin & tr str's.						7	10
65											
				79.4-86.16 Much stronger sericitic. - general inc in py content, with a few v. narrow buff sil/carb alt'n zones. Still fairly finely bedded. 10 cm Q.V. at 80.67-80.77 Last 25 cm of section						7	16
70											
				shows good buff carb alt'n with a 1cm QV at 30° to CA + 15% v. finely dissem. py.						6	5
75											
				86.16-92.55 As per 72.83-79.4. Fairly sharp ser. alt'n contacts.						5	2
80											
										5	1
85											

PAGE 2 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-18

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t
		54.75	56.38	1.53	2537	.02	.001
		56.38	57.88	1.50	2538	.01	.001
54.75 - 64.72 Avg 1% py, locally to 5%, esp btw 63.68 & 64.05.		57.88	59.1	1.23	2539	.01	.001
		59.1	60.6	1.5	2540	.02	.001
		60.6	61.18	1.58	2541	.01	.001
		61.18	63.68	1.50	2542	.01	.001
		63.68	64.72	1.04	2543	.02	.001
64.2 - 72.83 avg tr py, except btw. 68.98 - 69.58, where py = 15%.		64.72	66.72	2.0	2544	.01	.001
		66.72	68.18	1.46	2545	.01	.001
		68.18	68.58	0.40	2546	.01	.001
		68.58	70.48	1.90	2547	.01	.001
		70.48	72.83	1.35	2548	.01	.001
		72.83	74.67	1.84	2549	.01	.001
		74.67	76.17	1.50	2550	.02	.001
		76.17	77.72	1.55	2551	.01	.001
		77.72	79.40	1.58	2552	.01	.001
		79.40	80.77	1.37	2553	.01	.001
79.4 - 86.6 avg 2% py, locally 5% - 10% over 10-25 cm.		80.77	82.27	1.50	2554	.01	.001
		82.27	83.82	1.55	2555	.01	.001
		83.82	85.32	1.50	2556	.01	.001
		85.32	86.86	0.54	2557	.01	.001

PAGE 3 OF | PROJECT: | HOLE NO. T-18

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN QTZ.
				92.55-101.6 Inc. ser., as per 79.4-86.16, with some local v. intense sil/carb flooding. Mainly fg finely bedded sericitic argillite. 99.46-100.54 Zone of v. intense sil/carb flooding. Good grey qtz with high py content.						4	1
90				101.6-104.65 More chloritic, similar to 72.83-79.4						4	1
95				104.65-110.0 Sericitic mudst/arg, thinly bedded, well foliated sub // to fol'n. 1-2% py as strs + fine dissemination.						4	1
100				110.0-111.15 Fg grey greywacke. Mod sil, with 10% FRe diss py. 1% angular fuchsitic frags.						4	1
				111.5-116.15 Mod-str sericitic fg argillite + fg siltstone. 2% dark qtz carb strs, occ. with 1%-3% py. Mod fold at 60° to CA						4	1
105				116.15-117.80 Slightly darker mod-heavy sericite-carb section. Consists of thin-mm sil/carb rich-beds 1/B with more sericitic material. Note that fol'n here is at 80-85° to CA, while bedding is at 70° to CA - good eg at 116.25m						4	1
110				117.8-124.7 Strongly sericitic 1/B arg + mudstone. 1% dark QTZ, avg 9% py (carbs) Well foliated at 70° to CA						4	1
115				124.7-128.35 Fg greywacke. Very abrupt upper + lower contacts with v. sericitic unit. V. hard, grey colour. 3-5% larger well rounded qtz clasts						5	1
120				visible. Tr fuchsitic frags (angular - or with v. ragged edges) 5% v. thin qtz-carb strs sub // to CA. Matrix, which is fg, is composed entirely of qtz + tourmaline						5	1
125											
130											

PAGE 4 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-18

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t
		86.16	88.36	2.20	2558	.04	.001
86.16-92.55 Avg fr - .5% py.		88.36	89.91	1.55	2559	.01	.001
		89.91	91.30	1.39	2560	.01	.001
		91.30	92.55	1.25	2561	.01	.001
		92.55	94.50	1.95	2562	.01	.001
99.46-100.54 20% v. fine py.		94.50	96.0	1.50	2563	.01	.001
		96.0	97.55	1.55	2564	.01	.001
		97.55	99.46	1.91	2565	.01	.001
		99.46	100.54	0.92	2566	.01	.001
		100.54	101.6	1.06	2567	.01	.001
101.6-104.65 Low py (<1%)		101.6	103.1	1.50	2568	.01	.001
		103.1	104.65	1.55	2569	.01	.001
		104.65	107.0	2.35	2570	.01	.001
		107.0	108.5	1.5	2571	.21	.006
		108.5	110.0	1.5	2572	.03	.001
		110.0	111.15	1.15	2573	.02	.001
		111.15	113.05	1.90	2574	.01	.001
		113.05	114.6	1.55	2575	.01	.001
		114.6	116.15	1.55	2576	.02	.001
116.15-117.80 1% cubic py.		116.15	117.80	1.65	2577	.01	.001
		117.8	119.30	1.50	2578	.05	.001
124.7-128.25 Avg py = 3% - as small subhedral cubes - randomly oriented throughout unit.		119.30	120.70	1.40	2579	.40	.012
		120.7	122.2	1.5	2580	.04	.001
		122.2	123.7	1.5	2581	.20	.006
		123.7	124.7	1.0	2582	.06	.002
		124.7	126.2	1.5	2583	.32	.009
		126.2	127.7	1.5	2584	.22	.006

PAGE 5 OF | PROJECT: ROBELE J.V. | HOLE NO. T-18

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN QTZ
				128.25-135.1 V. sericitic uniform lime-green, fg finely bedded to thickly bedding mudstone, siltstone or argillite.						6	2
135				135.1-144.95 Weakly alt'd fg finely bedded argillite + mudstone. Towards the end of the section, arenite component becomes dominant. It is dark grey to black, fg to mg, thickly bedded sharp bedding contacts (tops ND)						7	5
140				135.1-136.24 zone of Q.V. with sericitic margins + inclusions						5	2
145				136.24-137.3 Quartz veining - highly convoluted, numerous sericitic stringers, local high fine py content (up to 20% over 10cm)						6	1
150				144.95-147.45 Intensely altered by sil, carb + hematite - originally possibly an arenite? a few fuchsitic frags with ragged edges visible - also, poss. a few original qtz grains - some are quite large - up to 2cm in diameter. Also there are a few grains with a darker reddish stain than the matrix - this unit could be a conglomerate (?) Locally it is intensely quartz crackle fractured + heavily pyritized, esp from 146.40 - 147.45 m ↙							
155											
160											
165				146.9: 2cm grey Q.A.V at 40° to CA with 5% v. finely diss py.							
				147.45-149.23 Arenite, as above, only 147.45 marks an abrupt contact to sericitic prevalent alt'n.							
170				Fuchsitic frags are more readily visible + rock shows a more clastic texture. There is a minor mafic clast component other than fuchsite: fg black, angular ~ 1-5% of total rock,							
175											

PAGE 6 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-18

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t.	ASSAYS Au oz/t			
128.25-135.1 Tr-2% (locally) cubic py.		128.25	129.4	1.15	2585	.08	.002			
		129.4	131.34	1.96	2586	.03	.001			
		131.34	132.89	1.55	2587	.05	.001			
1436.24-137.3 - 20% py over 10cm avg for section = 10% - V fine grained - occurs as masses.		132.89	134.39	1.50	2588	.04	.001			
		134.39	135.1	0.71	2589	.03	.001			
		135.1	136.24	1.14	2590	.63	.018			
		136.24	137.3	1.06						
		137.3	138.98	1.68	2591	.61	.018			
		138.98	140.48	1.50	2592	.86	.025			
		140.48	142.03	1.55	2593	.03	.001			
		142.03	143.53	1.50	2594	.01	.001			
		143.53	144.95	1.42	2595	.01	.001			
144.95-147.45 - Locally finely diss cubic py up to 20% over 10 cm. Avg for section is 5-10%.		144.95	146.40	1.45	2596	.10	.003			
		146.40	147.45	1.05	2597	1.09	.032			$\frac{.99}{1.82}\left(\frac{.629}{9.2}\right)$
		147.45	149.23	1.77	2598	.93	.027			

PAGE 7 OF | PROJECT: | HOLE NO. T-18

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN QT
				149.23-149.95 Sharp contact to chloritic v. finely bedded (banded?) schist. V. fine bands = alt chl ± sil, locally crenulated at 45° to CA, fol opp dir at 45° to CA.						4	1
155				149.95-150.89 Red-stained arenite (possibly an immature matrix supported conglomerate). Frags are siliceous (cherty?), fuchsitic (mafic), dark, small, angular (and unknown mafic). V similar to 144.95-147.45, except more clasts + less pyrite.						4	1
160											
165				150.89-154.50 Fairly thickly bedded pkg arenite & finer grained siltstones (black) to 152.40. 152.4-152.7 shows good g flaser beds - tops up hole? 153.4-154.5 - more altered - local reddish stain.							
				154.50-157.07 Hematitic arenite or conglomerate, as per 144.95-147.45 Mod crackle, good py, weakly magnetic. Abrupt alteration contacts (same as bedding?)							
				157.07-157.89 More ser alt'd arenites, with 1% fg magnetite.							
				157.89-161.65 As per 154.50-157.07 Compared with hem. alt system in other holes, this system is a deeper red - bordering on purple - little visible magnetite in red stained sections - More clastic component - ie chert ± fuchsite, little sil/carb flooding in this unit - also more pyrite in this unit - alt'n from mag to py more complete here. Also, red contacts are quite sharp: same as bedding contacts?							

