



53B095W0001 29 ZEEMEL LAKE

010

DIAMOND DRILLING

AREA: ZEEMEL LAKE

REPORT NO: 29

WORK PERFORMED FOR: Santa Maria Resources Ltd.

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

<u>Claim No.</u>	<u>Hole No.</u>	<u>Footage</u>	<u>Date</u>	<u>Note</u>
861431	SMZ-87-1	297'	Sept/87	(1)
	SMZ-87-2	457'	Sept/87	(1)
861426	SMZ-87-3	456'	Sept/87	(1)
	SMZ-87-4	457'	Sept/87	(1)
861425	SMZ-87-5	467'	Sept/87	(1)
861521	SMZ-87-6	627'	Sept/87	(1)
861518	SMZ-87-7	346'	Sept/87	(1)
	SMZ-87-8	392'	Sept/87	(1)
861520	SMZ-87-9	427'	Sept/87	(1)
861518	SMZ-87-10	407'	Sept/87	(1)
861520	SMZ-87-11	335'	Sept/87	(1)
	SMZ-87-12	400'	Sept/87	(1)
861517	SMZ-87-13	325'	Sept/87	(1)
	SMZ-87-14	397'	Sept/87	(1)
	SMZ-87-15	131.7'	Sept/87	(1)
	SMZ-87-15B	162'	Sept/87	(1)
	SMZ-87-16	497'	Sept/87	(1)
	SMZ-87-17	807'	Sept/87	(1)
	SMZ-87-18	485'	Sept/87	(1)
861514	SMZ-87-19	353'	Oct/87	(1)
	SMZ-87-20	375'	Oct/87	(1)
	SMZ-87-21	337'	Oct/87	(1)
861513	SMZ-87-22	357'	Oct/87	(1)
861512	SMZ-87-23	477'	Oct/87	(1)

.../2

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: Other [ ]

<u>Claim No.</u>	<u>Hole No.</u>	<u>Footage</u>	<u>Date</u>	<u>Note</u>
861426	SMZ-87-24	297'	Oct/87	(1)
	SMZ-87-25	397'	Oct/87	(1)
	SMZ-87-26	397'	Oct/87	(1)
861419	SMZ-88-1	407'	Jan/88	(1)
861420	SMZ-88-2	376'	Jan/88	(1)
861419	SMZ-88-3	274'	Feb/88	(1)
861432	SMZ-88-4	506'	Feb/88	(1)
861418	SMZ-88-5	997'	Feb/88	(1)
861430	SMZ-88-6	346'	Feb/88	(1)
861514	SMZ-88-7	406'	Feb/88	(1)
861512	SMZ-88-8	347'	Feb/88	(1)
861524	SMZ-88-9	396'	Feb/88	(1)

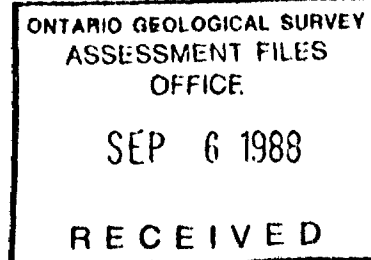
NOTES: (1) #W8803.210, filed in Jan/89



REPORT  
ON  
DIAMOND DRILLING  
ZEEMEL LAKE PROPERTY  
DISTRICT OF KENORA, PATRICIA MINING DIVISION  
NORTHWESTERN ONTARIO  
FOR  
SANTA MARIA RESOURCES LTD.



NTS 53-B/9 SW



March 1988

B.A. Huston, B.Sc.(Eng.)  
E.D. Timoshenko, B.Sc.



53B09SW0001 29 ZEEMEL LAKE

010C

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## 1.0 SUMMARY

A diamond drilling program, consisting of 15,325 feet of B.Q. coring in 37 holes, was carried out between September 3, 1987 and February 9, 1988, on the Zeemel Lake property of Santa Maria Resources Ltd. The group of 45 claims is located approximately 75 miles north of Pickle Lake, Ontario and approximately 3 miles south of the Snoppy Lake gold discovery of Dome Mines Ltd.

The claim group is located on the southern boundary of the North Caribou Greenstone Belt, part of the Sachigo Subprovince, at the junction of two major lobes, and is underlain by mafic and ultramafic metavolcanics and clastic meta-sediments with lesser amounts of chert and banded iron formation as well as minor intermediate to felsic volcanics and felsic to mafic dykes.

Sub-economic gold mineralization was discovered in four areas on the property. In Area 1, mafic metavolcanics in contact with felsic intrusives yielded 0.54 ounces of gold per ton over 4.1 feet as well as several lower grade intersections. In Area 2, a gold value of .07 ounces per ton was returned from an area around a crosscutting diabase dyke. In Area 3, a series of subconcordant VLF-EM conductors yielded four gold values in excess of .01 ounces per ton. In Area 4, a large fault zone was intersected and showed heavy alteration. A sample near this fault yielded a gold value of .017 ounces per ton over 2.0 feet.

A recommended follow-up program of core resampling and 3,000 feet of additional diamond drilling is estimated to cost \$127,440.00.

## 2.0 INTRODUCTION

The Zeemel Lake property of Santa Maria Resources Ltd. comprises 45 unpatented mining claims located in the south-central part of the North Caribou Lake greenstone belt, approximately 75 miles north of Pickle Lake, Ontario and 3 miles south of the Musselwhite and Snoppy Lake gold deposits discovered by a consortium of companies headed by Dome Mines Ltd. (Fig. No. 1).

The contractor, Midwest Diamond Drilling, carried out a diamond drilling program between September 3 and October 15, 1987 and January 29 and February 9, 1988 on behalf of Santa Maria Resources Ltd. The program consisted of 15,325 feet of drilling in 37 holes.

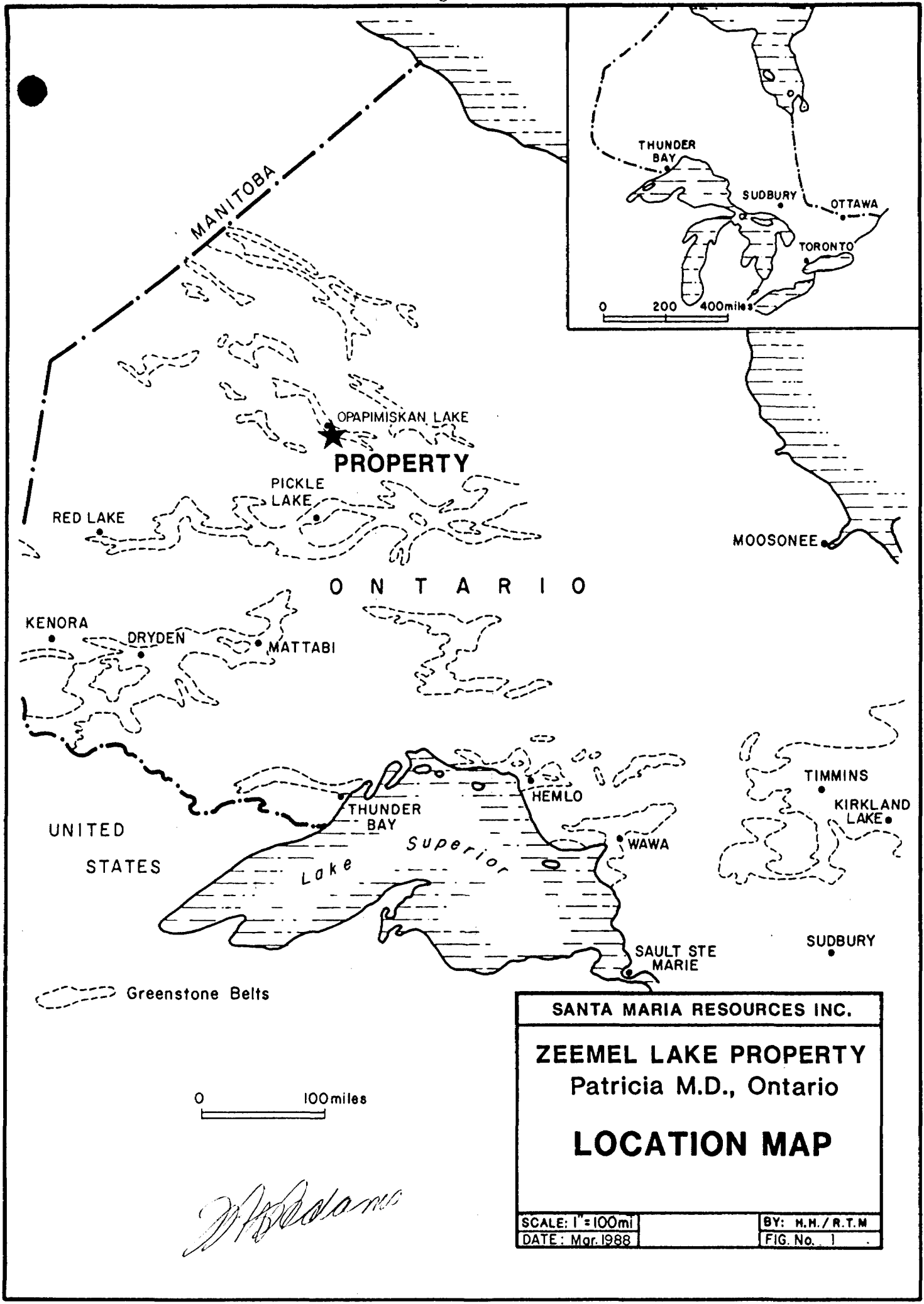
B.Q. sized core was logged and features of potential economic interest were sampled and analyzed for gold.

The following personnel were involved in the work:

B.A. Huston	Geologist/Supervisor	Kingston, Ontario
E. Timoshenko	Geologist	Brampton, Ontario
M. Stevens	Splitter	London, Ontario
E. Pashawon	Splitter	Pickle Lake, Ontario
N. Bell	Splitter	Toronto, Ontario
M. Kowalchuk	Splitter	Dryden, Ontario

The results of the program are described in this report and a proposal is made for further work.





OPAPIMISKAN LAKE  
**PROPERTY**

O N T A R I O

RED LAKE

PICKLE LAKE

KENORA

DRYDEN

MATTABI

UNITED STATES

THUNDER BAY

HEMLO

WAWA

SAULT STE MARIE

TIMMINS

KIRKLAND LAKE

SUDBURY

Greenstone Belts

0 100 miles

SANTA MARIA RESOURCES INC.

**ZEEMEL LAKE PROPERTY**

Patricia M.D., Ontario

**LOCATION MAP**

SCALE: 1" = 100mi  
 DATE: Mar. 1988

BY: H.H./R.T.M  
 FIG. No. 1

*[Handwritten Signature]*

3.0 PROPERTY DESCRIPTION

The Zeemel Lake property comprises 45 contiguous, unpatented mining claims, totalling approximately 1,800 acres located in the Patricia Mining Division. The claims are shown on Ministry of Natural Resources claim sheet G-2278, Zeemel Lake (Fig. No. 2).

Claim numbers and recording dates are as follows:

<u>Claim Numbers</u>		<u>Recording Dates</u>
Pa 861413-861432 inclusive	(20)	February 7, 1986
Pa 861501-861525 inclusive	<u>(25)</u>	February 7, 1986

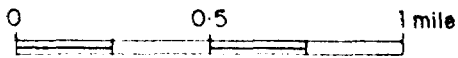
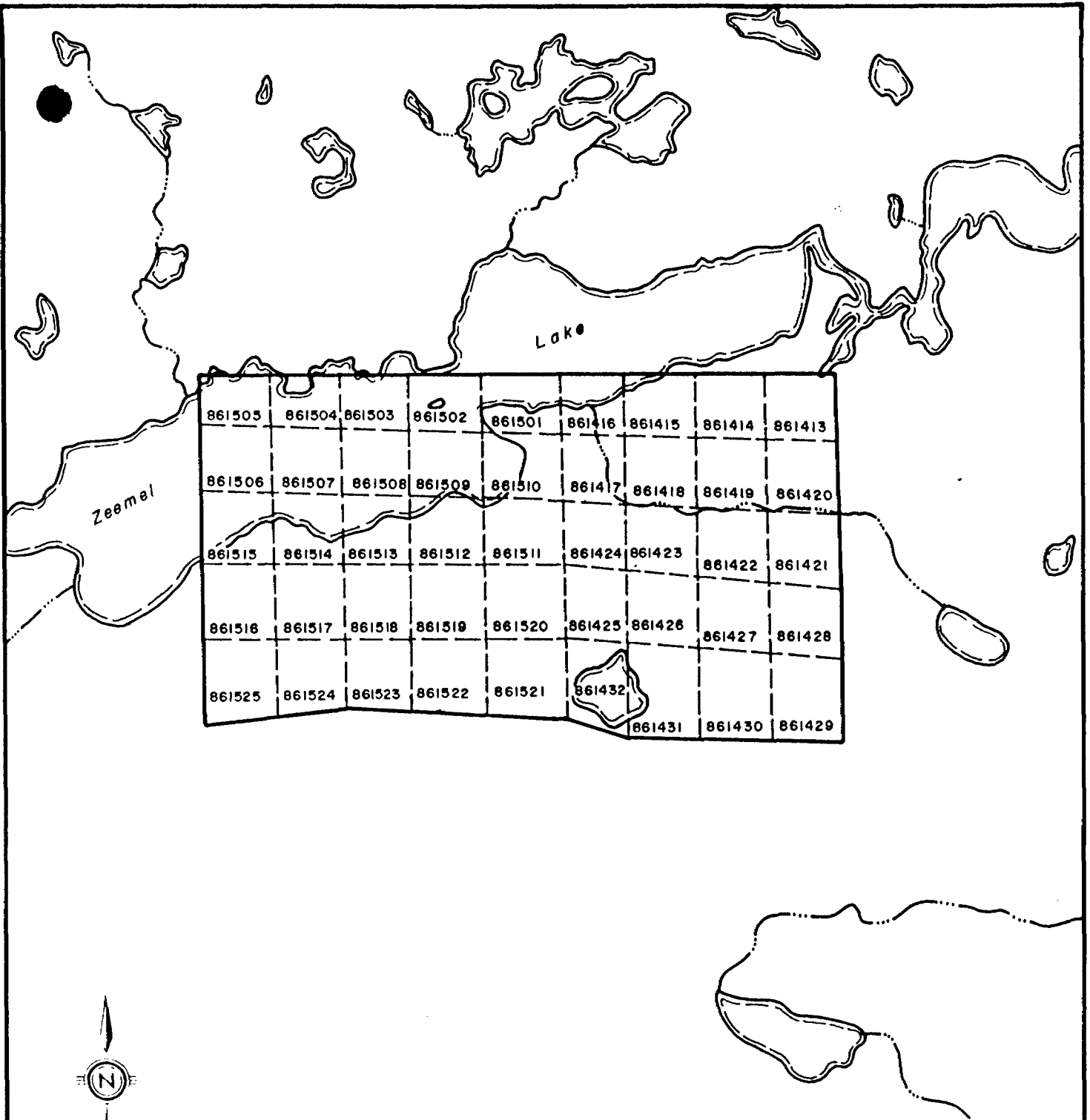
Total 45 Claims

The claims are wholly owned by Santa Maria Resources Ltd. of 808-85 Richmond Street West, Toronto, Ontario, M5H 2C9.


4.0 LOCATION, ACCESS AND SERVICES

The property is located in northwestern Ontario (Lat.52°34'N, Long.90°23'W; NTS Co-ordinates 53/B9 SW), approximately 75 miles north of the town of Pickle Lake, Ontario and 300 miles north of Thunder Bay, Ontario.

Access to the property is gained by helicopter or float or ski-equipped aircraft from Pickle Lake. Winter access is possible by a winter road which runs from the nearby Musselwhite discovery to Highway 808, passing less than one mile west of the property. Highway 808 is an all-weather gravel road which runs south to Pickle Lake. Highway 599, a paved



*R. T. M.*

SANTA MARIA RESOURCES LTD.		
ZEEMEL LAKE PROPERTY		
Patricia M.D., Ontario		
CLAIM SKETCH		
	GEOCANEX LTD	BY: R.T.M.
	TORONTO, CANADA	DATE MAR. 87
		SCALE: 1" = 2640'
		FIG. No: 2

all-weather road connects Pickle Lake to the Canadian National Railway line at Savant Lake, 90 miles to the south, and the Trans-Canada Highway at Ignace, 185 miles to the south.

Services, supplies and manpower can be obtained from Pickle Lake, a mining and transportation centre with a population of approximately 350 people.

#### 5.0 PHYSIOGRAPHY AND VEGETATION

Much of the area is relatively flat, slightly swampy woodland. Several low hills composed mainly of sand and boulder glacial till, show a maximum relief of about 50 feet. Bedrock exposure is sparse.

Most of the property is covered by spruce, mixed with jack-pine, birch and poplar in elevated areas, and tamarack in low-lying muskeg covered sections.

The northwest part of the property is covered by Zeemel Lake, which forms part of the Paseminon River system.

#### 6.0 PREVIOUS WORK

1950's Ben Ohman

Ben Ohman, a prospector working for the Kovals of Pickle Lake, discovered gold in the Libert Lake area in iron formation and put down several trenches.

1962 The Musselwhite Brothers

Gold was discovered on the adjacent Dome-Inco-Esso-Lacana property by the Musselwhite brothers.

1962-1963 Kenpat Mines Ltd.

The Musselwhite property was optioned to Kenpat Mines Ltd., who carried out trenching, geological and geophysical surveys and diamond drilling. Two gold bearing zones were discovered.

1962-1963 Inco Ltd.

Eighteen diamond drill holes were drilled in the vicinity of Zeemel Lake by Inco Ltd. Two of the holes (#15800 and #23107) were drilled along strike to the east and west, respectively, of the Zeemel Lake property. They encountered chlorite schist and intermediate to mafic metavolcanics with up to 15% pyrrhotite and pyrite.

1973-1981

In 1973, the Musselwhite brothers optioned their property to a consortium consisting of Dome Exploration (Canada) Ltd., Esso Minerals Canada, Canadian Nickel Company Ltd. and Lacana Mining Corp. (1981) and it was operated by the Dome Mines Group. Subsequent exploration activity, including geophysical and geochemical surveying, prospecting, geological mapping, trenching and diamond drilling led to the discovery of the "West Anticline Zone" in 1980.

1976 John Reed

Prospecting, trenching and diamond drilling were carried out by John Reed in the Libert Lake area to the southwest of the present Zeemel Lake property.

1981

An airborne magnetic and electromagnetic survey, part of which covered the present Zeemel Lake property, was conducted by Aerodat Ltd. over the area surrounding the Musselwhite deposit.

1981-1982 Canico (Inco Ltd.)

A ground magnetic survey and geological mapping were carried out in the Graff Lake - Karl Lake area to the east of the present Zeemel Lake property.

1981-Present Various Companies

Extensive exploration activities, including geological mapping, geophysical and geochemical surveys and diamond drilling have been conducted by a number of companies and individuals, including: H.J. Hodge; 493217 Ontario Ltd.; Van Horne Gold Exploration Inc.; Legion Resources Ltd.; and G. Armstrong, A. Best, B. Reid and S. Johnson.

1984-Present

In 1984, the Dome consortium developed an exploration decline and crosscut into the West Anticline Zone and delineated gold deposits containing 3.2 million tons grading 0.17 ounces gold per ton. Since then, surface drilling has outlined the East

Bay (Snoppy Lake) deposit to the east, with reported reserves of 6.0 million tons grading .20 ounces of gold per ton.

1985 Ontario Geological Survey

An airborne magnetic and electromagnetic survey was performed by Aerodat Ltd. over the North Caribou belt. Maps 80743 and 80744 (scale 1:20,000) cover the present Zeemel Lake property.

1986

The Zeemel Lake property was staked by Santa Maria Resources Ltd. and ground magnetic and VLF-EM surveys were carried out by Geocanex Ltd. on their behalf.

1986

Reconnaissance geological mapping (scale: 1 inch to 1/2 mile) was carried out over the North Caribou belt, including the Zeemel Lake property, by the Ontario Geological Survey.

1987

Mapping and rock sampling was carried over the property by Geocanex Ltd. on behalf of Santa Maria Resources Ltd.

7.0 REGIONAL GEOLOGY AND ECONOMIC MINERALIZATION

7.1 Regional Geology

The Zeemel Lake property is located in the southeastern portion of the North Caribou Lake greenstone belt, located within the Sachigo Subprovince, a part of the Canadian Shield.

The North Caribou belt is an arcuate, horn-shaped assemblage of metavolcanic and metasedimentary rocks extending from Weagamow Lake in the northwest to Opapimiskan Lake in the southeast. South of Opapimiskan Lake, the belt bifurcates into two major lobes; one extending south through Libert Lake, the other east through the Forester-Neawagank Lakes area (Fig. No. 3).

The mapping of Satterly (1939) and Thurston et al. (1971) suggests that the volcanic-sedimentary complex has been folded into a gross synclinal or basinal structure, with dominantly clastic metasedimentary rocks occupying the core of the syncline. The fold axis of the syncline is approximately coincident with Eyapamikama Lake. The metasediments are underlain by the somewhat older volcanics of the system, dominantly mafic in character with lesser ultramafic components. Two fairly continuous bands of iron formation and chemical sediments mark the contact between volcanics and sediments throughout most of the belt.

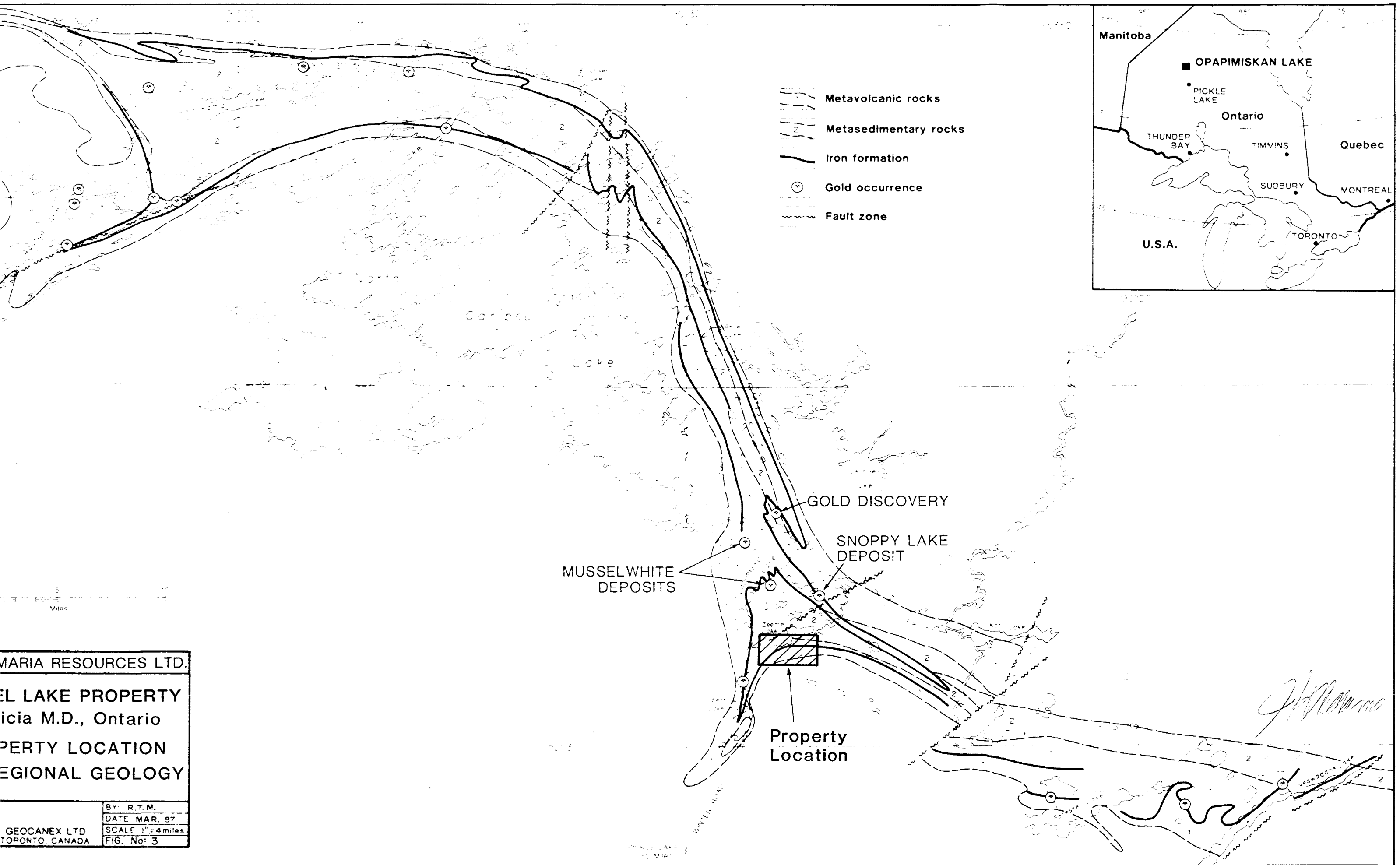
Regional geologic maps indicate that the belt is bounded by paragneiss and migmatized rock in the north and by felsic intrusives in the west and south (O.G.S. Map P.3080, Opapimiskan-Neawagank Lakes Area).

Metamorphic grades in the belt range from upper greenschist to middle amphibolite facies.

## 7.2 Economic Mineralization

Gold is the principal metal of economic interest in the North Caribou Lake greenstone belt. Numerous gold showings have been located, generally in spatial association with iron formation.





5 Miles

MARIA RESOURCES LTD.  
 PICKLE LAKE PROPERTY  
 Pickle Lake M.D., Ontario  
 PROPERTY LOCATION  
 REGIONAL GEOLOGY

BY: R.T.M.
DATE MAR. 87
SCALE 1" = 4 miles
FIG. No: 3

GEOCANEX LTD  
 TORONTO, CANADA

*J. Williams*

Two closely associated gold deposits on the Musselwhite property of the consortium led by Placer-Dome Inc. consist of several stratabound zones within highly folded iron formation. The deposits, known as the West Anticline and East Bay Zones, are two miles apart, located on the south shore of Opapimiskan Lake. The gold bearing zones are concentrated in the noses of parasitic folds within garnet-hornblende-chert-grunerite iron formation. The majority of gold occurs as stratabound zones of disseminated mineralization within pyrrhotite. A second and much smaller proportion of the mineralization is in quartz-pyrrhotite veinlets occupying dilated portions of the dominant axial planar cleavage (S<sub>2</sub>) associated with the second major folding event (D<sub>2</sub>).

Surface drilling has delineated 6 million tons of 0.2 ounces gold per ton in the East Bay Syncline Zone (Northern Miner, Nov. 23, 1987). Published reserves for the West Anticline Zone are over 3.2 million tons grading 0.17 ounces gold per ton.

The Santa Maria Resources Ltd. Zeemel Lake property adjoins Musselwhite to the north and has encountered numerous significant gold intersections within the same iron formation.

Several occurrences of gold are found in other sections of the belt. In the northwest, a few gold showings have been partially explored. Northern Dynasty Explorations' Arseno Lake prospect has yielded significant gold and base metal values. Moss Resources Ltd. has found several significant gold-bearing zones along a section of the North Caribou River Fault. The Agutua Arm and Teal prospects consist of gold-silver mineralization in sulphide-bearing quartz-carbonate veins in sheared mafic metavolcanics.

Significant gold has also been discovered in the southeastern section of the belt. In the Sage Lake area, Inco Ltd. has encountered significant gold in quartz veins and iron formation. Northeast of Wesley Lake, Tex U.S. Oil and Gas intersected gold mineralization in quartz-arsenopyrite-carbonate veins in sheared gabbro.

## 8.0 PROPERTY GEOLOGY

### 8.1 General

The Zeemel Lake property straddles the boundary between the North Caribou Lake greenstone belt and the granitic batholith to the south. The supracrustal rocks belong to two main units, the predominantly mafic to ultramafic Opapimiskan-Markop Metavolcanics and the Zeemel-Pipestone-Heaton Clastic Sequence, consisting of predominantly wackes, arenites and pelitic metasediments, with some conglomerates. Structurally, the property covers the junction of two major lobes of the North Caribou belt (Jolliffe, 1987).

### 8.2 Lithologies

#### 8.2.1 Supracrustal Rocks

Three main supracrustal packages were investigated during the recent drilling program. The first package, along the south shore of Zeemel Lake, is a 1,000 foot wide sequence consisting predominantly of mafic to ultramafic metavolcanics with interbedded pelitic metasediments and quartz-feldspathic wackes. The metavolcanics are green to greenish-grey, fine to medium-grained, poorly to moderately foliated and consist

of a hornblende-chlorite-plagioclase + talc/serpentine mineralogy. The clastic sediments are generally green/brown, poorly to well foliated rocks with very little evidence of primary structures.

The second package, to the south of the first is believed to consist dominantly of wackes and arenites, with lesser amounts of siltstone and argillite and minor mafic volcanics and volcanoclastics. This unit, however, has not been fully tested by drilling to date.

The third and southernmost supracrustal package consists predominantly of ultramafic and mafic to ultramafic metavolcanics with interbeds of pelitic metasediments and wackes. The metavolcanics in this package are grey to greenish-grey, massive to poorly foliated, with a dominant mineralogy of amphibole-chlorite-plagioclase-talc-serpentine with 5-10% magnetite locally.

#### 8.2.2 Intrusives

The southernmost portion of the property is underlain by granitic to granodioritic intrusives of the batholith to the south. Over most of the property, the contact is subconcordant with the foliation, however in the eastern portion, the batholith crosscuts the stratigraphy and is interfingered with the supracrustal rocks.

A large diabase dyke crosses the property in a northeasterly direction, crosscutting the stratigraphy.

### 8.2.3 Chemical Metasediments

Chert and banded iron formation were intersected in the first supracrustal package near the south shore of Zeemel Lake.

The iron formation is a dominantly chert-magnetite + grunerite assemblage with minor garnets and minor interbeds of volcanoclastic and clastic sedimentary material.

### 8.3 Structure

The dominant structural pattern on the Zeemel Lake property is an east-west foliation resulting from regional folding. Minor smaller scale folds occur in some units, but are very localized.

Concordant to semi-concordant shearing has been located throughout the property, but is not a predominant feature.

A large east-west trending fault was encountered during the drilling program at L36E from 1+00N to 4+00N. The rocks within this feature have been strongly altered to clay assemblages and the rocks to either side have been strongly sheared and mylonitized.

### 8.4 Metamorphism

The rocks appear to have undergone lower amphibolite facies metamorphism. Along the south shore of Zeemel Lake and in some shear zones, however, retrograde metamorphism to upper greenschist facies appears to have occurred.

### 8.5 Alteration

The dominant type of alteration is talc-serpentine alteration of the ultramafic metavolcanics. Silicification occurs in many of the rock units particularly in areas of shearing and faulting. Silicification is manifested in the iron formation as gruneritization. In addition, the magnetite in some iron formation horizons has been altered to pyrrhotite around fractures and veins.

### 9.0 SUMMARY OF GEOPHYSICS

Ground magnetics and VLF-EM surveys were carried out over the Zeemel Lake property in 1986 by Geocanex Ltd.

The magnetometer survey indicated two major zones of higher magnetic intensity crossing the property, which were interpreted as mafic metavolcanic packages with several bands of iron formation underlying areas of high magnetic gradient. Areas of lower magnetic intensity in the northern and central portions of the property were interpreted as dominantly clastic sedimentary packages and the area to the south as part of the tonalitic batholith at the boundary of the North Caribou belt. A northeast-trending linear zone of high magnetic intensity in the north-central part of the property was inferred to be an intermediate to mafic dyke.

VLF-EM conductors, concordant and coincident with magnetic bands of high gradient, were considered indicative of possible sulphide facies iron formation or sulphide-bearing concordant shear zones within iron formation.

Airborne survey data provided evidence for several regional crosscutting faults running northeast to northwest and east-northeast. Two areas of possible small scale folding and five areas of possible hydrothermal alteration were outlined based on magnetic survey results.

## 10.0 DESCRIPTION OF PROGRAM

### 10.1 Description of Program

From September 3 to October 15, 1987 and January 29 to February 9, 1988, a total of 15,325 feet of diamond drilling was completed in 37 holes by Midwest Diamond Drilling of Winnipeg, Manitoba. The B.Q. sized core was logged and features of potential economic interest were sampled and analyzed for gold.

The samples were sent by courier and bus to Assayers (Ontario) Ltd. of Toronto, Ontario and were analyzed by standard fire assay techniques.

Target selection was based primarily on geophysical data and concentrated on areas with evidence of structural and lithological favourability for gold mineralization. These features include:

1. Magnetic Anomalies: including highs, lows, flexures and repetitions.
2. Combined VLF-EM and magnetic anomalies, both concordant and discordant.

3. Combined repetitions in magnetic anomalies and inferred regional faults.
4. VLF-EM anomalies.

Hole locations are shown on the Plan of Drilling (Fig. No. 4). Detailed logs with assay results are compiled in Appendix B. Drill sections and legend are shown in Appendix C. All assay certificates are shown in Appendix D.

#### 10.2 Discussion of Results

Five areas of potential economic significance have been outlined by the recent drilling. They are as follows:

Area 1 - A zone located in the southeastern portion of the property was intersected by holes SMZ-87-3 and 4 at 28+02E, 20+79S and 28+01E, 18+02S respectively. Hole SMZ-87-3 intersected a 4.1 foot interval of mafic volcanics with minor quartz carbonate stringers which yielded 0.54 ounces of gold per ton. A second interval of the same unit 8.6 feet below the first yielded 0.010 ounces of gold per ton over 4.4 feet. This hole also yielded a gold value of .015 ounces per ton over 4.8 feet in a mafic to ultramafic volcanic which had been serpentized and weakly silicified.

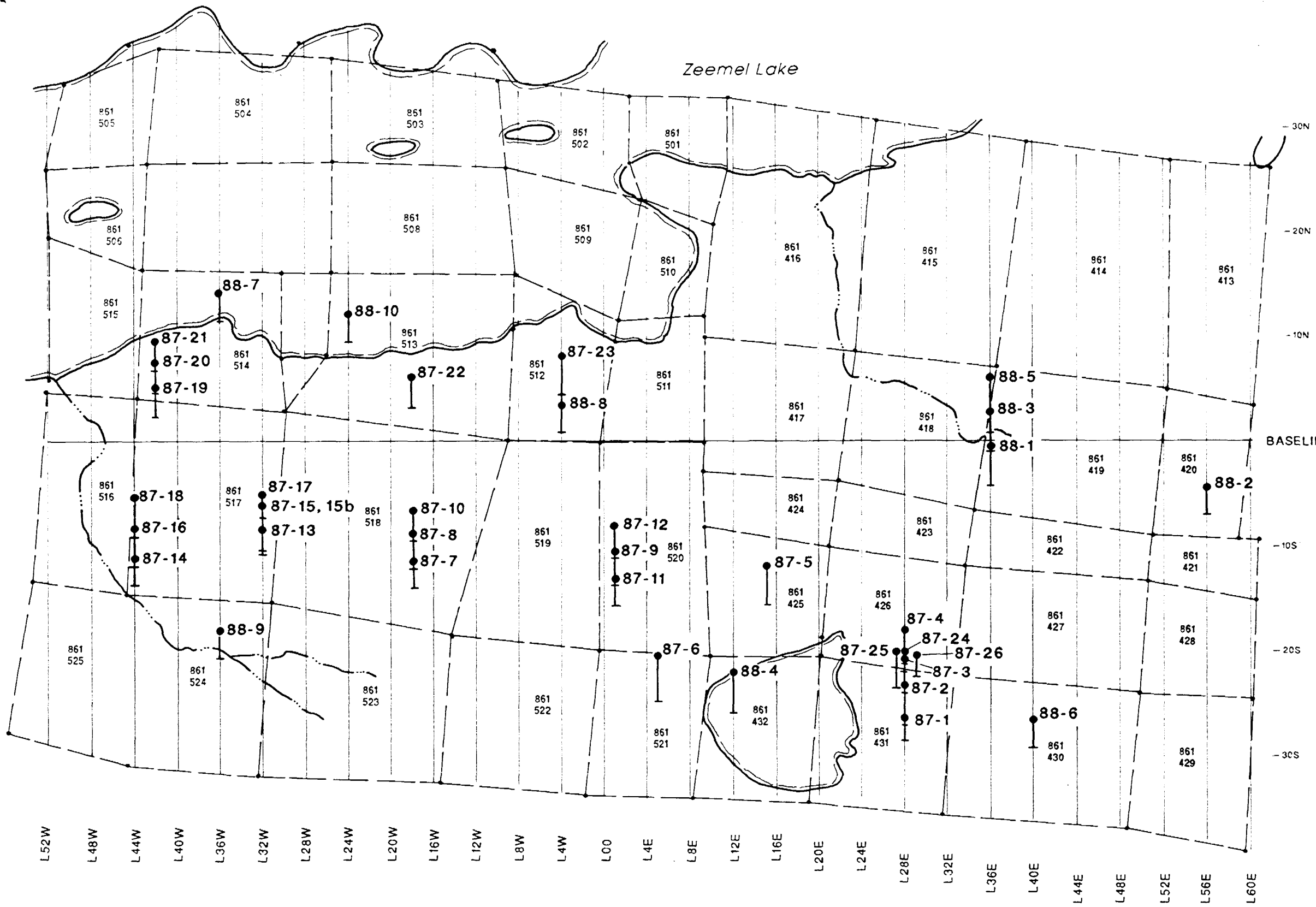
Hole SMZ-87-4 intersected an interval of felsic volcanics with trace fine-grained disseminated pyrite which yielded .015 ounces of gold per ton over 7.0 feet.

Holes SMZ-87-24, SMZ-87-25 and SMZ-87-26 were drilled 50 feet behind and 50 feet to either side of SMZ-87-3, but yielded no significant values.





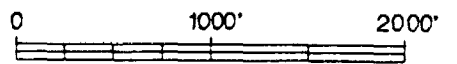
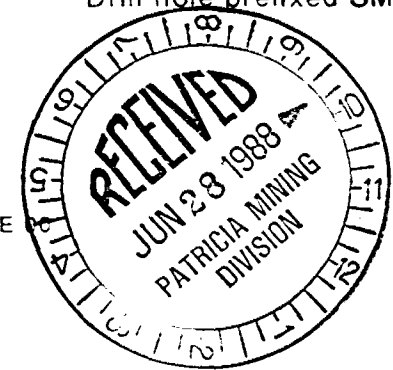
Zeemel Lake



LEGEND

Surface projection of  
diamond drill hole..... 87-2

Drill hole prefixed SMZ- |



SCALE: 1" = 1000'

*J. Williams*

SANTA MARIA RESOURCES LTD.	
ZEEMEL PROPERTY Patricia M.D., Ontario	
PLAN OF DRILLING 1987 & 1988	
 GEOCANEX LTD TORONTO CANADA	BY: /R.T.M.
	DATE: April, 1988
	SCALE: 1: 12000 FIGURE No. 4

Core from this area should be extensively resampled before any further work is planned.

Area 2 - A diabase dyke is inferred to cross the property from southwest to northeast. In the area where this feature crosses a series of stratigraphically concordant magnetic anomalies, hole SMZ-87-22 intersected an ultramafic metavolcanic which yielded .070 ounces of gold per ton over 4.7 feet. This hole also intersected 5.0 feet of quartz wacke which yielded .017 ounces of gold per ton.

The location of this dyke may represent a zone of possible shearing or faulting as it appears to cross at least one horizon of banded iron formation.

Holes SMZ-87-23 and SMZ-88-8 were drilled to the east of this area, but may have been too far from the crosscutting feature to be a representative test.

Area 3 - A pair of 3 hole fences was drilled on L1+00E and 18+00W across an east-west stratigraphic sequence of metavolcanics with minor clastic metasediments in which several VLF-EM conductors were running subconcordant to the foliation.

Hole SMZ-87-10, at 18+01W, 6+47S, intersected 2.1 feet of vein quartz with chlorite and amphibole inclusions and trace pyrite in a mafic metavolcanic. This yielded a gold value of .022 ounces per ton. In the same hole, a 3.0 foot interval of sheared and serpentized ultramafic metavolcanics yielded a gold value of .016 ounces per ton.

Hole SMZ-87-12, at 1+00W, 8+00S, intersected a 35 foot interval of quartz wackes with a high pelitic content which yield intersections of .011 ounces of gold per ton over 10.0 feet and .010 ounces of gold per ton over 4.0 feet.

This hole also intersected two separate intervals of talc-rich ultramafic metavolcanics which yielded two values of .012 ounces of gold per ton over 5.0 feet.

Area 4 - Drilling near the baseline on L36+00E encountered a large fault zone in a sequence of metavolcanics and clastic metasediments. Hole SMZ-88-3 was drilled to 274 feet, but failed to intersect bedrock. Hole SMZ-88-5, at 36+00E, 6+00N, was drilled to pass underneath the entire area and intersected 85 feet of heavily deformed and altered metasediments within 290 feet of sediments and volcanics of varying degrees of deformation. The weakly deformed areas exhibit up to 15% sulphides, particularly in intersections of graphitic argillite.

To the east of this, the accompanying VLF-EM conductor coincides with an increased magnetic peak. This may represent an increased pyrrhotite content and warrants further investigation.

South of the deformation zone, hole SMZ-88-5 intersected 2.0 feet of silicified, brecciated mafic metavolcanics which yielded a gold value of .017 ounces per ton.

Area 5 - In the western portion of the property, hole SMZ-87-20 at L42+00W, 7+34N and hole SMZ-87-21 at 42+00W, 9+51N intersected a horizon of banded iron formation which has been gruneritized and contains up to 3% garnet and 5%

pyrrhotite in stringers and lenses. This area did not yield any significant gold values, however, the favourable lithology and alteration suggests that further investigation is warranted. Table 1 provides a summary of all drill holes including significant assays.

#### 11.0 CONCLUSIONS

Subeconomic gold mineralization has been found in four areas on the Zeemel Lake property.

The gold in Area 1 occurs in both mafic metavolcanics and in felsic intrusives and may be related to the nearby granitic batholith.

The gold in Area 2 occurs in ultramafic metavolcanics near a crosscutting diabase dyke. This dyke may represent a fault or shear which may be significant for gold mineralization.

The gold in Area 3 is associated with stratigraphically subconcordant VLF-EM conductors.

Area 4 is a zone of heavy faulting and shearing.

In addition to these areas, a banded iron formation horizon in the western portion of the property was found to contain evidence of silicification as well as secondary pyrrhotite.

#### 12.0 RECOMMENDATIONS

Resampling of the drill core from Area 1 should be carried out before further drilling is planned for this area.

TABLE I  
SUMMARY OF DRILL HOLE DATA

Drill Hole Number	Grid Location	Length (feet)	Summary Description	Inter-Section (feet)	Width (feet)	Assay oz Au/ton	SAMPLE DESCRIPTION
SMZ-87-1	L28+00E, 26+37S	297	0-59.3 - Casing Dominantly pelitic metasediments with minor quartz wacke, underlain by talc-bearing ultramafic metavolcanic. Felsic intrusives occur at the top of the hole and over the last 120 feet.	187.5-188.6	1.1	.004	Randomly oriented quartz veins in a felsic intrusive.
SMZ-87-2	L28+01E, 23+56S	457	0-86.5 - Casing Mafic to ultramafic metavolcanics with minor chlorite-biotite schist (pelitic?), intruded in several places by felsic intrusives.	96.0-97.0	1.0	.007	Quartz veining in a felsic intrusive.
SMZ-87-3	L28+02E, 20+79S	456	0-76.3 - Casing Predominantly amphibole-chlorite plagioclase mafic to ultramafic metavolcanics with lesser talcose ultramafic metavolcanics, intruded by numerous felsic intrusives.	143.5-147.6 156.3-160.7 416.4-421.2	4.1 4.4 4.8	.560 (.520) 0.010 .015	Minor quartz-carbonate stringer in a mafic flow, trace pyrrhotite. Serpentinized ultramafic flow, possible silicification.
SMZ-87-4	L28+01E, 18+02S	457	0-62.0 - Casing Predominantly mafic (to ultramafic) metavolcanics with lesser amounts of ultramafic metavolcanics, crosscut by minor felsic intrusives.	376.0-383.0	7.0*	.015	Trace fine-grained disseminated pyrite in a felsic intrusive.
SMZ-87-5	L15+01E, 11+99S	467	0-24.6 - Casing Intercalated mafic metavolcanics and quartz wacke with minor pelitic metasediments, underlain and crosscut by felsic intrusives. Minor pyrite, pyrrhotite and quartz feldspar porphyries are found in the mafics.				
SMZ-87-6	L4+98E, 20+50S	627	0-18.9 - Casing Dominantly medium-grained equigranular felsic intrusives with lesser intersections of quartz feldspar porphyry, mafic metavolcanics and chlorite biotite schist.	63.1-66.0	2.9	.008	Felsic intrusive probable sheared. Quartz feldspar porphyry.

\* Combines two or more samples

1  
2  
3  
1

TABLE I

## SUMMARY OF DRILL HOLE DATA

Drill Hole Number	Grid Location	Length (feet)	Summary Description	Inter-Section (feet)	Width (feet)	Assay oz Au/ton	SAMPLE DESCRIPTION
SMZ-87-7	L18+01W, 11+47S	346	0-49.0 - Casing Dominantly mafic to ultramafic metavolcanics with interbedded wackes and siltstones. Minor intersections of felsic intrusives.				
SMZ-87-8	L18+00W, 8+99S	392	0-57.5 - Casing Dominantly interbedded mafic and ultramafic metavolcanics with lesser interbeds of pelitic metasediments and wackes. 114 feet of diabase intersected at the bottom of the hole.				
SMZ-87-9	L1+04E, 10+50S	427	0-77.0 - Casing Dominantly interbedded mafic and ultramafic metavolcanics crosscut by felsic intrusives. Minor quartz feldspar porphyry intersections.				
SMZ-87-10	L18+01W, 6+47S	407	0-160.0 - Casing Dominantly interbedded mafic and ultramafic metavolcanics with minor intersections of pelitic metasediments and and wackes.	174.9-177.0 247.0-250.0	2.1 3.0	0.022 0.016	Quartz pods and veins in a mafic metavolcanic. Sheared and serpentinized ultramafic volcanic.
SMZ-87-11	L1+01E, 13+00S	335	0-32.1 - Casing Dominantly mafic metavolcanics with minor intersections of feldspathic wacke and ultramafic metavolcanic, crosscut by numerous felsic intrusives.				
SMZ-87-12	L1+00E, 8+00S	400	0-111.0 - Casing Dominantly mafic to ultramafic metavolcanics with lesser intersections of chloritic biotite schist, quartz wacke, and metapelite, several intersections of felsic porphyries near the top of the hole.	252.0-262.0 274.5-278.5 321.9-326.9 340.9-345.9	10.0* 4.0 5.0 4.0	0.011 0.010 0.012 0.012	Intermixed quartz wacke and lesser metapelite. As above. Ultramafic metavolcanic. Ultramafic metavolcanic (intrusive?)

\* Combines two or more samples

TABLE I

## SUMMARY OF DRILL HOLE DATA

Drill Hole Number	Grid Location	Length (feet)	Summary Description	Inter-Section (feet)	Width (feet)	Assay oz Au/ton	SAMPLE DESCRIPTION
SMZ-87-13	L32+00W, 8+53S	325	0-152.3 - Casing Single large intersection of feldspathic wacke with interbedded mafic metavolcanics and metapelites above and below.				
SMZ-87-14	L44+00W, 11+12S	397	0-81.4 - Casing Interbedded metapelites, wackes, mafic metavolcanics and ultramafic metavolcanics. Single 40 foot intersection of felsic intrusive.	261.3-263.8	2.5	.007	Ultramafic metavolcanic.
SMZ-87-15	L32+00W, 6+04S	184.0	0-111.8 - Casing Pelitic metasediment with a single 3 foot intersection of a quartz feldspar porphyry. Hole lost when bedrock encountered at 131.7'. Tri-coned to 184.0.				
SMZ-87-15B	L32+00W, 6+04S	162.0	0-113.6 - Casing Pelitic metasediment with single quartz feldspar porphyry.  130.9-142.0 - Overburden Mafic metavolcanics. Hole abandoned at 162.0 feet.				
SMZ-87-16	L44+01W, 8+30S	497	0-90.3 - Casing Interbedded ultramafic metavolcanics mafic metavolcanics, wackes and metapelites. Single 5 foot intersection of a granitic intrusive.				
SMZ-87-17	L32+00W, 5+01S	807	0-82.4 - Casing Interbedded mafic metavolcanics and quartz wacke underlain by interbedded ultramafic metavolcanics and metapelite. Minor intersections of quartz feldspar porphyries.				
SMZ-87-18	L44+00W, 5+50S	485	0-116.8 - Casing Dominantly mafic to ultramafic metavolcanics with minor metapelite intersections.				