PAGE 8 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-18

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t
		149.23	149.95	0.72	2599	.21	.006
149.95 - 150.89 - 1% cubic py, unit weakly magnetic no mag visible.		149.95	150.89	0.94	2600	.07	.002
		150.89	152.40	1.51	2601	.02	.001
		152.40	153.40	1.0	2602	.01	.001
		153.4	154.50	1.1	2603	.03	.001
150.89 - 154.22 Avg py content = 2%, locally 3%.		154.5	156.0	1.5	2604	.37	.011
		156.0	157.07	1.07	2605	.14	.004
		157.07	157.84	0.77	2606	.02	.001
154.5 - 157.07 Finely diss py to 10%, locally to 15% fairly evenly distributed throughout		157.84	158.42	0.58	2607	.01	.001
		158.42	158.85	0.43	2608	.22	.006
		158.85	160.32	1.47	2609	.06	.002
		160.32	161.65	1.33	2610	.01	.001
157.89 - 161.65 as per 154.5 - 157.07		161.65	162.35	1.7	2611	.02	.001

PAGE 9 OF | PROJECT: | HOLE NO. T-18

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN
				158.42-158.85 slightly more sericitic, similar to 142.45-149.23 m.						3	1
165				161.65-162.35 Mod. chloritic, finely bedded fg seds. Unaltered.							
				162.35-165.4 Hem alt'n zone, as per earlier sections. Crackle fracture slightly stronger in this section						3	1
170				165.4-181.4 Finely bedded fg arg & siltstone. weaker, alt'n, spotty sil/carb alt'n. Abrupt end to red zone. Ser alt'n feeder out d-hole.						3	1
175				Rock is mainly 1/B fg arenite & argillite. $B_1 = f$, @ 60° to CA.							
				181.4-193.0 Fine-grained mudstone with varying % of Qtz-py - may be diagenetic or introduced. Latter consists of semi-massive py with qtz gangue. Sharp contacts with mudstone, which contains little py. Sections are detailed under mineralization re py %. Section is v. little altered. Gangue also includes appreciable anhydrite.						3	1
180										4	5
185										4	3
190				193.0-195.5 1/B fg Finely bedded mudstone & siltstone. Well fol'd // to bedding							
195				195.5-197.0 As per 181.4-193.0 avg 15% semi-massive py in qtz gangue in 3-5cm widths.							
				197.0-200.46 Fine-grained thinly bedded, well fol'd chloritic seds & sil-rich beds - chert (remobilized) Tcpy							
200				200.46-200.95 Mod sil/carb replacement. 3-5% py. Mid hard. Med grey with light green tinge.							
205											

PAGE 10 OF	PROJECT: ROBELE JOINT VENTURE (THORNELOE)	HOLE NO. T-18

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t		
		162.35	163.80	1.45	2612	.11	.003		
162.35 - 165.4 - .5-8% diss cubic pyrite. Weakly magnetic.		163.80	165.4	1.6	2613	.18	.005		
		165.4	166.42	1.02	2614	.59	.017		
165.4 - 181.4 Avg <1% py Locally 2% over a few cm.		166.42	167.92	1.50	2615	4.15	.121	4.07	.119
		167.92	169.47	1.55	2616	.20	.006		
181.4 - top 20 cm silicified flood, 182.36 15% finely dissem py. Sev. 5 cm seams semi-mass py Avg py = 15%. Qtz = 5%		169.47	170.97	1.50	2617	.21	.006		
		170.97	172.51	1.54	2618	.02	.001		
		172.51	174.01	1.50	2619	.11	.003		
182.36 - 183.8 Qtz = 2%, Py = 5% in <1 cm thick semi-mass bands.		174.01	175.56	1.55	2620	.03	.001		
183.8 - 185.25 Contort. arg beds, 1 2cm seam. semi-mass py Py = 2%, Qtz <1%.		175.56	177.06	1.50	2621	.02	.001		
		177.06	178.61	1.55	2622	.04	.001		
185.2 - 187.56 30% py + 5% qtz Numerous semi-mass py bands up to 6 cm wide.		178.61	180.11	1.50	2623	.01	.001		
		180.11	181.4	1.29	2624	.12	.004		
		181.4	182.36	0.96	2625	2.14	.062		
187.56 - 188.36 Well fol'd fg arenite, numerous fol'n // chl stss. 0 py		182.36	183.80	1.44	2626	.20	.006		
		183.8	185.25	1.45	2627	.06	.002		
		185.25	187.56	2.36	2628	.39	.011		
		187.56	188.36	0.80	2629	.31	.009		
188.36 - 189.4 30% py, 5% qtz.		188.36	189.4	1.04	2630	.08	.002		
189.4 - 191.1 15% py, 3% qtz Max band width = 1.5 cm.		189.4	191.1	1.7	2631	.05	.001		
191.1 - 193.0 10-15% py, 2-3% qtz.		191.1	193.0	1.9	2632	.15	.004		
y ore as blebs in 193.0 - 195.5 = avg 1%.		193.0	195.5	2.5	2633	.01	.001		
		195.5	197.0	1.5	2634	.03	.001		
		197.0	198.5	1.5	2635	.04	.001		
		198.5	199.95	1.45	2636	.02	.001		
		199.95	200.46	0.51	2637	.01	.001		
		200.46	200.95	0.49	2638	.15	.004		

PAGE 11 OF | PROJECT: ROBELE J.V. (THORNECOE) | HOLE NO. T-18

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A SIL	B SER	C ANK	D CAL	E CHL	FRACTURE INTENSITY	% VEIN
				200.95-201.5 As per 197.0-200.46							
				201.5-208.5 Highly variable section. Local mod-intense sil/carb alt'n w py. Finely bedded siltstone + mudstone locally sericitic.						6	3
210				201.5-202.98 Top 60 cm sil/carb alt with 5% py							
				203.8-204.65 - sil/carb alt. mod crackle fracture, 6-8% py						4	1
215				205.95-206.44 - as above							
				208.5-209.5 - as above							
				209.5-236.52 Fine grained finely bedded arg/mudstone with 5% fg arenite. Likely ser alt'd.						5	2
220				222.4-225.3 Zone of intense sil-carb alt'n, with 2% grey Q.V. at 20-40° to CA. Zone is buff grey with green sericitic slips at <30° to CA. Shot through with 20-30% v. fine py						9	5
225				223.18-223.6 - V intense alt'n, 30% fine py, 5% Q.V.s 20% sil replacements.						6	3
230				Unit shows a v. dec fol'n sub // to CA for whole section. Also, it is cut through at varying angles by narrow qtz strs.						5	1
235				Unit is essentially qtz-carb-ser-py schist with tr-1% ghosts of fuchsitic fragments.						2	
240				236.52-248.18 Graphitic argillite Unalt'd, mod-well foliated						2	
245											
				248.18 E.O.H.						2	
250											

PAGE 12 OF | PROJECT: ROBELE JOINT VENTURE (THORNELOE) | HOLE NO. T-18

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Au oz/t			
		200.95	201.5	1.55	2639	.02	.001			
		201.5	202.95	1.45	2640	.21	.006			
		202.95	203.8	0.85	2641	.03	.001			
Sil/carb sections. avg 8-10% finely diss py.		203.8	204.65	0.85	2642	.03	.001			
		204.65	205.95	1.30	2643	.04	.001			
		205.95	206.44	0.49	2644	.20	.006			
		206.44	207.13	0.69	2645	.02	.001			
		207.13	208.5	1.37	2646	.02	.001			
		208.5	209.5	1.0	2647	.29	.008			
		209.5	211.0	1.5	2648	.01	.001			
		211.0	213.14	1.14	2649	.02	.001			
		213.14	213.64	1.50	2650	.01	.001			
222.4-225.3 20% py avg.		213.64	215.19	1.55	2651	.01	.001			
		215.19	216.69	1.50	2652	.01	.001			
		216.69	218.24	1.55	2653	.02	.001			
223.18-223.6 30% finely diss py.		218.24	219.74	1.50	2654	.01	.001			
		219.74	221.28	1.54	2655	.03	.001			
		221.28	222.78	1.5	2656	1.22	.036			1.83
		222.78	224.33	1.55	2657	8.99	.262	9.10	.265	14.08
		224.33	225.83	1.5	2658	3.22	.094			4.83
		225.83	227.38	1.55	2659	1.62	.047			2.51
		227.38	228.88	1.50	2660	.17	.005			23.2 = 3.803g/t
		228.88	230.42	1.54	2661	.18	.005			6.1m
		230.42	232.92	1.50	2662	.55	.016			= .11 oz/t
		232.92	233.48	1.56	2663	.02	.001			20.0'
		233.48	234.78	1.4	2664	2.09	.061			
		234.78	236.52	1.74	2665	.01	.001			
						2557	14.08			
						2558	4.83			
							18.96	6.18g/t		.18
								3.05m		10 ft

PAGE OF | PROJECT: | HOLE NO.

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN/QTZ	

900

OM 86-5-C-163

THIS SUBMITTAL CONSISTED OF VARIOUS REPORTS, SOME OF WHICH HAVE BEEN CULLED FROM THIS FILE. THE CULLED MATERIAL HAD BEEN PREVIOUSLY SUBMITTED UNDER THE FOLLOWING RECORD SERIES (THE DOCUMENTS CAN BE VIEWED IN THESE SERIES):

Summary Report on Robele Joint Venture → see Toronto diamond drilling file #29 for Thorneloe Twp.

Diamond drilling logs T-6 & T-7 & T-10.

by: J. MacPherson

Nov/86

BRISTOL

101

144

Thunder Creek

Tatachikapika River

Kenogamissi

Hydro Bay

ONT HYDRO

THORNELOE

2M

1M

0M

M

2M

5 M

4 M

3 M

2 M

1 M

955394 955395 955396 952821 952822 952823 952824 952825

955386 955387 955388 955389 952816 952817

955376 955380 955381 952801 952802 952797

930784 838437 838438 838439 838440 838441 838442

930785 838448 838447 838446 838445 838444 838443

805191 805192 805193 956083

796731 796732 796733 796734 956202 956079 956078 956219 956218 956231 956230 956229

956082 956092 956093 956094 956095 956099 956100 956101

956097 956098 995646

892797 892798 892793

892798 892799 892800

831368 834367 834158 834369

9422 9423 9421 9418 9424 7379

HS 976 HS 975 HS 978

P7538 P7556

Magpie R

GODFREY | MOUNTJOY | TISDALE

Timmins

BRISTOL | OGDEN | DELORO

THORNELOE | PRICE | ADAMS

LOCATION MAP

SCALE 1 INCH = 4M

ESSO MINERALS CANADA

DIV'N OF ESSO RESOURCES CANADA LIMITED

PROSPECT: ROBELE JOINT VENTURE

THORNELOE 1688

CLAIM MAP

ACCOUNT Nº	FILE Nº	TORONTO
DRAWN BY: S M	DATE 28/02/87	NTS 42A/5
DWG Nº	MAP Nº 1688-A01-1	

SCALE

1 : 20,000

To Accompany A Report By: J. MacPherson

Dates: March, 1987 OM86-5-C-163

63.5053

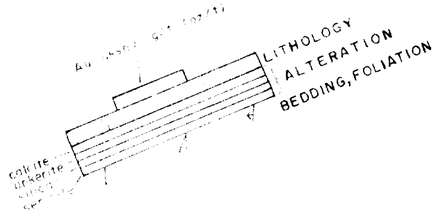
LEGEND

- Iron Formation
- Argillite, mudstone
- Siltstone
- Greywacke
- Conglomerate
- Feldspar porphyry (± quartz)
- Diabase

SYMBOLS

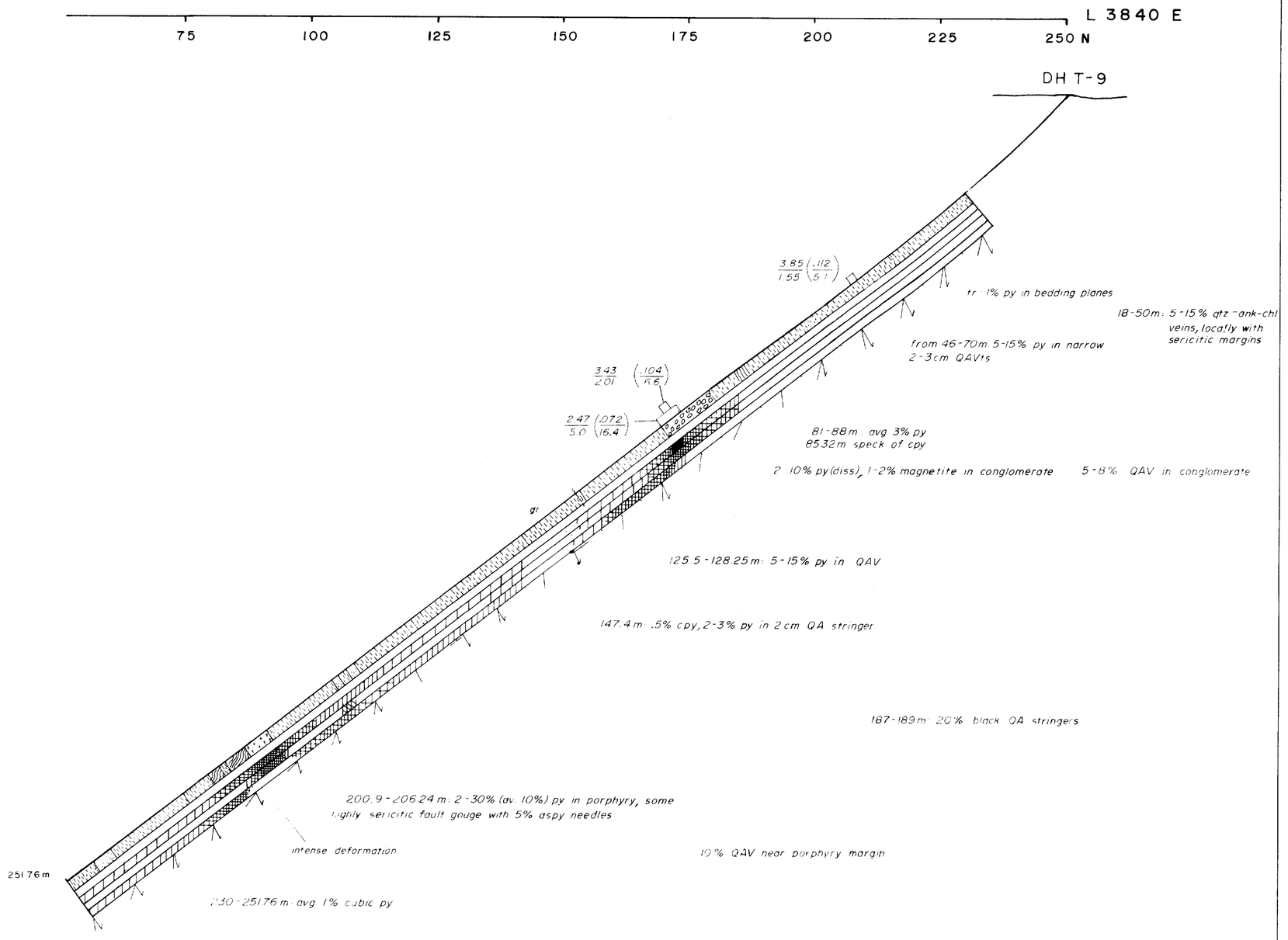
- Bedding, tops indicated
- Foliation
- QV — Quartz vein
- QAV — Quartz ankerite vein
- QCV — Quartz calcite vein
- py — Pyrite
- aspy — Arsenopyrite