TABLE I  
SUMMARY OF DRILL HOLE DATA

Drill Hole Number	Grid Location	Length (feet)	Summary Description	Inter-Section (feet)	Width (feet)	Assay oz Au/ton	SAMPLE DESCRIPTION
SMZ-87-19	I42+00W, 4+97N	353	0-51.6 - Casing Dominantly interbedded mafic to ultramafic metavolcanics and pelitic metasediments with lesser intersections of wackes and felsic tuff.				
SMZ-87-20	I42+00W, 7+34N	375	0-12.4 - Casing 20 foot intersection of folded, pyrrhotite-rich, grunerite iron formation underlain by interbedded metapelite and chert with lesser mafic metavolcanics.				
SMZ-87-21	I42+00W, 9+51N	337	0-3.9 - Casing Dominantly interbedded mafic metavolcanics and metapelites. Single 21 foot intersection of pyrrhotite-rich grunerite iron formation.				
SMZ-87-22	I18+03W, 6+01N	357	0-125.2 - Casing Interbedded ultramafic metavolcanics, metapelite and quartz wacke.	182.7-187.4 299.7-304.7	4.7 5.0	.070 .017	Trace pyrite in an ultramafic metavolcanic. Trace pyrite in a quartz wacke.
SMZ-87-23	I4+01W, 8+00N	477	0-102.4 - Casing Dominantly interbedded mafic metavolcanics and metapelite overlain by a large intersection of feldspathic wacke, single 33 foot intersection of pyrrhotite-rich grunerite iron formation at 358.7 feet.				
SMZ-87-24	I28+00E, 20+30S	297	0-57.2 - Casing Dominantly ultramafic metavolcanic with minor chlorite hornblende schist, crosscut in several places by felsic intrusives.	172.3-177.0	4.7	.008	Ultramafic metavolcanics.



TABLE I  
SUMMARY OF DRILL HOLE DATA

Drill Hole Number	Grid Location	Length (feet)	Summary Description	Inter-Section (feet)	Width (feet)	Assay oz Au/ton	SAMPLE DESCRIPTION
SMZ-87-25	L27+49E, 20+79S	397	Dominantly ultramafic to mafic metavolcanic with minor chlorite-biotite schist, crosscut and underlain by felsic intrusives.	72.1-76.7 377.0-378.9	4.6 1.9	.005 .005	Ultramafic to mafic meta-volcanic. Felsic intrusive fine-grained, sericitized.
SMZ-87-26	L28+50E, 20+81S	397	0-65.5 - Casing Dominantly ultramafic to mafic metavolcanic with minor chlorite-biotite schist near the bottom of the hole crosscut by felsic intrusives.				
SMZ-88-1	L36+01E, 1+60S	407	0-18.3 - Casing Interbedded ultramafic and mafic metavolcanics, wacke, siltstone, argillite and chert. Minor garnets in some of the mafic metavolcanics.				
SMZ-88-1	L36+01E, 1+60S	407	0-18.3 - Casing Upper 120 feet consists of ultramafic to mafic volcanics; interbedded volcanics and sediments (mostly wacke, minor argillite and chert) occur between 120-282 feet (volcanics: sediments = 60:40); remainder of the hole consists of interbedded siltstone and wacke.	251.8-256.8 280.5-281.5	5.0 1.0	.009 .010	Talc-rich ultramafic volcanics, trace pyrite. Garnetiferous mafic volcanics, 2-3% pyrite, trace chalcopyrite possible shear.
SMZ-88-2	L56+00E, 4+49S	376	0-22.7 - Casing Upper 168 feet consists dominantly of mafic and ultramafic volcanics with minor intercalations of argillite; remainder of the hole consists of interbedded mafic volcanics and sediments (mainly wacke, minor siltstone and chert).	168.6-171.7	3.1	.007	Chert, 5% pyrite.
SMZ-88-3	L36+00E, 2+75N	274	Entirely overburden; hole abandoned.				
SMZ-88-4	L12+00E, 22+35S	506	0-20.7 - Casing Granitic and intermediate intrusives intercalated with volcanics (dominantly mafic, minor ultramafics); lower 175 feet is composed entirely of intrusives.	54.4-56.8	2.4	.008	Mafic volcanics in contact with granitic intrusive; trace pyrite and chalcopyrite.

TABLE I

## SUMMARY OF DRILL HOLE DATA

Drill Hole Number	Grid Location	Length (feet)	Summary Description	Inter-Section (feet)	Width (feet)	Assay oz Au/ton	SAMPLE DESCRIPTION
SMZ-88-5	L36+00E, 6+00N	997	0-31.3 - Casing				
			Upper 220 feet consists of dominantly mafic volcanics with minor intercalations of chert, wacke and siltstone; dominantly sediments between 220-296 feet, including well mineralized argillite and lean iron formation; 100 feet of mafic to intermediate volcanics follows this, which in turn is underlain by 300 feet of sediments (with minor volcanic intercalations); a section of probable fault gouge occurs between 393-419 feet in clastic sediments; lower part of the hole consists of ultramafic and mafic volcanics.	705.5-707.5	2.0	.017	Heavily silicified, weakly brecciated mafic volcanics; trace-1% pyrrhotite.
SMZ-88-6	L40+00E, 26+50S	346	0-48.8 - Casing				
			Entirely felsic to intermediate intrusives (dominantly granite and granodiorite with minor tonalite).	872.9-877.0	4.1	.009	Ultramafic volcanics with abundant talc and magnetite; trace pyrite in quartz-carbonate stringers.
SMZ-88-7	L36+00W, 14+00N	406	0-121.6 - Casing				
			Upper 183 feet consists of intercalated mafic volcanics and stone; remainder of the hole is entirely mafic volcanics (minor silicified intervals).	881.0-886.0	5.0	.009	
SMZ-88-8	L4+00W, 3+25N	347	0-71.0 - Casing				
			Relatively narrow units of intercalated mafic and ultramafic volcanics, greywacke and siltstone (roughly 60% volcanics, 40% sediments).				
SMZ-88-9	L36+00W, 18+00S	396	0-26.3 - Casing				
			Upper 193 feet consists of mafic volcanics intercalated with greywacke and minor arenite; remainder of the hole is composed entirely of granite (locally grades into granodiorite).				
SMZ-88-10	L24+00W, 12+00N	407	0-190.8 - Casing				
			Upper 63 feet consist of oxide iron formation containing 2-5% pyrite, tr-2% pyrrhotite; this is followed by interbedded clastic sediments (wacke, siltstone, minor conglomerate); between 292-407 feet is entirely mafic volcanics.				

A 3,000 foot drilling program is warranted to further test other areas of favourable structure and alteration found in the recent program.

13.0 ESTIMATED COST OF RECOMMENDED EXPLORATION PROGRAM

Resampling of Drill Core:

100 samples at \$12/sample-----\$ 1,200.00

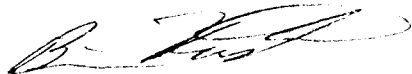
Diamond Drilling:

3,000 feet at \$35/foot, all inclusive-----\$105,000.00

Contingency 20%-----\$ 21,240.00

Total Estimated Cost-----\$127,440.00

Respectfully submitted,



B.A. Huston, B.Sc. (Eng.)



E.D. Timoshenko, B.Sc.

Geocanex Ltd.

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APPENDIX B  
DIAMOND DRILL LOGS

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-1 LENGTH 297.0  
 LOCATION 28+00E 26+37S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED Sept. 3, 1987 FINISHED Sept. 4, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-43 <sup>0</sup>				
297	-41 <sup>0</sup>				

HOLE NO. SMZ-87-1 SHEET NO. 1 of 1

REMARKS Claim #861431  
Summary Log

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	59.3	Casing									
59.3	76.7	Felsic Intrusive - 1% fine grained disseminated pyrite									
76.7	93.9	Pelitic Metasediment - minor quartz stringers									
93.9	97.6	Quartz Wacke									
97.6	117.2	Pelitic Metasediment - up to 1% garnets. Phlogopitic in some places.									
117.2	122.5	Ultramafic Metavolcanic - 1% pyrite (and chalcopyrite?)									
122.5	176.7	Talc Bearing Chlorite Schist - 3-5% disseminated magnetite, 0.5% disseminated pyrite.									
		122.5 - 137.0 - Carbonitized									
176.7	297.0	Felsic Intrusive									
	297.0	E.O.H.									
		Casing pulled									

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-1 LENGTH 297.0 ft  
 LOCATION 28+00E 26+75S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED Sept. 3, 1987 FINISHED Sept. 4, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-43°				
297	-41°				

HOLE NO. SMZ-87-1 SHEET NO. 1 of 4

REMARKS Claim #861431

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS			
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au	Check
				FROM	TO	TOTAL			OZ/TON	OZ/TON
0	59.3	Casing								
59.3	76.7	<p>Felsic Intrusive - light to medium grey, fine to medium grained, massive</p> <p>Average Modes</p> <p>Quartz 40%</p> <p>Plagioclase 25-30%</p> <p>Potassium Feldspar 15-20%</p> <p>Biotite 15%</p> <p>Pyrite 1%</p> <p>Fine grained disseminated pyrite is predominantly found within the biotite. Possible sausseritization of plagioclase grains.</p> <p>76.3 - 76.7 - Contact zone, very coarse grained.</p>	19001	1	76.0	77.0	1.0			.002
76.7	93.9	Pelitic Metasediment - medium green/brown mottled appearance, weak foliation at 25° to CA.								

LANGRISH - TORONTO - 886-118



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-1 SHEET NO. 2 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FROM	TO	TOTAL	%	%	g Au/g	Check
		<p><u>Average Modes</u></p> <p>Biotite 40-45%</p> <p>Chlorite 35-40%</p> <p>Quartz 20%</p> <p>Pyrite tr</p> <p>Minor quartz stringers throughout unit.</p> <p>76.7 - 86.4 - More chloritic section, up to 60% chlorite.</p> <p>86.4 - 93.9 - Typical, as above</p>									
93.9	97.6	<p><u>Quartz Wacke</u> - light grey/green, weakly foliated at 40° to CA</p> <p><u>Average Modes</u></p> <p>Framework 80-85%</p> <p>Quartz 90%</p> <p>Feldspar 10%</p> <p>Matrix 15-20%</p> <p>Chlorite 95%</p> <p>Biotite 5%</p> <p>Minor sericitization of feldspar.</p>									
97.6	117.2	<p><u>Pelitic Metasediment</u> - typical, as above, weak remnant foliation at 30° to CA, evidence of extensive recrystallization. Very rich in biotite (also phlogopite?).</p>	19002	tr	78.5	83.4	4.9			.002	
			19003	tr	88.4	93.3	4.9			.001	
			19004	tr	102.1	107.0	4.9			.002	
			19005	tr	112.8	115.6	2.8			.001	

LANGRIDGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-1 SHEET NO. 3 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au <sub>ton</sub>	Check
					FROM	TO	TOTAL				
117.2	122.5	Fewer quartz stringers in this interval. Up to 1% pink garnets (1/16" to 1/8") in places.  Ultramafic Metavolcanic - medium to dark green, medium to coarse grained, weakly foliated at 30° to CA.  <u>Average Modes</u>  Amphibole 50-55% (tremolite/Actinolite?) Chlorite 35-40% Talc/Serpentine 5-10% Pyrite 1% (+ Chalcopyrite?)	19006	1	117.2	119.8	2.6			.001	
			19007	1	119.8	122.5	2.7			.001	
122.5	176.7	Talc-Bearing Chlorite Schist - medium grey/green, very fine grained, strongly foliated at 40° to CA. Mineral assemblage is predominantly chlorite and talc (+ serpentine?) with 3-5% disseminated magnetite and 0.5 to 1% disseminated pyrite.  122.5 - 137.0 - Approximately 80% core recovery. Moderately carbonatized.  134.8 - 135.1 - Quartz veining - composite vein at 30° to CA.	19008	0.5-1	122.5	127.0	4.5			.001	
			19009	0.5-1	127.0	130.5	3.5			.001	
			19010	0.5-1	130.5	134.4	3.9			.002	
			19011	0.5-1	134.4	135.5	1.1			.002	
			19012	0.5-1	135.5	137.0	1.5			.002	

LANGRIDGES - TORONTO - 366-1762

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake

HOLE NO. ... SMZ-87-1

SHEET NO. 4 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au oz/Ton	Check
					FROM	TO	TOTAL				
		137.0 - 155.8 - Typical. Darker green colour, probably lower talc content, weakly carbonatized.									
		153.0 - 153.2 - Pyrite blebs parallel to foliation surfaces.	9013	3-5	152.6	153.6	1.0			.002	
		155.8 - 176.7 - Generally a lower talc content. Talc is restricted to more localized zones. Abundant quartz stringers appear throughout this interval.	9014	0.5-	155.8	160.0	4.2			.002	
			9015	0.5-	160.0	165.0	5.0			.001	
			9016	0.5-	165.0	170.0	5.0			<.001	
			9017	0.5-	170.0	174.0	4.0			.001	
			9018	0.5-	174.0	176.7	2.7			.001	
176.7	297.0	<u>Felsic Intrusive</u> - Typical as above, medium to coarse grained, medium grey to pink.									
		176.7 - 187.5 - Contact Zone - fine to medium grained, abundant chlorite stringers.	9019	tr	176.7	180.0	3.3			.002	
			9020	tr	180.0	183.5	3.5			.001	
			9021	tr	183.5	187.5	4.0			.002	
		187.5 - 297.0 - Typical as above.									
		187.5 - 188.6 - Quartz veining, random apparent directions, milky white quartz.	9022	tr	187.5	188.6	1.1			.004	
			9023	tr	197.0	201.9	4.9			.003	
			9024	tr	215.7	220.4	4.7			.003	
			9025	tr	234.4	239.0	4.6			<.001	
			9026	tr	253.2	258.1	4.9			<.001	
			9027	tr	272.5	277.4	4.9			<.001	
			9028	tr	287.0	291.9	4.9			.001	
	297.0	E.O.H.									
		Casing pulled									

*J. W. Adams*

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-2 LENGTH 457.0  
 LOCATION 28101E 23156S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -48.5<sup>0</sup>  
 STARTED Sept. 4, 1987 FINISHED Sept. 7, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200'	-47 <sup>0</sup>				
457'	-42 <sup>0</sup>				

HOLE NO. SMZ-87-2 SHEET NO. 1 of 1

REMARKS Claim #E61431  
Summary Log

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	OZ/TON	Check	
					FROM	TO	TOTAL			OZ/TON	
0	86.5	<u>Casing</u>									
86.5	100.6	<u>Felsic Intrusive</u> - light to dark grey and pink									
100.6	120.1	<u>Mafic Metavolcanic</u> - 100.6 - 106.8 - fine grained biotite rich zone									
120.1	135.8	<u>Ultramafic Metavolcanic</u> - serpentized, 3-5% magnetite, 0.5% pyrite									
135.8	186.4	<u>Felsic Intrusive</u>									
186.4	195.6	<u>Chlorite Biotite Schist</u>									
195.6	200.8	<u>Felsic Intrusive</u>									
200.8	207.1	<u>Chlorite Biotite Schist</u>									
207.1	240.5	<u>Mafic Metavolcanic</u> 217.7 - 225.7 - heavily silicified 225.7 - 240.5 - intercalated talc-bearing zones									
240.5	315.2	<u>Felsic Intrusive</u>									
315.2	355.5	<u>Mafic Metavolcanic</u>									
355.5	364.7	<u>Felsic Intrusive</u>									
364.7	435.8	<u>Mafic Metavolcanic</u>									
435.8	457.0	<u>Felsic Intrusive</u>									
457.0	457.0	END OF HOLE Casing pulled									

LANGRIDGES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-2 LENGTH 457.0  
 LOCATION 28+01E 23+56S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -48.5<sup>0</sup>  
 STARTED Sept. 4, 1987 FINISHED Sept. 7, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200'	-47 <sup>0</sup>				
457'	-42 <sup>0</sup>				

HOLE NO. SMZ-87-2 SHEET NO. 1 of 4

REMARKS Claim # 861431

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au oz/TON	Check oz/TON
					FROM	TO	TOTAL				
0	86.5	<u>Casing</u>									
86.5	100.6	<u>Felsic Intrusive</u> - light to dark grey and pink, medium to coarse grained, massive  Average Modes Quartz 50% Potassium Feldspar 25-30% Plagioclase 20-25% Biotite 5-10%  96.0 - 96.9 - Quartz veining - milky white quartz	9029 -		96.0	97.0	1.0			.007	
			9030 -		97.0	100.6	3.6			.001	
100.6	120.1	<u>Mafic Metavolcanics</u> - medium to dark green, medium grained, massive to poorly foliated at 90° to C.A.  Average Modes Amphibole 60-70% Chlorite 15-20% Quartz 10-15% Plagioclase 10-15%  100.6 to 106.8 - fine grained zone with 5% biotite, minor quartz carbonate stringers - 100.6 to 102.4 - 50% biotite, heavily carbonatized  106.8 to 120.1 - typical - 119.8 to 120.1 - quartz vein at 30° to C.A.	9031 -		100.6	102.4	1.8			<.001	
			9032 -		102.4	106.8	4.2			.001	
			9033 -		119.1	120.1	1.0			.001	

LANGRISHES - TORONTO - 365-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO... SMZ-87-2 SHEET NO. 2 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	wt Au	Check
120.1	135.8	<p><u>Ultramafic Metavolcanic</u> - Pale green, fine grained, massive to weakly foliated at 50° to C.A.</p> <p>Average Modes                      Chlorite 75-80%                      Amphibole 5-10%                      Talc/Serpentine 5-10%                      Magnetite 3-5%                      Pyrite 0-5%</p> <p>Amphibole is actinolite/tremolite. Magnetite and pyrite both occur as fine disseminated grains. Serpentine is asbestiform in most places.</p> <p>- 124.9 to 125.5 - Biotite schist surrounding a 0.2' felsic dikelet. Dikelet appears rich in potassium feldspar</p>	19035	0.5	124.7 125.7 1.0	<.001	
			19036	0.5	125.7 129.0 3.3	.001	
			19037	0.5	129.0 132.3 3.3	.001	
			19038	0.5	132.3 135.8 3.5	<.001	
135.8	186.4	<p><u>Felsic Intrusive</u> - typical, as above, medium to coarse grained, massive</p> <p>135.8 to 137.5 - pink granite, rich in potassium feldspars                      137.5 to 160.8 - light grey, coarse grained                      160.8 to 171.4 - dark grey, fine to medium grained                      171.4 to 173.6 - white/grey, coarse grained quartz-rich                      173.6 to 186.4 - dark grey and tan, coarse grained, possible sausseritization of the plagioclase</p>	19039	-	135.8 137.5 1.7	<.001	
			19040	-	156.2 160.8 4.6	<.001	
			19041	-	166.0 169.3 3.3	<.001	
			19042	-	171.4 173.6 2.2	<.001	
			19043	-	180.5 185.5 5.0	.001	
			19044	-	185.5 186.4 0.9	.001	
186.4	195.6	<p><u>Chlorite Biotite Schist</u> - probable pelitic metasediment, dark brown/green, fine grained, well foliated at 45° to C.A.                      - approximately 70% biotite and 30% chlorite</p> <p>186.4 to 191.0 - strong foliation (crenulated)                      191.0 to 193.8 - typical                      193.8 to 195.6 - strong crenulations distorting foliation</p>	19045	-	186.4 191.0 4.6	<.001	
			19046	-	191.0 193.8 2.8	<.001	
			19047	-	193.8 195.6 1.8	<.001	

ANGRIDGES - TAPCONIC - 366-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-2 SHEET NO: 3 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS		
FROM	TO		NO	FOOTAGE		Au OZ TON	Check OZ TON	
				IDES	FROM			TO
195.6	200.8	<u>Felsic Intrusive</u> - typical, as above, pink, medium to coarse grained, massive						
		195.6 to 197.8 - fine grained, biotite rich	19048	-	195.6	197.8	2.2	<.001
		197.8 to 200.8 - typical	19049	-	197.8	200.8	3.0	<.001
200.8	207.1	<u>Chlorite Biotite Schist</u> - as above, more chloritic in this interval, minor quartz stringers	19050	-	200.8	203.5	2.7	<.001
			19051	-	203.5	207.1	3.6	<.001
207.1	240.5	<u>Mafic Metavolcanic</u> - typical, as above, fine to medium grained, massive, grey/green						
		207.1 to 217.7 - typical	19052	-	213.0	217.7	4.7	<.001
		217.7 to 225.7 - heavily silicified, up to 40% fine grained, minor stringers	19053	-	217.7	221.7	4.0	<.001
			19054	-	221.7	225.7	4.0	<.001
		225.7 to 240.5 - intercalated talc-bearing zones	19055	-	225.7	230.7	5.0	<.001
			19056	-	230.7	235.7	5.0	<.001
240.5	315.2	<u>Felsic Intrusive</u> - typical, as above, light pinkish grey, medium grained massive	19057	-	235.7	240.5	4.8	<.001
			19058	-	256.6	261.4	4.8	<.001
			19059	-	275.6	280.2	4.6	<.001
315.2	355.5	<u>Mafic Metavolcanic</u> - typical, as above, light to medium green, medium grained, massive, minor quartz carbonate stringers	19060	-	293.5	297.9	4.4	.001
		- 331.2 to 332.4 - quartz carbonate stringers with random orientations	19061	-	315.2	317.0	1.8	.001
		- 331.2 to 332.4 - quartz carbonate stringers with random orientations	19062	-	324.8	329.3	4.5	<.001
		- 354.5 to 354.6 - quartz filled fracture at 40° to C.A. with epidote rich halo	19063	-	331.2	332.4	1.2	<.001
			19064	-	344.5	348.7	4.2	<.001
			19065	-	354.4	355.5	1.1	<.001
355.5	364.7	<u>Felsic Intrusive</u> - typical, as above, light grey/pink, fine to medium grained, massive						
		- 355.5 - upper contact at 50° to C.A.						
		- 364.7 - lower contact at 35° to C.A.						

LANGRANGES - TORONTO - 365-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY, Santa Maria Zeemel Lake

HOLE NO. SMZ-87-2

SHEET NO. 4 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SUPPLIES	FOOTAGE FROM TO TOTAL	Au G/TON	Check G/TON		
364.7	435.8	Mafic Metavolcanic - typical, as above, light to medium green, medium grained, massive, minor quartz carbonate stringers	19066	-	364.7	367.0	2.3	<.001	
			19067	-	370.7	375.8	5.1	<.001	
			19068	-	375.8	380.1	4.3	<.001	
			19069	-	385.1	389.7	4.6	<.001	
			19070	-	395.1	399.9	4.8	<.001	
			19071	-	404.2	408.9	4.7	.001	
			19072	-	413.6	418.3	4.7	.001	
			19073	-	423.1	427.7	4.6	.002	
			19074	-	432.1	435.8	3.7	.002	
435.8	457.0	Felsic Intrusive - typical, as above, light grey with a slight pink hue, medium grained, massive	19075	-	437.2	441.9	4.7	.002	
			19076	-	450.0	454.8	4.8	.004	
	457.0	END OF HOLE Casing pulled							

*J. Williams*

LANGRISHES - TRECNO - 186 - 18E



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-3 LENGTH 456.0  
 LOCATION 281 02E 20179S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED Sept. 7, 1987 FINISHED Sept. 8, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-42°				
456	-40°				

HOLE NO. SMZ-87-3 SHEET NO. 1 of 1

REMARKS Claim #861426  
Summary Log

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE			ASSAYS			
FROM	TO		NO.	% SULPHIDES	FOOTAGE FROM TO TOTAL	%	%	Au OZ/TON	Check OZ/TON
0	76.3	<u>Casing</u>							
76.3	118.9	<u>Mafic Metavolcanic - 2 to 3% magnetite</u> <u>- 116.9 to 118.9 - contact zone, 1 to 2% pyrite</u>							
118.9	143.5	<u>Felsic Intrusive</u>							
143.5	187.0	<u>Mafic Metavolcanic - 1 to 2% magnetite</u>	9088	tr	143.5 147.6 4.1			0.560	0.520
187.0	198.2	<u>Talc Chlorite Schist - 1% magnetite</u>	9089	tr	156.3 160.7 4.4			0.010	
198.2	211.4	<u>Felsic Intrusive - 1% pyrrhotite in place</u>							
211.4	215.7	<u>Mafic Metavolcanic - 3 to 5% biotite</u>							
215.7	227.7	<u>Felsic Intrusive</u>							
227.7	256.5	<u>Ultramafic Metavolcanic - 5 to 10% magnetite,</u> <u>- 2 to 3% pyrrhotite</u>							
256.5	345.3	<u>Felsic Intrusive</u>							
345.3	347.2	<u>Mafic Metavolcanic</u>							
347.2	384.1	<u>Felsic Intrusive</u>							
384.1	456.0	<u>Mafic to Ultramafic Metavolcanic - 1% magnetite</u>	9121	-	416.4 421.2 4.8			0.015	
	456.0	END OF HOLE Casing pulled							

LANGRIDGES - FORM C - 366-1-88

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-3 LENGTH 456.0  
 LOCATION 28+02E 20+79S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED Sept. 7, 1987 FINISHED Sept. 8, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-42 <sup>0</sup>				
456	-40 <sup>0</sup>				

HOLE NO. SMZ-87-3 SHEET NO. 1 of 4

REMARKS Claim #861426

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	76.3	Casing									
76.3	118.9	Mafic Metavolcanics - light to medium grey-green, fine to medium grained, massive  Average Modes Amphibole 40% Chlorite 25-30% Feldspar 20-25% Quartz 5% Magnetite 2-3%  - minor quartz carbonate stringers throughout interval  76.3 to 77.3 - highly fractured and broken core 77.3 to 79.5 - typical with minor fracturing 79.5 to 83.5 - abundant fractures at low angles to core axis. Core is badly broken up 83.5 to 113.3 - typical, minor fracturing  113.3 to 116.9 - shear zone, moderate rust staining, chloritized, carbonatized 116.9 to 118.9 - contact zone, biotite chlorite schist, 1-2% pyrite									
			9077	-	76.3	77.3	1.0			.001	
			9078	-	77.3	79.5	2.2			<.001	
			9079	-	79.5	83.5	4.0			<.001	
			9080	-	83.5	88.1	4.6			<.001	
			9081	-	97.0	101.8	4.8			<.001	
			9082	-	106.2	110.9	4.7			<.001	
			9083	-	110.9	113.3	2.4			.001	
			9084	-	113.3	116.9	3.6			<.001	
			9085	1-2	116.9	118.9	2.0			<.001	

LANGRIDGES - "DRON" - 366-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake

HOLE NO. SMZ-87-3

SHEET NO. 2 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		ID	SH PH IDES	FOOTAGE FROM TO TOTAL	Au OZ TON	Check OZ TON
118.9	143.5	<u>Felsic Intrusive</u> - light grey/pink, fine to medium grained, massive	19086	-	124.0 128.7 4.7	<.001	
		Average Modes	19087	-	133.8 138.6 4.8	.002	
		Quartz 60%	19669	-	138.6 143.5 4.9	<.001	
		Plagioclase 20-25%					
		Potassium Feldspar 10-15%					
		Biotite 5-10%					
		- very minor fracturing at low angles to the core axis					
143.5	187.0	<u>Mafic Metavolcanic</u> - typical, light to medium green, fine to medium grained, massive, minor quartz carbonate stringers, 1% disseminated magnetite	19088	tr	143.5 147.6 4.1	.56	(52 check)
			19670	tr	147.6 152.6 5.0	<.001	
			19671	tr	152.6 156.3 3.7	<.001	
			19089	tr	156.3 160.7 4.4	.010	
			19672	tr	160.7 165.3 4.6	.001	
			19090	tr	165.3 169.7 4.4	.002	
			19673	tr	169.7 171.7 2.0	<.001	
			19674	tr	171.7 174.8 3.1	<.001	
			19091	tr	174.8 179.4 4.6	.001	
			19675	tr	179.4 180.8 1.4	.001	
			19676	tr	180.8 184.3 3.5	<.001	
187.0	198.2	<u>Talc Chlorite Schist</u> - medium to dark green, fine grained, foliated at 70° to the core axis, probable shear zone, 1% disseminated magnetite	19092	-	187.0 190.6 3.6	<.001	
			19093	-	190.6 193.6 3.0	.001	
			19094	-	193.6 198.2 4.6	.001	

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-87-3 SHEET NO. 3 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS		
FROM	TO		ID	FOOTAGE		Au	Check	
			MODES	FROM	TO	TOTAL	07 TON	07 TON
198.2	211.4	<u>Felsic Intrusive</u> - typical, as above, slightly porphyritic in places, light grey/pink, 1% massive pyrrhotite in places	19095 -	198.2	201.0	2.8	.001	
			19096 -	201.0	204.1	3.1	.001	
			19097 -	204.1	207.0	2.9	.001	
			19098 -	207.0	209.0	2.0	.014	
211.4	215.7	<u>Mafic Metavolcanic</u> - typical, as above, foliated at 60° to C.A., no magnetite in this interval, 3-5% biotite	19099 -	209.0	211.4	2.4	.002	
			19100 -	211.4	215.7	4.3	.001	
215.7	227.7	<u>Felsic Intrusive</u> - typical, as above, light grey/pink, medium to coarse grained, massive	19101 -	218.6	223.3	4.7	<.001	
227.7	256.5	<u>Ultramafic Metavolcanic</u> - light to medium green, fine grained, foliated at 65° to core axis	19102 2-3	227.7	230.0	2.3	<.001	
			19103 2-3	230.0	233.0	3.0	<.001	
			19104 2-3	233.0	236.0	3.0	<.001	
			19105 2-3	236.0	239.0	3.0	<.001	
		Average Modes	19106 2-3	239.0	242.0	3.0	<.001	
		Chlorite 45-50%	19107 2-3	242.0	245.0	3.0	<.001	
		Amphibole 30-35%	19108 2-3	245.0	248.0	3.0	.001	
		Talc/Serpentine 10-15%	19109 2-3	248.0	251.0	3.0	.001	
		Magnetite 5-10%	19110 2-3	251.0	254.0	3.0	.002	
		Pyrrhotite 2-3%	19111 2-3	254.0	256.5	2.5	.001	
		- minor quartz stringers occur throughout the unit						
256.5	345.3	<u>Felsic Intrusive</u> - typical, as above, medium grained, light grey (leucocratic), massive	19112 -	275.0	279.9	4.9	.001	
			19113 -	294.2	298.9	4.7	.001	
			19114 -	303.6	308.4	4.8	.001	
345.3	347.2	<u>Mafic Metavolcanic</u> - typical, as above, medium green, foliated at 70° to C.A., biotite rich	19115 -	327.0	331.6	4.6	<.001	
			19116 -	345.3	347.2	1.9	.001	

LANGRIDGE - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-87-3 SHEET NO. 4 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au / TON	Check / TON
347.2	384.1	<u>Felsic Intrusive</u> - typical, as above, medium grained, light grey (leucocratic), massive	19117	-	354.5 359.0 4.5	.002	
			19118	-	372.7 377.4 4.7	.002	
384.1	456.0	<u>Mafic to Ultramafic Metavolcanic</u> - serpentized with 1% disseminated magnetite throughout. Light to medium green, massive, possible silicification in place	19187	-	384.1 387.0 2.9	.009	
			1035	-	387.0 391.8 4.8	.001	
			1036	-	391.8 396.8 5.0	.001	
			19119	-	396.8 401.5 4.7	.007	
			1037	-	401.5 406.5 5.0	.001	
			19120	-	406.5 411.3 4.8	.008	
			1038	-	411.3 416.4 5.1	.002	
			19121	-	416.4 421.2 4.8	.015	
			1039	-	421.2 426.0 4.8	.003	
			19122	-	426.0 430.7 4.7	.009	
			1040	-	430.7 435.6 4.9	.002	
			19123	-	435.6 440.3 4.7	.008	
			1041	-	440.3 445.1 4.8	.002	
			19124	-	445.1 449.8 4.7	.007	
			1042	-	449.8 454.7 4.9	.002	
			1043	-	454.7 456.0 1.3	.002	
	456.0	END OF HOLE Casing pulled					

*J. Adams*

LANGR 06ES - FORM 10 - 365, 11-68

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-4 LENGTH 457.0  
 LOCATION 28+01E 18+02S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED Sept. 9, 1987 FINISHED Sept. 10, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-44 <sup>0</sup>				
457	-41 <sup>0</sup>				

HOLE NO. SMZ-87-4 SHEET NO. 1 of 1

REMARKS Claim #861426  
Summary Log

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE			ASSAYS			
FROM	TO		NO.	% SULPH IDES	FOOTAGE FROM TO TOTAL	%	%	Au oz/TON	Check oz/TON
0	62.0	<u>Casing</u>							
62.0	354.9	<u>Mafic Metavolcanic - 5% disseminated magnetite, quartz stringers throughout unit</u>							
354.9	360.6	<u>Ultramafic Metavolcanic - 5% magnetite</u> <u>359.9 to 360.6 - Schistose zone with 1-2% pyrite</u>							
360.6	392.0	<u>Felsic Intrusive</u>	19172	tr	376.0	380.0	4.0	0.019	
392.0	401.0	<u>Ultramafic Metavolcanic - typical</u>	19173	tr	380.0	383.0	3.0	0.010	
401.0	402.4	<u>Felsic Intrusive - quartz feldspar porphyry</u>							
402.4	413.6	<u>Mafic Metavolcanic - typical</u>							
413.6	423.6	<u>Ultramafic Metavolcanic - typical</u>							
423.6	457.0	<u>Felsic Intrusive - typical</u>							
	457.0	END OF HOLE Casing pulled							

LANGRIDDGES - TORONTO - 366-1154

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-4 LENGTH 457.0  
 LOCATION 28+01E 18+02S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED Sept. 9, 1987 FINISHED Sept. 10, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-44 <sup>0</sup>				
457	-41 <sup>0</sup>				

HOLE NO. SMZ-87-4 SHEET NO. 1 of 4

REMARKS Claim #861426

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au oz/TON	Check oz/TON
					FROM	TO	TOTAL				
0	62.0	<u>Casing</u>									
62.0	354.9	<u>Mafic Metavolcanics</u>									
		- Tight to medium grey/green, fine to medium grained, massive	19125	-	66.8	71.4	4.6			.002	
			19126	-	76.4	80.9	4.5			.001	
			19127	-	85.8	90.5	4.7			<.001	
			19128	-	95.6	100.2	4.6			.002	
		Average Modes	19129	-	103.6	108.2	4.6			.001	
		Amphibole 60-65%	19130	-	112.7	117.5	4.8			.001	
		Plagioclase 20-25%	19131	-	122.5	127.2	4.7			.002	
		Chlorite 10-15%	19132	-	137.0	141.8	4.8			.001	
		Magnetite 5%	19133	-	145.9	150.5	4.6			.002	
		- Magnetite is disseminated throughout unit, minor quartz stringers occur throughout the unit, many with minor associated epidote	19134	-	155.2	159.9	4.7			.001	
			19135	-	164.5	169.2	4.7			.002	
			19136	-	173.9	178.5	4.6			.001	
			19137	-	184.3	188.8	4.5			.001	
		- 188.8 to 214.3 - abundant quartz carbonate stringers at random angles to the core axis	19138	-	188.8	192.0	3.2			.002	
			19139	-	192.0	195.1	3.1			.001	
			19140	-	195.1	198.0	2.9			<.001	
			19141	-	198.0	201.0	3.0			.001	
			19142	-	201.0	204.0	3.0			.002	
			19143	-	204.0	207.0	3.0			.001	
			19144	-	207.0	210.0	3.0			.001	
			19145	-	210.0	212.5	2.5			.001	
			19146	-	212.5	214.3	1.8			.001	
		- 223.3 to 223.6 - abundant quartz and carbonate infilling a breccia, possible fault or shear	19147	-	223.0	224.0	1.0			.001	
			19148	-	236.5	237.5	1.0			.002	
		- 236.9 to 237.1 - quartz carbonate vein oriented at 70° to the core axis	19149	-	237.5	240.1	2.6			.001	

LANGRIDGES - TOPOVIC - 365-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-4 SHEET NO: 2 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au 07 TON	Check 07 TON
		- 240.1 to 253.9 - minor brecciation and infilling with quartz carbonate stringers at random angles to the core axis	19150	-	240.1 243.0 2.9	.002	
			19151	-	243.0 246.0 3.0	.002	
			19152	-	246.0 249.0 3.0	.001	
			19153	-	249.0 252.0 3.0	.002	
			19154	-	252.0 253.9 1.9	.002	
			19155	-	253.9 258.7 4.8	.001	
			19156	-	262.5 267.3 4.8	.001	
			19157	-	276.7 281.3 4.6	<.001	
			19158	-	285.8 290.4 4.6	.001	
			19159	-	294.9 299.8 4.9	<.001	
		- 304.5' - 1 to 2% <u>Galena</u> on fracture plane	19282	1-2	304.2 305.2 1.0	.001	
			19160	-	305.2 308.8 4.6	.001	
			19161	-	313.3 317.7 4.6	<.001	
			19162	-	326.4 331.2 4.8	.001	
			19163	-	336.0 340.1 4.1	<.001	
			19164	-	344.8 349.5 4.7	.001	
354.9	360.6	<u>Ultramafic Metavolcanic</u> - light grey/green, fine grained, weakly foliated at 80° to C.A.  Average Modes Amphibole 35-40% Chlorite 30-35% Talc/Serpentine 20-25% Magnetite 5%  - serpentine appears in asbestiform fibres along fractures. Magnetite is disseminated throughout the unit. Unit is moderately carbonatized.	19165	-	354.9 359.0 4.1	.001	
		354.9 - 359.9 - typical weakly foliated zone 359.9 - 360.6 - schistose zone with 1-2% pyrite	19166	1-2	359.0 360.6 1.6	.001	

LANGRISHES - TORONTO - 366-1182



# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-4 SHEET NO: 3 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPH IDES	FOOTAGE		Au	Check	
				FROM	TO	TOTAL	07 TON	07 TON	
360.6	392.0	<u>Felsic Intrusive</u> - pink, medium grained (slightly porphyritic?), massive	19167	-	360.6	364.0	3.4	.001	
			19168	-	364.0	368.0	4.0	.001	
		Average Modes							
		Quartz 50%							
		Plagioclase 25%							
		Potassium Feldspar 20%							
		Mafic Minerals 5%							
		- 368.0 to 373.7 - quartz vein, milky white quartz	19169	-	368.0	370.7	2.7	0.009	
			19170	-	370.7	373.7	3.0	.001	
		- 373.7 to 392.0 - trace fine grained disseminated pyrite	19171	tr	373.7	376.0	2.3	.001	
			19172	tr	376.0	380.0	4.0	0.019	
			19173	tr	380.0	383.0	3.0	0.010	
			19174	tr	383.0	386.0	3.0	0.005	
			19175	tr	386.0	389.0	3.0	.001	
			19176	tr	389.0	392.0	3.0	<.001	
392.0	401.0	<u>Ultramafic Metavolcanic</u> - typical, as above, light grey/green, higher asbestiform serpentine content here, biotite-rich near contact zones	19177	-	392.0	397.0	5.0	<.001	
			19178	-	397.0	401.0	4.0	.001	
401.0	402.4	<u>Felsic Intrusive</u> - quartz feldspar porphyry equivalent of above intrusive, pink, massive	19179	-	401.0	402.4	1.4	<.001	

LANGRIDGE - CPON 1 - 886 - 1989

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-4 SHEET NO. 4 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		ID	FOOTAGE		Au G/TON	Check G/TON
				FROM	TO		
402.4	413.6	<u>Mafic Metavolcanic</u> - typical, as above, medium grey/green, medium grained, massive, abundant quartz stringers throughout unit at random angles to core axis	9180	402.4	405.0	2.6	<.001
			9181	405.0	408.0	3.0	.001
			9182	408.0	411.0	3.0	.001
			9183	411.0	413.6	2.6	<.001
413.6	423.6	<u>Ultramafic Metavolcanic</u> - typical, as above, moderately to wellfoliated at 50° to the core axis, minor quartz stringers	9184	413.6	418.6	5.0	<.001
			9185	418.6	423.6	5.0	<.001
423.6	457.0	<u>Felsic Intrusive</u> - typical, as above, light grey with a pinkish hue, medium to coarse grained (equigranular), massive	9186	444.1	448.5	4.4	<.001
	457.0	END OF HOLE Casing pulled					

*Handwritten signature*

LANGFORDS - TORONTO - 366-1168

FORM 2

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-5 LENGTH 467.0  
 LOCATION 15+01E 11+99S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED Sept. 11, 1987 FINISHED Sept. 12, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-38 <sup>0</sup>				
467	-36 <sup>0</sup>				

HOLE NO. SMZ-87-5 SHEET NO. 1 of 1

REMARKS Claim #861425

Summary Log

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE			ASSAYS				
FROM	TO		NO.	% SULPH IDES	FOOTAGE		%	%	Ag OZ/TON	Check OZ/TON
					FROM	TO				
0	24.6	<u>Casing</u>								
24.6	31.8	<u>Pelitic Metasediment</u>								
31.8	45.2	<u>Quartz Wacke</u>								
45.2	91.1	<u>Mafic to Ultramafic Metavolcanic - 2 to 3% pyrite</u>								
91.1	127.4	<u>Quartz Wacke - 1 to 2% pyrite</u>								
127.4	156.4	<u>Mafic Metavolcanic</u>								
156.4	233.9	<u>Quartz Wacke</u>								
233.9	347.6	<u>Mafic Metavolcanic - 2 to 3% pyrrhotite stringers</u>								
347.6	379.2	<u>Felsic Intrusive</u>								
379.2	445.5	<u>Mafic Metavolcanic - 1 to 2% pyrrhotite and 1% pyrite in fractures</u>								
445.5	467.0	<u>Felsic Intrusive</u>								
	467.0	END OF HOLE Casing pulled								

LANGRANGES - TORONTO - 366-1128

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-5 LENGTH 467.0  
 LOCATION 15+01E 11+99S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED Sept. 11, 1987 FINISHED Sept. 12, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-38°				
467	-36°				

HOLE NO. SMZ-87-5 SHEET NO. 1 of 6

REMARKS Claim #861425

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE FROM	FOOTAGE TO	FOOTAGE TOTAL	%	%	AI OZ/TON	Check OZ/TON
0	24.6	<u>Casing</u>									
24.6	31.8	<u>Pelitic Metasediment</u> - light green/brown, fine grained, moderately foliated at 50° to C.A. Quartz 60% Biotite 30% Chlorite 10%  - minor quartz (+ carbonate) veins appear throughout the unit	19188	-	27.0	31.8	4.8			.001	
31.8	45.2	<u>Quartz Wacke</u> - dark green, massive, large angular sand-sized grains in a fine grained matrix  Average Modes Framework 35-40% Quartz 100% Matrix 60-65% Biotite 40% Chlorite 20% Quartz 40%  31.8 to 40.6 - typical - 32.0 to 32.1 - quartz vein at 50° to core axis - 32.5 to 32.6 - quartz vein, as above  40.6 to 45.2 - predominantly quartz wacke with minor interbedded metapelite	19189	-	31.8	32.8	1.0			.001	

LANGRIDGE - TORONTO - 366-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-87-5 SHEET NO 2 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au GT TON	Check GT TON
45.2	91.1	<u>Mafic to Ultramafic Metavolcanic</u> - medium to dark green, fine grained, moderately foliated at 50° to C.A.  Average Modes Amphibole           55-60% Chlorite            15-20% Plagioclase        10-15% Quartz              5-10% Biotite             5% Talc                2-3% Pyrite             2-3%  - pyrite occurs as discreet 1/32" blebs throughout the unit - 69.4 to 69.8 - shear zone, heavy limonite staining - 72.0 to 73.7 - brecciated quartz vein	19190	2-3	45.2 48.0 2.8	<.001	
			19191	2-3	48.0 51.0 3.0	<.001	
			19192	2-3	51.0 54.0 3.0	<.001	
			19193	2-3	54.0 57.0 3.0	<.001	
			19194	2-3	57.0 60.0 3.0	<.001	
			19195	2-3	60.0 63.0 3.0	.001	
			19196	2-3	63.0 66.0 3.0	.001	
			19197	2-3	66.0 69.0 3.0	<.001	
			19198	2-3	69.0 70.0 1.0	<.001	
			19199	2-3	70.0 72.0 2.0	.001	
			19200	2-3	72.0 73.7 1.7	.001	
			19201	2-3	73.7 77.0 3.3	<.001	
			19202	2-3	77.0 80.0 3.0	.001	
			19203	2-3	80.0 83.0 3.0	<.001	
			19204	2-3	83.0 86.0 3.0	.001	
			19205	2-3	86.0 88.5 2.5	.001	
			19206	2-3	88.5 91.1 2.6	.001	
91.1	127.4	<u>Quartz Wacke</u> - typical, as above, minor interbedded metapelite layers, 1-2% pyrite disseminated throughout the unit. Unit has probably been weakly sheared at 60° to core axis	19207	1-2	91.1 95.0 3.9	<.001	
			19208	1-2	95.0 98.0 3.0	.001	
			19209	1-2	98.0 102.0 4.0	.001	
			19210	1-2	102.0 107.0 5.0	<.001	
			19211	1-2	107.0 112.0 5.0	.001	
			19212	1-2	112.0 117.0 5.0	<.001	

LANGFORDS - TORONTO - 366-1166

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-5 SHEET NO. 3 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au OZ TON	Check OZ TON	
					FROM	TO			TOTAL
127.4	156.4	<u>Mafic Metavolcanic</u> - medium green, fine grained, foliated at 45° to core axis, trace fine grained disseminated pyrite  Average Modes Amphibole 70-75% Plagioclase 20-25% Chlorite 10%  - 149.5 to 150.6 - felsic dykelet, quartz feldspar porphyry	19213	1-2	117.0	122.0	5.0	.001	
			19214	1-2	122.0	125.0	3.0	<.001	
			19215	1-2	125.0	127.4	2.4	<.001	
			19216	tr	137.0	141.6	4.6	<.001	
			19217	tr	146.4	149.5	3.1	.001	
			19218	tr	149.5	150.6	1.1	<.001	
			19219	tr	150.6	154.0	3.4	<.001	
			19220	tr	154.0	156.4	2.4	.001	
			19221	-	161.0	166.0	5.0	.001	
			156.4	233.9	<u>Quartz Wacke</u> - typical, as above, well foliated at 55° to the core axis, probably weakly sheared, shows minor evidence of rotation of quartz grains, very minor quartz (+ carbonate) veinlets occur throughout the unit. Very minor metapelite layers.  - 172.1 to 172.3 - quartz vein at 55° to core axis (parallel to foliation) - 176.4 to 176.6 - quartz vein at 55° to core axis (parallel to foliation) - 186.2 to 186.4 - quartz vein at 50° to core axis (parallel to foliation), 3-5% pyrite along contact - 223.6 to 223.8 - quartz vein at 60° to core axis (subparallel to foliation) - 224.4 to 224.6 - quartz vein at 50° to core axis (parallel to foliation)	19222	-	171.7	172.7
19223	-	176.0				177.0	1.0	.001	
19224	1	185.8				186.8	1.0	.001	
19225	-	194.9				199.6	4.7	.001	
19226	-	204.5				209.3	4.8	<.001	
19227	-	214.3				219.0	4.7	.001	
19228	-	223.6				224.6	1.0	.001	
19229	-	230.0				233.9	3.9	.001	

LANGRISHES - "D" DRILL - 366-1166

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-87-5 SHEET NO 4 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		ID	SHPH IDES	FOOTAGE		Au G/TON	Check G/TON	
					FROM	TO			TOTAL
233.9	347.6	Mafic Metavolcanic	19230	2-3	233.9	237.0	3.1	.001	
		- light to medium green, fine to medium grained, massive, mineralogy as above. Abundant fractures infilled with quartz pyrrhotite stringers. Pyrrhotite smears found in many fractures (slip surfaces ?)	19231	2-3	237.0	240.0	3.0	.001	
			19232	2-3	240.0	243.0	3.0	.001	
			19233	2-3	243.0	246.0	3.0	.001	
			19234	2-3	246.0	249.0	3.0	.001	
			19235	2-3	249.0	252.0	3.0	.002	
			19236	2-3	252.0	254.0	2.0	.001	
			19237	2-3	254.0	257.0	3.0	<.001	
			19238	2-3	257.0	261.7	4.7	.001	
		- 261.7 to 261.8 - quartz vein at 50° to core axis	19239	1-2	261.7	262.7	1.0	.001	
		- 262.1 to 262.7 - quartz vein at 90° to core axis	19240	1-2	262.7	264.8	2.1	.001	
		- 263.3 to 263.5 - quartz vein at 65° to core axis, 3-5% pyrite and pyrrhotite along contact							
		- 264.4 to 264.8 - quartz vein at 90° to core axis	19241	2-3	264.8	267.5	2.7	.001	
		- 270.3 to 272.2 - felsic dyke - quartz feldspar porphyry, 2-3% pyrrhotite	19242	2-3	267.5	270.3	2.8	.001	
		- 280.7 to 281.5 - quartz vein - pyrrhotite along contacts	19243	2-3	270.3	272.2	1.9	<.001	
			19244	2-3	272.2	275.0	2.8	.001	
			19245	2-3	275.0	278.0	3.0	.001	
			19246	2-3	278.0	280.6	2.6	<.001	
			19247	1-2	280.6	281.6	1.0	.001	
			19248	2-3	281.6	284.0	2.4	.001	
			19249	2-3	284.0	287.0	3.0	<.001	
			19250	2-3	287.0	292.0	5.0	<.001	
			19251	2-3	292.0	297.0	5.0	<.001	
			19252	2-3	297.0	302.0	5.0	<.001	
			19253	2-3	302.0	307.0	5.0	<.001	
			19254	2-3	307.0	312.0	5.0	<.001	
			19255	2-3	312.0	317.0	5.0	.001	
			19256	2-3	317.0	322.0	5.0	.001	
			19257	2-3	322.0	327.0	5.0	<.001	
			19258	2-3	327.0	332.0	5.0	<.001	
			19259	2-3	332.0	337.0	5.0	<.001	
			19260	2-3	337.0	342.0	5.0	<.001	
			19261	2-3	342.0	346.6	4.6	.001	
		346.8 to 347.2 - quartz vein at 80° to core axis	19262	1-2	346.6	347.6	1.0	.001	

LANGRIDGE & TORONTO - 356-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-5 SHEET NO: 5 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		ID	SHIP IDES	FOOTAGE FROM TO TOTAL	Au OZ TON	Check OZ TON
347.6	379.2	<u>Felsic Intrusive</u> - quartz porphyry, light grey with large white quartz grains, very fine grained groundmass  Phenocrysts 20% Quartz 100% Groundmass 80% Fine grained quartz, ± feldspar, ± biotite  - 361.0 to 363.1 - quartz vein (composite), includes both white and clear quartz - 365.9 to 367.5 - felsic (granitic) intrusive, equigranular, minor potassium feldspar	19263	-	347.6 350.0 2.4	<.001	
			19264	-	361.0 363.1 2.1	.002	
			19265	-	365.9 367.5 1.6	<.001	
379.2	445.5	<u>Mafic Metavolcanic</u> - typical, as above, 1-2% pyrrhotite infilling small fractures in the rock (+ 1% pyrite) 379.2 to 394.2 - typical  394.2 to 395.0 - zone of potassic alteration, wisps of biotite appear throughout the volcanic 395.0 to 397.0 - felsic dyke, weakly porphyritic 397.0 to 399.2 - zone of potassic alteration, as above 399.2 to 411.7 - typical  411.7 to 414.6 - zone of quartz veining and silicification 414.6 to 422.0 - typical 422.0 to 445.5 - medium grained, decrease in amount of fracturing and sulphides	19266	2-3	379.2 382.0 2.8	<.001	
			19267	2-3	382.0 387.0 5.0	<.001	
			19268	2-3	387.0 392.0 5.0	.001	
			19269	2-3	392.0 394.0 2.0	.001	
			19270	2-3	394.0 395.0 1.0	.001	
			19271	-	395.0 397.0 2.0	.001	
			19272	2-3	397.0 399.2 2.2	.002	
			19273	2-3	399.2 402.0 2.8	.001	
			19274	2-3	402.0 407.0 5.0	.001	
			19275	2-3	407.0 411.7 4.7	.001	
			19276	-	411.7 414.6 2.9	.001	
			19277	2-3	414.7 417.0 2.3	<.001	
			19278	2-3	417.0 422.0 5.0	.001	
			19279	tr	434.0 438.8 4.8	<.001	
			19280	tr	443.5 445.5 2.0	<.001	

LANGRISHES - TORONTO - 395-11-88



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-87-5 SHEET NO. 6 of 6

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS		
FROM	TO		NO	SULPH IDE S	FOOTAGE		Au OZ TON	Check OZ TON	
				FROM	TO	TOTAL			
445.5	467.0	<u>Felsic Intrusive</u> - light grey, medium grained (equigranular) massive  Average Modes Quartz Feldspar Biotite  - feldspar appears to be predominantly plagioclase	19281	-	452.7	457.5	4.8	.001	
	467.0	END OF HOLE Casing pulled							

*J. Adams*

LANGRISHES - TORONTO - 365-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeeml Lake  
 HOLE NO. SMZ-87-6 LENGTH 627.0  
 LOCATION 4+98E 20+50S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -50<sup>0</sup>  
 STARTED Sept. 13, 1987 FINISHED Sept. 17, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-47 <sup>0</sup>				
400	-44 <sup>0</sup>				
627	-41 <sup>0</sup>				

HOLE NO. SMZ-87-6 SHEET NO. 1 of 1

REMARKS Claim #861521

Summary Log

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au oz/TON	Check oz/TON	
					FROM	TO	TOTAL				
0	18.9	<u>Casing</u>									
18.9	53.6	<u>Quartz Feldspar Porphyry</u>									
53.6	63.1	<u>Felsic Intrusive - 1% Pyrite</u>									
63.1	82.6	<u>Felsic Intrusive - sheared Quartz Feldspar Porphyry (?), Sericitic, 0.5 Pyrite</u>									
82.6	156.1	<u>Felsic Intrusive - as in 53.6 to 63.1</u>									
156.1	167.0	<u>Quartz Feldspar Porphyry</u>									
167.0	190.2	<u>Mafic Metavolcanic - trace Pyrite (+ Chalcopyrite(?))</u>									
190.2	304.9	<u>Felsic Intrusive</u> 272.4 to 304.9 - Quartz Feldspar Porphyry, 1-2% Pyrite									
304.9	400.4	<u>Mafic Metavolcanic</u>									
400.4	407.4	<u>Chlorite Biotite Schist - Pelitic Metasediment (?)</u>									
407.4	470.4	<u>Mafic to Ultramafic Metavolcanic - 1-2% magnetite</u>									
470.4	627.0	<u>Felsic Intrusive</u>									
627.0	627.0	END OF HOLE Casing pulled									

LANGRANGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-6 LENGTH 627.0  
 LOCATION 4+98E 20+50S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -50<sup>0</sup>  
 STARTED Sept. 13, 1987 FINISHED Sept. 17, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-47 <sup>0</sup>				
400	-44 <sup>0</sup>				
627	-41 <sup>0</sup>				

HOLE NO. SMZ-87-6 SHEET NO. 1 of 6

REMARKS Claim #861521

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO.	% SULPHIDES	FOOTAGE FROM TO TOTAL	%	%	Au OZ/TON	Check OZ/TON
0	18.9	Casing							
18.9	53.6	Quartz Feldspar Porphyry - grey, massive, 1/18" phenocrysts	19283	tr	18.9 21.0 2.1			.001	
		Average Modes							
		Phenocrysts 25%							
		Quartz 60%							
		Feldspar 40%							
		Groundmass 75%							
		very fine grained, predominantly quartz, trace pyrite							
		- 21.0 to 32.5 - L.O.C. (ledge in bedrock ?)	19284	tr	32.5 33.9 1.4			.007	
		- 32.5 to 33.9 - medium grained equigranular granitoid dyke, trace garnets with associated pyrite	19285	tr	33.9 37.0 3.1			<.001	
			19286	tr	37.0 41.0 4.0			.001	
			19287	tr	41.0 45.0 4.0			.001	
			19288	tr	45.0 47.7 2.7			.006	
		- 47.7 to 48.9 - light grey, medium to fine grained granitoid	19289	tr	47.7 48.9 1.2			<.001	
			19290	tr	48.9 53.6 4.7			<.001	
53.6	63.1	Felsic Intrusive	19291	1	53.6 57.0 3.4			.001	
		- light grey, medium grained (equigranular) massive	19292	1	57.0 60.5 3.5			.001	
		Average Modes	19293	1	60.5 63.1 2.6			.003	
		Quartz 40-45%							
		Plagioclase 25-30%							
		Potassium Feldspar 10-15%							
		Amphibole 15-20%							
		Garnet trace							
		Pyrite 1%							
		- pyrite appears on minor fracture surfaces							

LANGRIDGE - COPONC - 956-1186

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-6 SHEET NO. 2 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO.	SULPH IDES	FOOTAGE		Au GZ TON	Check GZ TON	
					FROM	TO			TOTAL
63.1	82.6	<u>Felsic Intrusive</u> - grey/buff, remnant porphyritic texture, very well foliated at 40-45° to the core axis  Average Modes Quartz 65-70% Sericite 10-15% Biotite 10-15% Feldspar 5-10% Pyrite 0.5%  - probable sheared quartz feldspar porphyry. Moderately carbonatized	19294	0.5	63.1	66.0	2.9	.008	
			19295	0.5	66.0	69.0	3.0	.001	
			19296	0.5	69.0	72.0	3.0	.001	
			19297	0.5	72.0	75.0	3.0	.002	
			19298	0.5	75.0	78.0	3.0	.004	
			19299	0.5	78.0	80.0	2.0	.001	
			19300	0.5	80.0	82.6	2.6	.002	
82.6	156.1	<u>Felsic Intrusive</u> - as in 53.6 to 63.1, trace pyrite, trace sericite in fractures - 82.6 to 84.2 - contact zone, coarse grained, white - 91.4 to 92.8 - meandering quartz (+ carbonate) vein at low angles to the core axis  - 115.6 to 115.7 - quartz vein at 55° to the core axis - 120.6 to 120.8 - quartz vein at 55° to the core axis - 141.5 to 141.8 - quartz vein - subnormal to the core axis - 142.1 to 143.2 - quartz vein - subnormal to the core axis, 0.5% chalcopyrite - 149.2 to 149.4 - quartz vein - subnormal to the core axis - 149.8 to 150.1 - quartz vein - subnormal to the core axis	19301	tr	82.6	84.2	1.6	.001	
			19302	tr	91.4	92.8	1.4	.002	
			19303	tr	92.8	95.2	2.4	.006	
			19304	tr	95.2	99.9	4.7	.004	
			19305	tr	104.8	109.5	4.7	.002	
			19306	tr	115.0	116.0	1.0	.003	
			19307	tr	120.2	121.2	1.0	.003	
			19308	tr	133.6	138.3	3.7	.002	
			19309	tr	141.5	143.2	1.7	.003	
			19310	tr	149.1	150.1	1.0	.003	
			19311	tr	154.0	156.1	2.1	.003	

- ANGROGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-87-6 SHEET NO. 3 of 6

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS		
FROM	TO		NO	SHIPPED	FOOTAGE		Au	Check	
			IDES	FROM	TO	TOTAL	02 TON	02 TON	
156.1	167.0	<u>Quartz Feldspar Porphyry</u> - typical, as above, massive, trace pyrite	19312	tr	156.1	160.0	3.9	.002	
			19313	tr	160.0	163.5	3.5	.003	
			19314	tr	163.5	167.0	3.5	.002	
167.0	190.2	<u>Mafic Metavolcanic</u> - medium green, fine to medium grained, massive to weakly foliated at 55° to core axis	19315	tr	167.0	170.5	3.5	.002	
			19316	tr	170.5	174.1	3.6	.002	
		Average Modes							
		Amphibole 65-70%							
		Plagioclase 20-25%							
		Chlorite 10%							
		- numerous quartz (+ carbonate) filled fractures, trace pyrite (+ chalcopyrite ?)							
		- 174.1 to 175.1 - series of quartz carbonate stringers and veinlets	19317	tr	174.1	175.1	1.0	.002	
		- 175.1 to 181.4 - coarse grained, massive	19318	tr	175.1	177.0	1.9	.003	
			19319	tr	177.0	181.4	4.4	.001	
			19320	tr	181.4	186.3	4.9	.003	
			19321	tr	186.3	188.3	2.0	.002	
		- 188.3 to 190.2 - chlorite biotite schist, numerous quartz carbonate stringers	19322	tr	188.3	190.2	1.9	.002	
190.2	304.9	<u>Felsic Intrusive</u> - several phases of intrusion, predominantly medium to dark grey, very weakly porphyritic, massive	19323	-	190.2	192.0	1.8	.002	
		- 192.0 to 192.9 - light beige colour, weak iron stain	19324	-	192.0	193.0	1.0	.001	
		- 194.2 to 196.3 - light grey, fine grained	19325	-	193.0	194.2	1.2	.001	
		- 200.1 to 200.5 - white, very siliceous, trace pyrite	19326	-	194.2	196.3	2.1	<.001	
			19327	-	196.3	200.1	3.8	.001	
			19328	tr	200.1	201.1	1.0	.001	
			19329	-	201.1	205.0	3.9	<.001	

LANGRIDGES - "PROVINC" - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-6 SHEET NO. 4 of 6

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS		
FROM	TO		NO	SILPH IDES	FOOTAGE		Au OZ TON	Check OZ TON	
					FROM	TO			TOTAL
		- 205.0 to 205.8 - light grey, as above	19330	-	205.0	206.0	1.0	.001	
			19331	-	206.0	207.2	1.2	<.001	
		- 207.2 to 212.7 - light grey/buff, numerous quartz stringers	19332	-	207.2	210.0	2.8	<.001	
			19333	-	210.0	212.7	2.7	<.001	
		- 219.9 to 220.7 - white/buff, coarse grained	19334	tr	219.9	223.4	3.5	.002	
		- 221.2 to 223.4 - white/buff, coarse grained (pegmatitic), 1% pyrite							
		- 227.7 to 230.1 - light grey, fine grained	19335	tr	227.7	230.1	2.4	.002	
		- 271.3 to 272.4 - quartz veining, trace garnet, minor green amphibole	19336	-	244.2	249.1	4.9	.002	
			19337	-	271.3	272.4	1.1	.001	
		- 272.4 to 304.9 - quartz feldspar porphyry, 1-2% pyrite	19338	1-2	272.4	277.0	4.6	.001	
			19339	1-2	277.0	282.0	5.0	<.001	
			19340	1-2	282.0	287.0	5.0	.001	
			19341	1-2	287.0	292.0	5.0	<.001	
			19342	1-2	292.0	297.0	5.0	.001	
			19343	1-2	297.0	301.0	4.0	.001	
			19344	1-2	301.0	304.9	3.9	.001	
304.9	400.4	<u>Mafic Metavolcanic</u>	19345	tr	304.9	307.0	2.1	.001	
		- typical as above, minor fracturing at random angles to core axis, trace pyrite, 25-30% plagioclase in this interval, minor epidote/zoisite, 1-2% disseminated magnetite	19346	tr	315.4	320.0	4.6	<.001	
			19347	tr	324.5	328.9	4.4	.001	
			19348	tr	333.8	338.4	4.6	.001	
			19349	tr	338.4	341.6	2.8	.002	
		- 341.6 to 343.0 - chloritized shear zone, blocky core	19350	tr	341.6	343.3	1.7	.001	
			19351	tr	343.3	347.9	4.6	<.001	
			19352	tr	352.5	357.3	4.8	<.001	
			19353	tr	367.0	371.9	4.9	.001	
			19354	tr	376.4	380.0	3.6	.002	
			19355	tr	385.3	390.1	4.8	.002	
			19356	tr	394.9	397.0	2.1	.003	
			19357	tr	397.0	400.4	3.4	.002	
			19358	-	400.4	402.9	2.5	.003	

LANGRIDGES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-87-6 SHEET NO. 5 of 6

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS		
FROM	TO		NO	SULPHIDES	FOOTAGE		Au	Check	
				FROM	TO	TOTAL	g/TON		
400.4	407.4	<u>Chlorite Biotite Schist</u> - pelitic metasediment(?), green/brown, fine grained, foliated at 40° to the core axis Chlorite 45-50% Biotite 40-45% Quartz 5-10% - 402.9 to 404.3 - granite dyke	19359	-	402.9	404.3	1.4	.002	
			19360	-	404.3	407.4	3.1	.001	
407.4	470.4	<u>Mafic to Ultramafic Metavolcanic</u> - medium green, medium grained, massive  Average Modes Amphibole 60% Chlorite 20% Plagioclase 15% Talc 5% Magnetite 1-2%  - 437.2 to 437.6 - quartz vein at 15-20° to core axis  - 468.4 to 470.4 - chloritic with crenulated foliations, increasing biotite towards contact	19361	-	414.1	418.7	4.6	.002	
			19362	-	423.7	428.4	4.7	.004	
			19363	-	433.6	437.0	3.4	.002	
			19364	-	437.0	438.3	1.3	.002	
			19365	-	443.1	448.0	4.9	<.001	
			19366	-	455.7	460.2	4.5	.001	
			19367	-	465.1	468.4	3.3	.001	
			19368	-	468.4	470.4	2.0	<.001	
470.4	627.0	<u>Felsic Intrusive</u> - typical, light grey to white, medium to coarse grained (pegmatitic in places)	19369	-	470.4	474.5	4.1	<.001	
			19370	-	493.4	498.0	4.6	<.001	
			19371	-	513.1	518.0	4.9	.001	
			19372	-	532.8	537.5	4.7	<.001	
			19373	-	542.2	547.0	4.8	<.001	
			19374	-	566.1	570.9	4.8	.001	
			19375	-	585.3	590.1	4.8	<.001	

ANGRIDGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-6 SHEET NO. 6 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS		
FROM	TO		NO	SULPHURIDES	FOOTAGE		Au oz TON	Check oz TON
					FROM	TO		
		- 597.9 to 600.6 - 1% pyrite (+ chalcopyrite) in fractures	19376	1	597.9	600.6	2.7	<.001
			19377	-	600.6	605.0	4.4	<.001
			19378	-	605.0	609.7	4.7	<.001
627.0		END OF HOLE Casing pulled						

*J. Williams*

LANGRISHES - TORONTO - 366-1188



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-7 LENGTH 346'  
 LOCATION L18+01W 11+47S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED Sept. 14, 1987 FINISHED Sept. 17, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-43 <sup>0</sup>				
346	-41 <sup>0</sup>				

HOLE NO. SMZ-87-7 SHEET NO. 1 of 2

REMARKS Claim #Pa 861518

Summary Log

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	49.0	<u>Casing</u>									
49.0	157.6	<u>Mafic Metavolcanics</u> - Massive, 5-7% Magnetite									
157.6	159.2	<u>Mafic Metavolcanics</u> - Chloritic Schist; Shear Zone									
159.2	219.0	<u>Ultramafic Metavolcanics</u> - Amphibolite, 1% combined pyrrhotite, pyrite, chalcopyrite									
219.0	226.5	<u>Felsic Intrusive</u> - trace pyrite									
226.5	263.0	<u>Mafic Metavolcanics</u> - Amphibolite, trace sulphide (pyrrhotite, pyrite, chalcopyrite)									
263.0	264.8	<u>Felsic Intrusive</u>									
264.8	288.2	<u>Mafic Metavolcanics</u> - Amphibolite, 1% sulphide (pyrrhotite, pyrite, chalcopyrite) - 277.3 quartz-carbonate stringers with pyrrhotite, pyrite, chalcopyrite									
288.2	292.3	<u>Metagreywacke</u>									
292.3	295.0	<u>Mafic Metavolcanics</u> - Amphibolite, 1% sulphide (pyrrhotite, pyrite, chalcopyrite)									
295.0	305.3	<u>Metagreywacke/Metasiltstone</u>									

ANGROGES - CROWN - 366-1-56

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-7 SHEET NO. 2 of 2

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL		Au Check OF TON OF TON
305.3	307.0	<u>Mafic Metavolcanic</u> - Amphibolite					
307.0	309.8	<u>Metagreywacke/Metasiltstone</u>					
309.8	311.6	<u>Felsic Intrusive</u> - 1% pyrite, trace galena, molybdenite					
311.6	329.2	<u>Metagreywacke</u>					
329.2	331.3	<u>Mafic Metavolcanic</u> - Amphibolite					
331.3	346.0	<u>Metagreywacke/Metasiltstone</u>					
	346.0	END OF HOLE Casing pulled					

LANGRISHES - TORONTO - 386-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-7 LENGTH 346  
 LOCATION L18+01W 11+47S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED Sept. 14, 1987 FINISHED Sept. 17, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-43°				
346	-41°				

HOLE NO. SMZ-87-7 SHEET NO. 1 of 9

REMARKS Claim #Pa 861518

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO.	% SULPHIDES	FOOTAGE FROM TO TOTAL	%	%	Au OZ/TON	Check OZ/TON
0	49.0	<u>Casing</u>							
49.0	157.6	<u>Mafic Metavolcanics</u> - medium to light grey-green - massive, fine to medium grained  Average Modes Amphibole 50-65% Plagioclase 15-20% Talc/Serpentine 1-5% Chlorite 1-5% Magnetite 5-7%  - serpentine/talc may occur within (or occasionally as a halo around) chloritic fractures							
		49.0 to 103.0 - numerous narrow fractures, randomly oriented, most filled with chlorite (+ carbonate) - 98.3 - trace galena in fracture filled with tremolite/actinolite (1" wide alteration halo)	19379 - 19380 - 19381 - 19382 tr		53.7 58.5 4.8 71.5 76.2 5.0 90.8 95.6 4.8 97.7 98.7 1.0			.001 <.001 <.001 <.001	
		103.0 to 157.6 - greater degrees of fracturing; fractures randomly oriented - 141.2 - pyrite occurs with carbonate as a fracture coating  - 150.3 - pyrite with carbonate as fracture coating - 157.5 - alteration haloes around fractures are more numerous and of greater width (up to 1")	19383 tr 19384 - 19385 tr 19386 - 19387 tr 19388 -		105.2 110.0 4.8 124.3 129.0 4.7 141.6 142.6 1.0 144.0 147.9 3.9 149.6 151.8 2.2 154.9 157.6 2.7			<.001 <.001 <.001 <.001 .001 .001	

ANGRIDGES - TIGONIC - 985-1156

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-7 SHEET NO: 2 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS		
FROM	TO		ID	SULPHIDES	FOOTAGE		Au oz TON	Check oz TON
					FROM	TO		
157.6	159.2	<p><u>Mafic Metavolcanics</u>                      - medium to light grey-green, fine grained, well foliated (angle to core axis = 40-65°), weakly banded</p> <p>Average Modes                      Chlorite 85-90%                      Quartz 0-5%                      Magnetite 2-5%</p> <p>- shear zone; chlorite schist                      - small quartz/carbonate stringers throughout zone</p> <p>158.6 to 159.2 - contact zone contains up to 30% biotite and several quartz pods and veinlets (up to 1/2" wide)</p>	19389	-	157.6	159.2	1.6	<.001
159.2	219.0	<p><u>Ultramafic Metavolcanics</u>                      - medium to light green, fine to medium grained, weakly foliated (angle to core axis = 60-70°), weak to moderate banding</p> <p>Average Modes                      Amphibole 70-80%                      Plagioclase 10-15%                      Chlorite 3-5%                      Magnetite 0-2%                      Pyrite 0-1%                      Pyrrhotite 0-1%                      Chalcopyrite 0-1%</p> <p>- amphibolite with thin (usually &lt; 1/2" wide) chloritic bands</p>	19390	1	159.2	162.3	3.1	<.001

LANGRIDGE & TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-7 SHEET NO: 3 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPH IDES	FOOTAGE FROM TO TOTAL	Au OZ TON	Check OZ TON
		- magnetite occurs in many of the chloritic bands - pyrrhotite, pyrite, and chalcopyrite (in order of abundance) occur throughout unit as disseminations or rarely as small (< 1/8") stringers; average sulphide content is about 1% - quartz and/or carbonate stringers are randomly oriented throughout the unit; minor serpentine and occasionally pyrite in some of these fracture fillings - some stringers are offset by subsequent fractures					
		164.6 to 166.1 - pyrite occurs as a fracture coating with carbonate (several small fractures)	19391	1	163.9 167.0 3.1	.001	
		185.5 - 1" wide quartz-feldspar porphyry dike, light grey, medium grained	19392	1-2	174.0 176.0 2	<.001	
		190.7 - pyrite with carbonate as fracture coating	19393	1	182.0 187.0 5	<.001	
		192.8 - pyrite with carbonate as fracture coating	19394	1	190.0 191.0 1	<.001	
		198.3 - quartz stringers 1/8" wide with trace pyrite	19395	1	192.0 195.0 3	<.001	
		207.0 to 211.2 - heavily fractured section. Carbonate with trace pyrite as a fracture coating	19396	1	197.9 198.9 1	.001	
		219.0 - 1" wide section of 30% biotite at contact	19397	1	207.0 210.0 3	.001	
			19398	1	214.0 215.5 1.5	<.001	
			19399	tr	215.5 219.0 3.5	<.001	
219.0	226.5	<u>Felsic Intrusive</u> - light grey to grey pink, medium to coarse grained (finer grained near contacts), massive texture (heavily sericitic sections are foliated, angle to core axis = 50-60°)					

ANDRIGES - TORONTO - 366-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-7 SHEET NO: 4 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au 0.7 on	Check
		Average Modes Quartz 20-40% Feldspar 30-40% Sericite 10-20% Biotite 2-7% Garnet 0-1% Pyrite 0-1%  - felsic dike - dominantly quartz-feldspathic rock with wispy bands of sericite and scattered flakes of biotite - garnets are very small (< 1/16") and are scattered throughout the unit - fractures are common, most at very low angles to the core axis; carbonate commonly found on fracture surfaces - disseminated pyrite in some sections (<1%)					
		221.9 - 3/4" wide section of biotite schist - intercalation or xenolith of mafic volcanic material within intrusive	19400	tr	219.0 222.4 3.4	<.001	
		222.9 - 223.4 - well fractured section with fracture coatings of black mafic material (biotite and fine grained amphibole(?)); pyrite occurs as a fracture coating	19401	1	222.4 223.4 1.0	<.001	
		223.4 - 224.0 - intercalation or xenolith of mafic volcanic material (amphibolitic) within the intrusive	19402	tr	223.4 224.4 1.0	<.001	
		- very biotitic (up to 30%) and carbonate rich - angle to core axis = 35°	19403	tr	224.4 226.5 2.1	<.001	
226.5	263.0	<u>Mafic Metavolcanics</u> - amphibolite; basic description as per above - total sulphide content <1% (pyrrhotite, pyrite and chalcopyrite, in order of abundance)	19404	tr	226.5 229.5 3.0	<.001	

LANGRANGES - DRONTC - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-87-7 SHEET NO. 5 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au OZ TON	Check OZ TON	
					FROM	TO			TOTAL
		232.9 to 237.7 - coarse grained amphibolite	19405	tr	235.0	237.0	2	<.001	
		253.4 to 254.4 - four small (< 1/2") quartz veinlets in this interval; trace pyrite	19406	tr	242.7	247.6	4.9	<.001	
			19407	tr	253.4	254.4	1	.001	
			19408	tr	261.0	263.0	2	.001	
263.0	264.8	<u>Felsic Intrusive</u> - felsic dike, basic description as per above - fracturing at high angles to core axis - increase in biotite content near contacts - trace pyrite	19409	tr	263.0	264.8	1.8	.001	
264.8	288.2	<u>Mafic Metavolcanics</u> - amphibolite, basic description as per above - fine grained, weakly foliated (angle to core axis 55-70°) - pyrite, pyrrhotite, and minor chalcopryrite content varies from trace to 1%	19410	tr	264.8	266.8	2	.001	
			19411	tr	269.8	273.8	4	.002	
		277.3 - pyrrhotite, minor pyrite and chalcopryrite in two 3/4" x 1/4" stringers	19412	1	276.8	278.3	1.5	<.001	
		287.6 - 2" wide biotite rich zone (30% biotite)	19413	tr	286.2	288.2	2	.001	
288.2	292.3	<u>Metagreywacke</u> - light to medium grey, medium grained, well foliated (angle to core axis = 70-80°), weakly banded  Average Modes Framework 80% Matrix 20% Quartz 60% Biotite 30% Feldspar 40% Felsics 70%  - minor fracturing, some fractures with carbonate coating							

ANGF0085 - CRONIC - 366-1166

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-7 SHEET NO: 6 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au	Check	
				FROM	TO	TOTAL	07 TON	07 TON	
		- very few quartz/carbonate stringers - no visible sulphides  291.1 to 291.6 - mafic metavolcanic (amphibolite) - intercalation within the sediments - up to 30% biotite, carbonate rich 292.3 - interfingering of sediments and volcanics at the contact							
292.3	295.0	<u>Mafic Metavolcanics</u> - amphibolite, basic description as per above - weakly foliated, angle to core axis = 65-80° - numerous small (most around 1/8" wide) quartz/carbonate veinlets carrying trace pyrite and minor pyrrhotite - altered sections containing coarse grained amphibole, biotite, and minor epidote/zoisite and carbonate; trace to 1% disseminated pyrite and pyrrhotite in these sections	19415	1	292.3	295.0	2.7	.001	
295.0	305.3	<u>Metagreywacke/Metasiltstone</u> - light grey to light grey green, well foliated (angle to core axis = 65-85°), weak to moderate banding  Average Modes Framework 60-80%      Matrix 20-40% Quartz 65%              Biotite 30% Feldspar 35%             Felsics 70%  - varying degrees of framework to matrix ratio; darker bands indicate finer grained sediments							

LANGR DGES - TORONTO - 365-1768



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-87-7 SHEET NO 7 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		ID	SULPHIDES	FOOTAGE FROM TO TOTAL	Au 0.1 TON	Check 0.1 TON
		- quartz/carbonate veinlets and fracture fillings common throughout unit (most < 1/8") - minor pyrite with carbonate in some fractures					
		295.2 to 295.5 - quartz vein; milky quartz with trace chalcopyrite; concordant	19416	1	245.0 296.0 1	.001	
			19417	tr	297.0 298.0 1	.001	
			19418	tr	299.0 302.0 3	<.001	
			19419	tr	303.3 305.3 2	<.001	
305.3	307.0	<u>Mafic Metavolcanics</u> - amphibolite, basic description as per above - dark green, weakly foliated (angle to core axis = 65-70°) - no sulphides observed	19420		305.3 307.0 1.7	.001	
307.0	309.8	<u>Metagreywacke/Metasiltstone</u> - basic description as per above - well foliated, angle to core axis = 65-80°					
		307.4 to 307.8 - four 1/4" wide quartz veinlets; no visible sulphides	19421	tr	307.0 309.8 2.8	.001	
309.8	311.6	<u>Felsic Intrusive</u> - basic description as per above - well fractured; trace to 1% pyrite and trace galena and molybdenite on fracture surfaces - lineation due to alignment of biotite flakes, angle to core axis = 65-70°	19422	1	309.8 311.6 1.8	.001	

LANGFORDS - TORONTO - 366-1149

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-7 SHEET NO: 8 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au OZ TON	Check OZ TON		
311.6	329.2	<u>Metagreywacke</u> - basic description as per above - well foliated, angle to core axis varies from 50-80° - quartz carbonate stringers and fracture fillings are common, occasionally accompanied by alteration haloes. - pyrite and rarely pyrrhotite found in fractures or less commonly as disseminations in the sediments  320.4 to 320.8 - felsic intrusive - small dike with trace disseminated pyrite 321.5 - quartz/carbonate veinlets with alteration haloes of light green mafic minerals (probably amphibole); trace pyrite 325.0 to 325.8 - felsic intrusive - small dike with trace pyrite 327.2 to 327.4 - felsic intrusive, as above 327.8 to 329.2 - biotite schist containing many very small quartz carbonate stringers - 328.5 pyrite fracture coating	19423	tr	311.6	313.6	2	.003	
			19424	tr	318.0	319.9	1.9	.002	
			19425	1	319.9	320.9	1	.002	
			19426	tr	320.9	322.9	2	.003	
			19427	tr	323.9	324.9	1	.002	
			19428	tr	324.9	325.9	1	.002	
			19429	tr	325.9	329.2	3.3	.001	
329.2	331.3	<u>Mafic Metavolcanic</u> - amphibolite, as per above - fine grained, poorly foliated (angle to core axis = 65-70°) - trace pyrrhotite, pyrite	19430	tr	329.2	331.3	2.1	<.001	

LANGRIDDGES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-7 SHEET NO: 9 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au	Check	
					FROM	TO	TOTAL	OZ TON	OZ TON
331.3	346.0	Metagreywacke/Metasiltstone - basic description as per above - well foliated, angle to core axis = 55-65° - quartz/carbonate stringers, veinlets and fracture fillings common throughout section; minor pyrite	19431	tr	331.3	334.1	2.8	<.001	
			19432	tr	338.0	341.0	3	.001	
		345.2 - 1" wide discordant quartz vein, trace pyrite	19433	tr	344.8	346.0	1.2	.002	
	346.0	END OF HOLE Casing pulled							

*J. Williams*

LANGRISHES - TORONTO - 356-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-8 LENGTH 392'  
 LOCATION L18+00W 8+99S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED Sept. 17, 1987 FINISHED Sept. 19, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-45 <sup>0</sup>				
378	-45 <sup>0</sup>				

HOLE NO. SMZ-87-8 SHEET NO. 1 of 2

REMARKS Claim #861518  
Summary Log

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	57.5	<u>Casing</u>									
57.5	73.0	<u>Mafic Metavolcanics</u>									
73.0	75.3	<u>Ultramafic Metavolcanics</u>									
75.3	107.9	<u>Mafic Metavolcanics</u>									
107.9	109.3	<u>Mafic Tuff</u> - 1/2" wide section of felsic ash tuff at lower contact									
109.3	111.7	<u>Ultramafic Metavolcanics</u>									
111.7	171.4	<u>Mafic Metavolcanics</u>									
171.4	177.5	<u>Ultramafic Metavolcanics</u>									
177.5	179.9	<u>Mafic Tuff</u>									
179.9	187.0	<u>Pelitic Sediments</u>									
187.0	197.0	<u>Ultramafic Metavolcanics</u>									
197.0	207.6	<u>Mafic Metavolcanics</u>									
207.6	210.3	<u>Ultramafic Metavolcanics</u>									

ANGLES - TOPONIC - 366-115A

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-8 SHEET NO: 2 of 2

FOOTAGE		DESCRIPTION SUMMARY LOG (CONT'D)	SAMPLE			ASSAYS		
FROM	TO		NO	SULPH LUES	FOOTAGE		Au 67 150	Check 67 150
					FROM	TO		
210.3	211.3	<u>Amphibolite</u>						
211.5	218.7	<u>Metagreywacke - 1-2% disseminated pyrite</u>						
218.7	220.4	<u>Pelitic Sediments</u>						
220.4	236.5	<u>Ultramafic Metavolcanics</u>						
236.5	244.8	<u>Pelitic Sediments</u>						
244.8	265.4	<u>Ultramafic Metavolcanics</u>						
265.4	277.7	<u>Mafic to Ultramafic Metavolcanics</u>						
277.7	392.0	<u>Diabase</u>						
	392.0	<u>END OF HOLE</u> Casing pulled						

LANGRANGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-8 LENGTH 392'  
 LOCATION L18100W 8199S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED Sept. 17, 1987 FINISHED Sept. 19, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-45 <sup>0</sup>				
378	-45 <sup>0</sup>				

HOLE NO. SMZ-87-8 SHEET NO. 1 of 11

REMARKS Claim #861518

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	57.5	<u>Casing</u>									
57.5	73.0	<u>Mafic Metavolcanics</u> - medium to dark green, medium to coarse grained, massive  Average Modes Amphibole           50-70% Plagioclase         15-20% Talc/Serpentine     5-10% Magnetite            2-5%  - massive texture with mottled appearance imparted by many patches and stringers of altered rock - altered areas made up of talc/serpentine and carbonate - small fractures filled with talc/serpentine and/or carbonate plus minor limonite - magnetite occurs as large anhedral grains  - 69.9 - chalcopyrite occurs in a narrow (1/8" wide) quartz-carbonate stringer and also as disseminated grains in the host rock	19495	-	57.5	60.5	3.0			.001	
			19496	trace	69.4	70.4	1.0			<.001	
			19497	-	70.4	73.0	2.6			<.001	
73.0	75.3	<u>Ultramafic Metavolcanics</u> - light to medium green, fine grained, poorly to moderately well foliated (angle to core axis = 35-45°)									

LANGRISHES - BOSTON - 1966-11-18

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ -87-8 SHEET NO. 2 of 11

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		ID	FOOTAGE		%	Au	Check	
				FROM	TO		TOTAL	OZ TON	OZ TON
		Average Modes Chlorite 35-40% Amphibole 20-25% Talc/Serpentine 15-20% Plagioclase 5-10% Magnetite 2-5% Biotite 0-1%  - fairly uniform texture, consisting of finely foliated chlorite, talc, and amphibole - carbonatized - minor fracturing and quartz-carbonate veining - 74.0 - trace pyrite in quartz-carbonate veinlet, 1/8" wide - 75.2 - pyrite on foliation surface; spread out over a 3/4 inch wide area							
75.3	107.9	<u>Mafic Metavolcanics</u> - as per above (i.e. 57.5 to 73.0) - dark green colour - 75.3 to 77.7 - carbonatized section; slightly lighter colour - 107.0 - pyrite with carbonate as a fracture coating	19498	trace	73.0	75.3	2.3	<.001	
			19499	-	75.3	77.7	2.4	<.001	
			19500	-	87.0	90.0	3.0	<.001	
			19501	-	97.0	100.0	3.0	<.001	
			19502	trace	104.9	107.9	3.0	<.001	
107.9	109.3	<u>Mafic Tuff</u> - light to medium green, medium to coarse grained, well foliated (angle to core axis = 30-35°), weakly banded  Average Modes Chlorite 95-98% Magnetite 2-5%							

LANSFORDS - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake

HOLE NO SMZ-87-8

SHEET NO. 3 of 11

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPH IDES	FOOTAGE		Au	Check	
					FROM	TO	oz TON	oz TON	
		- chlorite schist, weakly carbonatized - 109.2 - 1/2" wide section of felsic ash-tuff at contact - buff grey colour, very fine grained, massive, carbonatized	19503	-	107.9	109.3	1.4	<.001	
109.3	111.7	<u>Ultramafic Metavolcanic</u> - light grey to light greenish grey, coarse grained, poorly banded, moderately well foliated (angle to core axis + 30-60°)  Average Modes: Talc/Serpentine 40-50% Amphibole 20-30% Chlorite 10-15% Magnetite 2-5%  - thin, irregular, discontinuous chlorite-rich and serpentine/talc rich bands; non-carbonatized - minor fractures filled with serpentine and carbonate	19504	-	109.3	111.7	2.4	<.001	
111.7	171.4	<u>Mafic Metavolcanics</u> - basic description as per above (i.e. 57.5 to 73.0) - uniform texture and colour (dark green) - not as many altered sections as above mafic unit  137.8 to 140.3 - heavily fractured section, most fractures at a low angle to the core axis  160.0 to 163.0 - several 1/8 to 1/4" wide quartz-carbonate veinlets	19505	-	111.7	113.7	2.0	<.001	
			19506	-	120.3	123.3	2.0	<.001	
			19507	-	129.0	131.5	2.5	<.001	
			19508	-	137.8	140.3	2.5	<.001	
			19509	-	147.0	150.0	3.0	<.001	
			19510	-	153.0	156.0	3.0	<.001	
			19511	-	160.3	163.3	3.0	<.001	
			19512	-	168.4	171.4	3.0	<.001	

LANGRANGES - DEC 70 - 3561158



# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-8 SHEET NO. 4 of 11

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au G/TON	Check G/TON
171.4	177.5	<u>Ultramafic Metavolcanics</u> - light grey, coarse grained, moderately well foliated - similar to ultramafic unit at 109.3 to 111.7 except there is more amphibole and less talc/serpentine - 177.4 - pyrite with carbonate as a fracture coating	19513	-	171.4 174.4 3.0	<.001	
			19514	trace	176.5 177.5 1.0	<.001	
177.5	179.9	<u>Mafic Tuff</u> - as per above (i.e. 107.9 to 109.3) except not carbonatized and without magnetite	19515	-	177.5 179.9 2.4	<.001	
179.9	187.0	<u>Pelitic Sediments</u> - dark olive-green to dark brown, fine to medium grained, moderately to well foliated (angle to core axis = 35-55°)  Average Modes Biotite 80-90% Chlorite 10-20%  - biotite-chlorite schist, very uniform texture - no veining or fracturing present	19516	-	179.9 181.9 2.0	<.001	
			19517	-	185.0 187.0 2.0	<.001	
187.0	197.0	<u>Ultramafic Metavolcanics</u> 187.0 to 187.5 - light green, coarse grained, well foliated (angle to core axis = 25-35°)  Average Modes Chlorite 70-80% Talc 20-30%					

LANGRISHES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-8 SHEET NO. 5 of 11

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au G/TON	Check
		- chlorite-talc schist - irregular contacts; interfingering of this unit with upper and lower sediments					
187.5	188.6	- intercalation of Pelitic Sediments, similar to above (i.e. 179.9 to 187.0)					
188.6	189.6	- chlorite-talc schist, as per above (i.e. 187.0 to 187.5)	19518	-	188.6 189.6 1.0	<.001	
189.6	191.6	- light green, coarse grained, massive	19519	trace	189.6 191.6 2.0	<.001	
		Average Modes Amphibole 45-100% Chlorite 0-5% Pyrite trace					
		- spinefex textured flow - minor fractures lined with chlorite - trace disseminated pyrite					
191.6	192.7	- chlorite-talc schist, as per above	19520	-	191.6 192.7 1.1	<.001	
192.7	197.0	- light to medium grey-green, medium grained, massive, equigranular					
		Average Modes Amphibole 65-75% Plagioclase 10-15% Talc/Serpentine 10-15% Magnetite 2-5%					
		- massive ultramafic flow - fine grained talc/serpentine interspersed between fine to medium grained amphibole - occasional patches and stringers of serpentine up to 1/2" wide - minor fractures and quartz-carbonate veining					
196.5		- quartz-carbonate veinlet (1/4 to 1/2" wide) carrying up to 2% disseminated pyrite	19521	1-2	196.0 197.0 1.0	<.001	

LANGRIDDIES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-8 SHEET NO. 6 of 11

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au 02 TON	Check 02 TON
197.0	207.6	<u>Mafic Metavolcanics</u> - basic description as per above (i.e. 57.5 to 73.0) - massive mafic flow  199.8 to 201.5 - well fractured section; quartz carbonate veinlets (most about 1/16" wide) common, some offset by subsequent fractures - minor pyrite with serpentine and carbonate in fractures	19522	trace	199.8 201.5 1.7	<.001	
			19523		205.7 207.6 1.9	<.001	
207.6	210.3	<u>Ultramafic Metavolcanics</u>  207.6 to 208.9 - massive ultramafic flow, as per above (i.e. 192.7 to 197.0) 208.9 to 210.3 - light grey-green, coarse grained, poorly banded, moderately well foliated - rich in talc/serpentine (40-50%) - similar to material between 109.3 to 111.7 - carbonatized	19524	-	207.6 208.9 1.3	<.001	
			19525	-	208.9 210.3 1.4	<.001	
210.3	211.5	<u>Amphibolite</u> - dark green to brownish-black, medium grained, poorly foliated (angle to core axis = 70-80°)  Average Modes Amphibole 85-90% Biotite 10-15%  - hornblende-biotite schist - randomly oriented prismatic amphibole with scattered individual grains and clots of biotite - no fracturing or veining present	19526	-	210.3 211.5 1.2	<.001	

LANGRISHES - TOPCON - 366-115E

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel lake  
 HOLE NO SMZ-87-8 SHEET NO. 7 of 11

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		G/TON	Check	
					FROM	TO			TOTAL
211.5	218.7	<u>Metagreywacke</u> - medium to dark grey, fine to medium grained, poorly foliated (angle to core axis = 55-65°)  Average Modes Framework       80%     Matrix       20% Quartz           60%     Felsics      55% Feldspar         40%     Biotite      35% Pyrite      15% Pyrrhotite   5%  - fairly uniform, poorly foliated sediment - minor fracturing; serpentine coating in many fractures - total disseminated sulphide content varies from 1-2%	19527	1-2	211.5	215.0	3.5	<.001	
			19528	1-2	215.0	218.7	3.7	<.001	
218.7	220.4	<u>Pelitic Sediments</u> - biotite-chlorite schist, as per above (i.e. 179.9 to 187.0) - 216.0 - fracture with serpentine and euhedral pyrite crystals 1/8" wide	19529	trace	218.7	220.4	1.7	<.001	
220.4	236.5	<u>Ultramafic Metavolcanics</u> 220.4 to 224.3 - light green, fine to medium grained, massive  Average Modes Amphibole       90-95% Talc             5-10%  - randomly oriented, equigranular, prismatic amphibole with interstitial talc/serpentine	19530	-	220.4	221.9	1.5	<.001	
			19531	-	222.8	224.3	1.5	<.001	

LANGRISHES - TORONTO - 366-1166

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87 8 SHEET NO. 8 of 11

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au g/TON	Check
		224.3 to 231.0 - light grey green, medium to coarse grained, poorly foliated (angle to core axis = 65-75°) - similar to material between 109.3 to 111.7 - large grains and masses of talc up to 1/2" wide occur in some sections - very weakly carbonatized - a few small quartz veinlets (< 1/4" wide) - trace disseminated pyrite throughout section	19532	trace	227.5 230.5 3.0		
		231.0 to 236.5 - massive material similar to above section (220.4 to 224.3) - thin fractures lined with chlorite common throughout this section	19533	-	233.5 236.5 3.0	<.001	
236.5	244.8	<u>Pelitic Sediments</u> - biotite-chlorite schist as per above (i.e. 179.9 to 187.0) - mostly medium grained, locally coarse grained	19534 19535		236.5 238.0 1.5 242.8 244.8 2.0	<.001 <.001	
244.8	265.4	<u>Ultramafic Metavolcanics</u> - light to medium green, fine to medium grained, massive to weakly foliated (angle to core axis = 50-60°) - similar to above material between 220.4 to 224.3	19536	-	244.8 247.0 2.2	<.001	
		247.0 to 249.3 - this section carries trace to 1% combined pyrite, pyrrhotite, and chalcopyrite (in order of abundance)	19537	trace	247.0 249.3 2.3	<.001	
		255.0 to 258.5 - several small quartz-carbonate veinlets throughout this section - 256.6 - 1% pyrite and pyrrhotite as disseminated grains and in two 1/4" wide quartz-carbonate veinlets	19538 19539	trace -	255.0 258.5 3.5 263.4 265.4 2.0	<.001 <.001	

LANGRANGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87 8 SHEET NO. 9 of 11

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au 0.7 TON	Check 0.7 TON
265.4	277.7	<u>Mafic to Ultramafic Metavolcanics</u>					
		265.4 to 267.7 - dark grey to dark grey-green, fine to medium grained, massive to poorly foliated	19540		265.4 267.7 2.3	<.001	
		Average Modes					
		Amphibole 70-80%					
		Plagioclase 15-25%					
		Magnetite 2-5%					
		Talc/Serpentine 0-2%					
		Biotite 1-2%					
		Pyrite trace to 1%					
		- amphibolite; fine grained randomly oriented prismatic amphibole crystals					
		- uniform texture; no veining and only minor fracturing (fractures lined with serpentine and/or carbonate)					
		267.7 to 276.1 - mafic volcanics (amphibolite, as per above) with bands and patches of poorly foliated ultramafic volcanic material	19541	-	267.7 271.2 3.5	<.001	
		- ultramafic bands are made up of mainly talc and serpentine and are carbonatized					
		- several large fractures at a low angle to the core axis, lined with serpentine, talc and carbonate					
		276.1 to 277.7 - light grey-green, coarse grained, moderately well foliated (angle to core axis = 55-60°)	19542	-	276.1 277.1 1.6	<.001	
		Average Modes					
		Amphibole 70-75%					
		Talc/Serpentine 15-25%					
		Magnetite 5-7%					