KEY



ALTERATION

- Trace to absent
- Weak
- Moderate
- Strong
- Intense



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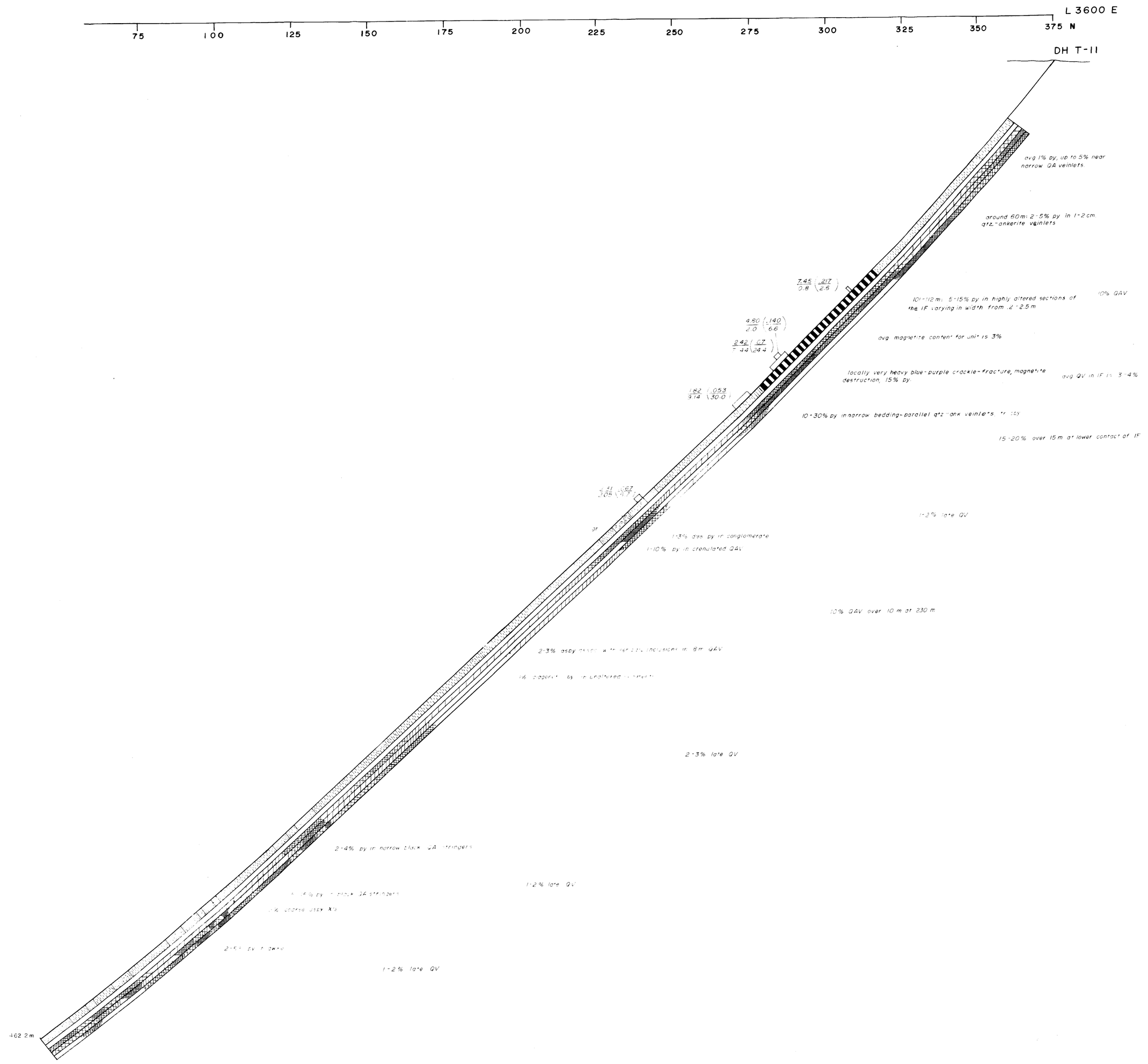
ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

PROSPECT: THORNELOE 1688
ROBELE J.V.

SECTION DHT-9

ACCOUNT Nº	FILE Nº	TORONTO
DRAWN BY: A.V.	DATE 06/01/87	NTS 42A/5
DWG. Nº	MAP Nº 688-5-9	
SCALE 1:500		
To Accompany A Report By J. McArthur Dated: May/87		

OM86-5-C-163



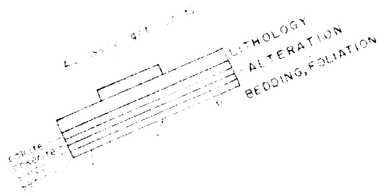
LEGEND

- Iron Formation
- Argillite, mudstone
- Siltstone
- Greywacke
- Conglomerate
- Feldspar porphyry (± quartz)
- Diabase

SYMBOLS

- Bedding, tops indicated
- Foliation
- QV — Quartz vein
- QAV — Quartz ankerite vein
- QCV — Quartz calcite vein
- py — Pyrite
- aspy — Arsenopyrite

KEY



ALTERATION

- Trace to absent
- Weak
- Moderate
- Strong
- Intense

63.5053

ESSO MINERALS CANADA
A DIV. OF ESSO RESOURCES CANADA LIMITED
PROSPECT THORNELOE 1688
ROBELE J.V.
SECTION DH T-11

ACCOUNT NO	FILE NO	TORONTO
DRAWN BY A.V.	DATE 10/12/86	SIZE 42A/5
DWG NO	MAP NO 688-5-11	
SCALE 1:500		

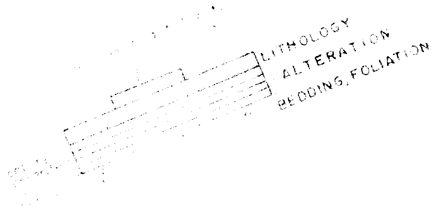
LEGEND

- Iron Formation
- Argillite, mudstone
- Siltstone
- Greywacke
- Conglomerate
- Feldspar porphyry (± quartz)
- Lapilli tuff
- Lapilli tuff

SYMBOLS

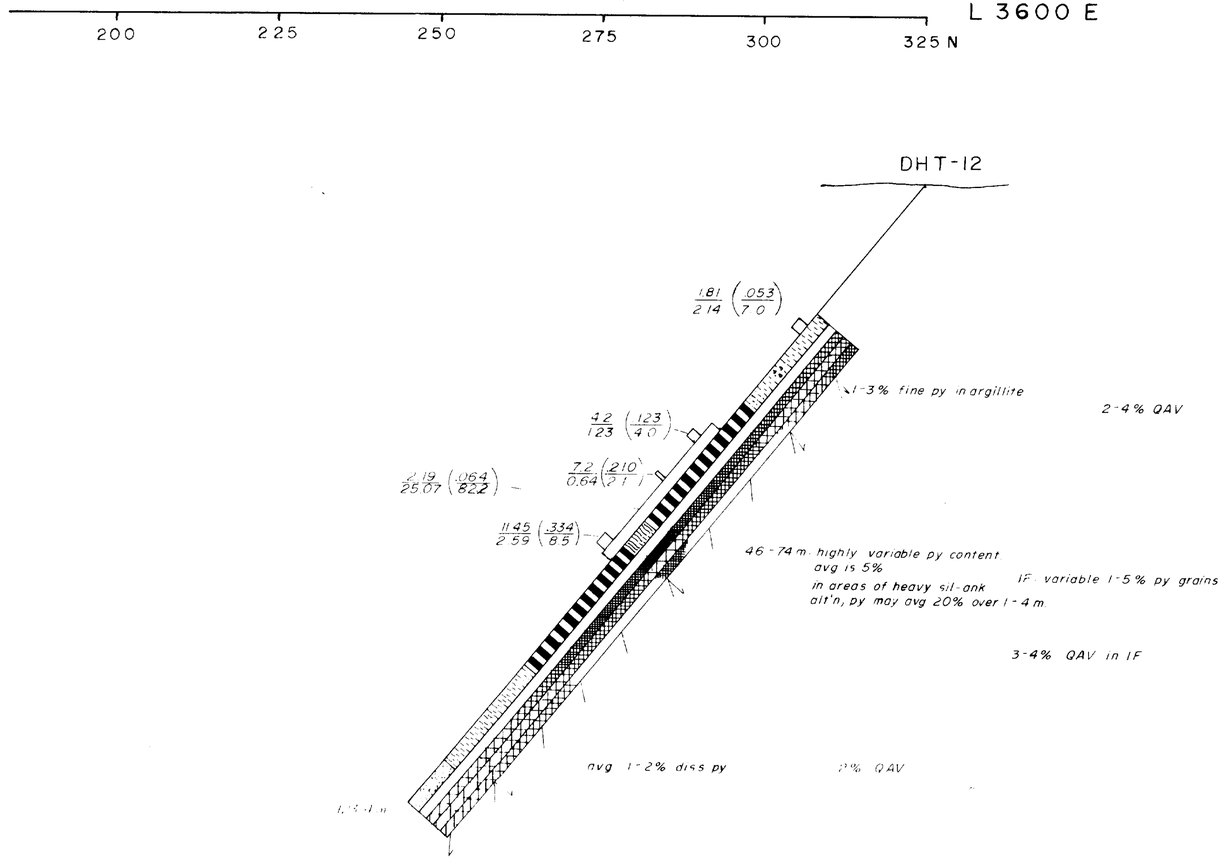
- Bedding, tops indicated
- Foliation
- QV — Quartz vein
- QAV — Quartz ankerite vein
- QCV — Quartz calcite vein
- py — Pyrite
- aspy — Arsenopyrite