LANGRISHES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeeme] Lake

HOLE NO. SMZ-87-8 SHEET NO. 10 of 11

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS		
FROM	TO		NO	SULPHIDES	FOOTAGE		Au OZ TON	Check OZ TON
					FROM	TO		
277.7	392.0	Diabase	19543	trace	277.7	279.7	2.0	<.001
		- weakly carbonatized ultramafic volcanic - some sections are very rich in serpentine (up to 60%) - minor fractures and quartz-carbonate veinlets	19544	trace	287.0	290.0	3.0	<.001
		- medium to dark grey, medium to coarse grained, equigranular, massive	19545	trace	297.0	300.0	3.0	<.001
		Average Modes	19546	trace	307.0	310.0	3.0	<.001
		Amphibole (after Pyroxene) 60-70%						
		Plagioclase 25-30%						
		Magnetite 2-5%						
		Biotite 1-5%						
		Pyrite, Pyrrhotite trace to 1%						
		Chalcopyrite						
		- fairly uniform texture and colour - fine grained at upper contact (chilled margin) - minor fractures with quartz-carbonate and/or serpentine fracture fillings - alteration haloes often present around the quartz-carbonate veinlets (carbonate, serpentine, epidote and minor quartz found in the halo)						
313.9 to	318.5	- coarse grained section; scattered large grains of plagioclase up to 1/4" wide	19547	trace	316.0	319.0	3.0	<.001
321.5 to	323.8	- heavily fractured section; several small quartz-carbonate veinlets with alteration haloes	19548	trace	321.5	323.8	2.3	<.001
	327.7	- quartz-carbonate veinlet with alteration halo 1/2" wide; 1% pyrite in vein and disseminated in host rock	19549	1	327.0	328.0	1.0	<.001

LANGFORDS - "D" PONTIC - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-8  
 SHEET NO: 11 of 11

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE		Au / TON	Check / TON
					FROM	TO		
		331.2 - alteration halo of serpentine, carbonate and minor epidote surrounding a small (< 1/2") area of quartz enrichment (not a distinct vein); altered section is over 1" wide and contains 1-2% combined pyrite and chalcopyrite						
		332.4 to 333.1 - quartz-carbonate veinlet 1/4" wide with an alteration halo up to 1" wide	19551	1	331.9	333.4	1.5	<.001
			19552		344.0	347.0	3.0	<.001
			19553		357.0	360.0	3.0	<.001
			19554		367.0	370.0	3.0	<.001
			19555		377.0	380.0	3.0	<.001
			19556		385.0	387.0	2.0	<.001
			19557		389.0	392.0	3.0	<.001
392.0		END OF HOLE Casing pulled						

*J. Adams*

LANGRISHES - TORONTO - 355-1162



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-9 LENGTH 427.0  
 LOCATION 1+04E, 10+50S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -48<sup>0</sup>  
 STARTED September 17, 1987 FINISHED September 20, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-45 <sup>0</sup>				
427	-42 <sup>0</sup>				

HOLE NO. SMZ-87-9 SHEET NO. 1 of 1

REMARKS Claim #861520  
Summary Log

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS			
FROM	TO		NO.	SULPHIDES	FOOTAGE		%	%	Au OZ/TON	Cu OZ/TON
					FROM	TO				
0	77.0	<u>Casing</u>								
77.0	90.5	<u>Ultramafic Metavolcanic</u>								
90.5	101.7	<u>Mafic Metavolcanic</u>								
101.7	179.3	<u>Felsic Intrusive</u>								
179.3	283.1	<u>Mafic Metavolcanic</u>								
283.1	347.5	<u>Ultramafic Metavolcanic</u>								
347.5	349.6	<u>Mafic Metavolcanic</u>								
349.6	368.7	<u>Felsic Intrusive</u>								
368.7	371.2	<u>Mafic Metavolcanic</u>								
371.2	380.5	<u>Ultramafic Metavolcanic</u>								
380.5	396.2	<u>Mafic Metavolcanic</u>								
396.2	424.6	<u>Felsic Intrusive</u>								
424.6	427.0	<u>Mafic Metavolcanic</u>								
	427.0	<u>END OF HOLE</u> <u>Casing pulled</u>								

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-9 LENGTH 427.0  
 LOCATION 1+04E 10+50S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -48°  
 STARTED September 17, 1987 FINISHED September 20, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-45°				
427	-42°				

HOLE NO. SMZ-87-9 SHEET NO. 1 of 4

REMARKS Claim #861520

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS			
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OZ/TON	Check OZ/TON
					FROM	TO				
0	77.0	<u>Casing</u>								
77.0	90.5	<u>Ultramafic Metavolcanic</u> - grey/green, medium grained, massive  Average Modes Chlorite 60-65% Talc/Serpentine 15-20% Amphibole 15% Magnetite 3-5%  - very minor occurrence of asbestiform serpentine in fractures	19434	-	77.0	80.0	3.0		.001	
			19435	-	80.0	83.0	3.0		.002	
			19436	-	83.0	86.0	3.0		.001	
			19437	-	86.0	88.5	2.5		.001	
			19438	-	88.5	90.5	2.0		<.001	
90.5	101.7	<u>Mafic Metavolcanic</u> - light green, fine to medium grained, well foliated  Average Modes Amphibole 50% Chlorite 35% Plagioclase 15%  90.5 to 94.0 - typical, minor slickensides on foliation surfaces 94.0 to 94.3 - quartz vein, minor chloritic inclusions, biotite-rich contacts 94.3 to 95.5 - 1% very fine grained disseminated pyrite 95.5 to 96.1 - quartz vein, 2% pyrrhotite and 1% chalcopyrite, 50° to the core axis 96.1 to 101.7 - abundant randomly oriented quartz carbonate stringers	19439	-	90.5	93.3	2.8		.001	
			19440	-	93.3	94.3	1.0		.001	
			19441	-	94.3	95.5	1.2		.001	
			19442	3	95.5	96.5	1.0		<.001	
			19443	-	96.5	99.5	3.0		<.001	
			19444	-	99.5	101.7	2.2		.001	

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-9 SHEET NO. 2 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS		
FROM	TO		ID	FOOTAGE		Au	Check	
			IDE S	FROM	TO	TOTAL	0.1 TON	0.2 TON
101.7	179.3	<u>Felsic Intrusive</u> - grey, medium grained, foliated at 45° to the core axis  Average Modes Quartz 50% Feldspar 35-40% Biotite 10-15%  - feldspar is predominantly plagioclase - 101.7 to 104.8 - minor sericite - 120.5 to 120.7 - quartz vein at 45° to the core axis - 126.5 to 126.8 - quartz vein at 45° to the core axis - 133.6 to 133.9 - quartz vein perpendicular to the core axis - 139.7 to 140.4 - quartz vein perpendicular to the core axis						
			19445	101.7	104.8	3.9	.001	
			19446	120.0	121.0	1.0	.001	
			19447	126.0	127.0	1.0	<.001	
			19448	133.4	134.4	1.0	<.001	
			19449	139.5	140.5	1.0	.001	
			19450	163.2	167.9	4.7	.001	
			19451	177.0	179.3	2.3	.001	
179.3	283.1	<u>Mafic Metavolcanic</u> - light green, massive  Average Modes Amphibole 65-70% Chlorite 10-15% Plagioclase 15-20%  179.3 to 180.7 - abundant quartz-carbonate veining, biotite-rich wallrock 180.7 to 184.5 - quartz feldspar porphyry dike at 40° to the core axis 184.5 to 186.9 - abundant quartz carbonate stringers in biotite rich mafics 186.9 to 202.7 - abundant quartz-carbonate stringers, 0.5% pyrrhotite  202.7 to 204.7 - quartz feldspar porphyry						
			19452	179.3	180.7	1.4	.002	
			19453	180.7	184.5	3.8	.003	
			19454	184.5	186.9	2.4	.003	
			19455	0.5	186.3	190.0	3.7	.002
			19456	0.5	190.0	193.0	3.0	.001
			19457	0.5	193.0	196.0	3.0	.001
			19458	0.5	196.0	199.0	3.0	.001
			19459	0.5	199.0	202.7	3.7	.002
			19460	-	202.7	204.7	2.0	.002

LANGRIDGES - TORONTO - 366-1166

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-9 SHEET NO. 3 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHUR (LBS)	FOOTAGE (FROM TO TOTAL)	Au (TON)	Check (TON)
		204.7 to 210.2 - abundant quartz carbonate stringers at random angles to the core axis, 1% pyrrhotite, trace chalcopyrite	19461	1	204.7 207.0 2.3	.001	
			19462	1	207.0 210.2 3.2	.001	
		210.2 to 275.6 - typical, fine to medium grained, massive - 218.2 to 218.7 - quartz vein, 2-3% pyrite, trace chalcopyrite	19463	1-2	218.0 219.0 1.0	<.001	
		- 222.1 to 224.1 - quartz vein	19464	-	222.1 224.1 2.0	.002	
		275.6 to 279.6 - felsic intrusive - as above, weakly porphyritic, sheared (?)	19465	-	233.9 238.7 4.8	.002	
			19466	-	265.3 269.5 4.2	.002	
		279.6 to 282.0 - sheared mafic flow	19467	-	269.5 273.5 4.0	.002	
		282.0 to 283.1 - typical	19468	-	273.9 275.6 1.7	.001	
			19469	-	275.6 279.6 4.0	.001	
			19470	-	279.6 282.0 2.4	.001	
			19471	-	282.0 283.1 1.1	.003	
283.1	347.5	<u>Ultramafic Metavolcanic</u> - typical, as above, fine grained, massive, serpentine is more prevalent than talc here but does not occur as asbestiform fibres	19472	-	283.1 287.4 4.3	.003	
			19473	-	293.1 297.9 4.8	.003	
			19474	-	302.6 307.4 4.8	.003	
			19475	-	316.2 321.0 4.8	.003	
			19476	-	325.8 330.6 4.8	.003	
			19477	-	335.5 340.2 4.7	.002	
			19478	-	345.0 347.5 2.5	.001	
347.5	349.6	<u>Mafic Metavolcanic</u> - typical as above, light green, massive - 348.5 to 349.6 - hornblende - biotite schist - contact zone	19479	-	347.5 348.5 1.0	.003	
			19480	-	348.5 349.6 1.1	.001	
349.6	368.7	<u>Felsic Intrusive</u> - typical, as above, minor sericite, trace pyrite	19481	tr	349.6 354.5 4.9	.001	
			19482	tr	363.9 368.7 4.8	.001	

LANGR D025 - "CRON" C - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-9 SHEET NO. 4 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au OZ TON	Check OZ TON	
					FROM	TO			TOTAL
368.7	371.2	<u>Mafic Metavolcanic</u> - typical, as above, weakly sheared 368.7 to 369.3 - contact zone, medium to coarse grained hornblende - biotite schist 369.3 to 371.2 - mafic to ultramafic metavolcanic	19483	-	368.7	371.2	2.5	<.001	
371.2	380.5	<u>Ultramafic Metavolcanic</u> - typical, as above, 5% disseminated magnetite, abundant talc	19484	-	371.2	373.3	2.1	.001	
			19485	-	373.3	377.9	4.6	<.001	
			19486	-	377.9	380.5	2.6	.001	
380.5	396.2	<u>Mafic Metavolcanic</u> - typical, as above, very minor biotite, minor intercalations of pelitic metasediments	19487	-	380.5	383.1	2.6	.001	
			19488	-	383.1	387.9	4.8	.001	
			19489	-	387.9	392.7	4.8	.001	
			19490	-	392.7	396.2	3.5	.001	
396.2	424.6	<u>Felsic Intrusive</u> - typical as above, very weakly porphyritic	19491	-	396.2	400.0	3.8	<.001	
			19492	-	415.6	420.0	4.4	.001	
424.6	427.0	<u>Mafic Metavolcanic</u> - typical, as above, minor small quartz veins near contact	19493	-	420.0	424.6	4.6	.001	
			19494	-	424.6	427.0	2.4	.001	
	427.0	<u>END OF HOLE</u> Casing pulled							

LANGFORDS - TORONTO - 366-1-88

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-10 LENGTH 407.0  
 LOCATION L18+01W, 6+47S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -47°  
 STARTED September 19, 1987 FINISHED September 22, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200'	-47°				
407'	-38°				

HOLE NO. SMZ-87-10 SHEET NO. 1 of 1  
 REMARKS Claim #861518  
Summary Log  
 LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS			
FROM	TO		NO.	% SULPH IDES	FOOTAGE		%	%	Au oz/TON	Check oz/TON
					FROM	TO				
0	160.0	Casing								
160.0	172.4	Mafic to Ultramafic Metavolcanics								
172.4	174.9	Ultramafic Metavolcanics								
174.9	179.7	Mafic Metavolcanics								
		174.9 to 177.9 - quartz pods or vein, trace pyrite	19725	tr	174.9	177.0	2.1		0.022	
179.7	183.7	Pelitic Metasediments								
183.7	199.0	Ultramafic Metavolcanics								
199.0	200.9	Pelitic Metasediments								
200.9	212.1	Mafic to Ultramafic Metavolcanics								
212.1	224.7	Ultramafic Metavolcanics								
224.7	228.1	Mafic Metavolcanics								
228.1	229.8	Pelitic Metasediments								
229.8	256.0	Ultramafic Metavolcanics								
		247.0 to 250.0 - sheared, serpentinized	19746	-	247.0	250.0	3.0		0.016	
256.0	257.5	Pelitic Metasediments								
257.5	265.9	Metagreywacke								
265.9	280.8	Ultramafic Metavolcanics								
280.8	282.9	Metagreywacke								
282.9	285.2	Mafic to Ultramafic Metavolcanics								
285.2	407.0	Mafic Metavolcanics								
	407.0	End of Hole								

ANGPODSES - "DPON" - 366.1.59

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-10 LENGTH 402.0  
 LOCATION L18+01W, 6+47S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -47°  
 STARTED September 19, 1987 FINISHED September 22, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200'	-47°				
407'	-38°				

HOLE NO. SMZ-87-10 SHEET NO. 1 of 9

REMARKS Claim #861518

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE FROM	FOOTAGE TO	FOOTAGE TOTAL	%	%	Au OZ/TON	Check OZ/TON
0	160.0	<u>Casing</u>									
160.0	172.4	<u>Mafic to Ultramafic Metavolcanics</u> - light to medium grey-green, medium grained, massive to very weakly foliated, weakly banded  Average Modes Amphibole 50-60% Talc/Serpentine 20-30% Plagioclase 10-20% Magnetite 2-5% Chlorite 0-5%  - general appearance is that of a massive mafic volcanic with irregular bands and patches rich in serpentine and talc - fracturing minor; quartz-carbonate veining absent; trace fine grained pyrite	19721	tr	160.0	162.0	2.0			.001	
			19722	tr	166.0	169.0	3.0			.001	
			19723	tr	170.4	172.4	2.0			<.001	
172.4	174.9	<u>Ultramafic Metavolcanics</u> - medium grey colour, fine grained, massive to poorly foliated (angle to core axis = 50-60°)  Average Modes Talc/Serpentine 50-65% Amphibole 25-35% Plagioclase 0-5% Magnetite 2-5% Pyrite+Pyrrhotite trace to 1%  - dark grey, fine grained amphibole with finely foliated talc (+ minor serpentine) - very fine grained disseminated pyrite throughout section; most sections trace to 1%, locally up to 2%	19724	tr-1	172.4	174.9	2.5			.005	

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-10 SHEET NO: 2 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SUICPH IDES	FOOTAGE FROM TO TOTAL	Au 0.7 TON	Check 0.7 TON
174.9	179.7	<u>Mafic Metavolcanics</u> - medium green colour, fine grained, moderately well foliated (angle to C.A. = 50-70°), weakly banded  Average Modes Amphibole 60-70% Chlorite 15-20% Plagioclase 10-15% Magnetite 1-2% Pyrite trace to 1%  - fine grained amphibole with larger flakes of chlorite along foliation planes - very fine grained disseminated pyrite, trace to 1%					
		175.2 to 176.7 - quartz pods and/or vein; irregular masses of smoky to milky quartz up to 1" wide with chlorite and amphibole inclusions; trace pyrite	19725	tr	174.9 177.0 2.1	.022	
			19726	tr	177.0 179.7 2.7	.004	
179.7	183.7	<u>Pelitic Metasediments</u> - dark olive green to dark brown, fine to medium grained, well foliated (angle to core axis = 50-60°)  Average Modes Biotite 80-90% Chlorite 10-20%  - biotite-chlorite schist; uniform texture, fracturing and veining absent					
		179.7 to 181.2 - transition zone between mafic volcanics and pelitic sediments; fine grained mafic volcanic material with thin biotite bands, becoming increasingly biotitic with depth	19727	-	179.7 183.7 4.0	.002	

LANGRIDGES - TORONTO - 366-1168



# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO.: SMZ-87-10 SHEET NO.: 3 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPH IDES	FOOTAGE		Au oz TON	Check oz TON	
					FROM	TO			TOTAL
183.7	199.0	<u>Ultramafic Metavolcanics</u> - medium grey-green, medium grained, poorly foliated (angle to core axis = 60-65°) - similar modal percentages as above material between 172.4 to 174.9 but this material shows a weak foliation and much stronger compositional banding - irregular, discontinuous, streaky bands rich in talc and/or serpentine are very common throughout the unit - minor quartz-carbonate veining - very fine grained pyrite and pyrrhotite common throughout unit (trace to 1%)  - 186.4 - pyrite with carbonate as a fracture coating	19728	tr	183.7	186.7	3.0	.002	
			19729	tr	190.0	194.0	4.0	.001	
			19730	tr	196.5	199.0	2.5	.002	
199.0	200.9	<u>Pelitic Metasediments</u> - biotite-chlorite schist, basic description as per above - angle to core axis = 70-80° - this section appears to be slightly more rich in chlorite	19731	-	199.0	200.9	1.9	.004	
200.9	212.1	<u>Mafic to Ultramafic Metavolcanics</u> - similar to section between 160.0 to 172.4 - mostly massive mafic volcanics with minor interstitial talc and irregular, discontinuous talc and serpentine-rich bands - trace disseminated sulphide (pyrite, minor chalcopyrite)	19732	tr	200.9	203.9	3.0	.004	
			19733	tr	205.0	207.0	2.0	.004	
			19734	tr	208.5	212.1	3.6	.004	

LANGRANGES - "DRONTC" - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-87-10 SHEET NO. 4 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		ID	SH PH IDES	FOOTAGE		Au oz TON	Check oz TON	
			FROM	TO	TOTAL				
212.1	224.7	<u>Ultramafic Metavolcanics</u> - similar to above ultramafic unit between 183.7 to 199.0 - light grey to grey-green, medium grained, weakly foliated, moderately well banded - large grains and bands composed of serpentine and talc are common throughout the unit; very prominent near the base of the unit where the rock has a mottled, spotty appearance - zero to trace sulphides (pyrite + minor pyrrhotite)	19735	tr	212.1	214.6	2.5	.005	
			19736	tr	217.5	220.0	2.5	.005	
			19737	tr	222.2	224.7	2.5	.003	
224.7	228.1	<u>Mafic Metavolcanics</u> - light green, fine grained, poorly foliated (angle to core axis = 60-75°)  Average Modes Amphibole           85-95% Plagioclase         5-10% Chlorite             0-5%  - amphibolite; randomly oriented, fine grained prismatic amphibole crystals - chlorite occurs along fracture planes - trace disseminated pyrite	19738	tr	224.7	228.1	3.4	.008	
228.1	229.8	<u>Pelitic Sediments</u> - basic description as per above (i.e. 179.7 to 183.7) - biotite-chlorite schist; some chlorite rich bands - angle to core axis = 70-80°	19739	-	228.1	229.8	1.7	.002	

LANGFORDS - DRONTC - 366-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake

HOLE NO. SMZ-87-10

SHEET NO. 5 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au OZ TON	Check OZ TON
229.8	256.0	<u>Ultramafic Metavolcanics</u>					
		229.8 to 236.1 - similar to above ultramafic unit between 183.7 to 199.0	19740	tr	229.8 233.8 4.0	.001	
		- light to medium grey, medium grained, poorly foliated, moderately well banded	19741	tr	233.8 236.1 2.3	.001	
		- irregular, streaky bands composed mostly of talc and minor serpentine					
		- minor quartz-carbonate veinlets					
		- zero to trace sulphide (pyrite)					
		236.1 to 256.0 - light pale green, medium to coarse grained, well foliated (angle to core axis = 40-65°), weakly banded					
		Average Modes					
		Serpentine 90-95%					
		Chlorite 0-5%					
		Magnetite 1-2%					
		- sheared, serpentinized ultramafic volcanic					
		- serpentine has a waxy to silky sheen; curved and slickensided foliation or shear planes prevalent throughout the unit					
		- minor talc-rich bands and quartz-carbonate stringers					
		237.8 - pyrite in a quartz-carbonate veinlet	19742	tr	236.1 238.5 2.4	.004	
			19743	-	238.5 241.5 3.0	.003	
			19744	-	241.5 244.5 3.0	.002	
			19745	-	244.5 247.0 2.5	.003	
			19746	-	247.0 250.0 3.0	.016	
			19747	-	250.0 253.0 3.0	.004	
			19748	-	253.0 256.0 3.0	.004	
		250.0 to 256.0 - several sections of broken, blocky core in this interval					

LANSING - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-10 SHEET NO. 6 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au 07 TON	Check 07 TON
256.0	257.5	<u>Pelitic Metasediments</u> - biotite-chlorite schist, as per above - blocky, broken core	19744	-	256.0 257.5 1.5	.003	
257.5	265.9	<u>Metagreywacke</u> - medium to dark grey, fine to medium grained, moderately well foliated (angle to core axis = 50-70°)  Average Modes Framework 60% Matrix 40% Quartz 80% Felsics 40% Feldspar 20% Biotite 55% Pyrite + 5-10% Pyrrhotite  - uniform, mostly fine grained wacke - fine to medium grained disseminated pyrite and pyrrhotite, locally up to 1% - minor fractures at a low angle to the core axis, lined with serpentine	19750	tr	257.5 260.5 3.0	.001	
			19751	tr	260.5 263.5 3.0	.001	
		265.7 to 265.9 - small band of pelitic metasediments at contact	19752	tr	263.5 265.9 2.4	.002	
265.9	280.8	<u>Ultramafic Metavolcanics</u> 265.9 to 266.5 - light green, medium grained, massive to very weakly foliated  Average Modes: Amphibole 80-90% Talc/Serpentine 10-15% Magnetite 1-2%	19753	-	265.9 266.9 1.0	.002	

LANGRANGES - TORONTO - 386-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-10 SHEET NO: 7 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Gr Au	Check
		- amphibolite; randomly oriented, fine grained prismatic amphibole with interstitial talc and serpentine grains					
	266.5 to 280.1	- similar to ultramafic unit between 183.7 to 199.0	19754	-	268.4 270.9 2.5	.001	
		- light to medium grey, medium to coarse grained, moderately well foliated, well banded	19755	tr	272.9 274.5 1.6	.002	
		- streaky, irregular serpentine and talc-rich bands up to 1" wide	19756	-	276.0 278.0 2.0	.008	
		- minor quartz-carbonate veinlets					
	280.1 to 280.8	- small section of light green, well foliated, chlorite-talc schist at (sheared?) contact	19757	-	279.8 280.8 1.0	.003	
280.8	282.9	<u>Metagreywacke</u>					
		- basic description as per above					
		- trace pyrite and pyrrhotite					
		- minor fractures lined with serpentine					
	282.7 to 282.9	- narrow unit of pelitic metasediments at contact	19758	tr	280.8 282.9 2.1	.001	
		- well foliated biotite-chlorite schist					
282.9	285.2	<u>Mafic to Ultramafic Metavolcanics</u>					
	282.9 to 283.6	- medium to dark green, coarse grained, well foliated (angle to core axis = 60-70°)	19759	-	282.9 285.2 2.3	.002	
		- chlorite schist					

LANGRIDGEES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-87-10 SHEET NO 8 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Av of 1000	Check
		283.6 to 284.4 - light green, medium grained, randomly oriented, prismatic amphibole crystals - minor magnetite - mafic amphibolite, no talc or serpentine evident					
		284.4 to 285.2 - talc-rich ultramafic metavolcanic similar to ultramafic unit between 183.7 to 199.0 - light grey-green, medium grained, poorly foliated, well banded					
285.2	407.0	<u>Mafic Metavolcanics</u> - dark green, fine to medium grained, massive to very weakly foliated  Average Modes: Amphibole 50-70% Plagioclase 10-15% Serpentine 5-10% Magnetite 2-5%  - fairly uniform massive texture and dark green colour throughout the unit; some sections have a mottled appearance due to irregular bands and patches of serpentine - thin quartz-carbonate veinlets common throughout the unit (most < 1/8" wide); a few contain pyrite and/or pyrrhotite, several contain anhedral magnetite grains					
		286.4 to 296.5 - several 1/8 to 1/4" wide quartz-carbonate veinlets throughout this section; most carry trace pyrite	19760	tr	285.2 287.0 1.8	.002	
			19761	tr	287.0 290.0 3.0	.001	
			19762	tr	290.0 292.0 2.0	.001	
			19763	tr	292.0 295.0 3.0	.002	

LANGRISHES - TORONTO - 366-1156

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-87-10 SHEET NO. 9 of 9

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS		
FROM	TO		NO	SULPH IDS	FOOTAGE		Au GZ TON	Check GZ TON	
					FROM	TO			TOTAL
			19764	tr	295.0	297.0	2.0	.002	
			19765	-	302.0	304.5	2.5	.002	
			19766	-	310.0	312.5	2.5	.002	
			19767	-	319.7	322.2	2.5	.001	
			19768	-	330.0	332.5	2.5	.001	
			19769	-	340.0	342.5	2.5	.004	
			19770	-	348.0	350.5	2.5	.004	
			19771	-	357.0	359.5	2.5	.005	
			19772	-	367.0	369.5	2.5	.005	
			19773	-	376.0	378.5	2.5	.007	
		379.9 to 380.9 - 1 foot long intersection of a 1/2" wide quartz-carbonate vein; trace pyrite	19774	tr	379.6	381.1	1.5	.006	
		- 391.0 - 1/8" wide quartz-carbonate veinlet, trace pyrite	19775	tr	390.0	392.5	2.5	.007	
			19776	-	397.0	399.5	2.5	.007	
			19777	-	404.5	407.0	2.5	.005	
407.0		END OF HOLE							

*J. Williams*

\_AVGROGES - "OPON" - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-11 LENGTH 335.0  
 LOCATION 1401E, 13+00S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED September 20, 1987 FINISHED September 21, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-45°				
325	-41°				

HOLE NO. SMZ-87-11 SHEET NO. 1 of 1

REMARKS Claim #PA861520  
Summary Log

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au oz/TON	Check oz/TON
					FROM	TO	TOTAL				
0	32.1	<u>Casing</u>									
32.1	37.6	<u>Mafic Metavolcanic</u>									
37.6	65.3	<u>Felsic Intrusive</u>									
65.3	104.7	<u>Ultramafic Metavolcanic</u>									
104.7	116.4	<u>Feldspathic Wacke</u>									
116.4	184.5	<u>Mafic Metavolcanic</u>									
184.5	188.5	<u>Felsic Intrusive</u>									
188.5	194.5	<u>Mafic Metavolcanic</u>									
194.5	195.9	<u>Felsic Intrusive</u>									
195.9	269.0	<u>Mafic Metavolcanic</u>									
269.0	280.5	<u>Felsic Intrusive</u>									
280.5	309.1	<u>Mafic Metavolcanic - 1% pyrite and chalcopyrite</u>									
309.1	321.5	<u>Felsic Intrusive</u>									
321.5	335.0	<u>Mafic Metavolcanic</u>									
	335.0	<u>End of Hole</u>									

LANGRIDDGES - TORONTO - 365-1152





# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-11 SHEET NO. 2 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SHPH IDES	FOOTAGE		Au OF TON	Check OF TON	
					FROM	TO			TOTAL
65.3	104.7	<u>Ultramafic Metavolcanic</u> - light to medium green, fine grained, poorly foliated at 50° to the core axis  Average Modes Chlorite 70% Talc/Serpentine 15% Amphibole 10% Magnetite 1%	19568	-	65.3	69.9	4.6	.002	
			19569	-	75.2	80.0	4.8	.001	
			19570	-	84.9	87.5	4.6	.002	
			19571	-	94.4	99.2	4.8	.001	
			19572	-	103.0	104.7	1.7	.002	
104.7	116.4	<u>Feldspathic Wacke</u> - grey/brown, weakly foliated at 80° to the core axis  Average Modes Framework 50-60% Quartz 60% Lithic Fragments 30% Feldspar 10% Matrix 40-50% Quartz 60% Biotite 40%  - predominant lithic fragment type appears to be granitic, 1% disseminate pyrite found throughout the unit	19573	-	104.7	108.7	4.0	.002	
			19574	1	108.7	112.7	4.0	.001	
			19575	1	112.7	116.4	3.7	.001	
116.4	184.5	<u>Mafic Metavolcanic</u> - typical, as above, massive, trace to 0.5% pyrrhotite, very minor fracturing - 134.2 to 135.2 - quartz filled fractures, randomly oriented, offset at intersection	19576	0.5	116.4	121.4	5.0	.001	
			19577	0.5	132.0	134.2	2.2	.002	
			19578	0.5	134.2	135.2	1.0	.001	
			19579	0.5	135.2	138.2	3.0	.001	

LANGRIDGE - "OPEN" - 386-148

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-11 SHEET NO. 3 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS		
FROM	TO		NO	SULPHIDES	FOOTAGE		Au 07 TON	Check 02 TON
					FROM	TO		
		- 153.8 to 157.2 - abundant quartz (+ carbonate) stringers and pods, randomly oriented, 1-2% pyrrhotite, 0.5% chalcopyrite	19580	1-2	153.8	157.2	3.4	<.001
			19581	0.5	157.2	159.7	2.5	<.001
		- 159.7 to 160.5 - felsic dike, typical, pink hue, trace garnet with associated pyrrhotite	19582	tr	159.7	160.7	1.0	.001
			19583	0.5	160.7	163.9	3.2	.001
		- 165.9 to 176.2 - abundant randomly oriented quartz stringers	19584	0.5	163.9	165.9	2.0	.001
			19585	0.5	165.9	169.2	3.3	<.001
			19586	0.5	169.2	172.5	3.3	.001
			19587	0.5	172.5	176.2	3.7	<.001
			19588	0.5	176.2	179.8	3.6	<.001
			19589	0.5	179.8	183.5	3.7	<.001
		- 183.5 to 184.5 - biotite and hornblende rich contact zone	19590	0.5	183.5	184.5	1.0	<.001
184.5	188.5	<u>Felsic Intrusive</u> - typical as above, white, medium grained, massive	19591	-	184.5	188.5	4.0	<.001
188.5	194.5	<u>Mafic Metavolcanic</u> - typical as above - 192.1 to 194.5 - hornblende and biotite rich contact zone, minor quartz stringers	19592	-	188.5	192.1	3.6	<.001
			19593	-	192.1	194.5	2.4	<.001
194.5	195.9	<u>Felsic Intrusive</u> - typical, as above, white, medium grained, massive	19594	-	194.5	195.9	1.4	.001
195.9	269.0	<u>Mafic Metavolcanic</u> - typical, as above, fine to medium grained, massive - 195.9 to 196.5 - biotite rich contact zone - 251.4 to 252.1 - felsic dike, typical as above, white, medium grained, massive - 256.3 to 257.6 - felsic dike, as above	19595	-	195.9	197.0	1.1	<.001
			19596	-	207.0	211.7	4.7	<.001
			19597	-	226.1	230.6	4.5	<.001
			19598	-	249.0	251.2	2.2	<.001
			19599	-	251.2	252.2	1.0	<.001
			19600	-	252.2	254.0	1.8	.002
			19701	-	254.0	256.3	2.3	.001
			19702	-	256.3	257.6	1.3	<.001

LANGRANGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-11 SHEET NO: 4 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	g Au UN	Check FOR
		- 257.6 to 257.8 - biotite rich contact zone, 1% pyrite	19703	0.5	257.6 258.6 1.0	<.001	
		- 267.9 to 269.0 - hornblende biotite schist, contact zone, numerous quartz stringers	19704	-	267.9 269.0 1.1	.001	
269.0	280.5	<u>Felsic Intrusive</u> - typical, as above, coarse grained, massive sericitized	19705	-	269.0 273.0 4.0	.001	
			19706	-	273.0 277.0 4.0	<.001	
			19707	-	277.0 280.5 3.5	.001	
280.5	309.1	<u>Mafic Metavolcanic</u> - typical, as above, minor quartz stringers at random angles, 1% pyrite and chalcopryrite	19708	+	280.5 285.0 4.5	<.001	
			19709	+	285.0 290.0 5.0	.001	
			19710	+	290.0 295.0 5.0	<.001	
			19711	+	295.0 300.0 5.0	<.001	
			19712	+	300.0 303.0 3.0	.001	
		- 306.2 to 309.1 - biotite and hornblende rich contact zone	19713	1	303.0 306.2 3.2	<.001	
			19714	1	306.2 309.1 2.9	<.001	
309.1	321.5	<u>Felsic Intrusive</u> - typical as above, white, medium grained, minor sericite, trace disseminated pyrite	19715	tr	309.1 313.5 4.4	<.001	
			19716	tr	313.5 318.0 4.5	<.001	
			19717	tr	318.0 321.5 3.5	<.001	
321.5	335.0	<u>Mafic Metavolcanic</u> - typical, as above, fine grained, medium green, massive					
		321.5 to 322.6 - biotite rich contact zone, minor quartz stringers	19718	-	321.5 322.6 1.1	.001	
		322.6 to 325.0 - 1% fracture filling pyrrhotite and chalcopryrite	19719	1	322.6 325.0 2.4	<.001	
		325.0 to 335.0 - typical, as above	19720	-	325.0 330.0 5.0	<.001	
335.0		END OF HOLE					

*[Handwritten Signature]*

ANGF 5855 - 25070 - 366 - 89

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-12 LENGTH 400'  
 LOCATION L1+COE 8+00S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED September 21, 1987 FINISHED September 24, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
0	-45°				
200	-45°				
400	-42°				

HOLE NO. SMZ-87-12 SHEET NO. 1 of 2

REMARKS Claim #861520

Summary Log

LOGGED BY B. E. Elliott

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE			ASSAYS				
FROM	TO		NO.	% SULPH IDES	FOOTAGE		%	%	Au OZ/TON	Check OZ/TON
					FROM	TO				
0	111.0	Casing								
111.0	114.3	Quartz Porphyry								
114.3	115.4	Mafic Volcanic								
115.4	120.0	Feldspar Porphyry								
120.0	137.6	Ultramafic to Mafic Volcanic								
137.6	139.5	Mafic to Intermediate Volcanic								
139.5	140.7	Mafic Volcanic								
140.7	152.0	Intermediate Intrusive								
152.0	157.2	Mafic Volcanic								
157.2	162.0	Feldspar Porphyry								
162.0	168.4	Ultramafic to Mafic Volcanic								
168.4	171.0	Mafic Volcanic								
171.0	183.7	Quartz Wacke								
183.7	187.5	Mafic Volcanic								
187.5	189.6	Quartz Wacke								
189.6	201.5	Ultramafic to Mafic Volcanic								
201.5	207.9	Pelitic Metasediment								
207.9	315.9	Quartz Wacke	19635		252.0	257.0	5.0			.011
		247.4 to 283.8 - few quartz veinlets and narrow mafic intervals	19636		257.0	262.0	5.0			.010
			19640		274.0	278.5	4.0			.010
315.9	321.9	Chlorite/Biotite Schist	19647		318.7	321.9	3.2			.009
321.9	331.4	Ultramafic Volcanic	19648		321.9	326.9	5.0			.012
		Highly sheared, trace magnetite, numerous quartz veinlets								
331.4	335.9	Chlorite/Biotite Schist								

ANGRIPDES - BENTC - 366-158

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-12 SHEET NO: 2 of 2

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE			ASSAYS	
FROM	TO		NO	SHLPH IDES	FOOTAGE FROM TO TOTAL	Au OZ TON	Check OZ TON
335.9	360.4	<u>Ultramafic Volcanic</u> A typical, non foliated but massive with granular appearance; 1-2% magnetite, minor carbonate, few quartz veinlets	19651		335.9 340.9 5.0	.007	
			19652		340.9 345.9 5.0	.012	
360.4	362.0	<u>Chlorite Schist</u>					
362.0	365.7	<u>Ultramafic Volcanic</u>					
365.7	369.6	<u>Chlorite/Biotite Schist</u>					
369.6	375.0	<u>Talc/Chlorite Schist</u>					
375.0	380.0	<u>Ultramafic Volcanic</u>					
380.0	381.3	<u>Chlorite/Biotite Schist</u>					
381.3	384.9	<u>Ultramafic Volcanic</u>					
384.9	400.0	<u>Mafic Volcanic</u>					
	400.0	End of Hole					
		Casing Pulled					

LANGRIDGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-12 LENGTH 400'  
 LOCATION 11+00E 8+00S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45.0°  
 STARTED September 21, 1987 FINISHED September 24, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
0	-45°				
200	-45°				
400	-42°				

HOLE NO. SMZ-87-12 SHEET NO. 1 of 14

REMARKS Claim #861520

LOGGED BY B.E. Elliott

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OZ/TON	Check OZ/TON
					FROM	TO				
0	111.0	Casing								
111.0	114.3	Quartz Porphyry - medium grey, fine grained, massive, porphyritic Texture - 15% coarse quartz grains, 1/4" or less, in fine grained ground mass of quartz, feldspar, biotite and minor sericite; few 1/4" quartz veinlets; trace disseminated pyrite;  113.4 to 113.8 - 1% disseminated pyrite	19601		111.0	114.3	3.3			.007
114.3	115.4	Mafic Volcanic - medium green, fine grained, massive, sheared. Texture - chloritized, dominated by chlorite with minor plagioclase.	19602		114.3	115.4	1.1			.007
115.4	120.0	Feldspar Porphyry - dark grey, fine grained, massive, porphyritic. Texture - 30% feldspar phenocrysts - fine grained quartz/feldspar/biotite, trace disseminated pyrite.  115.4 to 116.4 - atypical; black, schistose; dominated by fine grained biotite.  116.4 to 119.5 - typical, phenocrysts increase in abundance towards centre of unit.  119.5 to 120.0 - atypical as per 115.4 to 116.4.	19603		115.4	120.0	4.6			.006

- ANGLEDGES - TORONTO - 266-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel

HOLE NO SMZ-87-12

SHEET NO. 2 of 14

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	FOOTAGE		Au G/TON	Check G/TON
				FROM	TO		
120.0	137.6	<p><u>Ultramafic to Mafic Volcanic</u> - light grey to green, fine grained, massive to moderately foliated, schistose. Texture - variable composition.</p> <p>120.0 to 121.6 - chlorite schist, dominated by chlorite, trace pyrite; minor sericite.</p> <p>121.6 to 126.9 - fine grained, light grey; talc, serpentinite with minor chlorite and 1 to 2% magnetite; several irregular quartz veinlets; 0.5%, well spaced euhedral pyrite cubes.</p> <p>126.9 to 127.4 - chlorite schist as per 120.0 to 121.6</p> <p>127.4 to 130.8 - as per 121.6 to 126.9; well foliated 40° to core axis; 2 to 3% carbonate.</p> <p>130.8 to 137.6 - chlorite schist; trace euhedral pyrite crystals; locally 5% phlogopite.</p>					
			19604	121.6	126.6	5.0	.002
			19605	126.6	130.8	4.2	.002
			19606	130.8	134.8	4.0	.002
			19607	134.8	137.6	2.8	.003
137.6	139.5	<p><u>Mafic to Intermediate Volcanic</u> - medium green-grey, fine grained, massive.</p> <p>Average Mode</p> <p>Amphibole 45-50%</p> <p>Chlorite 5-10%</p> <p>Plagioclase 20-25%</p> <p>Quartz 15-20%</p> <p>Phlogopite 1-2%</p> <p>Sulfide trace</p>	19608	137.6	139.5	1.9	.002

LANGRISHES - TORONTO - 366-1169



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel  
 HOLE NO. SMZ-87-12 SHEET NO. 3 of 14

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	oz Au	Check
				FROM	TO	TOTAL					
139.5	140.7	Texture - quartz gives section mottled appearance; silicified.  Mafic Volcanic - dark green, fine grained, massive Average Mode Amphibole) 90% Chlorite ) Plagioclase 10% Pyrite trace Chalcopyrite trace	19609		139.5	140.7	1.2			.005	
140.7	152.0	Texture - trace to 0.5% disseminated pyrite and chalcopyrite associated with irregular quartz/carbonate veinlets.  Intermediate Intrusive? - possibly silicified mafic volcanic; medium grey to green, fine grained, locally weakly porphyritic, massive. Average Mode Amphibole) 35-90% Chlorite ) Plagioclase 25-30% Quartz 25-30% Biotite 2-3% Pyrite trace	19610 19611 19612		140.7 145.7 149.7	145.7 149.7 152.0	5.0 4.0 2.3			.003 .002 .002	

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel  
 HOLE NO. SMZ-87-12 SHEET NO. 4 of 14

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS		
FROM	TO		NO	SULPHUR	FOOTAGE		Au	Check
			UF5	FROM	TO	TOTAL	OZ TON	OZ TON
		Texture - mottled appearance due to quartz; locally appears porphyritic but may be blotchy silification, locally potassic alteration; upper contact 50° to core axis; lower contact 40° to core axis; lower contact brecciated and poorly defined; trace disseminated pyrite.						
152.0	157.2	<u>Mafic Volcanic</u> - light green, locally grey, fine grained, massive to foliated. Texture - dominated by chlorite with minor amphibole and plagioclase; trace pyrite; foliated 30° to core axis at 153.0.						
		152.0 to 152.7 - typical						
		152.7 to 153.3 - talc/chlorite rich band; foliated 30° to core axis						
		153.3 to 157.2 - typical; dominantly massive						
157.2	162.0	<u>Feldspar Porphyry</u> - dark grey with pink phenocrysts, fine grained, massive, porphyritic. Texture - up to 50% medium to coarse grained feldspar phenocrysts in fine grained quartz, feldspar, biotite, sericite ground mass; porphyritic texture variable.	19613	157.0	162.0	5.0	.003	

LANGRANGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeeme1  
 HOLE NO. SMZ-87-12 SHEET NO. 5 of 14

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS		
FROM	TO		ID	FOOTAGE		Au	Check	
			IDES	FROM	TO	TOTAL	02 TON	02 TON
		157.2 to 158.7 - weakly porphyritic; 1% phenocrysts; possibly fine grained chill zone; trace disseminations of pyrite; upper contact 65° to core axis.						
		158.7 to 162.0 - strongly porphyritic; phenocrysts decreasing towards lower contact; few biotite filled fractures; trace disseminated pyrite; lower contact 60° to core axis.						
162.0	168.4	<u>Ultramafic to Mafic Volcanic</u> - light grey with few light green intervals, fine grained foliated.	19614	162.0	166.0	4.0	.002	
		Average Mode	19615	166.0	168.4	2.4	.001	
		Talc 60-70%						
		Chlorite 10-20%						
		Serpentine 5-10%						
		Magnetite 1-2%						
		Carbonate 2-3%						
		Pyrite 1-2%						
		Texture - dominantly light grey talc rich bands locally with minor carbonate and 1-2% pyrite cubes throughout; few chlorite rich bands up to 0.5' wide; rare clot of actinolite with well formed euhedral crystals up to 2" long; several 1/4" or less quartz veinlets parallel to foliation, foliation 55° to core axis at 167°.						

LANGRIDGE - TORONTO - 386-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel

HOLE NO. SMZ-87-12

SHEET NO. 6 of 14

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au	Check
				FROM	TO	TOTAL			07 TON	07 TON	
168.4	171.0	<p>Mafic Volcanic - light to medium green, fine to medium grained, schistose.                      Texture - dominated by chlorite and tremolite/actinolite with minor talc and trace pyrite; light to medium green mottled appearance; tremolite/actinolite as coarse radiating fibrous aggregates.</p> <p>168.4 to 169.7 - typical                      169.7 to 170.3 - smoky quartz vein; 50° to core axis                      170.3 to 171.0 - typical but with increased biotite component</p>	19616		168.4	171.0	2.6			.002	
171.0	183.7	<p>Quartz Wacke - medium green to brown, fine to medium grained, massive to weakly foliated.                      Average Mode                      Framework 50-60%                          Quartz 90%                          Feldspar 10%                      Matrix 40-50%                          Quartz 60%                          Feldspar 5%                          Biotite 30%                          Chlorite 5%                          Pyrite trace                          Pyrrhotite trace</p>									

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel

HOLE NO. SMZ-87-12

SHEET NO. 7 of 14

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OF 100g	Check OF 100g
					FROM	TO				
		Texture - quartz gives rock mottled appearance; locally weakly foliated 70-80° to core axis; rare quartz veinlet; rare narrow chlorite shear; trace disseminated sulfide.								
		175.8 to 175.9 - quartz veinlet; 80° to core axis	19617		171.0	176.0	5.0			.002
183.7	187.5	Mafic Volcanic - medium green, fine grained, massive to weakly foliated. Average Mode Amphibole) 70-80% Chlorite ) Plagioclase 20-30% Quartz 2-3% Phlogopite 2-3% Sulfide trace	19618		183.7	187.5	3.8			.001
		Texture - trace disseminated sulfide; locally 2-3% phlogopite; few irregular quartz veinlets; foliated 40° to core axis at 187.0.								
187.5	189.6	Quartz Wacke - typical but sheared; well foliated 30° to core axis; foliation contorted; increase in biotite/chlorite component; trace sulfide.	19619		187.5	189.6	2.1			.002

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel  
 HOLE NO: SMZ-87-12 SHEET NO: 8 of 14

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPH IDES	FOOTAGE		GZ TON	GZ TON	
					FROM	TO			TOTAL
189.6	201.5	<p><u>Ultramafic to Mafic Volcanic</u> - light grey, locally light green, fine grained, foliated.                      Texture - typical; dominated by talc, serpentine with lesser chlorite; 2-3% magnetite + magnesite; locally coarse radiating aggregates of tremolite/actinolite (possible spinifex); trace to 0.5% disseminated pyrite; numerous quartz veinlets + trace carbonate.</p> <p>189.6 to 190.8 - atypical; light green; dominated by chlorite and fibrous tremolite/actinolite.</p> <p>190.8 to 201.5 - typical</p>							
			19620		189.6	190.8	1.2	<.001	
			19621		190.8	195.8	5.0	.002	
			19622		195.8	199.8	4.0	<.001	
			19623		199.8	201.5	1.7	<.001	
201.5	207.9	<p><u>Pelitic Metasediment</u> - medium green to brown, fine grained, well foliated at 40° to core axis.                      Average Mode                      Quartz 50-60%                      Biotite 30-40%                      Chlorite 10-15%                      Sulfide trace</p> <p>Texture - dominantly fine grained pelitic metasediment but locally narrow bands of quartz wacke; few quartz veins + carbonate 40° to core axis; few chlorite/carbonate rich bands.</p>	19624		201.5	205.5	4.0	<.001	
			19625		205.5	207.9	2.4	.002	

LANSBIDGES - TORONTO - 366-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel  
 HOLE NO: SMZ-87-12 SHEET NO: 9 of 14

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS		
FROM	TO		NO	SULPHIDES	FOOTAGE		Au	Check
					FROM	TO	TOTAL	OZ TON
207.9	315.7	<p>Quartz Wacke - dark green to brown, fine grained matrix with large angular sand size grains, massive to foliated.</p> <p>Average Mode</p> <p>Framework 40-45%</p> <p>Quartz 100%</p> <p>Matrix 55-65%</p> <p>Biotite 40%</p> <p>Quartz 40%</p> <p>Chlorite 20%</p> <p>Pyrite trace</p> <p>Texture - dominantly as above but some interbedded, finer grained units with higher pelitic component and well foliated; i.e. a finer grained wacke; few to several quartz + carbonate veins and veinlets throughout, ranging from several inches to less than 1/4"; generally 40-50° to core axis; few, several inch wide mafic bands dominated by amphibole and chlorite.</p> <p>207.9 to 221.9 - typical</p> <p>208.3 to 209.8 - few quartz veinlets</p> <p>213.5 to 215.1 - several quartz veinlets; 1/4" or less</p> <p>217.0 to 216.0 - few quartz veinlets; 1/2"</p>						
			19626	207.9	209.8	1.9	.001	
			19627	213.5	215.1	1.6	<.001	
			19628	217.0	218.0	1.0	.001	

LANGRANGES - TORONTO - 366-1152

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel  
 HOLE NO. SMZ-87-12 SHEET NO. 10 of 14

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au oz TON	Check oz TON	
				FROM	TO	TOTAL					
	221.9 to 224.8	- finer grained; higher pelitic component; well foliated 45° to core axis; rare quartz veins	19629		221.9	224.8	2.9			<.001	
	224.8 to 227.1	- typical quartz wacke									
	227.1 to 230.3	- few mafic interbands and quartz veinlets	19630		227.0	230.0	3.0			.003	
	230.3 to 230.6	- felsic intrusion; dominated by quartz with lesser biotite and feldspar; contacts 30° to core axis	19631		230.0	231.0	1.0			<.001	
	230.6 to 233.1	- typical quartz wacke									
	233.1 to 233.9	- mafic interband with quartz carbonate veinlet; 1.0" wide, 45° to core axis	19632		233.0	234.0	1.0			<.001	
	233.9 to 244.3	- typical quartz wacke									
	244.3 to 244.6	- quartz/feldspar porphyry; 45° to core axis	19633		244.0	245.0	1.0			.003	
	244.6 to 247.4	- typical quartz wacke									
	247.4 to 283.8	- dominantly typical quartz wacke but frequently well foliated with higher pelitic component; few narrow mafic intervals and few quartz veinlets; foliated 40° to core axis at 158.0; as move down section unit, becoming finer grained and well foliated, becoming more pelitic in composition and texture	19634		247.0	252.0	5.0			.004	
			19635		252.0	257.0	5.0			.011	
			19636		257.0	262.0	5.0			.010	
			19637		262.0	257.0	5.0			.004	

LANGRIDDGES - TORONTO - 366-1168



# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel  
 HOLE NO: SMZ-87-12 SHEET NO: 11 of 14

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPH IDES	FOOTAGE		Au OZ TON	Check OZ TON	
					FROM	TO			TOTAL
		271.9 to 272.2 - quartz vein, white; trace carbonate; 40° to core axis	19638		271.5	272.5	1.0	.004	
			19639		272.5	274.5	2.0	.005	
			19640		274.5	278.5	4.0	.010	
		279.1 to 279.8 - possible fine grained felsic intrusion or chert band; dominantly quartz with minor sericite and tourmaline? along contacts; appears concordant; also may be quartz veins	19641		278.5	280.5	2.0	.004	
		283.8 to 286.8 - pelitic sediment with few chert bands or quartz veins?	19642		283.8	286.8	3.0	.004	
		286.8 to 290.6 - chert rich pelitic sediment; 50-60% chert bands with biotite/chlorite/quartz bands; trace carbonate	19643		286.8	290.6	4.0	.003	
		290.6 to 315.7 - quartz wacke to pelitic sediment as per 247.4 to 286.8	19644		290.6	295.6	5.0	.009	
		304.4 to 304.6 - quartz veinlet; white; 70° to core axis; no visible sulfides	19645		303.8	306.4	2.6	.005	
		304.8 to 305.0 - quartz veinlet; white; 70° to core axis; no visible sulfides							
		305.3 to 306.1 - quartz vein; minor carbonate and chloritic along fractures; trace pyrite along contacts; 60° to core axis							

LANGRISHES - TORONTO - 386-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel  
 HOLE NO: SMZ-87-12 SHEET NO: 12 of 14

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	FOOTAGE		%	OZ TON
				FROM	TO		
315.7	321.9	Chlorite/Biotite Schist - dark brown to green, fine grained, well foliated at 45° to core axis at 316.0 but foliation often highly contorted and locally near parallel to core axis; 60% biotite and 40% chlorite	19646	315.7	318.7	3.0	.006
			19647	318.7	321.9	3.2	.009
321.9	331.4	Ultramafic Volcanic - typical; light grey, fine grained, foliated; highly sheared; dominated by talc with lesser serpentine and trace magnetite; numerous quartz veinlets; foliation variable and contorted but generally 30-50° to core axis	19648	321.9	326.9	5.0	.012
			19649	326.9	331.4	4.5	.005
331.4	335.9	Chlorite/Biotite Schist - typical as per 315.7 to 321.9, but with 70% chlorite and 30% biotite	19650	331.4	335.9	4.5	.005
335.9	360.4	Ultramafic Volcanic - atypical in that non-foliated, massive with "granular" appearance; typical talc/serpentine mineralogy with 1-2% magnetite; locally minor carbonate; few irregular quartz veinlets; locally minor chlorite	19651	335.9	340.9	5.0	.007
			19652	340.9	345.9	5.0	.012
			19653	345.9	350.9	5.0	.001
			19654	350.9	355.9	5.0	.001
			19655	355.9	360.4	4.5	.001
		335.9 to 359.4 - typical					
		359.4 to 360.4 - atypical; foliated 80° to core axis; increase in chlorite					
360.4	362.0	Chlorite Schist - medium green, very fine grained, massive schistosity poorly developed; dominated by chlorite with minor biotite	19656	360.4	362.0	1.4	.002

SANGREDES - TORONTO - 356-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel  
 HOLE NO: SMZ-87-12 SHEET NO: 13 of 14

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS		
FROM	TO		NO	FOOTAGE		Au OZ TON	Check OZ TON	
				FROM	TO			TOTAL
362.0	365.7	<u>Ultramafic Volcanic</u> - light grey to green, fine grained, massive to poorly foliated; typical talc, serpentine, magnetite mineralogy but with 5% chlorite rich intervals	19657	362.0	365.7	3.7	.002	
365.7	369.6	<u>Chlorite/Biotite Schist</u> - dark brown with green laminations, fine grained, schistose, weakly foliated; dominated by biotite with green crenulated laminations of chlorite; rare bands with 15% fine quartz grains; rare quartz veinlets; trace disseminated pyrite; foliated 60° to core axis	19658	365.7	369.6	3.9	.002	
369.6	375.0	<u>Talc/Chlorite Schist</u> - light grey to green, fine grained, foliated 60° to core axis; bands of talc, serpentine + trace magnetite and crude bands of chlorite; very minor biotite; rarely trace disseminations pyrite; probable shear zone						
		369.6 to 373.6 - typical	19659	369.6	373.6	4.0	<.001	
		373.6 to 375.0 - atypical; dominantly chlorite	19660	373.6	375.0	1.4	<.001	
375.0	380.0	<u>Ultramafic Volcanic</u> - typical as per 335.9 to 360.4; 2-3% fine magnetite grains, locally quartz veinlets						
		375.0 to 379.0 - typical	19661	375.0	380.0	5.0	<.001	
		379.0 to 380.0 - foliated; highly contorted; near parallel to core axis						

LANGRIDGES - "OPEN" TO - 366.1' 68

# DIAMOND DRILL RECORD

NAME OF PROPERTY..... Santa Maria Zeemel

HOLE NO. SMZ-87-12 SHEET NO. 14 of 14

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au	Check	
					FROM	TO			TOTAL	oz TON	oz TON
381.3	384.9	Ultramafic Volcanic - typical; massive to weakly foliated; talc, serpentine, trace magnetite; minor chlorite	19663		381.3	384.9	3.6			.001	
384.9	400.0	Mafic Volcanic - dark green, fine grained, massive Average Mode Amphibole) 90-95% Chlorite ) Plagioclase 5-10% Pyrite trace to 5%  Texture - few irregular quartz/carbonate veinlets; locally light green chloritized									
		384.9 to 386.5 - atypical; light green; chloritized	19664		384.9	387.0	2.1			<.001	
		386.5 to 387.0 - talc/chlorite shear									
		387.0 to 388.9 - several quartz veinlets with haloes of chlorite schist; chlorite filled fractures; no visible sulfides; veins 55° to core axis	19665		387.0	388.9	1.9			.002	
		388.9 to 400.0 - typical	19666		388.9	393.9	5.0			.001	
			19667		393.9	398.9	5.0			<.001	
			19668		398.9	400.0	1.1			<.001	
		End of Hole									
		Casing pulled									

LANGRIDGE - TORONTO - 366-1166

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-13 LENGTH 325'  
 LOCATION T32W, 8+53S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED Sept. 22, 1987 FINISHED Sept. 24, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200'	-40°				
325'	-40°				

HOLE NO. SMZ-87-13 SHEET NO. 1 of 1

REMARKS Claim #861517

Summary Log

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPH IDES	FOOTAGE			%	%	Au oz/TON	Check oz/TON
					FROM	TO	TOTAL				
0.6	152.3	<u>Casing</u>									
152.3	170.4	<u>Mafic to Ultramafic Metavolcanics</u>									
170.4	173.4	<u>Pelitic Metasediments</u>									
173.4	186.7	<u>Mafic to Ultramafic Metavolcanics</u>									
186.7	187.8	<u>Pelitic Metasediments with Interbedded Chert</u>									
187.8	297.5	<u>Metagreywacke</u>  191.9 - 213.9 - Metagreywacke with up to 10% Quartz porphyroblasts  262.0 - 297.5 - Silicified Section - Pyrrhotite stringers - 277.0 - 290.4 Metagreywacke with up to 10% Quartz porphyroblasts									
297.5	301.0	<u>Pelitic Metasediments with Interbedded Chert</u>									
301.0	325.0	<u>Mafic Metavolcanics</u> - minor pyrrhotite stringers - trace - 1% disseminated sulphide									
	325.0	E.O.H.  Casing pulled									

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-13 LENGTH 325'  
 LOCATION 132W, 8+53S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED Sept. 22, 1987 FINISHED Sept. 24, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200'	-40°				
325'	-40°				

HOLE NO. SMZ-87-13 SHEET NO. 1 of 9

REMARKS Claim #861517

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OZ/TON	Check OZ/TON	
					FROM	TO	TOTAL				
0	152.3	Casing									
152.3	170.4	Mafic to Ultramafic Metavolcanics - light green to grey-green, mostly fine grained, moderately well foliated (angle to core axis = 70 - 75°) Average Modes Amphibole - 50 - 60% Talc/Serpentine - 10 - 20% Plagioclase - 5 - 10% Magnetite - 2 - 3% Chlorite - 5 - 15%  - most of the unit consists of finely foliated amphibole with interstitial talc/serpentine and minor chlorite  - minor compositional variations between chlorite-rich and talc/serpentine - rich sections  - very minor quartz-carbonate veining  - zero to trace disseminated pyrite									

LANGFORDS - TORONTO - 366-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-13 SHEET NO. 2 of 9

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO	% SULPHIDES	FOOTAGE			%	%	Au of 10N	Check of 10N
					FROM	TO	TOTAL				
		152.3 - 160.8 - limonitic staining in fractures and in quartz-carbonate veinlets	19778	tr	152.3	155.0	2.7			<.001	
			19779	tr	155.0	158.0	3.0			<.001	
			19780	tr	158.0	161.0	3.0			<.001	
			19781	tr	161.0	163.5	2.5			<.001	
		163.5 - 166.0 - medium grained section with large anhedral magnetite grains; 5 - 7% magnetite	19782	tr	163.5	166.0	2.5			<.001	
			19783	tr	166.0	168.8	2.8			<.001	
			19784	tr	168.8	170.4	1.6			<.001	
170.4	173.4	<u>Pelitic Metasediments</u> - dark brown, medium grained, well foliated (angle to core axis = 70-80°), well banded near contacts  Average Modes Biotite               70% Chlorite             30%  - well foliated biotite-chlorite schist - gradational contacts; light green, fine grained material (mostly chlorite and minor amphibole) interbedded with biotite-chlorite schist at upper and lower contacts									
		172.4 - 173.4 - broken, blocky core	19785	-	170.4	173.4	3.0			<.002	

LANGRIDGE - TORONTO - 266-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-13 SHEET NO. 3 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au <sub>ton</sub>	Check
				FROM	TO	TOTAL					
173.4	186.7	Mafic to Ultramafic Metavolcanics - as per above - angle to core axis = 60-75° 178.5 - quartz-carbonate veinlet, 1/8" wide, with trace pyrite	19786	tr	173.4	176.0	2.6			<.001	
			19787	tr	176.0	179.0	3.0			<.001	
			19788	tr	179.0	182.0	3.0			<.001	
			19789	tr	182.0	185.0	3.0			<.001	
			19790	tr	185.0	186.7	1.7			<.001	
186.7	187.8	Pelitic Metasediments with Interbedded Chert - biotite-chlorite schist interbedded with amphibole/chlorite-rich bands and dirty chert bands up to 1" wide - upper contact gradational into above volcanics - angle to core axis = 70-80°	19791	-	186.7	187.8	1.1			.001	
187.8	297.5	Metagreywacke - light to medium grey, medium to coarse grained, moderately well foliated (angle to core axis = 55-70°)  Average Modes Framework 70-80% Matrix 20-30% Quartz 65% Felsics 50% Feldspar 35% Biotite 40% Chlorite 5% Amphibole 5%	19792	-	187.8	189.8	2.0			.002	

LANGRIDDGES - TORONTO - 365-1158



# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-13 SHEET NO. 4 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OF TON	Check	
					FROM	TO					TOTAL
		- mostly medium grained with a uniform texture; locally has a porphyroblastic texture due to numerous quartz-eye porphyroblasts - concordant to discordant, narrow, veinlike intercalations of chlorite schist (minor amphibole); those which cross-cut the foliation often have a narrow quartz-rich border - these could be composite veins (contain minor carbonate) - fracturing is very minor - several felsic intrusive dikes intrude sediments at medium to high angles to the core axis 190.2 - quartz vein or pod, 2" wide; biotite and minor amphibole and sericite inclusions - trace to 1% disseminated pyrite	19793	tr	189.8	190.8	1.0			.002	
		191.9 - 213.9 - silicified section, quartz-eye porphyroblasts common - glassy to milky porphyroblasts make up about 10% of the rock - 192.6 - 1" wide milky quartz vein (or chert band?); no visible sulphides  193.5 - 193.8 - Felsic Intrusive Dike - white to light grey, medium to coarse grained, massive, porphyritic	19794	tr	191.9	194.4	2.5			.002	

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake

HOLE NO. SMZ-87-13

SHEET NO. 5 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au <sub>0.01</sub>	Check
					FROM	TO	TOTAL				
		Average Modes Quartz 60% Pyrite - trace K-Feldspar 25% Plagioclase 10% Biotite 1-2% Garnet trace  - large, cracked, irregular grains of K-spar in finer grained quartz and plagioclase - 195.8 - 1" wide felsic dikelet - description as per above - 197.9 - pyrite grains on a 2" long fracture surface - 205.6 - 206.3 - felsic intrusive dikelet - description as per above - pyrite along fracture surfaces; minor disseminated pyrite within the intrusive - 210.3 - 210.8 - felsic intrusive dikelet - description as per above - pyrite with carbonate along fracture surfaces  213.9 - 215.9 - felsic intrusive dike - description as per above - pyrite with minor carbonate along fracture surfaces and trace disseminated pyrite within the host rock									
			19795	tr	195.7	198.7	3.0			.002	
			19796	tr	205.4	206.4	1.0			.002	
			19797	-	206.4	209.2	2.8			.002	
			19798	tr	210.3	211.3	1.0			.002	
			19799	-	211.3	213.9	2.6			.001	
			19800	tr	213.9	215.9	2.0			<.001	
			19801	-	219.3	221.8	2.5			<.001	

LANGRIDDIES - TORONTO - 365-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-13  
 SHEET NO: 6 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au oz ton	Check oz ton	
					FROM	TO			TOTAL
		229.6 - 230.7 - two felsic intrusive dikelets, 1-2" wide - no visible sulphides	19802	-	227.8	231.1	3.3	.001	
		234.4 - 236.0 - trace to 1% disseminated pyrite in fine grained wacke	19803	tr	234.0	237.0	3.0	<.001	
		238.1 - 239.1 - felsic intrusive dikelet - 1' long section of a 1/2" wide dikelet cut parallel to the core axis - no visible sulphides	19804	-	238.0	239.9	1.9	<.001	
		246.2 - 247.7 - Aplite Dike; white to light grey, medium grained, massive  Average Modes Quartz 55% Plagioclase 40% Biotite 5-7%  - felsics have a saccharoidal texture - very weak lamination to biotite flakes which occur in clots or as individual grains	19805	-	246.2	247.7	1.5	.001	
		249.1 - 251.1 - felsic intrusive dikelet, 1-2" wide, 4" apart - trace disseminated pyrite	19806	-	249.1	251.1	2.0	<.001	
			19807	tr	253.2	254.2	1.0	<.001	
		253.4 - 253.9 - two felsic intrusive dikelets, 1-2" wide, 4" apart - trace disseminated pyrite							

-AVG PAGES - "OPEN" - 366-1-88

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake

HOLE NO. SMZ-87-13 SHEET NO. 7 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO	% SULPHIDES	FOOTAGE		%	%	oz Au	Check	
					FROM	TO					TOTAL
	256.4 - 258.8	several 2-4" wide felsic intrusive dikelets - trace disseminated pyrite	19808	tr	256.2	259.0	2.8			<.001	
	262.0 - 297.5	silicified section; higher percentage of modal quartz; quartz pods and veinlets much more common - composite veins of chlorite surrounded by quartz occur frequently throughout this section - zero to trace pyrrhotite and pyrite - 265.2 - felsic intrusive dikelet, 2" wide - no visible sulphides - 266.1 - 266.7 - pyrrhotite stringers up to 1/4" wide in a heavily silicified section; minor disseminated pyrite and chalcopyrite - 267.8 - 269.0 - chlorite-amphibole intercalations with several small (less than 1/8" wide) pink garnets - 277.0 - 290.4 - quartz-eye porphyroblasts comprise up to 10% of the rock in this section; veining not as prominent	19809	tr	259.0	262.7	3.7			<.001	
			19810	tr	262.7	265.7	3.0			.001	
			19811	tr	265.7	267.0	1.3			.001	
			19812	tr	267.0	269.0	2.0			.002	
			19813	tr	272.4	276.0	3.6			.001	
			19814	-	277.0	278.5	1.5			<.001	
			19815	-	281.0	282.5	1.5			.002	
			19816	-	283.5	286.0	2.5			<.001	
			19817	-	291.4	292.9	1.5			.002	
			19818	-	295.5	297.5	2.0			.002	

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-13 SHEET NO. 8 of 9

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au 0.1 TON	Check 0.1 TON	
					FROM	TO					TOTAL
297.5	301.0	<u>Pelitic Metasediments with Interbedded Chert</u> - chlorite-biotite schist with narrow chert bands (< 1/2" wide) - well foliated, angle to core axis = 60-75° - well banded - trace pyrite and pyrrhotite	19819	tr	297.5	301.0	3.5			.001	
301.0	325.0	<u>Mafic Metavolcanics</u> - medium to dark green, fine grained, weakly foliated (angle to core axis = 70-80°) Average Modes Amphibole 75-80% Plagioclase 15-20% Chlorite 0-5%  - mostly fine grained amphibole and plagioclase, fairly uniform texture - abundant quartz-carbonate veinlets, most < 1/8" wide - some veinlets are offset by subsequent fracturing - pyrrhotite, chalcopyrite and pyrite (in order of abundance) are found disseminated throughout the unit and also as narrow stringers in some sections. Sulphides are common in quartz-carbonate veinlets	19820	tr	301.0	304.0	3.0			.001	
			19821	tr	304.0	307.0	3.0			<.001	
			19822	tr	307.0	310.0	3.0			.004	
			19823	tr	310.0	311.0	1.0			<.001	
			19824	tr	311.0	313.5	2.5			<.001	

LANGRIDGE - TORONTO - 365-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-13 SHEET NO. 9 of 9

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO	% SULPHIDES	FOOTAGE		%	%	Au	Check	
					FROM	TO					TOTAL
		314.5 - small stringers of pyrrhotite and minor chalcopyrite, less than 1/8" wide	19825	1-2%	313.5	315.0	1.5			.001	
			19826	tr	315.0	318.0	3.0			<.001	
			19827	tr	318.0	321.4	3.4			<.001	
		321.9 - sulphide stringers similar to above	19828	1-2%	321.4	322.4	1.0			<.001	
			19829	tr	322.4	324.0	1.6			<.001	
			19830	tr	324.0	325.0	1.0			<.001	
325.0		E.O.H. Casing pulled									

*J. Williams*

LANGPAGES - TORONTO - 366-158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-14 LENGTH 397.0  
 LOCATION 44+00W 11+12S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45.5  
 STARTED Sept. 24, 1987 FINISHED Sept. 26, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-44.5				
397	-44.0				

HOLE NO. SMZ-87-14 SHEET NO. 1 of 1

REMARKS Claim #861517  
Summary Log

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPH IDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	81.4	<u>Casing</u>									
81.4	120.9	<u>Metagreywacke - locally silicified; quartz porphyroblasts</u>									
120.9	160.2	<u>Mafic Metavolcanics - trace to 1% pyrrhotite, pyrite, chalcopyrite</u>									
160.2	179.9	<u>Metagreywacke</u>									
179.9	181.5	<u>Pelitic Metasediments</u>									
181.5	263.8	<u>Ultramafic Metavolcanics</u> - 181.5 - 188.4 - sheared section									
263.8	327.9	<u>Mafic to Ultramafic Metavolcanics</u> - 245.4 - 298.1 - sheared section with fluorite in a quartz-carbonate veinlet									
327.9	330.4	<u>Metagreywacke</u>									
330.4	331.6	<u>Mafic Metavolcanics</u>									
331.6	373.3	<u>Felsic Intrusive - granite</u>									
373.3	381.5	<u>Mafic Metavolcanics</u>									
381.5	397.0	<u>Metagreywacke</u> - 394.6 - 397.0 - silicified section - quartz porphyroblasts									
397.0		<u>E.O.H.</u> <u>Casing Pulled</u>									

LANGRIDGES - TORONTO - 366-1165

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-14 LENGTH 397.0  
 LOCATION 44+00W 11+12S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45.5  
 STARTED Sept. 24, 1987 FINISHED Sept. 26, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-44.5				
397	-44.0				

HOLE NO. SMZ-87-14 SHEET NO. 1 of 7

REMARKS Claim #861517

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE FROM	FOOTAGE TO	FOOTAGE TOTAL	%	%	Au OZ/TON	Check OZ/TON
0	81.4	<u>Casing</u>									
81.4	120.9	<u>Metagreywacke</u> - light to medium grey, fine to medium grained, moderately well foliated (angle to core axis = 55-60°)  Average Modes Framework 75% Matrix 25% Quartz 70% Felsics 50% Feldspar 30% Biotite 50%  - mostly medium grained wacke with a uniform texture - locally silicified with up to 10% quartz porphyroblasts - fracturing and quartz-carbonate veining generally minor - zero to trace disseminated pyrite									
		86.9 - 87.5 - 1/4" wide quartz-carbonate vein carrying 1-2% pyrite	19831	tr	83.0	85.0	2.0			.001	
			19832	1-2%	86.8	87.8	1.0			.001	
			19833	tr	90.0	92.1	2.1			.001	
			19834	-	96.0	98.0	2.0			.001	
			19835	-	99.5	100.5	1.0			.002	
		102.5 - 107.0 - blocky, broken core; rounded granitic and volcanic fragments; core recovery 1.3' over 4.5'									
			19836	-	107.0	109.0	2.0			.003	
		108.0 - 120.5 - several sections of blocky, broken core; recovery about 56%									
			19837	-	114.5	116.5	2.0			.002	
			19838	-	118.9	120.9	2.0			.001	

LANGRANGES - TORONTO - 366-1152



# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake

HOLE NO. SMZ-87-14

SHEET NO. 2 of 7

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS		
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au OZ TON	Check OZ TON	
120.9	160.2	<p><b>Mafic Metavolcanics</b>                      - medium to dark green, fine grained, weakly foliated (angle to core axis = 65-75°)</p> <p>Average Modes                      Amphibole 75-80%                      Plagioclase 15-20%                      Chlorite 0-5%                      Pyrite and Pyrrhotite - trace to 1%</p> <p>- mostly fine grained amphibole and plagioclase, uniform texture; locally amphibolitic                      - quartz-carbonate veining common; most veinlets 1/8" wide, some up to 3/4" wide                      - trace to 1% pyrrhotite, pyrite and chalcopyrite (in order of abundance); a few very small stringers also occur; sulphides are common in the quartz-carbonate veinlets</p>						
		<p>121.1 - 4" wide granitic dike, pink colour, medium grained, equigranular</p> <p>Average Modes                      Quartz 50-55%                      Plagioclase 40-45%                      Biotite 3-5%</p> <p>- amphibole inclusions, no visible sulphides</p>						
		122.3 - 2" wide granitic dike, as per above	19839	tr	129.9	122.5	1.6	.002
			19840	tr	122.5	124.5	2.0	.001
			19841	tr	124.5	126.6	2.1	.002
			19842	tr	126.6	129.0	2.4	.001
			19843	tr	129.0	131.2	2.2	.002
			19844	tr	131.2	132.7	1.5	.002
			19845	tr	132.7	134.2	1.5	.001
			19846	tr	134.2	137.0	2.8	.002
			19847	tr	137.0	139.5	2.5	.002
			19848	tr	139.5	142.0	2.0	.003
			19849	tr	142.0	143.0	1.0	.002
		124.5 - 126.6 - several narrow (1-2") biotite rich sections						

LANGFORDS - "DRILL" - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO.: SMZ-87-14 SHEET NO.: 3 of 7

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		oz Au	Check	
					FROM	TO			TOTAL
			19850	tr	143.0	145.0	3.0	.002	
			19851	tr	145.0	148.0	3.0	.001	
			19852	tr	148.0	149.8	1.8	.001	
			19853	tr	149.8	152.8	2.0	.003	
			19854	tr	152.8	156.0	3.2	.003	
			19855	1%	156.0	158.2	2.2	.003	
			19856	tr	158.2	160.2	2.0	.004	
160.2	179.9	<u>Metagreywacke</u> - basic description as per above - locally silicified with up to 10% quartz-eye porphyroblasts	19857	-	160.2	163.2	3.0	.003	
			19858	-	169.0	172.0	3.0	.001	
			19859	-	177.0	179.9	2.9	.002	
179.9	181.5	<u>Pelitic Metasediments</u> - dark brown to dark green, medium grained, very well foliated (angle to core axis = 65-70°)  Average Modes Biotite 60% Chlorite 40% Pyrite trace  - biotite-chlorite schist - minor euhedral pyrite crystals							
		179.9 - 181.3 - 4" wide quartz-carbonate vein with trace disseminated pyrite	19860	tr	179.9	181.5	1.6	.002	
181.5	263.8	<u>Ultramafic Metavolcanics</u> 181.5 - 188.4 - light green, medium grained, well foliated (angle to core axis = 65-70°)  Average Modes Talc/Serpentine 80-85% Chlorite 15-20% Pyrite trace - 1%	19861	tr	181.5	183.5	2.0	.002	
			19862	tr	183.5	186.0	2.5	.002	
			19863	tr	186.0	188.4	2.4	.001	

SANGREDES - DPCNTC - 366 - 1968

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-14 SHEET NO: 4 of 7

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		%	Au oz TON	Check oz TON
					FROM	TO			
		- finely foliated talc-chlorite schist - shear zone - several narrow sections (1-3" wide) of very incompetent schist (loosely foliated and clayey)							
188.4	263.8	- light green to grey-green, medium grained, massive to weakly foliated  Average Modes Amphibole 50-60% Plagioclase 5-10% Talc/Serpentine 20-25% Chlorite 10-15% Magnetite 2-5%  - weakly foliated assemblage of dark grey amphibole and chlorite with interstitial talc and serpentine grains - fracturing and quartz-carbonate veining is very minor - minor talc-rich bands up to 3/4" across	19864	-	188.4	190.4	2.0	.003	
192.8	193.3	- biotite schist - gradational into metavolcanics at both contacts	19865	-	192.6	196.1	3.5	.002	
198.2		- 2" wide granitic dikelet, description as per above - 6" wide section of biotite-chlorite schist on either side of dike	19866	-	197.6	199.1	1.5	.002	
			19867	-	207.0	210.0	3.0	.002	
			19868	-	217.0	220.0	3.0	.002	
			19889	-	222.0	224.0	2.0	.003	
			19890	-	230.0	233.0	3.0	.003	
			19869	-	238.0	341.0	3.0	.002	
			19870	-	245.0	248.5	2.5	.002	
			19871	-	251.0	253.0	2.0	.004	
			19872	-	256.0	257.0	1.0	.002	
256.0		- two 1/4" wide quartz-carbonate veinlets with trace pyrite	19873	-	261.3	263.8	2.5	.007	

LARGE COSES - TORONTO - 366-1488

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-87-14 SHEET NO. 5 of 7

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au OZ/TON	Check OZ/TON
263.8	327.9	<p><u>Mafic to Ultramafic Metavolcanics</u>                      - medium grey to pale grey-green, fine to medium grained, massive</p> <p>Average Modes                      Amphibole 50-65%                      Plagioclase 15-20%                      Serpentine 5-15%                      Talc 1-15%                      Magnetite 2-5%                      Chlorite 0-5%</p> <p>- general appearance is that of a dark grey green, massive mafic volcanic; talc occurs mostly as fine interstitial grains and occasionally as bands and stringers of almost pure talc                      - quartz-carbonate veining very common; most veinlets are less than 1/8" wide                      - sulphides are rare, both in the host rock and the veinlets</p>	19874	-	263.8 267.0 3.2	.003	
			19875	-	273.5 275.5 2.0	.002	
		297.7 - 280.4 - granitic dike, description as per above - 1" wide section of biotite-chlorite schist at both contacts	19876	-	279.6 281.1 1.5	.003	
		285.5 - two 1/2" wide quartz-carbonate veinlets - no visible sulphides	19877	-	284.5 286.0 1.5	.003	
		295.4 - 298.1 - schistose assemblage of chlorite and amphibole, possibly a shear zone - entire section is weakly carbonatized - 295.7 - dull purple mineral, likely fluorite, and trace pyrite in a quartz-carbonate veinlet - flakes of a copper-red micaceous mineral occur near upper contact (altered mica?)	19878	tr	295.4 298.1 2.7	.003	
			19879	-	302.6 306.5 3.9	.002	

LANGFORDS - 365-1156

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-14 SHEET NO. 6 of 7

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au oz ton	Check oz ton	
					FROM	TO			TOTAL
		315.6 - stringers of magnetite 1/8" wide in a talc-rich section - trace disseminated chalcopyrite found adjacent to stringers	9880	tr	315.0	316.0	1.0	.003	
		326.9 - 327.9 - well foliated section of chlorite ± biotite ± talc schist at contact - angle to core axis = 50-60°	9881	-	317.0	320.5	3.5	.003	
			9882	-	326.9	327.9	1.0	.003	
327.9	330.4	<u>Metagreywacke</u> - basic description as above	9883	tr	327.9	330.4	2.5	.005	
		329.6 - fracture coating of carbonate with minor pyrite							
330.4	331.6	<u>Mafic Metavolcanics</u> - chlorite (+ amphibole) schist, well foliated - biotite and quartz-carbonate veinlets common	9884	-	330.4	331.6	1.2	.004	
331.6	373.3	<u>Felsic Intrusive (Granite)</u> - granitic material similar to that found in the dikes above; pink colour; medium grained; equigranular; massive	9885	tr	331.6	334.6	3.0	.003	
		Average Modes Quartz 40-50% Plagioclase 25-35% K-Feldspar 5-10% Biotite 5-10% Sericite 2-5%							
		- fairly uniform granite, finer grained near contacts - a few very thin quartz-carbonate veinlets; fractures are common and are often lined with amphibole and trace pyrite							

LANGRIGES - \*DPCNTC - 366-115E

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-87-14 SHEET NO. 7 of 7

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au OZ TON	Check OZ TON	
					FROM	TO			TOTAL
		339.5 - 340.3 - intercalation or xenolith of biotite-chlorite schist - carbonatized; trace pyrite	19886	tr	339.5	340.5	1.0	.003	
		334.3 - 3" wide quartz vein or pod; no visible sulphides	19887	-	343.8	344.8	1.0	.002	
			19888	tr	347.0	350.5	3.5	.003	
			19891	1%	356.3	357.3	1.0	.001	
			19892	-	362.0	364.5	2.5	.002	
			19883	tr	369.8	373.3	3.5	.002	
373.3	381.5	<u>Mafic Metavolcanics</u> - very similar to mafic volcanics found between 120.9 and 160.2 - dark green, fine grained, weakly foliated (angle to core axis = 65-70°) - fine grained amphibole and plagioclase with minor chlorite - trace disseminated pyrrhotite and pyrite							
		373.3 - 376.7 - section below granite contact rich in biotite (up to 30%)	19894	tr	373.3	377.0	3.7	.002	
			19895	tr	377.0	379.1	2.1	.001	
			19896	tr	379.1	381.5	2.4	.002	
381.5	397.0	<u>Metagreywacke</u> - basic description as per above - light grey, medium grained, well foliated (angle to core axis = 70-80°) - fracturing and quartz-carbonate veining minor							
		384.8 - 385.7 - granitic dike similar to above - trace disseminated pyrite	19898	tr	384.8	385.8	1.0	.002	
		394.6 - 397.0 - silicified section with up to 10% quartz porphyroblasts (most less than or equal to 1/4")	19899	-	392.5	395.5	3.0	.001	
		397.0 E.O.H. Casing Pulled							

LANGRIGES - TORONTO - 366-1156

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-15 LENGTH 131.7  
 LOCATION 32+00W 6+04S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED Sept. 24, 1987 FINISHED Sept. 26, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH

HOLE NO. SMZ-87-15 SHEET NO. 1 of 1  
 REMARKS Claim #861517  
Summary Log  
 LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS			
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OZ/TON	Check OZ/TON
					FROM	TO				
0	111.8	<u>Casing</u>								
111.8	116.4	<u>Pelitic Metasediment</u>								
116.4	119.2	<u>Quartz Feldspar Porphyry</u>								
119.2	131.7	<u>Pelitic Metasediment</u>								
	131.7	END OF HOLE  Hole lost Casing pulled								

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-15 LENGTH 131.7  
 LOCATION 32+00W 6+04S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED Sept. 24, 1987 FINISHED Sept, 26, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH

HOLE NO. SMZ-87-15 SHEET NO. 1 of 2

REMARKS Claim #861517

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OZ/TON	Check OZ/TON	
					FROM	TO	TOTAL				
0	111.8	Casing									
111.8	116.4	Pelitic Metasediment - light to medium green, foliated at 50° to the core axis  Average Modes: Quartz 50% Chlorite 70% Biotite 15% Amphibole 5%  - unit includes trace disseminated pyrrhotite - grades towards a quartz wacke in some places									
116.4	119.2	Quartz Feldspar Porphyry - medium to dark grey, 1/16" phenocrysts, in a very fine grained ground-mass, very weak foliation at 50° to the core axis  Average Modes: Phenocrysts 20-25% Quartz 60% Feldspar 40% Groundmass 75-80%  - very fine grained, siliceous, trace pyrite	9901 tr		116.4	119.2	2.8			.001	

LANGRIDGE - TORONTO - 966-1188



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-15 SHEET NO. 2 of 2

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO.	SULPHIDES	FOOTAGE		Au	Check	
				FROM	TO	TOTAL	02 TON	02 TON	
119.2	131.7	<u>Pelitic Metasediment</u> - typical, as above - moderately foliated at 50° to the core axis - 123.5 - 1/2 inch quartz vein at 50° to the core axis, trace pyrite along the contact - 125.7 to 125.9 - quartz vein (possibly a pod) - 127.5 to 127.7 - quartz vein at 55° to the core axis - 129.0 to 129.2 - quartz vein at 60° to the core axis	19902	tr	119.2	123.0	3.8	.001	
			19903	tr	123.0	124.0	1.0	.001	
			19904	tr	124.0	125.2	1.2	.001	
			19905	tr	125.2	126.2	1.0	.002	
			19906	tr	126.2	127.3	1.1	.001	
			19907	tr	127.3	129.3	2.0	.001	
			19908	tr	129.3	131.7	2.4	.001	
	131.7	END OF HOLE Hole lost when overburden encountered again at 131.7 feet. Hole lost due to caving. Began Hole SMZ-87-15B from same location.							

LANGRIDGE - TORONTO - 366-1168

*J. Adams*

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-15B LENGTH 162.0  
 LOCATION 32+00W 6+04S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED Sept. 26, 1987 FINISHED Sept. 28, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH

HOLE NO. SMZ-87-15B SHEET NO. 1 of 1

REMARKS Claim #861517

Summary Log

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	113.6	<u>Casing</u>									
113.6	116.3	<u>Quartz Feldspar Porphyry</u>									
116.3	130.9	<u>Pelitic Metasediment</u>									
130.9	142.0	<u>Overburden</u>									
142.0	162.0	<u>Mafic Metavolcanic</u>									
	162.0	END OF HOLE									
		Casing pulled Hole lost									

LANGRIDDGES - TORONTO - 366-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-15B LENGTH 162.0  
 LOCATION 32+00W 6+04S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED Sept. 26, 1987 FINISHED Sept. 28, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH

HOLE NO. SMZ-87-15B SHEET NO. 1 of 2  
 REMARKS Claim #861517

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS			
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OZ/TON	Check OZ/TON
					FROM	TO				
0	113.6	<u>Casing</u>								
113.6	116.3	<u>Quartz Feldspar Porphyry</u> - medium to dark grey; 1/16" phenocrysts in a very fine grained groundmass, massive  Average Modes: Phenocrysts           20-25% Quartz                   60% Feldspar                 40% Groundmass            75-80%  - very fine grained, siliceous	9909	-	113.6	116.3	2.7			.001
116.3	130.9	<u>Pelitic Metasediment</u> - light to medium green, foliated at 50° to the core axis  Average Modes: Quartz                   50% Chlorite                 30% Biotite                  15% Amphibole               5%  - minor blue quartz eyes, grades towards a wacke in some places - 126.8 to 127.0 - quartz vein at 70° to the core axis	9910	-	116.3	121.3	5.0			.001
			9911	-	121.3	126.3	5.0			.002
			9912	-	126.3	127.3	1.0			.001
			9913	-	127.3	130.9	3.6			.002

LANGRIDGES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-15B SHEET NO. 2 of 2

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		ID	SULPHIDES	FOOTAGE FROM TO TOTAL	Au OZ TON	Check OZ TON
130.9	142.0	<u>Overburden</u> - minor recovery includes fragments of intermediate intrusive and jasper boulders					
142.0	162.0	<u>Mafic Metavolcanic</u> - medium to dark green, coarse grained, massive  Average Modes Amphibole 80% Plagioclase 15% Quartz 5%  - trace disseminated pyrite (+ chalcopyrite ?) appears throughout the unit - minor quartz stringers	19914	tr	142.0 147.0 5.0	.001	
			19915	tr	147.0 152.0 5.0	.001	
			19916	tr	152.0 157.0 5.0	.001	
			19917	tr	157.0 162.0 5.0	.001	
162.0		END OF HOLE Hole abandoned at 162.0' when overburden encountered. Overburden continues to 184 feet.					

*J. Williams*

LANGFORDS - TORONTO - 386-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-16 LENGTH 497.0  
 LOCATION 44+01W 8+30S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -46.0  
 STARTED Sept. 26, 1987 FINISHED Sept. 28, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-43 <sup>0</sup>				
497	-42 <sup>0</sup>				

HOLE NO. SMZ-87-16 SHEET NO. 1 of 1

REMARKS Claim #861517  
Summary Log

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE			ASSAYS			
FROM	TO		NO.	% SULPH IDES	FOOTAGE FROM TO TOTAL	%	%	Au OZ/TON	Check OZ/TON
0	90.3	<u>Casing</u>							
90.3	155.0	<u>Ultramafic Metavolcanics</u>							
155.0	228.6	<u>Quartz Wacke</u>							
228.6	274.3	<u>Ultramafic Metavolcanics</u>							
274.3	282.2	<u>Mafic Metavolcanics</u>							
282.2	289.6	<u>Metagreywacke</u>							
289.6	294.8	<u>Felsic Intrusive - Granitic Dike</u>							
294.8	295.7	<u>Metagreywacke</u>							
295.7	452.0	<u>Mafic to Ultramafic Metavolcanics</u>							
452.0	458.6	<u>Metagreywacke</u>							
458.6	462.3	<u>Pelitic Metasediments</u>							
462.3	468.6	<u>Ultramafic Metavolcanics</u>							
468.6	479.5	<u>Pelitic Metasediments</u>							
479.5	491.9	<u>Mafic Metavolcanics</u>							
491.9	497.0	<u>Ultramafic Metavolcanics</u>							
	497.0	END OF HOLE							

ANGR0065 - DREVTC - 366-158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-16 LENGTH 497.0  
 LOCATION 44+01W 8+30S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -46.0  
 STARTED Sept. 26, 1987 FINISHED Sept. 28, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-43°				
497	-42°				

HOLE NO. SMZ-87-16 SHEET NO. 1 of 10

REMARKS Claim #861517

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO.	FOOTAGE		%	‰	Au OZ/TON	Check OZ/TON
				FROM	TO				
0	90.3	Casing							
90.3	155.0	<u>Ultramafic Metavolcanics</u> - light grey green to grey, medium grained, massive to very weakly foliated Average Modes Amphibole           60-70% Serpentine/Talc    10-20% Plagioclase         5-10% Magnetite           2-5%  - dark grey amphibole with interstitial talc and serpentine - quartz-carbonate veining very minor  90.3 to 107.0 - fracture fillings and veinlets filled with talc and minor carbonate  130.6 to 131.5 - chlorite-talc schist - dark green, coarse grained, very well foliated Average Modes Chlorite            80% Talc                 20%  - possible shear zone; no visible sulphides							
			19677	91.0	94.0	3.0		.001	
			19678	97.0	100.0	3.0		<.001	
			19679	100.0	103.0	3.0		<.001	
			19680	103.0	106.0	3.0		.001	
			19681	112.0	115.0	3.0		.001	
			19682	121.5	124.5	3.0		.001	
			19683	130.0	132.0	2.0		.002	
			19684	138.0	141.0	3.0		.001	
			19685	146.0	149.0	3.0		.002	
			19686	152.0	155.0	3.0		.001	

LANGRISHES - TORONTO - 166-168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-16 SHEET NO: 2 of 10

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au	Check	
				FROM	TO	TOTAL	0.7 TON	0.2 TON	
		153.1 to 155.0 - chlorite talc schist - as per above but not as coarse grained - 154.8 to 155.0 - narrow section of biotite-chlorite schist at contact							
155.0	228.6	<u>Quartz Wacke</u> - light to medium grey, fine to medium grained, moderately well foliated (angle to core axis = 55-70°)  Average Modes Framework           60% Quartz                80% Feldspar             20% Matrix                40% Felsics               50% Biotite               50%  - mainly fine to medium grained quartz with biotite along foliation planes - quartz-eye porphyroblasts common; average size ranges from 1/8 to 1/4" in diameter; locally up to 10% porphyroblasts - generally trace sulphide; very fine sulphide (pyrite) occurs inside or adjacent to some of the quartz porphyroblasts - irregular quartz-carbonate veinlets with diffuse contacts and a central core of chlorite (composite veins?); also see regular quartz-carbonate veinlets, most very narrow - fractures commonly lined with serpentine and minor carbonate, + pyrite	9687	-	155.0	158.5	3.5	.002	
			9688	-	160.7	163.2	2.5	.001	

LANGRISHES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-16 SHEET NO. 3 of 10

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au OZ TON	Check OZ TON	
					FROM	TO			TOTAL
	164.4 to 165.2	- Felsic Intrusive Dike - white to light pink colour, medium grained, massive	19689	-	163.2	164.2	1.0	.001	
		Average Modes							
		Quartz 80%							
		Plagioclase 10-15%							
		Garnet 1-4%							
		Biotite 0-1%							
		- quartz has a saccharoidal texture							
		- possibly an Aplite dike							
		- tiny garnets scattered throughout unit and also in irregular bands	19690	trace	164.2	167.0	2.8	<.001	
			19691	trace	167.0	170.0	3.0	<.001	
			19692	trace	170.0	173.0	3.0	<.001	
	183.2 to 184.0	- Felsic Intrusive Dike - white to light grey, medium to coarse grained, massive							
		Average Modes							
		Quartz 50-60%							
		Plagioclase 20-25%							
		K-Feldspar 5-10%							
		Biotite 2-3%							
		Garnet 1-2%							
		Sericite 1-2%							
		- mostly coarse grained quartz with large plagioclase and K-spar crystals							
		- trace pyrite and chalcopyrite							

LANGRISHES - COPONTO - 366-1166



# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-16 SHEET NO: 4 of 10

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au OZ TON	Check OZ TON		
228.6	274.3	185.7 to 186.1 - Felsic Intrusive Dike - coarse grained granitic dike, as per above	19693	trace	183.0	186.5	3.5	.001	
			19694	-	188.9	192.3	3.4	.001	
		192.5 to 195.0 - Felsic Intrusive Dike - coarse grained granitic dike, as per above	19695	trace	192.3	195.3	3.0	.001	
			19696	-	197.8	201.3	2.5	.001	
			19697	trace	207.0	210.5	3.5	<.001	
		217.0 to 222.0 - several fractures lined with small pyrite crystals; serpentine and carbonate also present	19698	trace	217.0	220.0	3.0	<.001	
			19699	trace	220.0	223.1	3.1	<.001	
			19700	trace	223.1	224.1	1.0	<.001	
		223.4 to 224.1 - Felsic Intrusive Dike - coarse grained granitic dike, as per above - pyrite common along fractures	19918	-	225.6	228.6	3.0	.001	
		<u>Ultramafic Metavolcanics</u>							
		228.6 to 237.2 - light green, medium grained, well foliated (angle to core axis = 55-65°)	19919	-	228.6	237.2	8.6	<.001	
		Average Modes: Talc 80-85% Chlorite 15-20%							
		- sheared ultramafic volcanic - finely foliated talc-chlorite schist - poor core recovery (about 40%)							
		228.6 - 3" wide section of up to 20% biotite at upper contact							
		237.2 to 274.3 - grey green to medium grey colour, medium grained, massive to very weakly foliated, minor banding	19920	-	237.2	240.0	2.8	.001	
	19921	-	247.0	250.0	3.0	.001			
	19922	-	251.5	253.0	1.5	.001			
	19923	-	258.6	261.6	3.0	.001			
	19924	-	263.2	266.7	3.5	<.001			
	19925	-	271.3	274.3	3.0	<.001			

LANGRIDDGES - "OPECAN" - 3661158

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO.: SMZ-87-16 SHEET NO.: 5 of 10

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	% SULPHIDES	FOOTAGE FROM TO TOTAL	Au OZ TON	Check OZ TON
		Average Modes: Amphibole 50-60% Talc/Serpentine 20-25% Plagioclase 5-10% Chlorite 5-10% Magnetite 2-5%  - weakly foliated assemblage of dark grey amphibole and chlorite with interstitial talc and serpentine grains - fracturing and quartz-carbonate veining very minor - irregular, talc-rich bands very common throughout section; some bands are composed of almost pure talc					
274.3	282.2	<u>Mafic Metavolcanics</u> - dark green, fine grained, moderately well foliated (angle to core axis = 60-70°)  Average Modes: Amphibole 70-80% Chlorite 10-15% Plagioclase 5-10% Pyrite trace  - finely foliated amphibole-chlorite schist - quartz-carbonate veining common; most veinlets are very narrow - narrow (1/8 to 1/4") cherty bands near lower contact	19926	trace	274.3 277.0 2.7	.001	
			19927	trace	277.0 280.0 3.0	.001	
			19928	trace	280.0 282.2 2.2	.001	

LANGRISHES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-16 SHEET NO. 6 of 10