KEY



ALTERATION

- Trace to absent
- Weak
- Moderate
- Strong
- Intense



63.5053

ESSO MINERALS CANADA DIV'N OF ESSO RESOURCES CANADA LIMITED	
PROSPECT: THORNELOE 1688 ROBELE J.V.	
SECTION DHT-12	
ACCOUNT Nº	FILE Nº TORONTO
DRAWN BY: A.V.	DATE 12/01/87 NTS 42A/5
DWG. Nº	MAP Nº 688-5-12
SCALE 1:500	
To Accompany A Report By J. Matthews Dated: May/87	

OM86-5-C-163

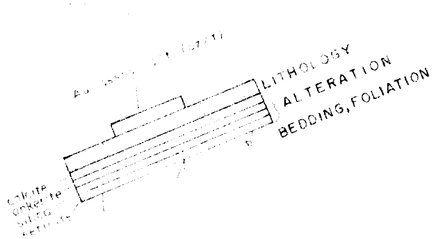
LEGEND

- Iron Formation
- Argillite, mudstone
- Siltstone
- Greywacke
- Conglomerate
- Feldspar porphyry (± quartz)
- Diabase

SYMBOLS

- Bedding, tops indicated
- Foliation
- QV — Quartz vein
- QAV — Quartz ankerite vein
- QCV — Quartz calcite vein
- py — Pyrite
- aspy — Arsenopyrite

KEY



ALTERATION

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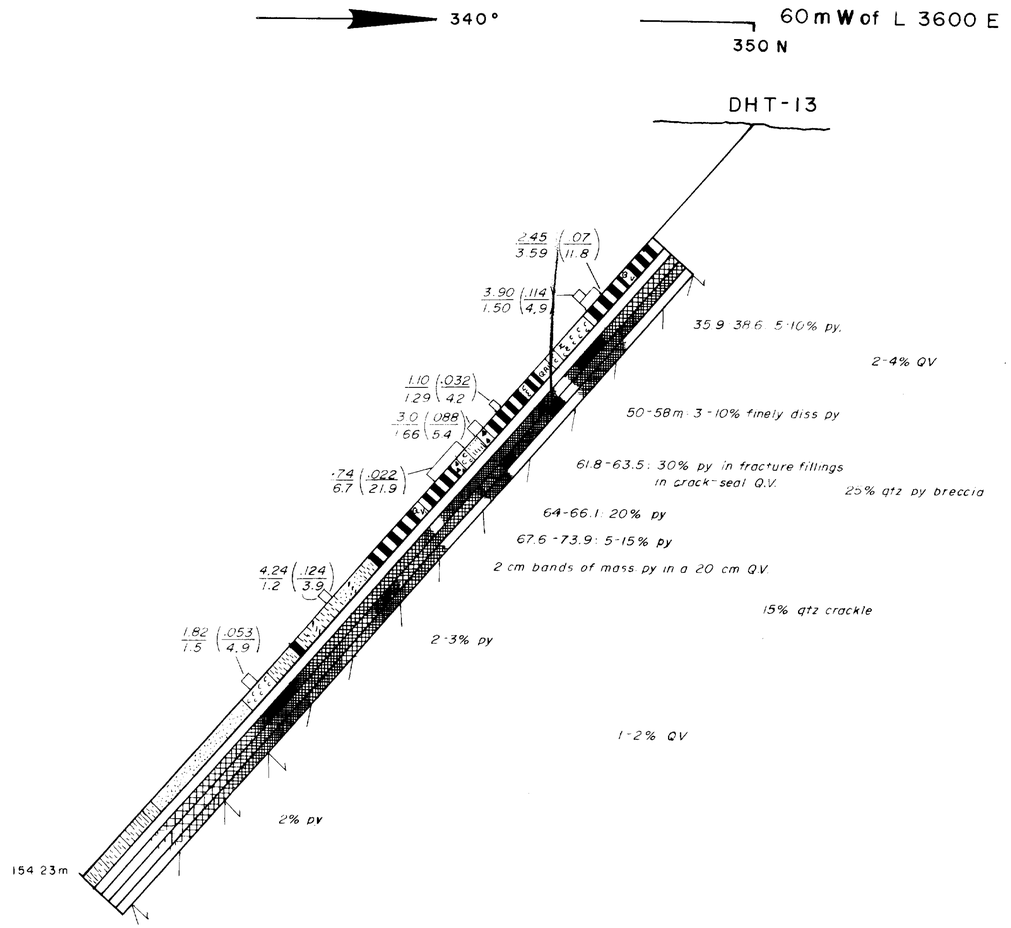
- Weak
- Moderate
- Strong
- Intense



63.50S3

FSSO MINERALS CANADA DIV'N OF FSSO RESOURCES CANADA LIMITED	
PROSPECT: THORNELOE 1688 ROBELE J.V.	
SECTION DHT-13	
ACCOUNT Nº	FILE Nº TORONTO
DRAWN BY: A.V.	DATE 07/01/87 NTS 42A/5
DWG. Nº	MAP Nº 688-5-13
SCALE 1:500	
To Accompany A Report By J.MacArthur Dated Mar/87	

0486-5-C-163

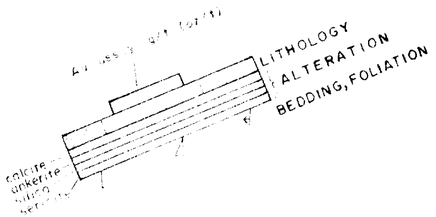
LEGEND

- Iron Formation
- Argillite, mudstone
- Siltstone
- Greywacke
- Conglomerate
- Feldspar porphyry (± quartz)
- Diabase

SYMBOLS

- Bedding, tops indicated
- Foliation
- QV — Quartz vein
- QAV — Quartz ankerite vein
- QCV — Quartz calcite vein
- py — Pyrite
- aspy — Arsenopyrite

KEY



ALTERATION

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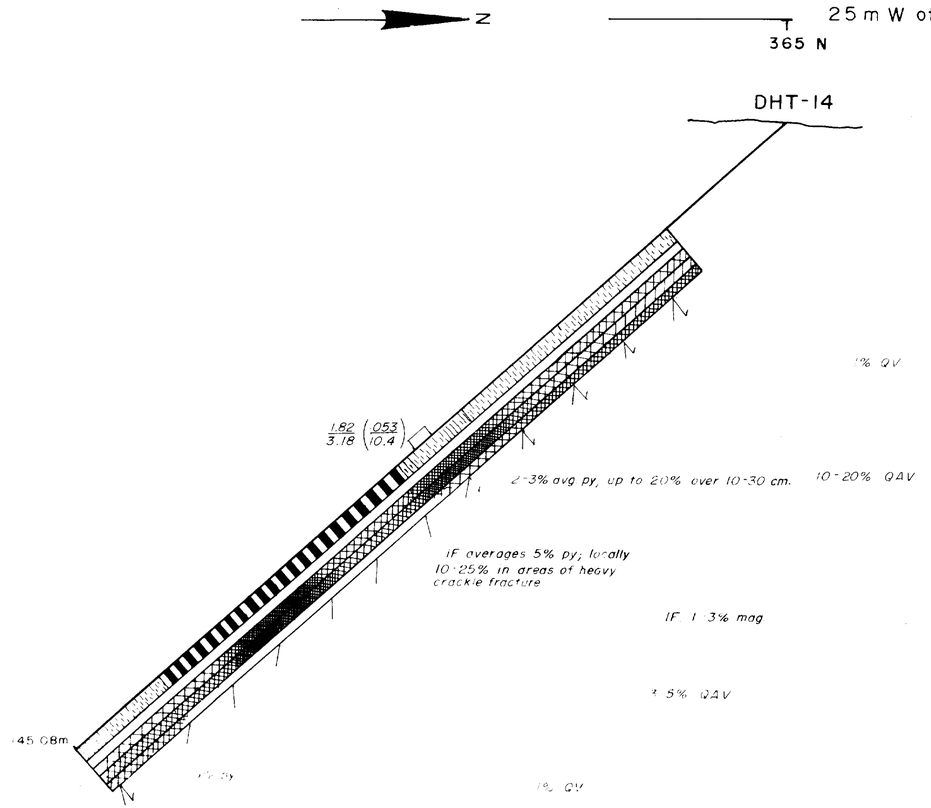
- Weak
- Moderate
- Strong
- Intense



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ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