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS																	
FROM	TO		NO	SULPHIDES	FOOTAGE				Au	Check														
				FROM	TO	TOTAL			0.1 TON	0.2 TON														
282.2	289.6	<p><u>Metagreywacke</u></p> <p>- Medium grey colour, fine to medium grained, moderately well foliated (angle to core axis = 60-70°)</p> <p>Average Modes</p> <table> <tr><td>Framework</td><td>30%</td></tr> <tr><td>Quartz</td><td>60%</td></tr> <tr><td>Feldspar</td><td>40%</td></tr> <tr><td>Matrix</td><td>70%</td></tr> <tr><td>Felsics</td><td>60%</td></tr> <tr><td>Biotite</td><td>30%</td></tr> <tr><td>Chlorite</td><td>10%</td></tr> </table> <p>- mostly fine grained, uniform texture                      - quartz-carbonate veining minor                      - quartz porphyroblasts also minor; locally they make up to 5% of the rock</p>	Framework	30%	Quartz	60%	Feldspar	40%	Matrix	70%	Felsics	60%	Biotite	30%	Chlorite	10%								
Framework	30%																							
Quartz	60%																							
Feldspar	40%																							
Matrix	70%																							
Felsics	60%																							
Biotite	30%																							
Chlorite	10%																							
		282.7 to 283.1 - Felsic Intrusive Dike	19929	-	282.2	283.2	1.0		.001															
		- coarse grained granitic dike, as per above	19930	-	283.2	286.2	3.0		.001															
		- sericite up to 5%, no visible sulphides	19931	-	286.2	289.6	3.4		.001															
289.6	294.8	<p><u>Felsic Intrusive</u></p> <p>- Large, medium to coarse grained granitic dike, as per above                      - minor sericite</p>	19932	-	289.6	292.6	3.0		.001															
			19933	-	292.6	294.8	2.2		.001															

LANGRAGES - TORONTO - 366-1166

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-16 SHEET NO. 7 of 10

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au 07 TON	Check 07 TON
294.8	295.7	Metagreywacke - basic description as per above - no quartz porphyroblasts - intruded by two 3/4" wide granitic dikelets near lower contact	19934	-	294.8 295.8 1.0	.001	
295.7	452.0	Mafic to Ultramafic Metavolcanics  295.7 to 302.2 - light green, fine grained, very well foliated (angle to core axis = 50-60°)  Average Modes Chlorite 70% Talc 30%  - chlorite-talc schist, possibly a sheared contact - 295.7 to 297.5 - biotite rich bands, locally up to 30% biotite  302.2 to 452.0 - mostly typical, massive, mafic volcanics - talc content varies widely; gradational variations between mafic and ultramafic metavolcanics throughout the unit - several narrow bands composed of almost pure talc - quartz-carbonate veinlets common, most less than 1/8" wide - sulphide (pyrite and minor chalcopyrite) occurs only in weakly silicified sections in trace amounts - magnetite occurs as large anhedral grains in several sections, giving the rock a mottled, spotty texture	19935	-	295.8 297.5 1.7	.001	
			19936	-	297.5 300.5 3.0	.001	
			19937	-	300.5 302.1 1.6	.001	
			19938	-	302.1 305.0 2.9	.001	
			19939	-	309.5 312.5 3.0	.001	
			19940	trace	323.0 326.0 3.0	<.001	
			19941	-	331.0 334.5 3.5	.001	
			19942	-	339.1 342.6 3.5	<.001	
			19943	-	347.0 350.5 3.5	<.001	
			19944	-	354.5 358.0 3.5	.001	
			19945	-	366.0 370.0 4.0	<.001	
			19946	-	376.0 380.0 4.0	.001	
			19947	trace	382.7 386.7 4.0	<.001	
			19948	trace	389.8 393.8 4.0	<.001	
			19949	trace	403.1 407.1 4.0	.001	
			19950	-	417.2 421.2 4.0	<.001	

LANGRANGES - TORONTO - 366-1162

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake

HOLE NO SMZ-87-16 SHEET NO. 8 of 10

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPH IDS	FOOTAGE		Au OZ TON	Check OZ TON	
					FROM	TO			TOTAL
452.0	458.6	<u>Metagreywacke</u> - similar to above wackes except for a much higher biotite content in the matrix (total biotite content around 20-25%) - moderately well foliated (angle to core axis = 50-60°) - gradational into lower pelitic sediments - trace pyrite, mostly along foliation planes	19951	-	426.0	429.0	3.0	.001	
			19952	-	437.0	441.0	4.0	<.001	
			19953	-	443.5	446.0	2.5	.001	
			19954	-	448.5	452.0	3.5	.001	
			19955	trace	452.0	456.0	4.0	.001	
			19956	trace	456.0	450.6	2.6	.001	
458.6	462.3	<u>Pelitic Metasediments</u> - brownish-black colour, fine grained, well foliated (angle to core axis = 50-60°)  Average Modes Biotite           90-95% Chlorite         5-10%  - biotite + chlorite schist - very small quartz-carbonate veinlets - entire unit is weakly carbonatized	19957	-	458.6	462.3	3.7	<.001	

LANGRANGES - DEPT. 10 - 366-1166

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-16 SHEET NO. 9 of 10

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au GZ TON	Check GZ TON
462.3	468.6	<p><u>Ultramafic Metavolcanics</u></p> <p>- light to medium green, medium to fine grained, well foliated (angle to core axis = 75-80°)</p> <p>Average Modes:                      Chlorite 55-65%                      Amphibole 20-30%                      Talc/Serpentine 10-15%</p> <p>- mildly sheared ultramafic volcanic                      - slickensided, serpentine rich shear planes common                      - quartz-carbonate veining very minor</p> <p>467.4 to 468.0 - Felsic intrusive dike                      - coarse granitic dike similar to above; frequent biotite rich bands</p>	19958	-	462.3 465.3 3.0	<.001	
			19959	-	465.3 467.4 2.1	.001	
			19960	-	467.4 468.6 1.2	.001	
468.6	479.5	<p><u>Pelitic Metasediments</u></p> <p>468.6 to 471.0 - typical biotite + chlorite schist                      - well foliated angle to core axis = 55-65°</p> <p>471.0 to 479.5 - chlorite + biotite schist                      - carbonitized; thin veinlets and small grains of carbonate throughout section                      - trace pyrite                      - becoming increasingly biotite-rich near lower contact</p>	19961	-	468.6 471.0 2.4	<.001	
			19962	trace	471.0 474.0 3.0	.001	
			19963	trace	474.0 477.0 3.0	.001	
			19964	trace	477.0 479.5 2.5	.002	

-ANGRIDGES - TORONTO - 368-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-16 SHEET NO. 10 of 10

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au	Check	
					FROM	TO	TOTAL	oz TON	oz TON
479.5	491.9	<u>Mafic Metavolcanics</u> - finely foliated amphibole-chlorite schist, similar to material between 274.3 to 282.2 - angle to core axis = 60-65° - some sections are particularly chloritic (zones of weak shearing ?) - practically zero quartz-carbonate veining	19965	-	479.5	483.5	4.0	<.001	
			19966	-	488.9	491.9	3.0	.001	
491.9	497.0	<u>Ultramafic Metavolcanics</u> - typical grey-green, medium grained, massive, talc-rich ultramafic, similar to material found between 90.3 to 155.0 - quartz-carbonate veining very minor	19967	-	491.9	495.9	4.0	.001	
	497.0	<u>END OF HOLE</u> Casing pulled							

*J. Adams*

LANGRIDGES - "CROWN" - 366-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-17 LENGTH 807.0  
 LOCATION 32+00W 5+01S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -55<sup>0</sup>  
 STARTED Sept. 28, 1987 FINISHED Oct. 3, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-48 <sup>0</sup>				
400	-45 <sup>0</sup>				
600	-44 <sup>0</sup>				
807	-44 <sup>0</sup>				

HOLE NO. SMZ-87-17 SHEET NO. 1 of 1  
 REMARKS Claim #061517  
Summary Log  
 LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPH IDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	82.4	<u>Casing</u>									
82.4	88.7	<u>Mafic Metavolcanic</u>									
88.7	92.3	<u>Quartz Wacke</u>									
92.3	103.2	<u>Mafic Metavolcanic</u>									
103.2	104.3	<u>Quartz Wacke</u>									
104.3	141.3	<u>Mafic Metavolcanic</u>									
141.3	150.6	<u>Quartz Feldspar Porphyry</u>									
150.6	191.7	<u>Mafic Metavolcanic</u>									
191.7	355.7	<u>Quartz Wacke</u>									
355.7	726.5	<u>Ultramafic Metavolcanic</u>									
726.5	755.7	<u>Quartz Feldspar Porphyry</u>									
755.7	769.9	<u>Pelitic Metasediment</u>									
769.9	807.0	<u>Ultramafic Metavolcanic</u>									
807.0		<u>END OF HOLE</u> Casing pulled									

LANGRISSE - TORONTO - 386-1182



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-17 LENGTH 807.0  
 LOCATION 32+00W 5+01S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -55<sup>0</sup>  
 STARTED Sept. 28, 1987 FINISHED Oct. 3, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-48 <sup>0</sup>				
400	-45 <sup>0</sup>				
600	-44 <sup>0</sup>				
807	-44 <sup>0</sup>				

HOLE NO. SMZ-87-17 SHEET NO. 1 of 7

REMARKS Claim #861517

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	82.4	<u>Casing</u>									
82.4	88.7	<u>Mafic Metavolcanic</u> - coarse grained, medium to dark green, massive to weakly foliated at 65° to the core axis  Average Modes Amphibole 60-65% Plagioclase 20-25% Chlorite 5% Quartz 10% Pyrite trace  - trace pyrite is disseminated throughout the unit - 86.7 to 88.7 - well foliated at 65° to the core axis, probable shear zone, heavily silicified	19969	trace	86.7	88.7	2.0			<.001	
88.7	92.3	<u>Quartz Wacke</u> - light grey/green, poorly foliated at 50° to the core axis  Average Modes: Framework 55-65% Quartz 95% Feldspar 5% Matrix 35-45% Quartz 75% Biotite 25% Pyrite trace	19970	tr	88.7	92.3	3.6			.002	

LANGRISHES - CORONTC - 356-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-17 SHEET NO. 2 of 7

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au oz TON	Check oz TON	
					FROM	TO			TOTAL
92.3	103.2	<u>Mafic Metavolcanic</u> - typical, coarse grained, medium to dark green, moderately foliated at 50° to the core axis - 94.4 to 96.0 - abundant quartz stringers and fractures, 3-4% pyrrhotite and 1% chalcopyrite - 100.0 to 103.2 - silicified, 1-2% disseminated pyrrhotite	19971	-	92.3	94.4	1.9	.002	
			19972	4-5	94.4	96.0	1.6	.001	
			19973	-	96.0	100.0	4.0	<.001	
			19974	1-2	100.0	103.2	103.2	.001	
103.2	104.3	<u>Quartz Wacke</u> - typical, as above, trace pyrite	19975	trace	103.2	104.3	1.1	.001	
104.3	141.1	<u>Mafic Metavolcanic</u> - typical, as above, medium to dark green, fine to medium grained, massive to poorly foliated at 60° to the core axis - 109.1 to 110.4 - numerous fractures at low angles to the core axis with minor coatings of pyrite - 112.8 to 114.4 - fractures at low angles to the core axis and parallel to foliation, 1% pyrrhotite in massive blebs - 117.5 to 117.6 - quartz stringers at 50° to the core axis - 122.2 to 122.6 - quartz veinlets at 50° to the core axis - 131.5 - quartz veinlet at 35° to the core axis, minor epidote	19977	trace	109.1	110.4	1.3	.001	
			19978	-	110.4	112.8	2.4	<.001	
			19979	1	112.8	114.4	1.6	.001	
			19980	-	117.0	118.0	1.0	.002	
			19981	-	121.9	122.9	1.0	<.001	
			19982	-	131.1	132.1	1.0	.001	
			19983	-	137.0	141.1	4.1	.001	

LANGRISHES - OCEANIC - 366-1165

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-17 SHEET NO: 3 of 7

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au OZ TON	Check OZ TON
141.1	150.6	<u>Quartz Feldspar Porphyry</u> - grey, 1/16" phenocrysts in a very fine grained groundmass, massive to weakly foliated at 50° to the core axis  Average Modes: Phenocrysts      30-40% Quartz            50% Feldspar          50% Groundmass       60-70% Quartz            90% Biotite            10%  - trace pyrite appears on fracture surfaces	19984	tr	141.1 146.0 4.9	.002	
			19985	tr	146.0 150.6 4.6	.002	
150.6	191.7	<u>Mafic Metavolcanic</u> - typical, as above, medium to dark green, fine to medium grained - 150.6 to 152.1 - biotite-rich contact zone, abundant quartz stringers - 152.1 to 153.1 - quartz (+ carbonate) vein, trace pyrite - 153.7 to 154.1 - felsic dikelet, fine grained, equigranular, contacts at 50° to the core axis - 154.1 to 156.8 - minor brecciation and quartz stringers - 161.4 to 16 - quartz vein at 40° to the core axis - 172.2 to 172.4 - quartz vein at 45° to the core axis - 173.6 to 173.9 - felsic dikelet at 40° to the core axis	19986	-	150.6 152.1 1.5	.001	
			17892	trace	152.1 153.1 1.0	.001	
			17893	-	153.1 154.1 1.0	.001	
			17894	-	154.1 156.8 2.7	<.001	
			17895	-	156.8 160.9 4.1	<.001	
			19987	-	160.9 161.9 1.0	<.001	
			19988	-	167.0 171.4 4.4	.001	
			19989	-	171.4 172.4 1.0	.001	
			19990	-	172.4 173.4 1.0	<.001	
			19991	-	173.4 174.4 1.0	<.001	

CHANGES - TOPIC - 366-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-87-17 SHEET NO. 4 of 7

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS		
FROM	TO		NO	SULPHIDES	FOOTAGE		Au	Check	
				FROM	TO	TOTAL	0.7 TON	0.7 TON	
		- 178.5 - trace disseminate pyrite and pyrrhotite	19992	-	177.5	179.5	2.0	<.001	
		- 186.1 to 191.7 - shear zone, numerous quartz stringers and veins	19993	-	179.5	183.1	3.6	.001	
			19994	-	183.1	186.1	3.0	<.001	
			19995	-	186.1	189.0	2.9	<.001	
			19996	-	189.0	191.7	2.7	<.001	
191.7	355.7	<u>Quartz Wacke</u>							
		- light grey/green, coarse grained, massive							
		Average Modes:							
		Framework			60-70%				
		Quartz			60-65%				
		Feldspar			35-40%				
		Matrix			30-40%				
		Chlorite			90%				
		Biotite			10%				
		- trace disseminated pyrite							
		191.7 to 196.5 - typical	19997	tr	191.7	196.5	4.8	<.001	
		196.5 to 207.5 - minor quartz stringers at random angles to the core axis	19998	tr	196.5	199.3	2.8	.002	
		- 202.8 to 204.7 - massive, very fine grained, 1% pyrrhotite	19999	tr	199.3	202.8	3.5	.002	
			20000	i	202.8	204.7	1.9	.001	
		207.5 to 208.5 - heavily sheared, probably an ultramafic metavolcanic	17801	tr	204.7	207.5	2.8	.001	
			17896	tr	207.5	208.5	1.0	<.001	
			17802	tr	208.5	211.4	2.9	.001	
		211.5 to 212.3 - granitic dike, rich in potassium feldspar	17803	tr	211.4	212.4	1.0	.002	
		212.3 to 288.2 - typical	17804	tr	212.4	213.7	1.3	<.001	
			17805	tr	213.7	217.9	4.2	.002	
			17806	tr	223.2	227.9	4.7	.002	
			17807	tr	232.5	237.2	4.7	.002	
			17808	tr	247.0	251.7	4.7	.001	
			17809	tr	255.9	260.5	4.6	.002	
			17810	tr	265.4	270.0	4.6	<.001	
			17811	tr	274.7	279.3	4.6	<.001	
			17812	tr	284.3	288.3	4.0	<.001	

LANGRISHES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-17 SHEET NO. 5 of 7

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au G/TON	Check G/TON				
355.7	726.5	- 288.3 to 305.5 - finer grained, 0.5% pyrite in coarse euhedral grains	17813	0.5	288.3	291.5	3.2	.001			
			17814	0.5	291.5	293.7	2.2	<.001			
			17815	0.5	293.7	298.5	4.8	<.001			
			17816	0.5	298.5	303.2	4.7	<.001			
			17817	0.5	303.2	305.5	2.3	.001			
			17818	tr	305.5	308.0	2.5	<.001			
			17819	tr	317.7	321.8	4.1	.001			
			17820	tr	332.3	337.0	4.7	<.001			
			17821	tr	351.1	355.7	4.6	<.001			
				<u>Ultramafic Metavolcanic</u>							
				- light grey/green, fine grained, well foliated at 70° to the core axis							
				Average Modes							
				Amphibole 45-55%							
				Chlorite 25-30%							
				Talc/Serpentine 15-20%							
				Plagioclase 5-10%							
				- 355.7 to 358.0 - numerous quartz stringers at random angles to the core axis, trace pyrite	17822	tr	355.7	358.0	2.3	<.001	
				- 358.0 to 359.0 - quartz vein, trace pyrite	17823	tr	358.0	359.0	1.0	<.001	
					17824	-	359.0	360.8	1.8	.001	
					17825	-	366.2	370.6	4.4	.001	
			17826	-	376.0	380.6	4.6	.001			
			17827	-	385.6	390.3	4.7	<.001			
			17828	-	394.8	399.6	4.8	.001			
			17829	-	404.2	409.0	4.8	<.001			
			17830	-	414.7	419.0	4.3	<.001			
		- 419.0 to 446.3 - talc occurs in lower quantities in this section, up to 5% biotite, 2% pyrrhotite, 1% chalcopyrite in massive stringers and blebs	17831	3	419.0	422.0	3.0	<.001			
			17832	3	422.0	427.0	5.0	<.001			
			17833	3	427.0	432.0	5.0	.001			
			17834	3	432.0	437.0	5.0	.001			

LANGRISHES - TORONTO - 366-1162

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-17 SHEET NO: 6 of 7

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS		
FROM	TO		NO	SULPH IDES	FOOTAGE		Au oz ton	Check oz ton	
					FROM	TO			TOTAL
			17835	3	437.0	442.0	5.0	.002	
			17836	3	442.0	446.3	4.3	<.001	
			17837	-	446.3	448.5	2.2	.001	
			17838	-	452.8	457.4	4.6	<.001	
			17839	-	466.2	470.9	4.7	.003	
			17840	-	475.9	480.7	4.8	<.001	
		- 490.6 to 506.0 - talc-poor section, minor biotite	17841	-	487.0	490.6	3.6	<.001	
			17842	-	490.6	493.3	2.7	<.001	
			17843	-	493.3	497.0	3.7	.001	
		- 506.0 to 530.0 - very high talc content, up to 35%	17844	-	502.0	506.0	4.0	<.001	
			17845	-	506.0	508.8	2.8	.001	
			17846	-	512.7	517.3	4.6	<.001	
			17847	-	526.8	530.0	3.2	.001	
		- 530.0 to 549.8 - low talc content, rock is predominantly chlorite and actinolite/tremolite here, trace pyrrhotite	17848	tr	530.0	531.5	1.5	.002	
			17849	tr	536.2	541.0	4.8	<.001	
		- 549.8 to 568.4 - very high talc content	17850	tr	546.1	549.8	3.7	.003	
			17851	-	549.8	551.9	2.1	.002	
			17852	-	555.7	560.4	4.7	<.001	
			17853	-	565.2	568.4	3.2	.001	
		- 568.4 to 569.4 - chlorite-tremolite-biotite schist, probable shear zone, minor talc	17854	-	568.4	569.4	1.0	.001	
		- 569.4 to 571.8 - typical ultramafic flow	17855	-	569.4	571.8	2.4	.002	
		- 571.8 to 641.2 - unit appears to have a lower talc content and a higher massive serpentine content. Unit grades towards a mafic metavolcanic with up to 20% plagioclase locally	17856	-	571.8	574.7	2.9	<.001	
			17857	-	574.7	579.5	4.8	<.001	
			17858	-	584.4	589.0	4.6	<.001	
			17859	-	593.6	598.3	4.7	<.001	
			17860	-	602.9	607.7	4.8	<.001	
			17861	-	612.5	617.0	4.5	<.001	
			17862	-	626.8	631.5	4.7	.001	
			17863	-	636.5	641.2	4.7	.001	
		- 641.2 to 648.1 - contains large clots of massive serpentine, possible subvolcanic or intrusive phase	17864	-	641.2	645.9	4.7	<.001	
			17865	-	645.9	648.1	2.2	.003	

LANGRISSES - TORONTO - 355-1159

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO.: SMZ-87-17 SHEET NO.: 7 of 7

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS		
FROM	TO		ID	SULPHIDES	FOOTAGE		Au	Check	
				FROM	TO	TOTAL	07 TON	07 TON	
		- 648.1 to 726.5 - typical ultramafic metavolcanic, 2-3% disseminated euhedral magnetite. Moderately abundant quartz stringer, some with associate massive and asbestiform serpentine	17866	-	648.1	650.5	2.4	.001	
			17867	-	655.0	659.6	4.6	<.001	
			17868	-	664.7	669.4	4.7	<.001	
			17869	-	673.9	678.5	4.6	<.001	
			17870	-	683.7	688.3	4.6	.002	
			17871	-	693.0	697.6	4.6	.001	
			17872	-	702.3	707.0	4.7	.001	
			17873	-	716.4	720.9	4.5	.001	
			17874	-	720.9	725.5	4.6	.003	
		- 726.1 to 726.5 - sheared contact	17875	-	725.5	726.5	1.0	.002	
726.5	755.7	<u>Quartz Feldspar Porphyry</u> - typical, as above, massive, phenocrysts make up 20% of the unit - 730.2 to 731.5 - shear zone, ground core, potassium feldspar present	17876	-	726.5	730.2	3.7	<.001	
			17877	-	730.2	731.5	1.3	.001	
			17878	-	731.5	733.8	2.3	.001	
			17879	-	733.8	737.0	3.2	.001	
			17880	-	737.0	742.0	5.0	.003	
			17881	-	742.0	747.0	5.0	.002	
			17882	-	747.0	752.0	5.0	<.001	
			17883	-	752.0	755.7	3.7	.001	
755.7	769.9	<u>Pelitic Metasediment</u> - typical, as above, foliated at 40° to core axis, 1-2% pyrrhotite stringers	17884	1-2	755.7	757.0	1.3	.001	
			17885	1-2	757.0	762.0	5.0	.001	
			17886	1-2	762.0	767.0	5.0	<.001	
			17887	1-2	767.0	769.9	2.9	<.001	
769.9	807.0	<u>Ultramafic Metavolcanic</u> - typical, as above, light grey/green, fine grained, massive	17888	-	769.9	771.1	1.2	.002	
			17889	-	775.9	780.3	4.4	.002	
			17890	-	784.5	789.3	4.8	.002	
			17891	-	793.7	798.4	4.7	<.001	
	807.0	END OF HOLE Casing pulled							

*J. Williams*

LANGRISHES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-18 LENGTH 485.0  
 LOCATION 44+00W 5+50S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45.5<sup>0</sup>  
 STARTED Sept. 28, 1987 FINISHED Sept. 30, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-46 <sup>0</sup>				
485	-43 <sup>0</sup>				

HOLE NO. SMZ-87-18 SHEET NO. 1 of 1

REMARKS Claim #861517

Summary Log

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	116.8	<u>Casing</u>									
116.8	230.2	<u>Ultramafic Metavolcanic</u>									
230.2	285.9	<u>Mafic to Ultramafic Metavolcanic</u>									
285.9	301.4	<u>Ultramafic Metavolcanic</u>									
301.4	328.5	<u>Pelitic Metasediment</u>									
328.5	415.4	<u>Ultramafic Metavolcanic</u>									
415.4	420.1	<u>Pelitic Metasediment</u>									
420.1	485.0	<u>Ultramafic Metavolcanic</u>									
	485.0	<u>END OF HOLE</u>									
		<u>Casing pulled</u>									

LANGRIDGES - TORONTO - 366-1152



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-18 LENGTH 485.0  
 LOCATION 44+00W 5+50S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45.5°  
 STARTED Sept. 28, 1987 FINISHED Sept. 30, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-46°				
485	-43°				

HOLE NO. SMZ-87-18 SHEET NO. 1 of 3

REMARKS Claim #861517

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Av OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	116.8	Casing									
116.8	230.2	Ultramafic to Mafic Metavolcanic - grey/green, fine grained, poorly foliated at 60° to the core axis  Average Modes: Chlorite           25-30% Amphibole         50-60% Plagioclase        10-15% Talc/Serpentine    5-10% Magnetite          1-2%  - serpentine is predominantly massive, however much of it is asbestiform, occurring in small fractures, minor quartz stringers occur at random angles to the core axis - 204.5 to 206.0 - increased quartz stringers containing euhedral magnetite crystals - 208.4 to 210.3 - increased quartz stringers and serpentine-filled fractures with euhedral magnetite crystals - 217.6 to 219.4 - randomly oriented serpentine and quartz-filled fractures - 226.2 to 230.2 - quartz veinlets at very low angles to the core axis.	17897	-	116.4	121.4	5.0			.004	
			17898	-	125.7	130.6	4.9			.003	
			17899	-	135.4	139.9	4.5			.002	
			17900	-	144.7	149.3	4.6			.002	
			17901	-	153.7	158.6	4.9			.003	
			17902	-	163.4	168.1	4.7			.003	
			17903	-	172.6	177.4	4.8			.002	
			17904	-	186.8	191.6	4.8			.002	
			17905	-	196.3	201.1	4.8			.001	
			17906	-	201.1	204.5	3.4			.002	
			17907	-	204.5	206.0	1.5			.001	
			17908	-	206.0	208.4	2.4			<.001	
			17909	-	208.4	210.3	1.9			.002	
			17910	-	217.6	219.4	2.8			.002	
			17911	-	226.2	230.2	4.0			.002	

LANGRIGES - "SACN" - 396.11.96

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-18 SHEET NO. 2 of 3

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPH IDES	FOOTAGE		Au	Check	
					FROM	TO			TOTAL
230.2	285.9	<u>Mafic to Ultramafic Metavolcanic</u> - green, fine grained, massive  Average Modes: Amphibole       50-60% Chlorite         20-25% Plagioclase      15-20% Serpentine       5% Magnetite        1%  - unit contains numerous randomly oriented quartz stringers with offsets at intersections - 269.8 to 285.9 - amygdaloidal flow with minor quartz/serpentine stringers with trace pyrrhotite	17912	-	230.2	234.3	4.1	.001	
			17913	-	234.3	238.9	4.6	.001	
			17914	-	238.9	243.7	4.8	.003	
			17915	-	243.7	248.6	4.9	.002	
			17916	-	248.6	253.4	4.8	.002	
			17917	-	253.4	258.1	4.7	.001	
			17918	-	258.1	262.9	4.8	<.001	
			17919	-	262.9	267.8	4.9	.001	
			17920	-	267.8	269.4	1.6	.002	
			17921	tr	269.4	272.9	3.5	<.001	
			17922	tr	272.9	277.8	4.9	.001	
			17923	tr	277.8	282.8	5.0	.002	
			17924	tr	282.8	285.9	3.1	.002	
285.9	301.4	<u>Ultramafic Metavolcanic</u> - typical as above, high talc content, weakly brecciated, minor quartz (+ carbonate) stringers	17925	-	285.9	287.7	1.8	.002	
			17926	-	287.7	292.6	4.9	.001	
			17927	-	292.6	296.4	3.8	.003	
			17928	-	296.4	301.4	5.0	.002	
301.4	328.5	<u>Pelitic Metasediment</u> - green/brown, well foliated at 65° to the core axis  Average Modes: Chlorite        35-45% Biotite         30-40% Quartz          20-30% Talc            2-3%  - unit grades towards a wacke in some places	17929	-	301.4	305.9	4.5	.002	
			17930	-	315.6	320.3	4.7	.001	
			17931	-	324.9	328.5	3.6	.003	

LANGRISHES - TORONTO - 355-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-87-18 SHEET NO: 3 of 3

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SMPH IDES	FOOTAGE FROM TO TOTAL	g Au/g	Check		
328.5	415.4	<u>Ultramafic Metavolcanic</u> - typical as above, grey, fine grained, talcose, foliated at 55° to the core axis, 0.5-1% pyrrhotite on foliation surfaces - 328.5 to 339.1 - shear zone, highly contorted foliations  - 366.1 to 368.1 - heavily sheared, minor biotite	7932	0.5-	328.5	332.0	3.5	.001	
			7933	0.5-	332.0	337.0	5.0	.001	
			7934	0.5-	337.0	339.1	2.1	.001	
			7935	0.5-	344.7	349.2	4.5	.002	
			7936	0.5-	354.1	358.7	4.6	.002	
			7937	0.5-	362.9	366.1	3.2	<.001	
			7938	0.5-	366.1	368.8	2.7	.001	
			7939	0.5-	368.8	372.7	3.9	.002	
			7940	0.5-	372.7	377.4	4.7	.002	
			7941	0.5-	386.8	391.5	4.7	.002	
			7942	0.5-	396.0	400.6	4.6	.001	
			7943	0.5-	413.0	415.4	2.4	<.001	
			7944	tr	415.4	418.2	2.8	.001	
			7945	tr	418.2	420.1	1.9	.001	
			415.4	420.1	<u>Pelitic Metasediments</u> - chlorite - biotite schist, minor talc, trace pyrite, foliated at 65° to the core axis				
420.1	485.0	<u>Ultramafic Metavolcanic</u> - typical, talcose, massive, fine grained, trace pyrrhotite	7946	tr	420.1	422.8	2.7	<.001	
			7947	tr	432.5	437.4	4.9	.001	
			7948	tr	442.1	447.0	4.9	.001	
			7949	tr	456.6	461.1	4.5	.001	
			7950	tr	465.8	470.4	4.6	.001	
			7951	tr	475.2	480.0	4.8	<.001	
485.0		END OF HOLE							
		Casing pulled							

*J. H. Adams*

BRIDGES - TORONTO - 355-158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-19 LENGTH 353  
 LOCATION L42W 4+97N  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45.5  
 STARTED Sept. 30, 1987 FINISHED Oct. 1, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-39 <sup>0</sup>				
340	-38 <sup>0</sup>				

HOLE NO. SMZ-87-19 SHEET NO. 1 of 1

REMARKS Claim #861514

Summary Log

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
		SUMMARY LOG									
0	51.6	Casing									
51.6	128.8	Pelitic Metasediments with Interbedded Chert									
128.8	145.1	Mafic Metavolcanics									
145.1	157.8	Felsic Metatuff									
157.8	167.8	Mafic Metavolcanics									
167.8	184.9	Ultramafic Metavolcanics									
184.9	203.2	Mafic Metavolcanics									
203.2	209.1	Ultramafic Metavolcanics									
209.1	217.9	Pelitic Metasediments									
217.9	227.0	Mafic to Intermediate Metavolcanics									
227.0	243.1	Mafic to Ultramafic Metavolcanics									
243.1	247.6	Pelitic Metasediments									
247.6	249.5	Ultramafic Metavolcanics									
249.5	252.6	Pelitic Metasediments									
252.6	264.3	Ultramafic Metavolcanics									
264.3	270.3	Pelitic Metasediments									
270.3	276.9	Ultramafic Metavolcanics									
276.9	279.3	Pelitic Metasediments									
279.3	301.0	Metagreywacke									
301.0	313.9	Mafic Metavolcanics									
313.9	325.9	Ultramafic Metavolcanics									
325.9	332.9	Silicified Mafic Metavolcanics									
332.9	353.0	Metagreywacke									
	353.0	End of Hole									
		Casing pulled									

ANGRIDGES - TORONTO - 966-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-19 LENGTH 353  
 LOCATION L42W 4197H  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45.5  
 STARTED Sept. 30, 1987 FINISHED Oct. 1, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-39 <sup>0</sup>				
340	-38 <sup>0</sup>				

HOLE NO. SMZ-87-19 SHEET NO. 1 of 12

REMARKS Claim #861514

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	51.6	Casing									
51.6	128.8	Pelitic Metasediments with Interbedded Chert									
		51.6 - 74.2 - light green to grey green, fine grained, well foliated (angle to core axis = 50-55 <sup>0</sup> ), minor fine banding	12261	-	52.0	55.0	3.0			.002	
			12262	tr	56.5	60.5	4.0			.001	
			12263	-	66.0	70.0	4.0			.001	
		Average Modes:									
		Chlorite 80-85%									
		Sericite 5-10%									
		Felsics 5-10%									
		Pyrite trace									
		- chlorite + sericite schist									
		- chert bands up to 1/4" wide compose 5-10% of the rock									
		- entire section is weakly carbonatized; quartz-carbonate stringers common, most less than 1/8" wide									
		- trace pyrite occurs in several sections									
		- gradational into lower chlorite-biotite schist									
		- most likely a sediment but this unit might possibly be interpreted as a mafic ash tuff									
		- 71.0 - 74.2 - blocky, broken core	12264	-	71.2	74.2	3.0			<.001	

# DIAMOND DRILL RECORD

Santa Maria Zeemel Lake

NAME OF PROPERTY

HOLE NO. SMZ-87-19

SHEET NO. 2 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ TON	Check OZ TON
					FROM	TO	TOTAL				
		74.2 - 105.8 - chlorite-biotite schist with interbedded chert - light green to greenish-brown colour, medium grained, well foliated (angle to core axis = 50-55°), locally well banded  Average Modes Chlorite 60-80% Biotite 20-40% Pyrite trace-1%  - chert bands comprise 10-15% of the rock; bands vary in width, most around 1/8" wide, some up to 1/2" wide - most chert bands are fairly dirty, with chloritic inclusions - pyrite occurs throughout the unit, in the chert bands especially - 74.2 - 82.0 - blocky broken core	12265	tr	74.2	78.0	3.8			.001	
			12266	tr	82.0	86.0	4.0			.002	
			12267	tr	86.0	89.5	3.5			.002	
			12268	tr	94.0	98.0	4.0			.002	
			12269	tr	101.8	105.8	4.0			.002	
		105.8 - 127.1 - chlorite-sericite schist, as per 51.6 - 74.2 - 116.5 - 2" wide quartz vein or pod, no visible sulphides	12270	tr	105.8	109.0	3.2			.001	
			12271	tr	109.0	113.0	4.0			.001	
			12272	tr	116.5	120.5	4.0			.002	

LANGRISHES - TORONTO - 365-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-19 SHEET NO. 3 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO	SULPH IDES	FOOTAGE			%	%	Au OF TON	Check OF TON
					FROM	TO	TOTAL				
		124.1 - 128.8 - folded section of chlorite-biotite schist with numerous narrow bands of interbedded chert (20-30% total chert) - well banded, most bands less than 1/8" wide - bands are generally irregular and discontinuous - shear fractures and minor S-folds	12273	-	124.1	126.5	2.4			.001	
			12274	-	126.5	128.8	2.3			.002	
128.8	145.1	<u>Mafic Metavolcanics</u>  - medium to dark green, fine to medium grained, well foliated (angle to core axis = 60-65°) moderately well banded - silicified chlorite schist - concordant quartz-carbonate stringers and lens shaped pods compose 10-20% of the total rock - trace to 1% disseminated pyrite and pyrrhotite; minor euhedral pyrite	12275	tr	128.8	131.8	3.0			.002	
			12276	1%	131.8	135.0	3.2			.002	
			12277	1%	135.0	138.0	3.0			.002	
			12278	tr	138.0	141.9	3.9			.002	
			12279	tr	141.9	145.1	3.2			.003	
145.1	157.8	<u>Felsic Metatuff</u>  - light grey to grey-green, fine grained, moderately well foliated (angle to core axis = 50-70°)  Average Modes Chlorite 50-60% Quartz 35-45% Sericitic 2-5%  - composed of irregular, discontinuous, streaky bands of quartz, chlorite, and minor sericite in a finely brecciated quartz-rich matrix (these could possibly be lithic fragments)	12280	-	145.1	149.0	3.9			.003	
			12281	-	149.0	152.2	3.2			.002	

LANGRIDGE - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-19 SHEET NO. 4 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au oz TON	Check oz TON
					FROM	TO	TOTAL				
		152.5 - 153.1 - quartz-carbonate vein; chlorite and sericite inclusions, no visible sulphides	12282	-	152.2	153.2	1.0			.002	
		153.1 - 157.8 - felsic tuff here has a more uniform texture, not as much streaky banding - finely foliated	12283	-	153.2	155.7	2.5			.001	
			12284	-	155.7	157.8	2.1			.002	
157.8	167.8	<u>Mafic Metavolcanics</u>									
		157.8 - 162.2 - silicified chlorite schist, similar to above - well foliated, angle to core axis = 60-70° - quartz-carbonate stringers and pods make up 10-15% of the total rock - trace pyrite	12285	tr	157.8	162.2	4.4			.002	
		162.2 - 167.8 - chlorite-amphibole schist (chlorite 80%, amphibole 20%) - weakly foliated - quartz-carbonate veining not as frequent - 166.5 - 167.3 - biotite bands; up to 30% biotite in some sections - trace pyrite	12286	tr	162.2	164.8	2.2			.002	
			12287	tr	164.8	167.8	3.0			.002	
167.8	184.9	<u>Ultramafic Metavolcanics</u>									
		- light to medium grey, medium to coarse grained, weakly foliated (angle to core axis = 60-70°)	12288	tr	167.8	171.3	3.5			.002	
			12289	tr	171.3	175.9	4.5			.001	
			12290	tr	175.9	180.9	5.0			.002	
			12291	tr	180.9	184.9	4.0			.002	
		Average Modes									
		Talc/Serpentine 75-85%									
		Chlorite 5-15%									
		Magnetite 2-5%									
		Pyrite trace									

LANGRIDDGES - TORONTO - 356-1168



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-19 SHEET NO. 5 of 12

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OF TON	Check OF TON
					FROM	TO	TOTAL				
184.9	203.2	<p>- brecciated metavolcanics; irregular clots and distended, fragmented bands of mainly talc in a serpentine-rich matrix</p> <p>- trace disseminated pyrite; quartz-carbonate veining absent</p> <p>- becomes finer grained and less brecciated closer to lower contact</p> <p><u>Mafic Metavolcanics</u></p> <p>- medium to dark green, medium grained, well foliated (angle to core axis = 50-60°)</p> <p>Average Modes                      Chlorite 70-80%                      Amphibole 5-10%                      Biotite 5-10%</p> <p>- chlorite + amphibole + schist</p> <p>- well foliated chlorite with scattered medium to coarse grained amphibole and biotite-rich bands</p> <p>- quartz-carbonate veinlets common; some sections are weakly carbonitized</p>									
			12292	-	184.9	188.5	3.6			.002	
			12293	-	191.0	194.5	3.5			.001	
			12294	tr	199.2	203.2	4.0			.001	
203.2	209.1	<p><u>Ultramafic Metavolcanics</u></p> <p>- dark grey, medium grained, weakly foliated (angle to core axis = 50-60°)</p> <p>- essentially the same mineralogy as the ultramafic unit between 167.8 - 184.9, except for a greater amount of disseminated pyrite (1-2%)</p> <p>- mostly fine grey talc with minor serpentine and flakes of chlorite along foliation surfaces</p>									
			12295	1-2%	203.2	206.2	3.0			.001	
			12296	1-2%	206.2	209.1	2.9			.001	

LANGRIGES - TORONTO - 366 - 1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-19 SHEET NO. 6 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OZ TON	Check OZ TON	
					FROM	TO					TOTAL
209.1	217.9	<u>Pelitic Metasediments</u>  - basic description as per above (i.e. 51.6 - 128.8) - light green, fine grained, well foliated (angle to core axis = 50-55°) - chert bands minor - quartz-carbonate veinlets common, most less than 1/8" wide - trace to 1% pyrite - most likely a sediment, but this unit could possibly be interpreted as a mafic to intermediate ash tuff  210.2 - 2" wide section with small euhedral magnetite crystals	12297	tr	209.1	212.1	3.0			.001	
			12298	tr	215.0	217.9	2.9			.002	
217.9	227.0	<u>Mafic to Intermediate Metavolcanics</u>  - dark green, medium grained, moderately well foliated (angle to core axis = 50-55°), some sections are finely banded  Average Modes Amphibole            60-70% Chlorite              15-20% Quartz                3-5% Plagioclase          3-5% Magnetite            2-5% Pyrite                 trace-1%  - amphibole and chlorite with interstitial grains of quartz and plagioclase(?)	12299	tr	217.9	222.4	4.5			.002	
			12300	tr	222.4	227.0	4.6			.002	

LANGRIDGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-19 SHEET NO. 7 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPH IDES	FOOTAGE			%	%	Au g/ton	Check
					FROM	TO	TOTAL				
227.0	243.1	<u>Mafic to Ultramafic Metavolcanics</u> - gradational variations throughout unit between amphibole-chlorite rich mafic volcanics and talc-serpentine rich ultramafic volcanics - weakly foliated, angle to core axis = 50-60° - mafic sections often contain thin bands of biotite - trace disseminated pyrite throughout unit	12301	1%	227.0	228.2	1.2			.002	
			12302	tr	232.2	235.2	3.0			.002	
			12303	tr	235.2	239.2	4.0			.002	
			12304	tr	239.2	243.1	3.9			.002	
243.1	247.6	<u>Pelitic Metasediments</u> - chlorite-biotite schist - moderately well banded; minor cherty bands - minor folding; some S-folds - trace pyrite and pyrrhotite	12305	tr	243.1	247.6	4.5			.001	
247.6	249.5	<u>Ultramafic Metavolcanics</u> - typical light to medium grey, talc-rich ultramafic similar to that found between 203.2 - 209.1 - trace disseminated pyrite; quartz-carbonate veining very minor	12306	tr	247.6	249.5	1.9			.001	
249.5	252.6	<u>Pelitic Metasediments</u> - chlorite-biotite schist, as per above - minor small folds, trace pyrrhotite and pyrite	12307	tr	249.5	252.6	3.1			.001	

LANGRIDGES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-19 SHEET NO. 8 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au	Check	
					FROM	TO			TOTAL	OZ TON	OZ TON
252.6	264.3	<u>Ultramafic Metavolcanics</u>  - typical light to medium grey, talc-rich ultramafic, similar to that found between 203.2 - 209.1  254.1 - 259.8 - sheared section; several 1-3" wide sections of very incompetent, loosely foliated, clayey material	12308	tr	254.0	257.0	3.0			.001	
			12309	tr	257.0	260.0	3.0			.001	
			12310	tr	262.0	264.3	2.3			<.001	
264.3	270.3	<u>Pelitic Metasediments</u>  - chlorite-sericite schist, grading into chlorite-biotite schist near lower contact - minor cherty, argillaceous sections (medium grey colour, very fine grained, massive) - trace pyrite and pyrrhotite - minor folding, a few S-folds	12311	tr	264.3	267.3	3.0			.001	
			12312	1%	267.3	270.3	3.0			<.001	
270.3	276.9	<u>Ultramafic Metavolcanics</u>  - typical, light to medium grey, talc-rich ultramafic, similar to that found between 203.2 - 209.1 - minor pelitic units, 1-2" wide; biotite-schist - minor folding	12313	tr	270.3	273.3	3.0			.001	
			12314	tr	273.3	276.9	3.3			.002	
276.9	279.3	<u>Pelitic Metasediments</u>  - mostly chlorite schist, minor biotite - well foliated, angle to core axis = 60-65°  278.1 - 278.5 - large (up to 1/2" wide) euhedral pyrite crystals	12315	tr	276.9	279.3	2.4			.002	

LANGFORDS - TORONTO - 366-1198

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-19 SHEET NO. 9 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS																								
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OF TON	Check OF TON																			
					FROM	TO	TOTAL																							
279.3	301.0	<p><u>Metagreywacke</u></p> <p>- light to medium grey to grey-green, fine to medium grained, moderately well foliated (angle to core axis = 60-65°), minor fine banding</p> <p>Average Modes</p> <table style="margin-left: 20px;"> <tr> <td>Framework</td> <td>60%</td> <td>Matrix</td> <td>40%</td> </tr> <tr> <td>Quartz</td> <td>60%</td> <td>Felsics</td> <td>40%</td> </tr> <tr> <td>Feldspar</td> <td>40%</td> <td>Biotite</td> <td>40%</td> </tr> <tr> <td></td> <td></td> <td>Chlorite</td> <td>20%</td> </tr> <tr> <td></td> <td></td> <td>Pyrite</td> <td>trace</td> </tr> </table> <p>- mostly fine grained wacke; narrow sections of very fine grained, cherty sediments</p> <p>- trace disseminated pyrite</p> <p>- quartz-carbonate veinlets with alteration haloes common throughout unit; hematite is usually present in the veins and haloes, as well as minor epidote; rare rhodochrosite occurs in some of the wider veins; trace pyrite</p> <p>298.2 - 299.3 - 1/2 to 1" wide quartz-carbonate vein and alteration halo; trace pyrite</p> <p>300.4 - 301.0 - biotite-rich section at lower contact; up to 30% biotite</p>	Framework	60%	Matrix	40%	Quartz	60%	Felsics	40%	Feldspar	40%	Biotite	40%			Chlorite	20%			Pyrite	trace								
Framework	60%	Matrix	40%																											
Quartz	60%	Felsics	40%																											
Feldspar	40%	Biotite	40%																											
		Chlorite	20%																											
		Pyrite	trace																											
			12316	tr	279.3	282.3	3.0			.002																				
			12317	tr	283.7	286.7	3.0			.002																				
			12318	tr	292.5	296.5	4.0			.001																				
			12319	tr	298.0	301.0	3.0			.001																				

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake

HOLE NO.: SMZ-87-19 SHEET NO.: 10 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OZ TON	Check OZ TON
					FROM	TO				
301.0	313.9	Mafic Metavolcanics								
		301.0 - 303.2 - chlorite schist, dark green, minor biotite bands - well foliated, angle to core axis = 60-70° - small quartz-carbonate veinlets common; entire section is weakly carbonatized								
		- 301.6 - 302.0 - 1/4" wide quartz-carbonate veinlet with alteration halo; vein and halo contain hematite and minor epidote and rhodochrosite; trace pyrite	12320	tr	301.0	303.2	2.2		.001	
		303.2 - 313.9 - moderately well foliated amphibole-chlorite + biotite schist								
		Average Modes Amphibole 60-70% Chlorite 20-30% Biotite 2-5% Pyrite trace								
		- biotite occurs as thin strands along foliation planes - section is weakly carbonatized; small quartz-carbonate veinlets common								
		303.6 - 304.2 - 1/2" wide quartz-carbonate vein with alteration halo; vein contains hematite and minor epidote and rhodochrosite, trace pyrite; vein offset slightly by later fractures	12321	tr	303.2	307.2	4.0		.001	
			12322	tr	309.9	313.9	4.0		.001	

LANGRANGES - TORONTO - 365-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. ... SMZ-87-19 ... SHEET NO. ... 11 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au of Ton	Check of Ton	
					FROM	TO					TOTAL
313.9	325.9	<u>Ultramafic Metavolcanics</u>  - typical, light to medium grey, talc-rich ultramafic, similar to that found between 203.2 - 209.1 - quartz-carbonate veining and fracturing generally minor - trace disseminated pyrite 317.5 - large, euhedral pyrite crystals up to 1/2" wide  324.0 - 324.8 - highly silicified section; numerous quartz veins, some with minor hematite and rhodochrosite; up to 1% pyrite	12323	tr	313.9	317.0	3.1			.002	
			12324	1%	317.0	318.0	1.0			<.001	
			12325	tr	319.5	322.0	2.5			.001	
			12326	1%	323.4	325.9	2.5			.002	
325.9	332.9	<u>Silicified Mafic Metavolcanics</u>  - this unit could possibly be interpreted as a felsic tuff or as impure chemical metasediments - medium grey-green colour, very fine grained, weakly foliated - dominantly grey-green chert with thin strands of chlorite along foliation planes - entire section contains thin quartz-carbonate veinlets with narrow alteration haloes; hematite common in veinlets - trace disseminated pyrite  331.3 - 332.9 - 7" wide brecciated quartz-carbonate vein and alteration halo, very coarse grained and vuggy	12327	tr	325.9	329.0	3.1			.001	
			12328	tr	329.0	331.3	2.3			.002	
			12329	1%	331.3	332.9	1.6			.001	

LANGRIGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO.: SMZ-87-19 SHEET NO.: 12 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au	Check
					FROM	TO	TOTAL			07 TON	07 TON
332.9	353.0	<p><u>Metagreywacke</u></p> <ul style="list-style-type: none"> <li>- vugs filled with euhedral crystals of dark grey to almost black quartz up to 3/4" wide and pale yellow euhedral calcite crystals</li> <li>- buff coloured breccia fragments, most &lt;1/4" wide</li> <li>- minor fine grained euhedral pyrite occurs as a drusy coating in vugs and along fractures</li> <li>- 9" wide alteration halo (above vein only); white to buff colour, incompetent, crumbles easily, noticeably low specific gravity; possibly argillic alteration to clay minerals; also see small, irregular felsic fragments (possibly brecciated); carbonate in fractures only</li> </ul>									
		- basic description as per above (f.e. 279.3 - 301.0)	12330	-	332.9	337.0	4.1			.001	
		- quartz-eye porphyroblasts common throughout unit, locally up to 10% of rock	12331	-	338.5	341.5	3.0			.002	
		- trace pyrite in some sections	12332	-	344.0	348.0	4.0			.002	
		- quartz-carbonate veining minor	12333	-	350.0	353.0	3.0			.002	
	353.0	<u>End of Hole</u>									
		Casing pulled									

LANGRIDGES - TORONTO - 366-1158



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-20 LENGTH 375.0  
 LOCATION 42+00W, 7+34N  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -48.0°  
 STARTED October 2, 1987 FINISHED October 3, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200'	-40°				
375'	-31°				

HOLE NO. SMZ-87-20 SHEET NO. 1 of 1

REMARKS Claim #861514

SUMMARY LOG

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPH- IDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	12.4	Casing									
12.4	31.4	Banded Iron Formation - 5-10% Gunerite, 1-2% pyrrhotite, trace garnet									
31.4	39.7	Pelitic Metasediment									
39.7	52.2	Mafic Metavolcanic									
52.2	53.1	Chert									
53.1	150.8	Pelitic Metasediment									
150.8	158.4	Chert									
158.4	166.8	Pelitic Metasediment									
166.8	176.6	Chert									
176.6	184.4	Pelitic Metasediment									
184.4	186.6	Chert									
186.6	313.9	Pelitic Metasediment									
313.9	350.2	Mafic Metavolcanic									
350.2	375.0	Pelitic Metasediment									
	375.0	End of Hole									
		Casing pulled									

LANGRIDGES - TORONTO - 365-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-20 LENGTH 375.0'  
 LOCATION 42+00W 7+34N  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -48.0°  
 STARTED October 2, 1987 FINISHED October 3, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200'	-40°				
375'	-31°				

HOLE NO. SMZ-87-20 SHEET NO. 1 of 5  
 REMARKS Claim #861514

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	12.4	Casing									
12.4	31.4	Banded Iron Formation - banded magnetite-chert-chlorite + grunerite iron formation, banded at 50° to the core axis									
		Average Modes									
		Bands									
		Chert 40-50%									
		Magnetite 30%									
		Chlorite 20-30%									
		Accessories									
		Grunerite 5-10%									
		Pyrrhotite 1-2%									
		Pyrite trace									
		Garnet trace									
		Calcite trace									
		12.4 - 17.0 - typical, chert bands are heavily brecciated; 1-2% pyrrhotite occurs in magnetite bands, in lenses parallel to subparallel to bands and, in chlorite bands, in randomly oriented stringers; grunerite occurs in minor amounts	12424	1-2%	12.4	14.2	1.8			.002	
		- 14.7 - grunerite band with chert fragment inclusion	12425	1-2%	14.2	15.2	1.0			.001	
		- pyrrhotite occurs in the strain shadow of the fragment	12426	1-2%	15.2	17.0	1.8			.001	
		17.0 - 22.4 - grunerite makes up 10% of the unit, generally occurring as bands along the edges of larger chert bands	12427	1-2%	17.0	21.0	4.0			.001	
		- chlorite bands are very minor here									

LANGRIDGES - OROONTO - 365-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-20 SHEET NO. 2 of 5

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ TON	Check OZ TON
					FROM	TO	TOTAL				
		- most pyrrhotite occurs in bands parallel to other bands, however, minor amounts occur in cross-cutting fractures in the chert - many of the chert bands appear to be boudinaged - 21.0 - 22.4 - heavily brecciated, vuggy section with 10% fracture filling pyrrhotite	12428	10%	21.0	22.4	1.4			.004	
		22.4 - 25.4 - typical, with 5-10% grunerite, mainly on contacts between chert and magnetite bands - 3-5% pyrrhotite occurs both as bands (more commonly) and as cross-cutting stringers - 24.0 - vuggy section with euhedral blades of grunerite growing into the cavity, 1% calcite	12429	3-5%	22.4	23.4	1.0			.001	
			12430	3-5%	23.4	24.4	1.0			.001	
			12431	3-5%	24.4	25.4	1.0			.001	
		25.4 - 31.4 - magnetite bands almost totally disappear, making up only 2-3% of all bands - bands of grunerite (more abundant here) probably represent a total replacement of magnetite, 2-3% pyrrhotite occurs both in bands and in cross-cutting stringers (approximately 30° to the banding) - 28.9 - vug with blades of grunerite growing into it, 1% calcite - 29.7 - 29.9 - 2-3% garnets occurring in chlorite schist bands as 1/32" grains; 2-3% associated pyrrhotite is disseminated within chlorite bands	12432	2-3%	25.4	28.3	2.9			.001	
			12433	2-3%	28.3	29.3	1.0			.001	
			12434	2-3%	29.3	30.3	1.0			.001	
			12435	2-3%	30.3	31.4	1.1			.002	
31.4	39.7	<u>Pelitic Metasediment</u> - light green, well foliated at 45° to the core axis  Average Modes Chlorite 60-65% Quartz 15-20% Sericite 10-15% Biotite 5-10% Garnets 1%									

LANGRISHES - TORONTO - 366, 11'66

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-20 SHEET NO. 3 of 5

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ TON	Check OZ TON
					FROM	TO	TOTAL				
39.7	52.2	- minor chert fragments and bands occur parallel to the foliation - 32.8 - 33.3 - vuggy section with 20% infilling pyrrhotite	12436	5%	31.4	33.4	2.0			.002	
			12437	-	33.4	36.4	3.0			.001	
			12438	-	36.4	39.7	3.3			.002	
			12439	-	39.7	44.7	5.0			.001	
			12440	-	44.7	49.7	5.0			.001	
			12441	-	49.7	52.2	2.5			.002	
		Average Modes Chlorite 60-65% Amphibole 20% Plagioclase 15-20%									
		- unit is heavily silicified and carbonatized by numerous randomly oriented stringers									
52.2	53.1	Chert - light grey, weakly fragmented and recrystallized, trace disseminated pyrrhotite	12442	tr	52.2	53.2	1.0			.001	
53.1	150.8	Pelitic Metasediment - typical, as above, medium green, trace sericite and up to 25% biotite; silicified and carbonatized by numerous randomly oriented stringers, trace sulphide, very minor chert bands (magnetite-rich) - 121.6 - 122.1 - quartz vein, brecciated, trace calcite	12443	tr	53.2	57.0	3.8			.001	
			12444	tr	57.0	59.3	2.3			<.001	
			12445	tr	64.3	69.1	4.8			<.001	
			12446	tr	73.9	78.5	4.6			<.001	
			12447	tr	83.2	87.9	4.7			<.001	
			12448	tr	92.4	97.0	4.6			.001	
			12449	tr	106.7	111.5	4.8			.002	
			12450	tr	116.3	121.0	4.7			.001	
			12451	tr	121.0	122.1	1.1			<.001	
			12452	tr	125.4	130.0	4.6			<.001	
			12453	tr	134.8	139.4	4.6			.001	
12454	tr	144.2	149.0	4.8			.001				
12455	tr	149.0	150.8	1.8			.002				

LANGRIDDGES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-20 SHEET NO. 4 of 5

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	Au	Check
				FROM	TO	TOTAL		oz ton	oz ton
150.8	158.4	Chert - light grey, minor recrystallization, minor sericite filled fractures, banded at 45° to the core axis - 150.8 - 151.2 - quartz vein	12490	-	150.8	151.8	1.0	.001	
			12456	-	151.8	155.0	3.2	.002	
			12457	-	155.0	158.4	3.4	.001	
			12458	-	158.4	162.6	4.2	.002	
158.4	166.8	Pelitic Metasediment - typical, as above, green/brown, numerous randomly oriented quartz carbonate stringers	12459	-	162.6	166.8	4.2	.001	
166.8	176.6	Chert - typical, as above, minor chlorite stringers, banded at 60° to the core axis	12460	-	166.8	171.7	4.9	.001	
			12461	-	171.7	176.6	4.9	.001	
176.6	184.4	Pelitic Metasediment - typical, as above, green/brown, numerous randomly oriented quartz carbonate stringers	12462	-	176.6	180.0	3.4	.002	
			12463	-	180.0	184.4	4.4	.002	
184.4	186.6	Chert - typical, as above, minor quartz stringers, banded at 50° to the core axis	12464	-	184.4	186.6	2.2	.002	
186.6	313.9	Pelitic Metasediment - typical, as above, foliated at 60° to the core axis, numerous randomly oriented quartz (+ carbonate) veinlets - 197.0 - 207.0 - 75% core recovery  - 255.1 - 255.8 - biotite rich zone, 2% euhedral pyrite - 265.8 - 299.8 - more cherty, sericite	12466	-	197.0	203.4	6.4	<.001	
			12467	-	203.4	207.0	3.6	<.001	
			12468	-	212.9	217.8	4.9	.001	
			12469	-	222.6	227.5	4.9	.001	
			12470	-	232.7	237.5	4.8	.001	
			12471	-	242.3	247.0	4.7	<.001	
			12472	2%	255.1	256.4	1.3	.001	
			12473	-	256.4	261.1	4.7	.001	
			12474	-	265.8	270.7	4.9	.003	
			12475	-	275.4	280.1	4.7	<.001	
			12476	-	285.4	290.2	4.8	.001	
			12477	-	294.9	299.6	4.7	<.001	
			12478	-	304.0	305.5	1.5	.001	

LANGRIDDGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake

HOLE NO. SMZ-87-20 SHEET NO. 5 of 5

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au 07 TON	Check 07 TON
					FROM	TO	TOTAL				
		- 305.5 - 307.0 - shear zone, minor quartz veining	2479	-	305.5	307.0	1.5			.002	
			2480	-	307.0	311.0	4.0			.002	
			2481	-	311.0	313.9	2.9			.002	
313.9	350.2	Mafic Metavolcanic - typical, as above, medium green, fine grained, massive, weakly silicified and carbonatized	2482	-	313.9	318.6	4.7			.002	
			2483	-	323.3	328.2	4.9			.002	
			2484	-	333.1	338.0	4.9			.002	
			2485	-	343.1	347.9	4.8			.002	
			2486	-	347.9	350.2	2.3			<.001	
350.2	375.0	Pelitic Metasediment - typical, as above, green/brown, foliated at 75° to the core axis, 1% pyrite, usually associated with quartz eyes or stringers, weakly silicified, possible intercalated mafic tuffs	2487	1%	350.2	352.9	2.7			.001	
			2488	1%	352.9	357.3	4.4			<.001	
			2489	1%	366.7	371.2	4.5			.001	
	375.0	End of Hole									
		Casing pulled									

*J. Adams*

LANGRIDDGES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-21 LENGTH 337.0'  
 LOCATION 42+00W, 9+51N  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED October 3, 1987 FINISHED October 4, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-33°				
337	-27°				

HOLE NO. SMZ-87-21 SHEET NO. 1 of 1

REMARKS Claim #861514  
Summary Log

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE			ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL			
0	3.9	<u>Casing</u>								
3.9	38.1	<u>Pelitic Metasediments</u>								
38.1	109.0	<u>Mafic Metavolcanic</u>								
109.0	130.2	<u>Pelitic Metasediment</u> 109.0 to 116.1 - 5% pyrrhotite, 1% chalcopryrite, silicified, 2-3% garnets								
130.2	154.3	<u>Mafic Metavolcanic</u>								
154.3	160.0	<u>Pelitic Metasediments</u>								
160.0	269.9	<u>Mafic Metavolcanic</u>								
269.9	291.4	<u>Banded Iron Formation</u>								
291.4	306.3	<u>Mafic Metavolcanic</u>								
306.3	307.5	<u>Chert</u>								
307.5	322.7	<u>Pelitic Metasediment</u>								
322.7	328.3	<u>Mafic Metavolcanic</u>								
328.3	337.0	<u>Pelitic Metasediment</u>								
	337.0	END OF HOLE Casing pulled								

LANGRANGES - TORONTO - 355-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-21 LENGTH 337.0  
 LOCATION 42+00W 9+51N  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED October 3, 1987 FINISHED October 4, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200'	-33°				
337'	-27°				

HOLE NO. SMZ-87-21 SHEET NO. 1 of 4

REMARKS Claim #861514

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS			
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OZ/TON	Check OZ/TON
					FROM	TO				
0	3.9	<u>Casing</u>								
3.9	38.1	<u>Pelitic Metasediments</u> - green/brown  Average Modes Quartz 35-40% Chlorite 35-40% Biotite 20-25%  - heavily brecciated and chloritized along fractures, abundant randomly oriented quartz stringers with numerous offsets at intersections	17952	-	3.9	8.7	4.8	<.001		
			17953	-	8.7	13.7	5.0	<.001		
			17954	-	13.7	18.7	5.0	<.001		
			17955	-	18.7	23.7	5.0	<.001		
			17956	-	23.7	28.4	4.7	<.001		
			17957	-	28.4	33.1	4.7	<.001		
			17958	-	33.1	38.1	5.0	<.001		
38.1	109.0	<u>Mafic Metavolcanics</u> - medium green, fine to medium grained, massive  Average Modes Amphibole 50-60% Chlorite 20-25% Plagioclase 20-25% Biotite 2-3%  38.1 to 50.0 - minor quartz stringers with associated biotite 50.0 to 54.3 - heavy quartz veining with 5-10% associated biotite	17959	-	38.1	42.5	4.4	<.001		
			17960	-	47.2	50.0	2.8	.001		
			17961	-	50.0	54.3	4.3	<.001		



# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-21 SHEET NO. 2 of 4

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS			
FROM	TO		NO	% SULPHIDES	FOOTAGE			%	Au OZ TON	Check OZ TON
					FROM	TO	TOTAL			
		54.3 to 109.0 - minor randomly oriented quartz stringers with offset intersections - 70.5 to 75.9 - plag-phyruc flow, coarser grained, possible subvolcanic	17962	-	54.3	57.0	2.7		.001	
			17963	-	66.8	70.5	3.7		<.001	
			17964	-	70.5	73.1	2.6		<.001	
			17965	-	73.1	75.9	2.8		.001	
			17966	-	75.9	79.0	3.1		<.001	
			17967	-	85.8	90.6	4.8		.001	
			17968	-	95.7	100.5	4.8		.001	
			17969	-	105.2	109.0	4.8		<.001	
109.0	130.2	<u>Pelitic Metasediment</u> - typical, as above, well foliated at 55° to the core axis								
		109.0 to 116.1 - 5% massive stringer pyrrhotite with 1% associated chalcopyrite in a well foliated silicified section with 2-3% garnets - 111.0 to 111.1 - massive pyrite filled cavity	17970	6	109.0	110.6	1.6		<.001	
			17971	15	110.6	111.6	4.5		<.001	
			17972	6	111.6	116.1	4.5		.001	
		116.1 to 130.2 - typical, minor quartz (+ carbonate) stringers	17973	-	116.1	119.6	3.5		<.001	
			17974	-	119.6	124.1	4.5		<.001	
130.2	154.3	<u>Mafic Metavolcanic</u> - typical, as above, foliated at 50° to the core axis, minor biotite occurs throughout the unit, minor quartz (+ carbonate) stringers occur at random angles to the core axis	17975	-	124.1	129.0	4.9		<.001	
			17976	-	129.0	130.2	1.2		<.001	
			17977	-	130.2	133.8	3.6		<.001	
			17978	-	133.8	138.5	4.7		<.001	
			17979	-	138.5	143.0	4.5		<.001	
			17980	-	143.0	147.7	4.7		<.001	
154.3	160.0	<u>Pelitic Metasediment</u> - typical as above, minor quartz (+ carbonate) stringers, 1-2% pyrrhotite and trace chalcopyrite, foliated at 50° to the core axis - 159.1 to 159.2 - pyrite and pyrrhotite filled cavity	17981	-	147.7	152.7	5.0		<.001	
			17982	-	152.7	154.3	1.6		<.001	
			17983	1-2	154.3	157.0	2.7		<.001	
			17984	1-2	157.0	159.0	2.0		<.001	
			17985	11	159.0	160.0	1.0		<.001	

LANGRIDGES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-21 SHEET NO. 3 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ TON	Check OZ TON
					FROM	TO	TOTAL				
160.0	269.9	Mafic Metavolcanic - typical, as above, light to medium green, fine to medium grained, massive to poorly foliated at 55° to the core axis, trace pyrrhotite, trace chalcopryrite - 160.0 to 162.0 - quartz veins at random angles to the core axis - 167.7 to 168.3 - quartz (+ carbonate) veining at random angles to the core axis  - 247.0 to 257.0 - broken up and fractured core, abundant quartz carbonate stringers, 2 to 3% fracture filling pyrrhotite, 65% core recovery - 257.0 to 269.9 - 2 to 3% fracture filling pyrrhotite, foliated at 60° to the core axis	17986	tr	160.0	162.0	2.0			<.001	
			17987	tr	162.0	167.0	5.0			<.001	
			17988	tr	167.0	168.5	1.5			<.001	
			17989	tr	172.4	177.3	4.9			<.001	
			17990	tr	187.0	191.8	4.8			<.001	
			17991	tr	196.4	201.2	4.8			<.001	
			17992	tr	206.2	211.0	4.8			<.001	
			17993	tr	215.8	220.5	4.7			<.001	
			17994	tr	225.3	230.1	4.8			<.001	
			17995	tr	235.0	239.8	4.8			<.001	
			17996	tr	244.4	247.0	2.6			<.001	
			17997	2-3	247.0	252.0	5.0			<.001	
			17998	2-3	252.0	257.0	5.0			<.001	
			17999	2-3	257.0	261.7	4.7			<.001	
			12590	2-3	261.7	266.7	5.0			<.001	
			18000	2-3	266.7	269.9	3.2			<.001	
269.9	291.4	Banded Iron Formation - banded chert, magnetite and chlorite schist, banded at 60° to the core axis  Average Modes Bands Magnetite 40-50% Chert 30-40% Chlorite 20%  Accessories Grunerite 4-5% Calcite 2-3% Pyrrhotite 2-3% Pyrite trace									

LANGRIDGE - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-21 SHEET NO. 4 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPH IDES	FOOTAGE			%	%	Au OZ TON	Check OZ TON
					FROM	TO	TOTAL				
		269.9 to 275.1 - typical, pyrrhotite occurs in stratiform lenses and stringers	12001	2-3	269.9	272.9	3.0			<.001	
			12002	2-03	272.9	275.1	2.2			<.001	
		275.1 to 276.2 - ground core, probable fault or shear zone	12003	2-3	275.1	276.2	1.1			<.001	
		276.2 to 288.7 - typical, pyrrhotite occurs in lenses and stringers at random orientations	12004	2-3	276.2	280.0	3.8			<.001	
			12005	2-3	280.0	284.0	4.0			<.001	
			12006	2-3	284.0	288.7	4.7			<.001	
		288.7 to 291.4 - cherty section, 10-15% grunerite	12007	2-3	288.7	291.4	2.7			<.001	
291.4	306.3	<u>Mafic Metavolcanic</u> - typical, as above, well foliated at 70° to the core axis, silicified and carbonatized by numerous randomly oriented stringers	12008	tr	291.4	294.8	3.4			<.001	
			12009	tr	294.8	299.7	4.9			<.001	
			12010	tr	299.7	304.5	4.8			<.001	
			12011	tr	304.5	306.3	1.8			<.001	
306.3	307.5	<u>Chert</u> - banded at 60° to the core axis, minor recrystallization, minor jointing perpendicular to the banding	12012	tr	306.3	307.5	1.2			<.001	
307.5	322.7	<u>Pelitic Metasediment</u> - typical, as above, silicified and weakly carbonatized, minor thin bands of iron formation	12013	-	307.5	311.0	3.5			<.001	
			12014	-	311.0	314.0	3.0			.002	
			12015	-	314.0	318.7	4.7			<.001	
			12016	-	318.7	322.7	4.7			.001	
322.7	328.3	<u>Mafic Metavolcanic</u> - typical, medium grained, massive, trace pyrite	12017	tr	322.7	325.5	2.8			<.001	
			12018	tr	325.5	328.3	2.8			.001	
328.3	337.0	<u>Pelitic Metasediment</u> - typical, as above, foliated at 65° to the core axis, minor quartz stringers	12019	-	328.3	333.0	4.7			<.001	
	337.0	END OF HOLE Casing pulled									

LANGRISHES - TORONTO - 366-1168

*J. Williams*

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-22 LENGTH 357.0  
 LOCATION 18+03W 6+01N  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED Oct. 4, 1987 FINISHED Oct. 7, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-41 <sup>0</sup>				
357	-38 <sup>0</sup>				

HOLE NO. SMZ-87-22 SHEET NO. 1 of 1

REMARKS Claim #861513  
Summary Log

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	125.2	Casing									
125.2	139.4	Pelitic Metasediment									
139.4	156.2	Ultramafic Metavolcanic									
156.2	172.4	Pelitic Metasediment									
172.4	206.4	Ultramafic Metavolcanic - disseminated pyrite and magnetite	2500	tr	182.7	187.4	4.7			0.070	
206.4	231.1	Quartz Wacke									
231.1	298.4	Pelitic Metasediment									
298.4	299.7	Ultramafic Metavolcanic									
299.7	304.7	Quartz Wacke - trace pyrite	2523	tr	299.7	304.7	5.0			0.017	
304.7	309.0	Ultramafic Metavolcanic									
309.0	314.2	Quartz Wacke									
314.2	317.0	Pelitic Metasediment									
317.0	334.6	Quartz Wacke									
334.6	339.1	Pelitic Metasediment									
339.1	343.7	Quartz Wacke									
343.7	354.3	Ultramafic Metavolcanic									
354.3	357.0	Quartz Wacke									
	357.0	END OF HOLE									
		Casing pulled									

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-22 LENGTH 357.0  
 LOCATION 18+03W 6+01N  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED Oct. 4, 1987 FINISHED Oct. 7, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-41°				
357	-38°				

HOLE NO. SMZ-87-22 SHEET NO. 1 of 4

REMARKS Claim #861513

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	125.2	<u>Casing</u>									
125.2	139.4	<u>Pelitic Metasediment</u> - green/brown, poorly foliated at 35° to the core axis  Average Modes Chlorite 30-40% Quartz 25-30% Biotite 20-30% Amphibole 10-15%  - very minor quartz stringers occur at random angles to the core axis	12491	-	125.2	129.2	4.0			.002	
			12492	-	137.0	139.4	2.4			.002	
139.4	156.2	<u>Ultramafic Metavolcanic</u> - grey/green, fine grained, foliated at 55° to the core axis  Average Modes Chlorite 75-80% Talc 10-15% Amphibole 5-10% Magnetite 1-2%  - magnetite is disseminated throughout the unit, trace pyrite appears on foliation surfaces	12493	tr	139.4	143.4	4.0			.001	
			12494	tr	152.8	156.2	3.4			.001	

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-22 SHEET NO. 2 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ TON	Check OZ TON
					FROM	TO	TOTAL				
156.2	172.4	<u>Pelitic Metasediment</u> - chlorite-biotite+amphibole schist, light green/brown, well foliated at 40° to the core axis - 157.0 to 159.0 - loss of core - 159.0 to 160.0 - fractured and broken core	12495	-	156.2	160.0	3.8			.002	
			12496	-	160.0	163.4	3.4			.001	
			12497	-	163.4	167.4	4.0			.001	
172.4	206.4	<u>Ultramafic Metavolcanic</u> - typical, as above, foliations are slightly contorted, trace disseminated pyrite	12498	-	167.4	172.4	5.0			.001	
			12499	tr	172.4	177.0	4.6			<.001	
			12500	tr	182.7	187.4	4.7			.070	
			12501	tr	192.3	197.0	4.7			.006	
206.4	231.1	<u>Quartz Wacke</u> - grey/green, well foliated at 30° to the core axis  Average Modes Framework 30% Quartz 95% Feldspar 5% Matrix 70% Quartz 85-90% Chlorite 10-15% Sericite 1-2%	12502	tr	201.5	206.4	4.9			.003	
			12503	-	206.4	210.8	4.4			.003	
			12504	-	214.9	219.5	4.6			.003	
			12505	-	225.1	229.7	4.6			.003	
			12506	-	229.7	231.1	1.4			.003	
231.1	298.4	<u>Pelitic Metasediment</u> - typical, as above, green/brown, foliations highly contorted, ranging from parallel to perpendicular to the core axis, trace disseminated pyrite	12507	tr	231.1	234.7	3.6			.003	
			12508	tr	234.7	239.5	4.8			.003	
			12509	tr	239.5	244.0	4.5			.003	
			12510	tr	244.0	248.7	4.7			.003	
			12511	tr	248.7	253.3	4.6			.004	
			12512	tr	253.3	258.0	4.7			.003	
			12513	tr	258.0	262.9	4.9			.003	
			12514	tr	262.9	267.5	4.6			.003	
			12515	tr	267.5	272.5	5.0			.003	
			12516	tr	272.5	277.4	4.9			.003	

LANGRIDGES - TORONTO - 356-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-22 SHEET NO. 3 of 4

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au oz ton	Check oz ton
					FROM	TO	TOTAL				
298.4	299.7	<u>Ultramafic Metavolcanic</u> - chlorite tremolite schist, light green, fine grained, massive	2517	tr	277.4	281.8	4.4			.008	
			2518	tr	281.8	286.8	5.0			.003	
			2519	tr	286.8	291.7	4.9			.006	
			2520	tr	291.7	296.6	4.9			.005	
			2521	tr	296.6	298.4	1.8			<.001	
			2522	-	298.4	299.7	1.3			.007	
299.7	304.7	<u>Quartz Wacke</u> - typical, as above, some framework grains are somewhat coarser, trace pyrite, foliated at 60° to the core axis	2523	tr	299.7	304.7	5.0			.017	
304.7	309.0	<u>Ultramafic Metavolcanic</u> - typical, as above, high talc content, massive, trace pyrite	2524	tr	304.7	309.0	4.3			.002	
309.0	314.2	<u>Quartz Wacke</u> - typical, as above, 1% coarse euhedral pyrite cubes	2525	1	309.0	311.2	2.2			.001	
			2526	1	311.2	314.2	3.0			<.001	
314.2	317.0	<u>Pelitic Metasediment</u> - typical, as above, 2% disseminated pyrite, foliated at 30° to the core axis	2527	2	314.2	317.0	2.8			.001	
317.0	334.6	<u>Quartz Wacke</u> - typical, as above, foliated at 40° to the core axis, 1-2% pyrite usually in large cubes	2528	1-2	317.0	320.2	3.2			.002	
			2529	1-2	320.2	325.0	4.8			<.001	
			2530	1-2	325.0	329.6	4.6			.001	
			2531	1-2	329.6	334.6	5.0			.001	
334.6	339.1	<u>Pelitic Metasediments</u> - typical, as above, foliated at 20° to the core axis, 1-2% pyrite	2532	1-2	334.6	339.1	4.5			.001	

LANGRISHES - "PROV" - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-22 SHEET NO. 4 of 4

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au <sub>LOW</sub>	Check
					FROM	TO	TOTAL				
339.1	343.7	Quartz Wacke - typical, as above, foliated at 40° to the core axis, 1-2% disseminated pyrite	12533	1-2	339.1	343.7	3.4			.001	
343.7	354.3	Ultramafic Metavolcanic - typical, as above, foliated at 50° to the core axis, 1% disseminated pyrite	12534	1	343.7	347.0	3.3			.002	
			12535	1	347.0	350.8	3.8			.002	
			12536	1	350.8	354.3	3.5			.003	
354.3	357.0	Quartz Wacke - typical, as above, foliated at 50° to the core axis									
	357.0	END OF HOLE Casing pulled									

*[Handwritten signature]*

LANGRIDGE - TORONTO - 355-168



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-23 LENGTH 477.0  
 LOCATION 4+01W 8+00N  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED Oct. 7, 1987 FINISHED Oct. 9, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-40°				
477	-26°				

HOLE NO. SMZ-87-23 SHEET NO. 1 of 1

REMARKS Claim #861512

Summary Log

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE			ASSAYS				
FROM	TO		NO.	% SULPH IDES	FOOTAGE		%	%	Au OZ/TON	Check OZ/TON
					FROM	TO				
0	102.4	Casing								
102.4	233.0	Wacke								
233.0	242.3	Mafic Metavolcanic								
242.3	277.0	Pelitic Metasediment								
277.0	343.4	Mafic Metavolcanic								
343.3	358.7	Pelitic Metasediment - 2 to 3% pyrrhotite, 1% pyrite								
358.7	391.9	Banded Iron Formation - 1 to 2% pyrrhotite, 5 to 10% grunerite								
391.9	400.0	Mafic Metavolcanic								
400.0	462.2	Pelitic Metasediment								
462.2	469.2	Ultramafic Metavolcanic								
469.2	477.0	Pelitic Metasediment								
477.0	477.0	END OF HOLE Casing pulled								

LANGPAGES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-23 LENGTH 477.0  
 LOCATION 4+01W 8+00N  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED Oct. 7, 1987 FINISHED Oct. 9, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-40°				
477	-26°				

HOLE NO. SMZ-87-23 SHEET NO. 1 of 4

REMARKS Claim #861512

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE FROM	FOOTAGE TO	FOOTAGE TOTAL	%	%	Au OZ/TON	Check OZ/TON
0	102.4	Casing									
102.4	233.0	Wacke									
		- light grey/green, very well banded at 45° to the core axis	12537	tr	102.4	107.0	4.6			.001	
			12538	tr	126.0	130.9	4.9			.001	
			12539	tr	145.1	149.9	4.8			.001	
		Average Modes	12540	tr	164.3	169.1	4.8			.001	
		Framework 60-70%	12541	tr	182.9	187.7	4.8			.002	
		Quartz 50%	12542	tr	192.8	194.3	1.5			.001	
		Feldspar 50%									
		Matrix 30-40%									
		Quartz 50%									
		Biotite 25%									
		Chlorite 25%									
		- trace pyrite appears on minor fracture surfaces									
		- 194.3 to 205.8 - larger quartz framework grains make up 10-25% of the rock	12543	tr	194.3	197.7	3.4			.001	
			12544	tr	197.7	202.5	4.8			<.001	
			12545	tr	202.5	205.8	3.3			<.001	
			12546	tr	205.8	207.4	1.6			<.001	
			12547	tr	207.4	212.3	4.9			.001	
			12548	tr	212.3	217.0	4.7			<.001	
			12549	tr	226.8	231.5	4.7			.001	
			12550	tr	231.5	233.0	1.5			.001	
			12551	tr	233.0	235.4	2.4			<.001	
			12552	tr	235.4	240.1	4.7			<.001	
			12553	tr	240.1	242.3	2.2			.002	
233.0	242.3	Mafic Metavolcanic									
		- grey/green, fine to medium grained, well foliated at 45° to the core axis									
		Average Modes									
		Amphibole 20-25%									
		Chlorite 40-50%									
		Plagioclase 25-30%									
		Sericite 5%									

LANGRIDGES - \*DPOINFC - 366-1159

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-23 SHEET NO. 2 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO.	% SULPHIDES	FOOTAGE FROM TO TOTAL	%	%	Air OF TON	Check OF TON
242.3	277.0	- some of the foliations have minor slickensides, these have trace associated pyrrhotite smears. Trace pyrrhotite also appears in minor crosscutting stringers  <u>Pelitic Metasediment</u> - green/brown, well foliated at 45° to the core axis  Average Modes Quartz           60% Biotite           20% Chlorite          15% Sericite          5%  - predominantly mud and siltsized particles. Minor intercalations of wackes.	12554	-	242.3 245.0 1.7			<.001	
			12555	-	245.0 250.0 5.0			<.001	
			12556	-	263.1 267.7 4.6			<.001	
			12557	-	272.9 277.0 4.1			<.001	
277.0	343.4	<u>Mafic Metavolcanic</u> - typical, as above, grey/green, fine grained, well foliated at 50° to the core axis	12558	-	277.0 282.0 5.0			<.001	
			12559	-	296.7 301.5 4.8			<.001	
			12560	-	316.2 318.9 2.7			<.001	
			12561	-	318.9 320.0 1.1			<.001	
			12562	-	320.0 324.7 4.7			<.001	
			12563	-	339.1 343.4 4.3			.001	
343.4	358.7	<u>Pelitic Metasediment</u> - typical, as above, predominantly siltstone with lesser amounts of argillaceous layers. 2-3% pyrrhotite and 1% pyrite both in fracture fillings and coatings, trace garnets	12564	3-4	343.4 347.0 3.6			.001	
			12565	3-4	347.0 349.2 2.2			.002	
			12566	3-4	349.2 353.8 4.6			<.001	
			12567	3-4	353.8 358.7 4.9			.002	
358.7	391.9	<u>Banded Iron Formation</u> - banded chert, magnetite, chlorite schist, banded at 55° to the core axis	12568	1-2	358.7 362.0 3.3			.002	
			12569	1-2	362.0 367.0 5.0			.001	
			12570	1-2	367.0 377.0 5.0			.002	
			12571	1-2	377.0 382.0 5.0			.002	

LANGRIDGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-23 SHEET NO. 3 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO.	% SULPHIDES	FOOTAGE FROM TO TOTAL	%	Au OZ TON	Check OZ TON	
		Average Modes	12572	1-2	377.0	382.0	5.0		.002
		Bands	12573	1-2	382.0	387.0	5.0		.001
		Chert           50-60%	12574	1-2	387.0	391.9	4.9		.002
		Magnetite     20-25%							
		Chlorite      20-25%							
		Accessories							
		Disseminated Magnetite 10%							
		Grunerite     5-10%							
		Pyrrhotite    1-2%							
		Calcite       trace							
		- pyrrhotite occurs mainly as lenses and stringers parallel to the banding with minor crosscutting stringers. Minor crosscutting quartz (+ carbonate) stringers. Disseminated magnetite occurs in chlorite horizons and in gruneritic sections							
391.9	400.0	<u>Mafic Metavolcanic</u>							
		- typical, as above, light to medium green, fine to medium grained, foliated at 50° to the core axis	12575	1	391.9	392.9	1.0		.001
		- 392.3 - massive pyrite stringers parallel to the foliation	12576	tr	392.9	394.5	2.0		.001
		- 394.8 to 395.3 - quartz vein oriented at 40° to the core axis	12577	-	394.5	395.6	1.1		<.001
		- 395.3 to 396.5 - quartz vein, perpendicular to the core axis	12578	-	395.6	396.6	1.0		.001
		- 397.1 to 397.4 - quartz vein	12579	-	396.6	397.6	1.0		.001
		- 398.4 to 398.9 - quartz vein, irregular boundaries	12580	-	397.6	400.0	2.4		.001
400.0	462.2	<u>Pelitic Metasediment</u>	12581	-	400.0	401.9	1.9		.001
		- typical, as above, green/brown, foliated at 60° to the core axis	12582	-	416.8	421.6	4.8		.001
			12583	-	436.1	440.9	4.8		<.001
			12584	-	455.1	459.8	4.7		<.001
			12585	-	459.8	462.2	2.4		<.001

LANGRIDGES - "DIPON" TO - 366-1198

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake

HOLE NO. SMZ-87-23

SHEET NO. 4 of 4

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ TON	Check OZ TON
					FROM	TO	TOTAL				
462.2	469.2	Ultramafic Metavolcanic - grey/green, fine grained, foliated at 70° to the core axis  Average Modes Chlorite 55% Amphibole 20% Talc/Serpentine 15% Plagioclase 10% Magnetite 1%	2586	-	462.2	464.5	2.3			<.001	
			2587	-	464.5	469.2	4.7			<.001	
469.2	477.0	Pelitic Metasediment - typical, as above, green/brown, foliated at 70° to the core axis - 473.9 to 474.3 - quartz vein	2588	-	469.2	473.6	4.4			<.009	
			2589	-	473.6	474.6	1.0			<.001	
	477.0	END OF HOLE Casing pulled									

*[Handwritten signature]*

LANGRIDDGES - TORONTO - 366-1189

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-24 LENGTH 297.0  
 LOCATION 28+00E, 20+30S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED October 10, 1987 FINISHED October 11, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-45 <sup>0</sup>				
297	-44.5 <sup>0</sup>				

HOLE NO. SMZ-87-24 SHEET NO. 1 of 1

REMARKS Claim #861426

Summary Log

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE			ASSAYS				
FROM	TO		NO.	% SULPH IDES	FOOTAGE		%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL			
0	57.2	<u>Casing</u>								
57.2	163.4	<u>Ultramafic to Mafic Metavolcanic</u>								
163.4	188.7	<u>Ultramafic Metavolcanic</u>								
188.7	191.0	<u>Felsic Intrusive</u>								
191.0	245.1	<u>Ultramafic Metavolcanic</u>								
245.1	257.0	<u>Felsic Intrusive</u>								
257.0	263.2	<u>Ultramafic Metavolcanic</u>								
263.2	273.2	<u>Felsic Intrusive</u>								
273.2	278.7	<u>Chlorite Hornblende Schist</u>								
278.7	297.0	<u>Felsic Intrusive</u>								
	297.0	<u>END OF HOLE</u> <u>Casing left in hole</u>								

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-24 LENGTH 297.0  
 LOCATION 28+00E 20+30S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED October 10, 1987 FINISHED October 11, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-45 <sup>0</sup>				
297	-44.5 <sup>0</sup>				

HOLE NO. SMZ-87-24 SHEET NO. 1 of 4

REMARKS Claim #861426

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	57.2	Casing									
57.2	163.4	Ultramafic to Mafic Metavolcanic - light grey/green, fine grained, massive	12020	-	57.2	62.1	4.9			.007	
			12021	-	62.1	66.7	4.6			.006	
			12022	-	66.7	67.9	1.3			.004	
		Average Modes									
		Chlorite 30-40%									
		Amphibole 30-40%									
		Plagioclase 15-20%									
		Serpentine 10-15%									
		Magnetite 1-2%									
		- minor serpentine filled fractures at random angles to the core axis. Minor quartz stringers at random angles to the core axis									
		- 68.1 to 68.8 - chlorite-tremolite schist, probable shear zone									
			12023	-	67.9	68.9	1.0			.004	
			12024	-	68.9	71.3	2.4			.007	
			12025	-	71.3	75.7	4.4			.006	
			12026	-	75.7	80.4	4.7			.006	
			12027	-	80.4	85.4	5.0			.005	
			12028	-	85.4	90.4	5.0			.006	
			12029	-	90.4	95.4	5.0			.006	
			12030	-	95.4	100.2	4.8			.005	
			12031	-	100.2	105.2	5.0			.005	
			12032	-	105.2	109.8	4.6			.006	
			12089	-	109.8	114.3	4.5			.001	
			12033	-	114.3	119.1	4.8			.006	
			12090	-	119.1	124.1	5.0			.001	
			12034	-	124.1	127.0	2.9			.003	

LANGRIDGE - TORONTO - 365-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-24 SHEET NO. 2 of 4

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPH IDES	FOOTAGE		%	%	Au TON	CHECK	
					FROM	TO					TOTAL
		- 127.0 to 128.2 - heavily ground core, probable shear zone	12035	-	127.0	128.2	1.2			.004	
			12036	-	128.2	131.0	2.8			.005	
			12037	-	131.0	133.9	2.9			.004	
			12038	-	133.9	138.7	4.8			.007	
			12039	-	138.7	143.4	4.7			.004	
			12040	-	143.4	148.2	4.8			.007	
			12041	-	148.2	153.2	5.0			.005	
			12042	-	153.2	158.0	4.8			.003	
			12043	-	158.0	161.1	3.1			.003	
			12044	-	161.1	163.4	2.3			.003	
163.4	188.7	<u>Ultramafic Metavolcanic</u> - light grey, fine grained, massive to very poorly foliated at 55° to the core axis	12045	-	163.4	167.4	4.0			.003	
		Average Modes	12046	-	167.4	172.3	4.9			.004	
		Chlorite 30-40%	12047	-	172.3	177.0	4.7			.008	
		Amphibole 30-40%	12048	-	177.0	181.8	4.8			.004	
		Talc/Serpentine 20-30%	12049	-	181.8	186.5	4.7			.003	
		Magnetite 3-5%	12050	-	186.5	187.5	1.0			.001	
		- very minor occurrences of serpentine filled fractures									
		- 187.5 to 188.7 - occurrence of biotite, increasing to 60% at contact	12051	-	187.5	188.7	1.2			.002	
188.7	191.0	<u>Felsic Intrusive</u> - pink, medium to coarse grained, massive	12052	-	188.7	191.0	2.3			.003	
		Average Modes									
		Quartz 50-60%									
		Plagioclase 20-25%									
		Potassium 15-20%									
		Biotite 5-10%									

LANGRIDGES - TORONTO - 366-1168



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-24 SHEET NO. 3 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPH IDES	FOOTAGE			%	%	Au oz TON	Check oz TON
					FROM	TO	TOTAL				
191.0	245.1	<u>Ultramafic Metavolcanic</u> - typical, as above, light grey, massive									
		191.0 to 205.8 - typical, talcose ultramafic volcanic, very minor serpentine filled fractures	12053	-	191.0	195.8	4.8			.002	
			12054	-	195.8	200.7	4.9			.002	
			12055	-	200.7	203.5	2.8			.002	
			12056	-	203.5	205.8	2.3			.003	
			12057	-	205.8	207.5	1.7			.003	
		205.8 to 219.6 - serpentine rich mafic to ultramafic, as above, fracture filling serpentine is more abundant here.									
		- 207.5 to 209.2 - abundant serpentine filled fractures, trace pyrrhotite	12058	-	207.5	209.2	1.7			.003	
			12059	-	209.2	211.4	2.2			.005	
		- 212.0 to 212.2 - quartz veining, subnormal to the core axis, 10% chalcopyrite, 10% pyrrhotite, trace calcite	12060	-	211.4	212.5	1.1			.002	
			12061	-	212.5	213.7	1.2			.001	
		- 213.7 to 215.0 - serpentine filled fractures at random angles to the core axis	12062	-	213.7	215.0	1.3			.004	
			12063	-	215.0	219.6	4.6			.001	
			12064	-	219.6	224.5	4.9			<.001	
			12065	-	224.5	229.5	5.0			<.001	
			12066	-	229.5	233.9	4.4			<.001	
			12067	-	233.9	236.7	2.8			<.001	
		- 237.0 to 237.6 - biotite-chlorite schist, probable shear zone foliated at 60° to the core axis	12068	-	236.7	237.9	1.2			.001	
			12069	-	237.9	241.0	3.1			.004	
		- 243.6 to 244.3 - biotite rich zone	12070	-	241.0	243.6	2.6			.002	
			12071	-	243.6	245.1	1.5			.001	
			12072	-	245.1	248.0	2.9			<.001	
245.1	257.0	<u>Felsic Intrusive</u> - white/beige, medium grained, massive, weakly porphyritic in places	12073	-	248.0	252.8	4.8			<.001	
			12074	-	252.8	257.0	4.2			.001	
		Average Modes									
		Quartz			50%						
		Feldspar			35-40%						
		Sericite			5-10%						
		Chlorite			5%						

LANGRIDDGES - TORONTO - 386-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-24 SHEET NO. 4 of 4

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au oz TON	Check OF TON
					FROM	TO	TOTAL				
257.0	263.2	<u>Ultramafic Metavolcanic</u> - typical, as above, light grey/green, fine grained  257.0 to 259.1 - biotite rich contact zone, foliated at 75° to the core axis 259.1 to 263.2 - typical, talcose	2075	-	257.0	259.1	2.1			.001	
			2076	-	259.1	263.2	4.2			.002	
263.2	273.2	<u>Felsic Intrusive</u> - typical, as above, finer grained, trace disseminated pyrite	2077	tr	263.2	267.5	4.3			.001	
			2078	tr	267.5	270.0	2.5			.002	
			2079	tr	270.0	273.2	3.2			.001	
273.2	278.7	<u>Chlorite Hornblende Schist</u> - green/brown, foliated at 50° to the core axis, very minor quartz stringers, minor tremolite, serpentine and talc	2080	-	273.2	275.4	2.2			<.001	
			2081	-	275.4	278.7	3.3			.001	
278.7	297.0	<u>Felsic Intrusives</u> - typical, as above, white, fine to medium grained, massive, trace disseminated pyrite - 280.3 to 280.5 - chlorite-hornblende schist, typical, as above	2082	tr	278.7	280.0	1.3			.001	
			2083	-	280.0	281.0	1.0			.002	
			2084	-	281.0	282.5	1.5			.001	
			2085	-	282.5	286.4	3.9			.001	
			2086	tr	286.4	291.3	4.9			<.001	
			2087	tr	291.3	296.0	4.7			<.001	
			2088	tr	296.0	297.0	1.0			<.001	
297.0		END OF HOLE Casing left in hole									

*J. Adams*

LANGRISHES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-25 LENGTH 397.0  
 LOCATION 27+49E, 20+79S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED October 12, 1987 FINISHED October 13, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-44°				
397	-40°				

HOLE NO. SMZ-87-25 SHEET NO. 1 of 1

REMARKS Claim #861426

Summary Log

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	CHECK OZ/TON
					FROM	TO	TOTAL				
0	72.1	<u>Casing</u>									
72.1	134.7	<u>Ultramafic to Mafic Metavolcanic</u>									
134.7	143.4	<u>Ultramafic Metavolcanic</u>									
143.3	154.9	<u>Felsic Intrusive</u>									
154.9	157.7	<u>Ultramafic Metavolcanic</u>									
157.7	217.4	<u>Mafic to Ultramafic Metavolcanic</u>									
217.4	225.3	<u>Ultramafic Metavolcanic</u>									
225.3	240.2	<u>Chlorite Biotite Schist</u>									
240.2	397.0	<u>Felsic Intrusive</u>									
	397.0	<u>END OF HOLE</u> <u>Casing left in hole</u>									

LANGRIDGES - "PROV'D" - 366-1166

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-25 LENGTH 397.0  
 LOCATION 27+49E 20+79S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED October 12, 1987 FINISHED October 13, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-44 <sup>0</sup>				
397	-40 <sup>0</sup>				

HOLE NO. SMZ-87-25 SHEET NO. 1 of 4

REMARKS Claim #861426

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL			
0	72.1	<u>Casing</u>								
72.1	134.7	<u>Ultramafic to Mafic Metavolcanic</u> - medium green, medium grained, massive	12091	-	72.1	76.7	4.6			.005
			12092	-	76.7	81.3	4.6			.003
			12093	-	81.3	86.1	4.8			.002
			12094	-	86.1	90.9	4.8			.002
		Average Modes	12095	-	90.9	95.7	4.8			.002
		Chlorite 40-45%	12096	-	95.7	100.6	4.9			.002
		Amphibole 30-35%	12097	-	100.6	105.4	4.8			.002
		Plagioclase 10-15%	12098	-	105.4	110.3	4.9			.002
		Serpentine 5-10%	12099	-	110.3	115.3	5.0			.002
		Magnetite 1-2%	12100	-	115.3	120.3	5.0			.002
		- serpentine is predominantly massive with minor asbestiform fracture fillings, magnetite is disseminated throughout the unit, very minor quartz stringers occur randomly	12101	-	120.3	125.3	5.0			.001
			12102	-	125.3	129.9	4.6			.002
			12103	-	129.9	134.7	4.8			.001
134.7	143.4	<u>Ultramafic Metavolcanic</u> - grey/green, fine to medium grained, foliated at 55° to the core axis	12104	-	134.7	139.0	4.3			.002
			12105	-	139.0	143.4	4.4			.002
		Average Modes								
		Chlorite 45-50%								
		Amphibole 25-30%								
		Talc 10-15%								
		Magnetite 3-5%								
		Serpentine 5%								
		- moderately carbonatized								

LANGRISHES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-25 SHEET NO. 2 of 4