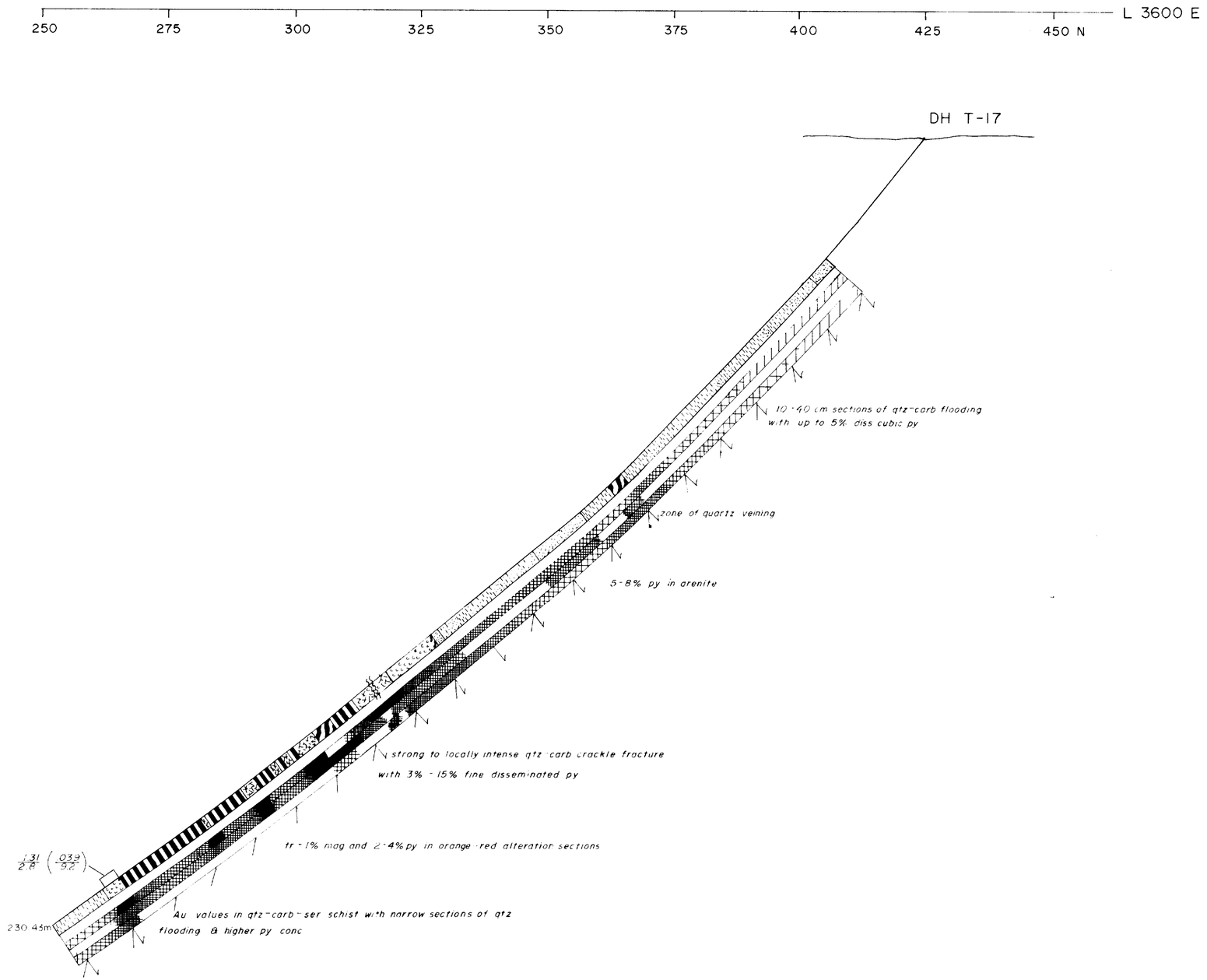
PROSPECT: THORNELOE 1688
ROBELE J.V.

SECTION DHT-14

ACCOUNT Nº	FILE Nº	TORONTO
DRAWN BY: A.V.	DATE 08/01/87	NTS 42A/5
DWG. Nº	MAP Nº 688-5-14	
SCALE 1:500		
To Accompany A. Report By: J. MacAdam		
Dated May/87		

0486-5-C-163

42A05SE0057 63.5053 THORNELOE



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ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

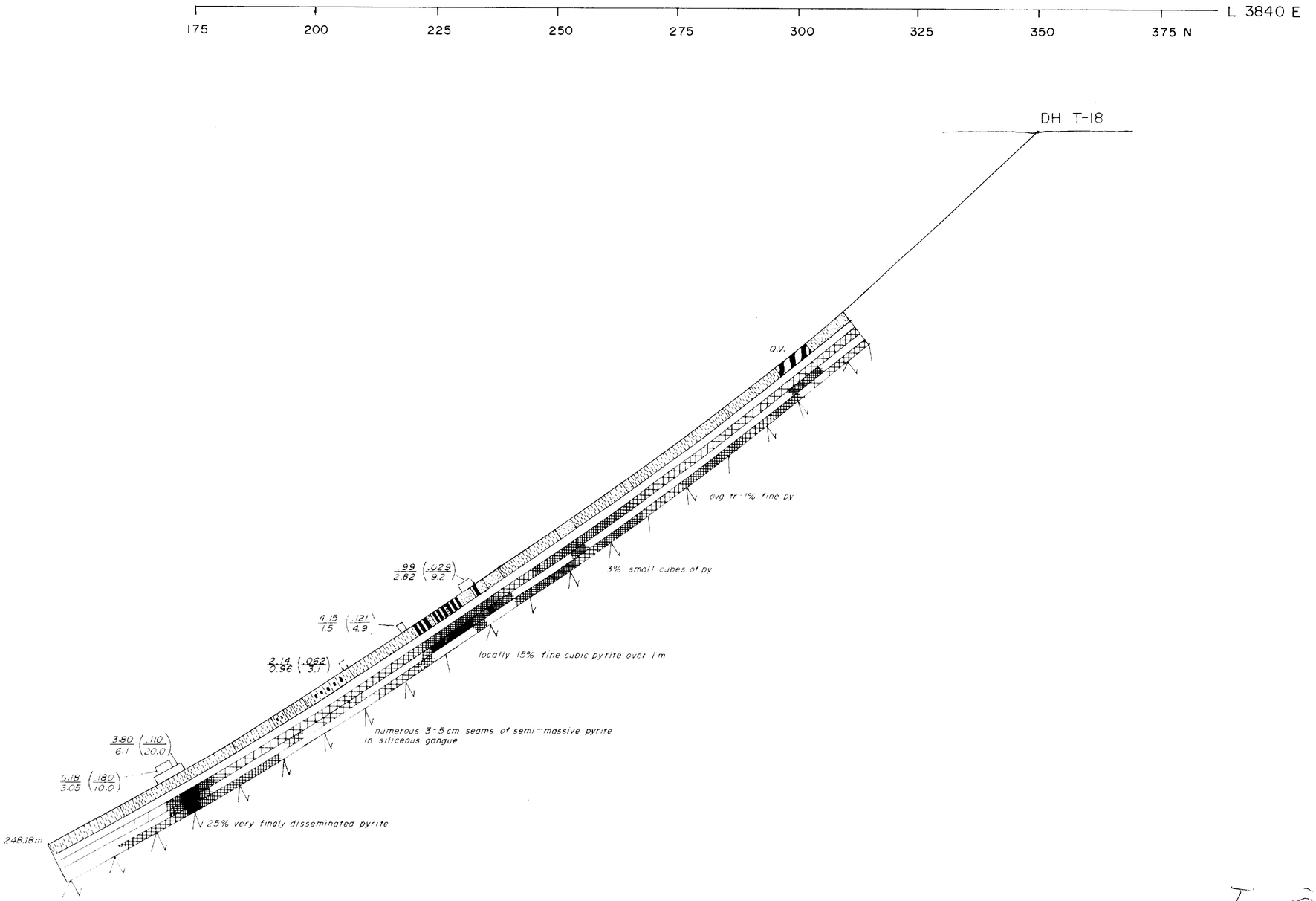
PROSPECT: THORNELOE 1688

ROBELE J.V.

SECTION: DH T-17

ACCOUNT Nº	FILE Nº	TORONTO
DRAWN BY: JMP	DATE 11-2-87	NTS 42A/5
DWG. Nº	MAP Nº 688-5-17	
SCALE 1:500		
To Accompany A Report By: J. MacPherson Dated: Mar/87		

OH86-5-C-163



63.50 S3

FSSO MINERALS CANADA
DIV'N OF FSSO RESOURCES CANADA LIMITED
PROSPECT: THORNELOE 1688
ROBELE J.V.
SECTION - DH T-18

ACCOUNT Nº	FILE Nº	TORONTO
DRAWN BY: J.M.R.	DATE 14.2.87	N.T.S. 42A/5
DWG. Nº	MAP Nº 1688-5-18	

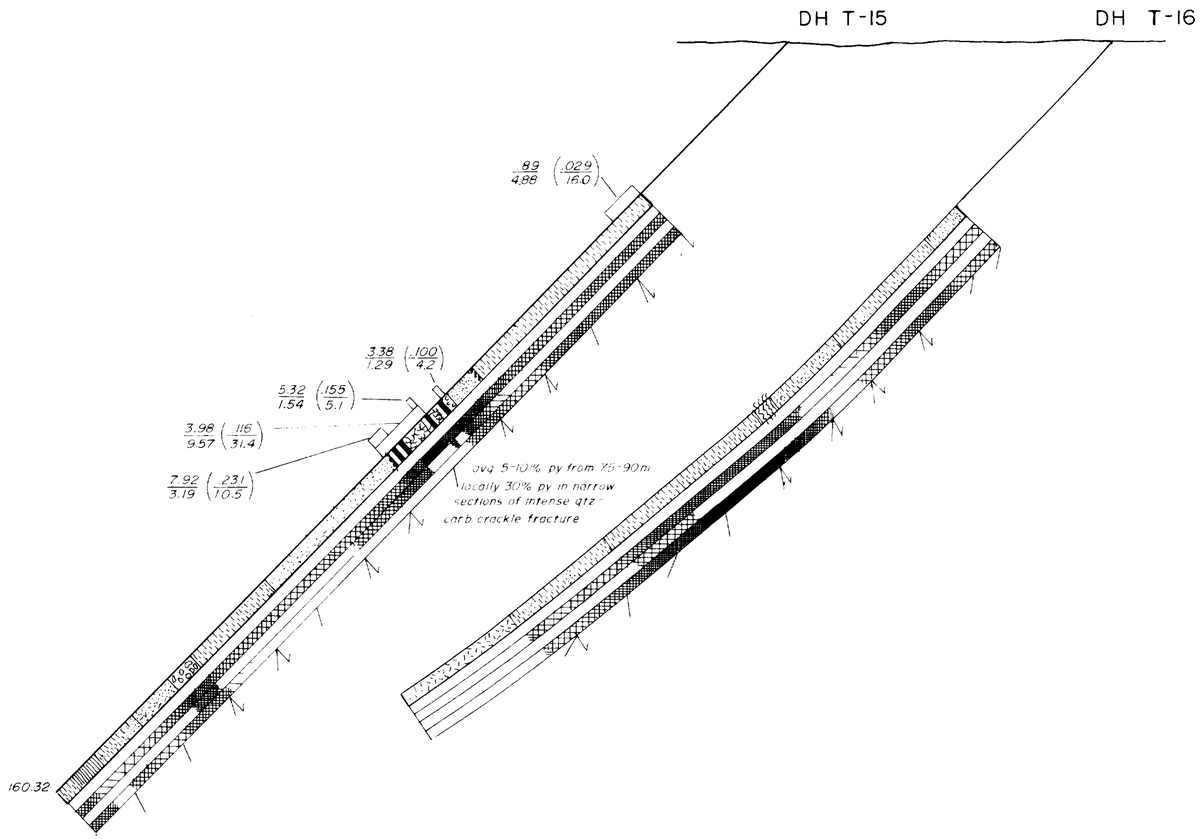
SCALE
1:500

To Accompany A Report By J. MacArthur
Dated Mar 1/87

OM86-5-C-163

L 3660 E

200 225 250 275 300 325 350 375 400 N



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FSSO MINERALS CANADA
DIV'N OF FSSO RESOURCES CANADA LIMITED

PROSPECT: THORNELOE 1688
ROBELE J.V.

SECTION – L3660 E

ACCOUNT Nº	FILE Nº	TORONTO
DRAWN BY: J.M.P	DATE 10/02/87	NTS 42A/5
DWG. Nº	MAP Nº 688-5-15	

SCALE
1:500

To Accompany A Report By: J.M.P. Mar 1987

OM86-5-C-163


Bristol No. 2 Group
Bristol No. 1 Group
Thorneloe West Group
Thorneloe East Group
Mattagami River Group
TISDALE GROUP METAVOLCANICS
PORCUPINE AND/OR TEMISKAMING METASEDIMENTS
PORC. TEM. METASEDIMENTS
FAULT
SYSTEM
PORCUPINE
LEGEND
Porcupine Group
3C Metasedimentary Rocks
3C1 Iron Formation (oxide-magnetite)
3C2 Argillite, mudstone
3C3 Siltstone
3C4 Greywacke/arenite
3C5 Conglomerate
Tisdale Group
2C Quartz and/or Feldspar Porphyry
2B Clastic Volcaniclastics
2B1 Intermediate to mafic tuff
2A Ultramafic Rocks
2A1 Dark green-grey (fresh)
2A2 Brown weathering (carbonate)
2A3 Green (fuchsite-talc)
2A4 Bleached (carb-talc-sericite alteration)
Unconformity or Tectonic Interface
Deloro Group
1C Feldspar-Amphibole Intrusion
1B Banded Iron Formation (oxide-magnetite)
1A Felsic Calc-Alkalic Volcanics
Major Lithological Contact
Trend of Magnetic high
Trace of IP Anomaly
Magnetic Low
Northern Alteration System
Southern Alteration System
As defined by drilling
Red Zone
Diabase Dyke
Destor-Porcupine Fault System
Property Boundary
N
LOCATION MAP

ISOMETRIC BLOCK DIAGRAM

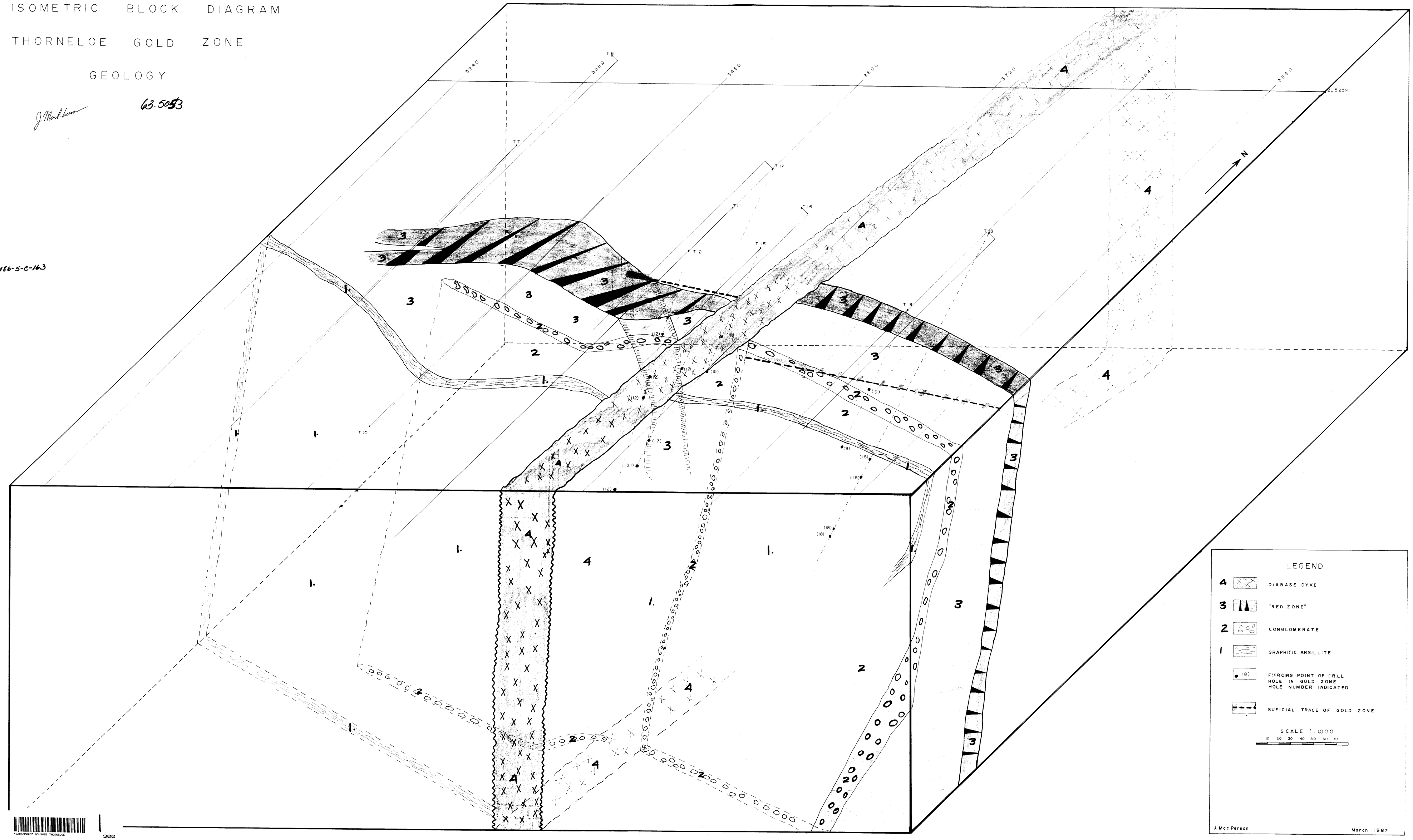
THORNELOE GOLD ZONE

GEOLOGY

J MacPherson

63.5053

DH86-5-C-163



LEGEND

4 DIABASE DYKE

3 "RED ZONE"

2 CONGLOMERATE

1 GRAPHITIC ARGILLITE

(8) PIERCING POINT OF DRILL HOLE IN GOLD ZONE HOLE NUMBER INDICATED

SUFICIAL TRACE OF GOLD ZONE

SCALE 1:1000

10 20 30 40 50 60 70

J. MacPherson

March 1987

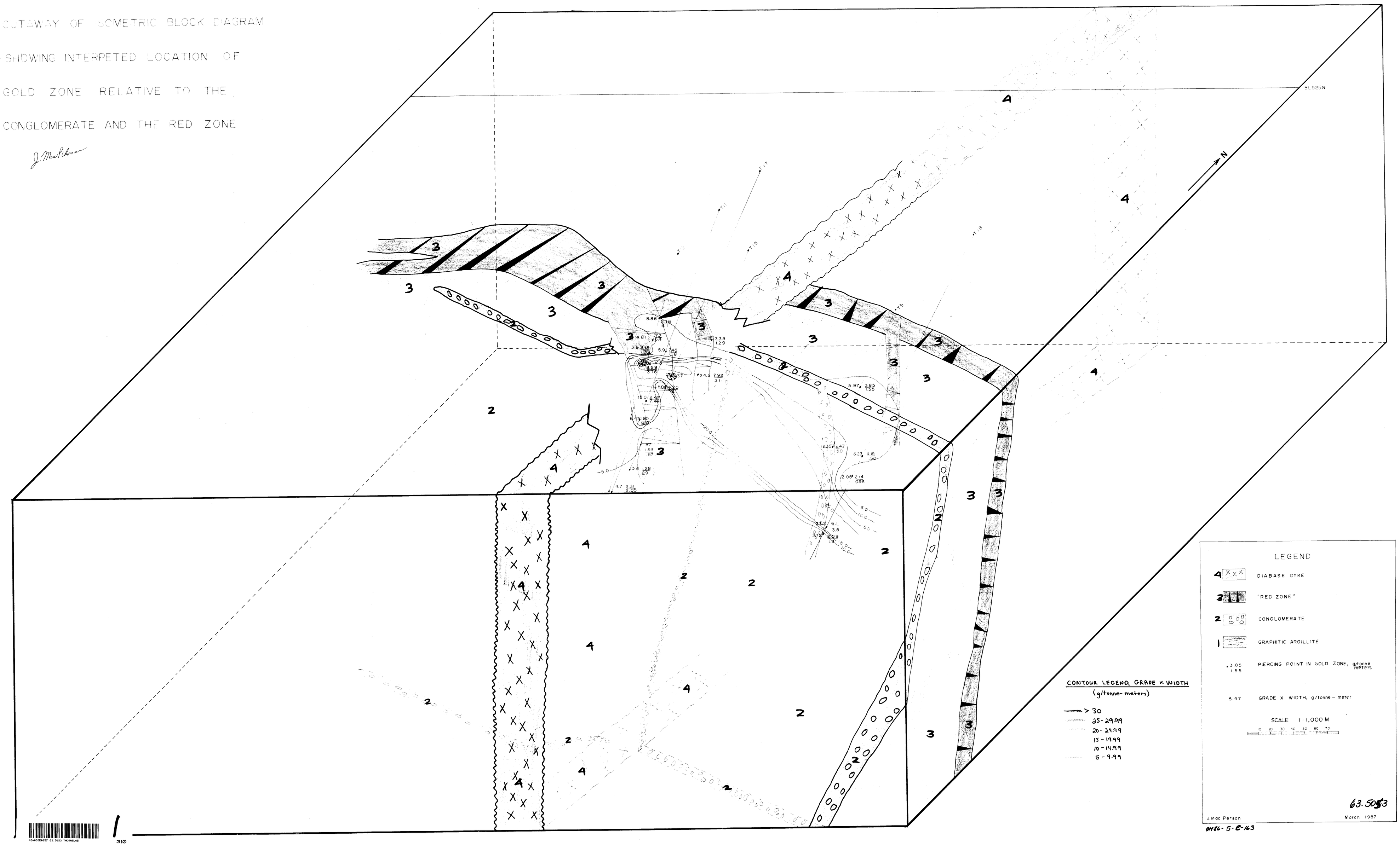
CUTAWAY OF ISOMETRIC BLOCK DIAGRAM

SHOWING INTERPETED LOCATION OF

GOLD ZONE RELATIVE TO THE

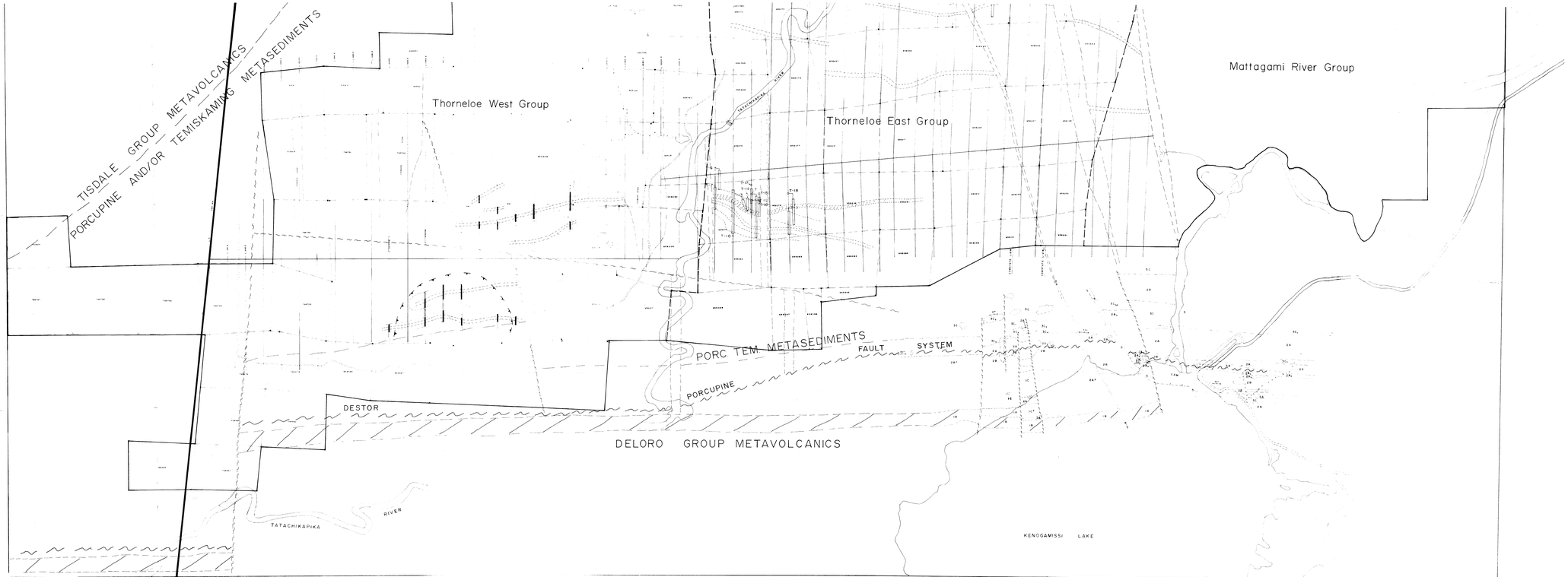
CONGLOMERATE AND THE RED ZONE

J. MacPherson



1

310



- 5 Diabase dyke
- 4 Lamprophyre dyke

Porcupine Group

- 3C Metasedimentary Rocks
  - 3C$_4$ Iron Formation (oxide-magnetite)
  - 3C$_3$ Argillite, mudstone
  - 3C$_2$ Siltstone
  - 3C$_1$ Greywacke/arenite
  - 3C$_0$ Conglomerate

Tisdale Group

- 2C Quartz and/or Feldspar Porphyry
- 2B Chloritic Volcaniclastics
  - 2B$_1$ Intermediate to mafic tuff
- 2A Ultramafic Rocks
  - 2A$_3$ Dark green-grey (fresh)
  - 2A$_2$ Brown weathering (serpentinic)
  - 2A$_1$ Green (fuchsite-talc)
  - 2A$_0$ Bleached (carb-talc-sericite alteration)

Unconformity or Tectonic Interface

Deloro Group

- 1C Feldspar-Amphibole Intrusion
- 1B Banded Iron Formation (oxide-magnetite)
- 1A Felsic Calc-Alkalic Volcanics

- Major Lithological Contact
- Trend of Magnetic high
- Trace of IP Anomaly
- Magnetic Low
- Northern Alteration System
- Southern Alteration System
  As defined by drilling
- Red Zone
- Diabase Dyke
- Destor-Porcupine Fault System
- Property Boundary

ESSO MINERALS CANADA

THORNELOE 1688

GEOLOGY COMPILATION

SCALE 1:5000

PROSPECT THORNELOE GRP	LOCATION THORNELOE TP, ONT
DRAWN BY A.K.	DATE JAN 81 MAP NO
TO ACCOMPANY REPORT No. MRL-S-C143	Date

63.5083