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OZ TON	Check OZ TON
					FROM	TO				
143.4	154.9	<u>Felsic Intrusive</u> - light grey to pink, fine to medium grained, massive  Average Modes Quartz 50% Plagioclase 25-30% Potassium Feldspar 10-20% Biotite 5-10% Sericite 2-3%  143.4 to 146.1 - pink, coarser grained, weakly porphyritic - 143.4 - slip surface on contact, trace pyrite  146.1 to 149.2 - grey, finer grained, more sericitic here  149.2 to 154.9 - typical								
			12106	tr	143.4	146.1	2.7		.001	
			12107	-	146.1	149.2	3.1		.002	
			12108	-	149.2	152.5	3.3		.001	
			12109	-	152.5	154.9	2.4		.003	
154.9	157.7	<u>Ultramafic Metavolcanic</u> - typical, as above, grey, fine grained, massive	12110	-	154.9	157.7	2.8		.002	
157.7	217.4	<u>Mafic to Ultramafic Metavolcanic</u> - typical, as above, medium green, medium grained, massive, minor quartz carbonate stringers - 170.4 to 170.5 - massive pyrrhotite bleb with associated quartz stringers	12111	-	157.7	162.7	5.0		.002	
			12112	-	162.7	167.5	4.8		.003	
			12113	-	167.5	169.9	2.4		.003	
			12114	10	169.9	170.9	1.0		.003	
			12115	-	170.9	172.4	1.5		.003	
			12116	-	172.4	177.0	4.6		.003	
			12117	-	177.0	181.9	4.9		.002	
			12118	-	181.9	186.4	5.5		.001	
			12119	-	186.4	191.1	4.7		.003	
			12120	-	191.1	195.7	4.6		.003	
			12121	-	195.7	200.4	4.7		.003	
			12122	-	200.4	203.2	2.8		.001	

LANGRIDGES - TORONTO - 366-1198

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria (Inemel) Lake

HOLE NO. SMZ-07-25

SHEET NO. 3 of 4

ELEVATION FROM	TO	DESCRIPTION	SAMPLE			ASSAYS		
			NO.	DEPTH IN FT.	FOOTAGE IN FT.	GRAVIMETRIC G./G.	COPYES	
217.4	226.3	<p>- 203.6 to 203.8 - quartz-chlorite-pyrrhotite filled fractures at 30° to the core axis</p> <p>- 212.9 to 213.0 - pyrrhotite smear on fracture surface</p> <p><u>Ultramafic Metavolcanic</u> - typical, as above, gray/green, fine grained, massive, slightly more chloritic, minor quartz stringers</p>	2123	5	203.2	204.2	1.0	.003
			2124	-	204.2	207.0	2.8	.003
			2125	-	207.0	212.0	5.0	.003
			2126	tr	212.0	213.4	1.4	.003
			2127	-	213.4	217.4	4.0	.003
			2128	-	217.4	221.4	4.0	.003
			2129	-	221.4	225.3	3.9	.004
225.3	240.2	<p><u>Chlorite Biotite Schist</u> - green/brown, fine grained, highly contorted foliations, trace chalcopyrite, minor talc</p>	2130	tr	225.3	227.0	1.7	.001
		225.3 to 227.0 - very biotite rich, minor talc and chlorite	2131	tr	227.0	232.0	5.0	.003
		227.0 to 232.0 - minor biotite, more chloritic, and talcose	2132	tr	232.0	237.0	5.0	.002
		232.0 to 240.2 - typical, chlorite-biotite schist	2133	tr	237.0	240.2	3.2	.003
240.2	397.0	<p><u>Felsic Intrusive</u> - typical, as above, light gray to pink, medium grained, equigranular, trace fine grained disseminated pyrite, minor sericitization</p>	2134	tr	240.2	243.8	3.6	.003
			2135	tr	243.8	248.7	4.9	.003
			2136	tr	248.7	253.2	4.5	.003
			2137	tr	253.2	258.1	4.9	.002
			2138	tr	258.1	262.9	4.8	.001
			2139	tr	262.9	267.9	5.0	.001
			2140	tr	267.9	272.6	4.7	.001
			2141	tr	272.6	277.4	4.8	.001
			2142	tr	277.4	281.9	4.5	<.001
			2143	tr	281.9	286.8	4.9	<.001
			2144	tr	286.8	291.6	4.8	.001
			2145	tr	291.6	296.6	5.0	.001
			2146	tr	296.6	301.1	4.5	.001

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-25 SHEET NO. 4 of 4

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPH IDES	FOOTAGE			%	%	Au Check	
					FROM	TO	TOTAL			OZ TON	OZ TON
			12147	tr	301.1	305.9	4.8			<.001	
			12148	tr	305.9	310.5	4.6			.001	
			12149	tr	310.5	315.5	5.0			.001	
			12150	tr	315.5	320.5	5.0			.001	
			12151	tr	320.5	325.5	5.0			.004	
			12152	tr	325.5	330.1	4.6			.002	
			12153	tr	330.1	335.1	5.0			.002	
		- 340.5 to 347.0 - loss of core	12154	tr	335.1	337.0	1.9			.002	
			12155	tr	337.0	340.5	3.5			.001	
			12156	tr	347.0	350.8	3.8			.002	
			12157	tr	350.8	355.8	5.0			.003	
			12158	tr	355.8	360.8	5.0			.003	
			12159	tr	360.8	365.8	5.0			.003	
			12160	tr	365.8	370.7	4.9			.003	
			12161	tr	370.7	375.7	5.0			.003	
		- 377.0 to 378.9 - fine grained, heavily sericitized	12162	tr	375.7	377.0	1.3			.003	
		- 378.9 to 380.6 - inclusion of mafic metavolcanic, probable xenolith	12163	tr	377.0	378.9	1.9			.005	
		- 380.6 to 382.2 - fine grained, heavily sericitized	12164	tr	378.9	380.6	1.7			.001	
			12165	tr	380.6	382.2	1.6			.002	
			12166	tr	382.2	385.1	2.9			.002	
			12167	tr	385.1	390.5	5.4			.001	
			12168	tr	390.5	395.3	4.8			.002	
			12169	tr	395.3	397.0	1.7			.002	
397.0		END OF HOLE Casing left in hole									

*J. Adams*

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-26 LENGTH 397.0  
 LOCATION 28+50E, 20+81S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED October 13, 1987 FINISHED October 15, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-44°				
397	-42°				

HOLE NO. SMZ-87-26 SHEET NO. 1 of 1

REMARKS Claim #861426  
Summary Log

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS					
FROM	TO		NO.	% SULPHIDES	PH	FOOTAGE		%	%	Au OZ/TON	Check OZ/TON	
						FROM	TO	TOTAL				
0	65.5	Casing										
65.5	95.2	Mafic to Ultramafic Metavolcanic										
95.2	117.4	Ultramafic Metavolcanic										
117.4	135.1	Felsic Intrusive										
135.1	137.1	Ultramafic Metavolcanic										
137.1	142.3	Felsic Intrusive										
142.3	149.9	Ultramafic Metavolcanic										
149.9	167.0	Mafic to Ultramafic Metavolcanic										
167.0	188.7	Ultramafic Metavolcanic										
188.7	227.9	Felsic Intrusive										
227.9	243.3	Ultramafic Metavolcanic										
243.3	251.1	Felsic Intrusive										
251.1	260.7	Mafic Metavolcanic										
260.7	262.6	Ultramafic Metavolcanic										
262.6	341.8	Felsic Intrusive										
341.8	343.0	Quartz Chlorite Biotite Schist										
343.0	347.0	Felsic Intrusive										
347.0	353.3	Ultramafic Metavolcanic										
353.3	396.0	Felsic Intrusive										
396.0	397.0	Chlorite Biotite Schist										
	397.0	END OF HOLE										
		Casing left in hole										



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-26 LENGTH 397.0  
 LOCATION 28150E, 20181S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED October 13, 1987 FINISHED October 15, 1987

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-44°				
397	-42°				

HOLE NO. SMZ-87-26 SHEET NO. 1 of 6  
 REMARKS Claim #861426

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	65.5	<u>Casing</u>									
65.5	95.2	<u>Mafic to Ultramafic Metavolcanic</u> - medium grey/green, fine grained, massive  Average Modes Chlorite 40-50% Amphibole 30-35% Plagioclase 10-15% Serpentine 10% Magnetite 2-3%  - serpentine is predominantly massive with very minor asbestiform sections, magnetite is disseminated throughout the unit, minor fractures filled with massive serpentine at random angles to the core axis  - 81.0 to 84.2 - quartz-serpentine filled fractures at random angles to the core axis, 1% pyrite associated with quartz - 87.5 - massive blebs of chalcopyrite - 88.8 to 89.3 - quartz veining at 30° and 90° to the core axis, trace pyrite	2170	-	65.5	70.4	4.9			.003	
			2171	-	70.4	75.0	4.6			.002	
			2172	-	75.0	79.7	4.7			.002	
			2173	-	79.7	81.0	1.3			.003	
			2174	1	81.0	84.2	3.2			.003	
			2175	-	84.2	87.0	2.8			.002	
			2260	tr	87.0	88.0	1.0			<.001	
			2176	tr	88.0	89.3	1.3			.001	
			2177	-	89.3	92.3	3.0			.002	
			2178	-	92.3	95.2	2.9			.001	

LANGRIDGE - TORONTO - 356-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-26 SHEET NO. 2 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au	Check
					FROM	TO	TOTAL			OZ TON	OZ TON
95.2	117.4	<u>Ultramafic Metavolcanic</u>	12179	tr	95.2	98.0	2.8			.002	
		- light grey/green, fine grained, massive to very weakly foliated at 40° to the core axis	12180	tr	98.0	103.0	5.0			.002	
			12181	tr	103.0	107.7	4.7			.002	
			12182	tr	107.7	111.1	3.4			.002	
		Average Modes									
		Amphibole	40-50%								
		Chlorite	25-30%								
		Talc	20-25%								
		Magnetite	5%								
		Pyrite	trace								
		- 111.4 to 112.0 - chlorite-biotite-talc schist, trace disseminated pyrite	12183	tr	111.1	112.1	1.0			.003	
			12184	tr	112.1	116.4	4.3			.002	
		- 117.0 to 117.4 - chlorite-biotite schist, contact zone with felsic intrusive	12185	tr	116.4	117.4	1.0			.001	
117.4	135.1	<u>Felsic Intrusive</u>									
		- light grey/pink, medium grained, equigranular, massive	12186	tr	117.4	120.0	2.6			.001	
			12187	tr	120.0	122.5	2.5			<.001	
			12188	tr	122.5	127.4	4.9			.001	
		Average Modes									
		Quartz	50-60%								
Feldspar	30-35%										
Biotite	10-15%										
Sericite	2-3%										
		- trace disseminated pyrite									
135.1	137.1	<u>Ultramafic Metavolcanic</u>	12191	-	135.1	137.1	2.0			.001	
		- typical, as above, up to 5% biotite at upper and lower contacts									

LANGRIDGES - TORONTO - 365-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-26 SHEET NO. 3 of 6

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ TON	Check OZ TON
					FROM	TO	TOTAL				
137.1	142.3	<u>Felsic Intrusive</u> - typical, as above, higher potassium feldspar content, trace pyrite	12192	tr	137.1	139.9	2.8			.001	
			12193	tr	139.9	142.3	2.4			.001	
142.3	149.9	<u>Ultramafic Metavolcanic</u> - typical, as above, grey/green, fine grained, massive	12194	-	142.3	146.4	4.1			.001	
			12195	-	146.4	149.9	3.5			.002	
149.9	167.0	<u>Mafic to Ultramafic Metavolcanic</u> - typical, as above, medium green, fine grained, massive, minor quartz carbonate stringers occur at random angles to the core axis, stringers range in size from 1/14" to 1/16" and range in orientation from subparallel to subnormal to the core axis. Very few intersections between the stringers occur; however, where they do, both the subparallel and sub-normal stringers appear to be offset up to 1/2", stringers contain minor amounts of associated massive pyrrhotite. Also, very minor amounts of euhedral pyrite occur.	12196	tr	149.9	151.3	1.4			.003	
			12197	tr	151.3	155.3	4.0			.002	
			12198	tr	155.3	159.8	4.5			.002	
			12199	tr	159.8	164.8	5.0			.001	
			12200	tr	164.8	167.0	2.2			.001	
167.0	188.7	<u>Ultramafic Metavolcanic</u> - typical, as above, grey/green, fine grained, massive to poorly foliated at 40° to the core axis, trace disseminated pyrrhotite - 181.8 to 185.4 - shear zone, 70% core recovery - 185.4 to 188.7 - biotite-rich contact zone	12201	tr	167.0	172.0	5.0			.003	
			12202	tr	172.0	177.0	5.0			.002	
			12203	tr	177.0	181.8	4.8			.002	
			12204	tr	181.8	185.4	3.6			.002	
			12205	tr	185.4	188.7	2.7			.001	

LANGRIDGES - "DRY" - 366-1169

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO.: SMZ-87-26 SHEET NO.: 4 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OZ TON	Check OZ TON	
					FROM	TO					TOTAL
188.7	227.9	<u>Felsic Intrusive</u> - typical, as above, light grey to pink, medium grained, trace fine grained disseminated pyrite	12206	tr	188.7	190.4	1.7			<.001	
			12207	tr	190.4	195.4	5.0			.001	
			12208	tr	195.4	200.1	4.7			.002	
			12209	tr	200.1	205.0	4.9			.002	
			12210	tr	205.0	209.8	4.8			.002	
			12211	tr	209.8	214.8	5.0			<.001	
			12212	tr	214.8	219.5	4.7			.002	
			12213	tr	219.5	224.3	4.8			.002	
			12214	tr	224.3	227.9	3.6			.001	
227.9	243.4	<u>Ultramafic Metavolcanic</u> - typical, as above, grey/green, medium grained, massive, rich in talc and asbestiform serpentine, trace sulphide - 227.9 to 228.1 - biotite-rich contact zone	12215	tr	227.9	229.0	1.1			.002	
			12216	tr	229.0	232.1	3.1			.002	
			12217	tr	232.1	235.0	2.9			.002	
		- 235.2 to 235.7 - quartz vein, trace magnetite on contact	12218	tr	235.0	236.0	1.0			.001	
			12219	tr	236.0	238.8	2.8			.001	
		- 242.3 to 243.2 - biotite-rich contact zone	12220	tr	238.8	243.4	4.6			.001	
243.4	251.1	<u>Felsic Intrusive</u> - typical, as above, light grey-pink, fine to medium grained, massive, trace disseminated pyrite, minor sericitization	12221	tr	243.4	247.0	3.6			.002	
			12222	tr	247.0	251.1	4.1			.002	
251.1	260.7	<u>Mafic Metavolcanic</u> - medium green, medium grained, massive  Average Modes Amphibole 50% Plagioclase 20-25% Chlorite 25-30%									

LANGFIDGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-26 SHEET NO. 5 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au	Check
					FROM	TO	TOTAL			oz TON	oz TON
		- 251.1 to 253.5 - minor quartz stringers with trace massive chalcopryrite, minor biotite	12223	tr	251.1	253.5	2.4			.003	
		- 260.1 to 260.7 - biotite-rich contact zone minor quartz stringers	12224	tr	253.5	258.2	4.7			.003	
			12225	tr	258.2	259.7	1.5			<.001	
			12226	tr	259.7	260.7	1.0			.001	
260.7	262.6	<u>Ultramafic Metavolcanic</u> - typical, as above, grey/green, fine grained, foliated at 55° to the core axis, trace sulphide	12227	tr	260.7	262.6	1.9			.001	
262.6	341.8	<u>Felsic Intrusive</u> - typical, as above, light grey, fine to medium grained, massive, minor quartz veining	12228	-	262.6	264.1	1.5			.001	
			12229	-	264.1	267.8	3.7			.001	
			12230	-	267.8	272.5	4.7			.001	
			12231	-	272.5	277.4	4.9			<.001	
			12232	-	277.4	282.3	4.9			<.001	
			12233	-	282.3	287.2	4.9			.001	
			12234	-	287.2	292.2	5.0			.002	
			12235	-	292.2	296.5	4.3			<.001	
			12236	-	296.5	301.4	4.9			<.001	
			12237	-	301.4	306.4	5.0			<.001	
			12238	-	306.4	311.3	4.9			<.001	
			12239	-	311.3	316.2	4.9			.002	
			12240	-	316.2	320.9	4.7			.001	
			12241	-	320.9	325.4	4.5			.001	
			12242	-	325.4	330.0	4.6			.001	
			12243	-	330.0	334.2	4.2			.002	
			12244	-	334.2	338.8	4.6			.002	
			12245	-	338.8	341.8	3.0			<.001	
341.8	343.0	<u>Quartz Chlorite Biotite Schist</u> - silicified possible wacke, brown/green, fine grained	12246	-	341.8	343.0	1.2			<.001	

LANGRIDGE - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-87-26 SHEET NO. 6 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au G/TON	Check G/TON
343.0	347.0	Felsic Intrusive - typical, as above, light grey to pink, fine grained, massive, trace pyrite	2247	tr	343.0 347.0 4.0	<.001	
347.0	353.3	Ultramafic Metavolcanic - typical, as above, green/grey, fine grained, weak contorted foliations, minor biotite near upper and lower contacts	2248	-	347.0 350.0 3.0	<.001	
			2249	-	350.0 353.3 3.3	<.001	
353.3	396.0	Felsic Intrusive - typical, as above, light grey (slight pink hue), medium grained, massive, trace pyrite	2250	tr	353.3 358.0 4.7	<.001	
			2251	tr	358.0 363.0 5.0	<.001	
			2252	tr	363.0 368.0 5.0	<.001	
			2253	tr	368.0 372.9 4.9	<.001	
			2254	tr	372.9 377.7 4.8	<.001	
			2255	tr	377.7 382.6 4.9	<.001	
			2256	tr	382.6 387.4 4.8	<.001	
			2257	tr	387.4 392.4 5.0	<.001	
396.0	397.0	Chlorite Biotite Schist - minor talc, green/brown, fine grained	2258	tr	392.4 396.0 3.6	<.001	
			2259	-	396.0 397.0 1.0	<.001	
	397.0	END OF HOLE Casing left in hole					

LANGRIDGES - TORONTO - 366-1186

*J. Williams*

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-1 LENGTH 407'  
 LOCATION 36+01E, 1+60S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED January 29, 1988 FINISHED January 30, 1988

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200'	-45 <sup>0</sup>				
407'	-38 <sup>0</sup>				

HOLE NO. SMZ-88-1 SHEET NO. 1 of 1

REMARKS Claim # PA 861419  
Summary Log

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE			ASSAYS			
FROM	TO		NO.	% SULPHIDES	FOOTAGE FROM TO TOTAL	%	%	Au OZ/TON	Cu OZ/TON
0	18.3	Casing							
18.3	121.1	Ultramafic to Mafic Metavolcanics							
121.1	157.2	Clastic Metasediments - mostly wacke, minor argillite							
157.2	167.6	Mafic Metavolcanics - silicified chlorite schist							
167.6	168.9	Clastic Metasediments - wacke with minor chert							
168.9	170.1	Chert - 1% disseminated pyrite							
170.1	242.0	Interbedded Mafic Volcanics and Clastic Metasediments							
242.0	245.8	Ultramafic Metavolcanics							
245.8	247.9	Mafic Metavolcanics							
247.9	256.8	Ultramafic Metavolcanics - trace disseminated pyrite	3038	tr	251.8 256.8 5.0			.009	
256.8	282.5	Garnetiferous Mafic Metavolcanics - up to 10% garnet locally, trace pyrite, chalcopryite - 280.5 to 281.1 - 2 to 3% pyrite, trace chalcopryite	3045	2-3	280.5 281.5 1.0			.010	
282.5	337.6	Siliceous Argillite or Siltstone							
337.6	343.4	Metagreywacke							
343.3	407.0	Siliceous Argillite or Siltstone							
	407.0	END OF HOLE							

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-1 LENGTH 407'  
 LOCATION 36+01E, 1+60S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED January 29, 1988 FINISHED January 30, 1988

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200'	-45 <sup>0</sup>				
407'	-38 <sup>0</sup>				

HOLE NO. SMZ-88-1 SHEET NO. 1 of 12

REMARKS Claim #Pa 861419

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	18.3	Casing									
18.3	121.1	<p>Ultramafic to Mafic Metavolcanics</p> <p>18.3 to 20.1 - dark green, medium grained, weakly foliated at 30° to the core axis</p> <p>Average Modes</p> <p>Amphibole 60-70%</p> <p>Serpentine/Talc 10-15%</p> <p>Plagioclase 10-15%</p> <p>Magnetite 3-5%</p> <p>Chlorite 5-7%</p> <p>Sulphide 0 to trace</p> <p>- euhedral magnetite porphyroblasts occur throughout the section (octahedral, up to 1/8" wide)</p> <p>- irregular quartz-carbonate veinlets occur throughout the unit; several contain magnetite grains; trace disseminated pyrite</p> <p>- probably a mafic volcanic</p> <p>20.1 to 29.6 - medium grey-green colour, fine grained, well foliated at 40° to the core axis</p> <p>Average Modes</p> <p>Serpentine/Talc 80-90%</p> <p>Amphibole 10-20%</p> <p>Magnetite trace to 2%</p> <p>Carbonate trace</p> <p>Sulphides trace</p>									
			3001	tr	18.3	21.3	3.0			.004	



# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-1 SHEET NO. 2 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au OZ TON	Check OZ TON	
					FROM	TO			TOTAL
		<ul style="list-style-type: none"> <li>- sheared, serpentized ultramafics; slickensided foliation planes and fracture surfaces</li> <li>- quartz-carbonate veining absent</li> <li>- very fine, flaky pyrite grains occur along foliation planes</li> </ul>							
29.6	35.1	- medium grained, poorly foliated material with magnetite porphyroblasts, similar to 18.3 to 20.1 - quartz-carbonate veinlets rare; trace disseminated pyrite	3002	tr	29.6	34.6	5.0	.001	
35.1	39.1	- sheared, serpentized, talc-rich material similar to 20.1 to 29.6 (ultramafic) - quartz-carbonate veining absent; no visible sulphides - foliated at 55-60° to the core axis							
39.1	45.0	- medium grained, massive to weakly foliated mafic (?) volcanics, as per 18.3 to 20.1 (amphibole-plagioclase-chlorite-serpentine assemblage); 5-7% magnetite in very small anhedral to euhedral grains - 39.4 to 42.1 - highly fractured section with abundant quartz-carbonate veinlets (randomly oriented, up to 1/4" wide); locally up to 5% biotite in matrix and along fractures; trace pyrite	3003	tr	39.1	43.1	4.0	.006	
45.0	52.7	- sheared, serpentized, talc-rich material similar to 20.1 to 29.6; weakly pronounced, fine compositional banding - minor carbonate in matrix; quartz-carbonate veining absent - trace disseminated pyrite, very fine grained - foliated at 42° to the core axis	3004	tr	47.7	52.7	5.0	.002	

88-1-96 - C.N.C. - 550-D-01

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-88-1 SHEET NO: 3 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au oz TON	Check	
					FROM	TO			TOTAL
	52.7 to 57.2	- medium grained, massive to weakly foliated material (grading towards a mafic volcanic) similar to 18.3 to 20.1) - frequent randomly oriented, discontinuous quartz-carbonate stringers; some of the larger veinlets contain small fragments of brecciated wallrock - trace pyrite	3005	tr	52.7	57.2	4.5	.001	
	57.2 to 59.0	- sheared, serpentized ultramafics; as per 20.1 to 29.6 - no visible sulphides or quartz-carbonate veins - foliated at 32° to the core axis							
	59.0 to 60.1	- silicified volcanics; fine grained carbonate in matrix and numerous small, randomly oriented quartz-carbonate veinlets throughout unit - trace disseminated pyrite and chalcopyrite	3006	tr	59.0	60.1	1.1	.004	
	60.1 to 69.2	- sheared, serpentized, ultramafics, as per 20.1 to 29.6 - 60.1 to 64.8 - several quartz-carbonate blebs and veinlets, randomly oriented, discontinuous; no visible sulphides, 1/8 to 1/2" wide - 66.2 to 67.0 - finely banded section displaying highly contorted folds and two small fold closures	3008	tr	64.8	69.2	4.4	.002	
	69.2 to 76.8	- medium grained, massive mafic volcanics, similar to 18.3 to 20.1 - numerous, randomly oriented fractures, many filled with quartz-carbonate, others are lined with serpentine and/or biotite - euhedral magnetite is disseminated throughout unit - up to 10% biotite near lower contact - trace pyrite	3009 3010	tr tr	69.2 72.0	72.0 76.8	2.8 4.8	.004 .002	

LANGRIDDGES - TORONTO - 365-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-88-1 SHEET NO: 4 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au	Check	
				FROM	TO	TOTAL	0.7 TON	0.7 TON	
		76.8 to 90.9 - sheared, serpentinized ultramafic - several sections with fine compositional banding display highly contorted folding and crenulations - several euhedral pyrite crystals and small stringers occur in some sections - 78.0 to 82.7 - light to medium grey, fine to medium grained, talc-rich volcanics; small clots and bands of talc, minor euhedral pyrite	3011	tr	81.0	86.0	5.0	<.001	
			3012	tr	86.0	90.9	4.9	<.001	
		90.9 to 92.7 - silicified mafic volcanics, quartz-carbonate stockwork with veinlets up to 1/2" wide; no visible sulphides in veinlets, trace to 1% pyrite in matrix (small cubes and blebs)	3013	tr	90.9	92.7	1.8	.002	
		92.7 to 104.9 - light to medium green ultramafic volcanics (mostly serpentine with lesser amphibole, talc, chlorite and magnetite); highly convoluted and crenulated folding throughout section (folded axes are randomly oriented); msal clots of chlorite and talc) - 101.1 to 102.4 - biotite content up to 20% - 103.6 to 104.0 - quartz-carbonate vein, discordant; coarse grained calcite; chlorite and biotite inclusions), no visible sulphides; abundant biotite in matrix above vein	3014	tr	97.1	101.1	4.0	.004	
			3015	tr	101.1	104.9	3.9	.007	
		104.9 to 108.0 - light to medium grey, medium grained, talc-rich ultramafics; frequent clots and discontinuous bands of talc - trace euhedral pyrite - foliated at 57° to the core axis							

JAN 20 1988 - 11:15 AM - 3567148

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-88-1 SHEET NO: 5 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au OZ TON	Check OZ TON	
					FROM	TO			TOTAL
		108.0 to 121.1 - medium grained, moderately silicified mafic volcanics with narrow, fine grained ultramafic intercalations (6" to 8" wide) - frequent concordant quartz-carbonate veinlets, 1/8" to 1/2" wide; veinlets are discontinuous, some are brecciated - biotite content increases in more highly silicified areas, locally up to 5% - 109.7 to 110.3 - highly sheared, incompetent ultramafic material; clayey, schistose texture - 118.0 - foliated at 40° to the core axis	3016	tr	108.0	113.0	5.0	.001	
			3017	tr	116.3	121.1	4.8	.002	
121.1	157.2	<u>Clastic Metasediments</u> - grey-green to greenish-brown, fine grained, well foliated, weak banding throughout unit - sediments are dominantly quartz-feldspar wackes containing very narrow dark grey bands of argillaceous material (approx. 5%); narrow bands of green, fine grained, mafic material (mostly actinolite and chlorite) could be tuffaceous beds - concordant, discontinuous quartz-carbonate veinlets occur throughout the unit, many are boudinaged; some of the siliceous bands may be recrystallized chert - wackes locally contain medium grained biotite in the matrix (up to 20%) - trace disseminated pyrite - 127.0 - foliation and banding at 55-60° to the core axis  - 147.1 to 152.5 - medium grained wacke with up to 20% biotite in matrix, rock has a greenish-black colour with a mottled texture; several 1/2 to 3/4" crosscutting quartz-carbonate veinlets; most at high angles to the core axis (70-80°); foliation is at 60° to the core axis; trace disseminated pyrite	3018	tr	122.5	127.0	4.5	.003	
			3019	tr	132.0	137.0	5.0	.002	
			3020	tr	142.0	147.0	5.0	<.001	
			3021	tr	147.0	152.0	5.0	.004	

LANGRISHES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-1 SHEET NO. 6 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	AU G/TON	Check G/TON		
157.2	167.6	<p><u>Mafic Metavolcanics</u></p> <ul style="list-style-type: none"> <li>- dark green, medium grained, well foliated at 50-55° to the core axis, silicified</li> </ul> <p>Average Modes</p> <ul style="list-style-type: none"> <li>Chlorite 70-85%</li> <li>Quartz+Carbonate 10-20%</li> <li>Amphibole 2-5%</li> <li>Sulphide trace</li> </ul> <ul style="list-style-type: none"> <li>- silicified chlorite schist, possibly sheared</li> <li>- pervasive silicification throughout the unit; distinct quartz-carbonate veinlets are rare (mostly concordant, poorly developed, chlorite-rich quartz-carbonate bands)</li> <li>- trace disseminated pyrite</li> </ul>	3022	tr	157.2	162.2	5.0	.002	
			3023	tr	162.2	167.2	5.0	.001	
167.6	168.9	<p><u>Clastic Metasediments</u></p> <ul style="list-style-type: none"> <li>- basic description as per above (i.e. 121.1 to 157.2)</li> <li>- mostly medium grained quartz-feldspar wacke with minor chert bands, biotite up to 3%</li> </ul>	3024	tr	167.2	168.9	1.7	.003	
168.9	170.1	<p><u>Chert</u></p> <ul style="list-style-type: none"> <li>- pale yellow-green colour, fine grained, weakly banded at 50° to the core axis</li> <li>- blebs and subconcordant stringers of quartz-carbonate; minor wisps of chlorite</li> <li>- fine grained pyrite is disseminated throughout the unit; a few small stringers also occur</li> </ul>	3025	1	168.9	170.1	1.2	.002	

LANGRANGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-1 SHEET NO. 7 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS		
FROM	TO		NO	SULPHIDES	FOOTAGE		Au OZ TON	Check OZ TON
					FROM	TO		
170.1	242.0	<p><u>Interbedded Mafic Volcanics and Clastic Metasediments</u>                      - interbedded mafic volcanics, possibly tuffs, and clastic sediments, mostly wackes with lesser argillite                      - both units are moderately silicified; quartz-carbonated veinlets are mostly concordant and discontinuous, trace disseminated pyrite</p>						
		170.1 to 176.8 - wacke; green to greenish brown colour, fine grained, well foliated and banded at 55° to the core axis; several lens shaped and boudinaged quartz-carbonate veinlets, biotite-rich bands	3026	tr	170.1	175.1	5.0	.004
		176.8 to 193.0 - mafic volcanics; chlorite-quartz schist, minor amphibole (<5%) and trace pyrite and chalcopryrite; possibly volcanoclastic	3027	tr	180.0	185.0	5.0	.003
			3028	tr	189.0	193.0	4.0	.002
		193.0 to 195.8 - metasediments - 193.0 to 194.9 - wacke, as per above - 194.9 to 195.4 - pale yellow-green chert, as per above (i.e. 168.9 to 170.1); trace disseminated pyrite - 195.4 to 195.8 - wacke, as per above - foliated at 55° to the core axis	3029	tr	193.0	195.8	28	.001
		195.8 to 203.1 - mafic volcanics; chlorite-quartz schist, as per above - 196.5 to 196.8 - medium grained quartz-carbonate vein, subconcordant; smoky quartz, no visible sulphides	3030	tr	195.8	200.8	5.0	.002
		203.1 to 205.3 - wacke; finely laminated felsic and biotite-chlorite rich bands - banding and foliation oriented at 53° to the core axis						

LANGRISHES - CRONTO - 366 - 158

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake

HOLE NO. SMZ-88-1

SHEET NO. 8 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au 0.1 TON	Check 0.1 TON
					FROM	TO	TOTAL				
		205.3 to 222.8 - mostly mafic volcanics (chlorite schist) with frequent narrow interbeds of finely banded wacke; gradational contacts - interbedded volcanoclastic and turbiditic material (?) - quartz-carbonate veining very common throughout the unit; mostly small, concordant discontinuous veinlets; many of the larger veinlets are boudinaged	3031	tr	206.0	211.0	5.0			<.001	
			3032	tr	217.8	222.8	5.0			<.001	
		222.8 to 224.8 - sheared chlorite-talc schist, possible ultramafic intercalation - porphyroblasts of white plagioclase, most about 1/8" wide, occur near lower contact - rare, concordant quartz-carbonate veinlets up to 1/4" wide	3033	tr	222.8	224.8	2.0			.004	
		224.8 to 242.0 - interbedded mafic to ultramafic volcanics and wacke, similar to 205.3 to 222.8 - volcanics become more prevalent near bottom of section; trace disseminated pyrite - 228.0 - foliated at 57° to the core axis - 239.7 to 240.0 - subconcordant quartz-carbonate vein containing yellow-white plagioclase and chloritic inclusions; no visible sulphides	3034	tr	228.0	233.0	5.0			.005	
			3035	tr	239.0	242.0	3.0			.004	
242.0	245.8	<u>Ultramafic Metavolcanics</u> - medium to dark green, fine grained, moderately well foliated at 35-40° to the core axis	3036	tr	242.0	245.8	3.8			.003	

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-1 SHEET NO. 9 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au	Check
				FROM	TO	TOTAL			07 TON	07 TON
		Average Modes: Amphibole 35-45% Serpentine/Talc 30-40% Plagioclase 2-5% Chlorite 15-20% Carbonate 1-2% Sulphide trace  - amphibole-serpentine-chlorite schist; weakly sheared ultramafic volcanic - rare quartz-carbonate veinlets - trace pyrite and chalcopyrite								
245.8	247.9	<u>Mafic Metavolcanics</u> - chloritic schist similar to 176.8 to 193.0 - possibly mafic tuff - abundant small grains of quartz-carbonate (approx. 15%), minor plagioclase porphyroblasts (< 1/8" wide)	3037	tr	245.8	247.9	2.1			.006
247.9	256.8	<u>Ultramafic Metavolcanics</u> - light green to grey, talc-rich ultramafics similar to 104.9 to 108.0 - frequent lens shaped clots of talc, abundant chlorite - trace disseminated pyrite	3038	tr	251.8	256.8	5.0			.009
256.8	282.5	<u>Garnetiferous Mafic Metavolcanics</u> - volcanics (amphibole - chlorite + plagioclase + serpentine) with several garnetiferous intervals  256.8 to 260.7 - fine grained mafic volcanics, highly chloritic - quartz-carbonate veining rare								

LANGRIDGE TORONTO - 366-1168



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-1 SHEET NO. 10 of 12

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPH IDES	FOOTAGE			%	%	Au GT TON	Check GT TON
					FROM	TO	TOTAL				
		260.7 to 261.2 - garnetiferous section; garnets 1/8 to 1/4" wide occur randomly throughout the unit; matrix is dominantly amphibole and minor chlorite - several small pyrite and chalcopyrite blebs - small, concordant, slightly boudinaged quartz-carbonate veinlets	3039	tr	256.8	261.8	5.0			.004	
		261.2 to 264.3 - fine grained, chloritic mafic volcanics, as per 256.8 to 260.7									
		264.3 to 267.3 - fine grained, likely volcanoclastic material containing flattened, lens shaped pods of argillaceous sediment; mm size garnets occur scattered throughout the unit; small plagioclase porphyroblasts occur within chloritic bands; trace pyrite	3040	tr	264.3	267.3	3.0			.005	
		267.3 to 270.1 - garnetiferous chlorite schist (mafic volcanic): 5-10% garnet, porphyroblasts are 1/8 to 1/4" in diameter and are often surrounded by quartz pressure shadows - magnetite porphyroblasts also occur throughout the section (approx. 5%, most 1/8" in diameter) - minor concordant quartz-carbonate veinlets - trace disseminated pyrite and chalcopyrite	3041	tr	267.3	270.1	2.8			.004	
		270.1 to 282.5 - fine grained mafic volcanics, similar to 256.8 to 260.7 - 1-2% garnet and magnetite porphyroblasts locally; trace disseminated chalcopyrite and pyrite - foliated at 35-40° to the core axis, weak compositional banding	3042	tr	270.1	273.1	3.0			.003	
			3043	tr	273.1	277.0	3.9			.006	
			3044	tr	277.0	280.5	3.5			.005	

LANGRANGES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-1 SHEET NO. 11 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au oz TON	Check oz TON	
					FROM	TO					TOTAL
		- 280.5 to 281.1 - 2 to 3% disseminated pyrite and chalcopyrite; grains are elongated and aligned at an 80° angle to the core axis (dominant foliation is at 35° to the core axis); possible shear-related mineralization	3045	1-2	280.5	281.5	1.0			.010	
282.5	337.6	<u>Siliceous Argillite or Siltstone</u> - light greyish-green, fine grained, cherty argillite or very fine grained siltstone - weakly banded at 55° to the core axis - frequent chloritic bands, possibly tuffaceous volcanics - quartz-carbonate veining common; most veinlets are concordant and between 1/8 to 1/4" wide (some up to 2" wide); irregular, crosscutting veinlets also occur; some veinlets are boudinaged - trace disseminated pyrite - 325.3 to 328.4 - fine biotite flakes occur scattered throughout the argillite (1-2% biotite)	3046	tr	282.5	287.5	5.0			.003	
			3047	tr	293.0	298.0	5.0			.005	
			3048	tr	300.8	305.8	5.0			.004	
			3049	tr	313.0	318.0	5.0			.005	
			3050	tr	321.1	325.3	4.2			.003	
			3051	tr	325.3	328.4	3.1			.004	
			3052	tr	332.6	337.6	5.0			.006	
337.6	343.4	<u>Metagreywacke</u> - greyish-brown, fine grained, well foliated at 60° to the core axis - fine grained, even textured quartz-feldspar wacke; about 10% biotite in matrix - quartz-carbonate veinlets ranging from 1/8 to 1/2" wide occur throughout the section, most are concordant, several are highly contorted and boudinaged, no visible sulphides in the veinlets, trace pyrite occurs in the wacke	3053	tr	338.6	343.4	4.8			.003	

LANGRIDDGES - TORONTO - 356-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-1 SHEET NO. 12 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au	Check
					FROM	TO	TOTAL			07 TON	07 TON
343.4	407.0	<p><u>Siliceous Argillite or Siltstone</u>                      - basic description as per above (282.5 to 337.6)                      - pyrite fracture fillings common                      - shear fractures with associated drag folds occur locally; several shear fractures are infilled with quartz-carbonate</p> <p>343.4 to 357.5 - typical, well banded                      - 350.4 to 354.7 - shear fractures and quartz-carbonate veinlets are common throughout this interval; a well developed drag fold occurs at 354.6</p> <p>357.5 to 407.0 - as per above, except for 1-2% biotite which occurs as small scattered flakes or loose bands                      - 360.5 to 361.6 - three 1-2" wide quartz-carbonate veinlets in this interval (concordant); chloritic inclusions, no visible sulphides                      - 386.3 to 390.2 - frequent crosscutting quartz-carbonate veinlets and thin fractures; fractures often have a narrow dark grey alteration halo</p>									
			3054	tr	350.1	355.1	5.0			.003	
			3055	tr	359.0	364.0	5.0			.004	
			3056	tr	370.0	375.0	5.0			.004	
			3057	tr	379.5	384.5	5.0			.003	
			3058	tr	386.0	391.0	5.0			.004	
			3059	tr	394.0	399.0	5.0			.004	
			3060	tr	402.0	407.0	5.0			.003	
407.0		<u>END OF HOLE</u>									

*J. Williams*

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-2 LENGTH 376.0'  
 LOCATION 56+00E, 4+49S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED January 30, 1988 FINISHED January 31, 1988

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-45°				
376	-38°				

HOLE NO. SMZ-88-2 SHEET NO. 1 of 1

REMARKS Claim #861420  
Summary Log

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	22.7	Casing									
22.7	61.8	Mafic Metavolcanic									
61.8	95.2	Ultramafic Metavolcanic - sheared									
95.2	96.3	Argillite									
96.3	100.0	Ultramafic Metavolcanic									
100.0	102.4	Argillite									
102.4	125.7	Ultramafic Metavolcanic									
125.7	138.8	Mafic Metavolcanic									
138.8	140.0	Ultramafic Metavolcanic									
140.0	153.4	Mafic Metavolcanic									
153.4	168.6	Ultramafic Metavolcanic									
168.6	171.7	Chert- 5% disseminated pyrite									
171.7	212.2	Wacke									
212.2	254.2	Mafic Metavolcanic									
254.2	268.5	Wacke									
268.5	279.9	Mafic Metavolcanic									
279.9	282.8	Wacke									
282.8	302.9	Mafic Metavolcanic									
302.9	305.2	Siltstone									
305.2	322.2	Interbedded Mafic Tuff and Siltstone									
322.2	376.0	Siltstone									
	376.0	END OF HOLE									

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-2 LENGTH 376  
 LOCATION 56+00E 4+49S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED January 30, 1988 FINISHED January 31, 1988

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-45 <sup>0</sup>				
376	-38 <sup>0</sup>				

HOLE NO. SMZ-88-2 SHEET NO. 1 of 6

REMARKS Claim #861420

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OZ/TON	Choc OZ/TON	
					FROM	TO	TOTAL				
0	22.7	<u>Casing</u>									
22.7	61.8	<u>Mafic Metavolcanic</u> - medium to dark green, fine to medium grained, massive to poorly foliated at 45° to the core axis  Average Modes Chlorite 35-40% Amphibole 30-35% Plagioclase 30-35%									
		22.7 to 24.7 - typical	3501	-	22.7	24.7	2.0			.003	
		24.7 to 33.0 - contains 5% magnetite, occurring as large euhedral grains, occasional large grains of plagioclase, 1% pyrite	3502	1	24.7	29.1	4.4			.004	
		- 24.7 to 26.0 - weakly silicified with minor biotite	3503	1	29.1	33.0	3.9			.003	
		- 28.3 to 29.1 - shear zone, appears to be concordant									
		33.0 to 46.5 - typical	3504	-	33.0	36.1	3.1			.001	
		46.5 to 52.6 - minor quartz stringers and veins at random angles to the core axis, minor magnetite	3505	-	41.5	46.5	5.0			.002	
			3506	-	46.5	49.6	3.1			.003	
			3507	-	49.6	52.6	3.0			.002	
		52.6 to 60.9 - typical									

LANGRIGES - TORONTO - 356-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-2 SHEET NO. 2 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au	Check
					FROM	TO	TOTAL				
		60.9 to 61.2 - heavily silicified/possible chert horizon, 5% disseminated magnetite	3508	-	60.3	61.8	1.5			.002	
61.8	95.2	61.2 to 61.8 - typical <u>Ultramafic Metavolcanic</u> - pale green, fine grained, well foliated at 55° to the core axis  Average Modes Chlorite 50-55% Amphibole 35-40% Plagioclase 5% Biotite 5% Pyrite 1-2% Magnetite 1-2%  - unit is moderately sheared throughout the entire interval	3509	1-2	61.8	64.7	2.7			.003	
			3510	1-2	64.7	69.5	4.8			.003	
			3511	1-2	69.5	74.1	4.6			.003	
			3512	1-2	74.1	78.7	4.6			.004	
			3513	1-2	78.7	83.0	4.3			.003	
			3514	1-2	83.0	87.7	4.7			.002	
			3515	1-2	87.7	92.5	4.8			.001	
			3516	1-2	92.5	95.2	2.7			.003	
95.2	96.3	<u>Argillite</u> - brown, fine grained, poorly foliated at 45-50° to the core axis  Average Modes Quartz 45-50% Biotite 40-50% Chlorite 5-10%	3517	tr	95.2	96.3	1.1			.004	
96.3	100.0	<u>Ultramafic Metavolcanic</u> - typical, as above, pale green, fine grained, strong foliation is somewhat crenulated and contorted, 1-2% pyrite blebs occur between separated foliation surfaces	3518	1-2	96.3	100.0	3.7			.003	

LANGRIDGES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-2 SHEET NO. 3 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
100.0	102.4	<u>Argillite</u> - typical, as above, brown, fine grained, massive, 1-2% pyrite - 101.2 to 101.5 - ultramafic metavolcanic horizon	3519	1-2	100.0	102.4	2.4			.002	
102.4	125.7	<u>Ultramafic Metavolcanic</u> - typical, as above, pale green, fine grained, foliated at 40° to the core axis, foliation surfaces are weakly crenulated in some areas - 120.5 to 124.0 - quartz vein with minor inclusions of host volcanic	3520	tr-1	102.4	106.0	3.6			.003	
			3521	tr-1	116.0	120.5	4.5			.003	
			3522	-	120.5	124.0	3.5			.001	
			3523	tr-1	124.0	125.7	1.7			.001	
125.7	138.8	<u>Mafic Metavolcanic</u> - typical, as above, medium green, fine to medium grained, foliated at 50° to the core axis, unit contains 3-5% disseminated magnetite in grains ranging from 1/32 to 1/8 inch, grains are euhedral, trace pyrite - 136.3 to 138.8 - weakly to moderately silicified with minor biotite, weakly carbonatized	3524	tr	125.7	130.5	4.8			.002	
			3525	-	136.3	138.8	2.5			.003	
138.8	140.0	<u>Ultramafic Metavolcanic</u> - typical, as above, light green, fine grained, well foliated (sheared) at 55° to the core	3526	tr-1	138.8	140.0	1.2			.003	
140.0	153.4	<u>Mafic Metavolcanic</u> - typical, as above, weakly to moderately silicified with 5-10% biotite, foliations are slightly crenulated and are oriented at 50° to the core axis, trace pyrite	3527	tr	140.0	145.0	5.0			.004	
			3528	tr	145.0	149.6	4.6			.004	
			3529	tr	149.6	153.4	3.8			.007	

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-2 SHEET NO. 4 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE	FOOTAGE	FOOTAGE	%	%	AN	Check
					FROM	TO	TOTAL				
153.4	168.6	<u>Ultramafic Metavolcanic</u> - typical, as above, pale green, fine to medium grained, foliations are heavily contorted in this interval, trace pyrite - 167.9 to 168.6 - shear zone, 1-2% pyrite	3530	tr-1	153.4	157.8	4.4			.005	
			3531	1	166.0	168.6	2.6			.003	
168.6	171.7	<u>Chert</u> - blue/grey, very weakly banded at 50° to the core axis, 5% fine grained disseminated pyrite occurs as euhedral cubes in bands	3532	5	168.6	171.7	3.1			.007	
171.7	212.2	<u>Wacke</u> - grey/brown, fine to medium grained, well foliated at 45° to the core axis  Average Modes Quartz            55-60% Feldspar          15-20% Sericite           15-20% Pyrite             3% Chlorite          2-3% Biotite            2-3%	3533	3	171.7	176.0	4.3			.004	
			3534	3	182.8	187.6	4.8			.002	
			3535	3	192.6	197.3	4.7			.003	
			3536	3	201.9	206.5	4.6			.001	
			3537	3	206.5	209.4	2.9			.003	
			3538	3	209.4	212.2	2.8			.002	
212.2	254.2	<u>Mafic Metavolcanic</u> - typical, as above, medium to dark green, fine to medium grained, foliated at 55° to the core axis  212.2 to 215.6 - weakly to moderately silicified with 15-20% biotite  215.6 to 219.0 - typical	3539	tr	212.2	215.6	3.4			.003	
			3540	tr	215.6	219.0	3.4			.002	

LANGRIDDIES - TORONTO - 366-1158



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-2 SHEET NO. 5 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au or Ag	Check
					FROM	TO	TOTAL				
		219.0 to 221.3 - moderately silicified, 15-20% biotite	3541	tr	219.0	221.3	2.3			.003	
		221.3 to 254.2 - typical	3542	tr	221.3	226.0	4.7			.002	
		- 234.4 to 234.7 - quartz vein, irregular contacts	3543	-	234.3	235.3	1.0			.003	
			3544	tr	245.0	249.6	4.6			.005	
254.2	268.5	<u>Wacke</u>	3545	tr	249.6	254.2	4.6			.002	
		- typical, as above, grey/green, medium grained, foliated at 50° to the core axis, trace disseminated pyrite, chlorite makes up 5-10% of the rock	3546	tr	254.2	259.0	4.8			.002	
			3547	tr	264.0	268.5	4.5			.004	
268.5	279.9	<u>Mafic Metavolcanic</u>	3548	tr	276.0	279.9	3.9			.003	
		- typical, as above, medium grained, foliated at 50° to the core axis, trace pyrite									
279.9	282.8	<u>Wacke</u>	3549	tr	279.9	282.8	2.9			.003	
		- typical, as above, grey/green, medium grained, foliated at 55° to the core axis, trace pyrite									
282.8	302.9	<u>Mafic Metavolcanic</u>	3550	tr	282.8	284.8	2.0			.001	
		- typical, as above, medium to dark green, medium grained, massive to poorly foliated at 50° to the core axis, trace pyrite									
		- 284.8 to 285.1 - moderately silicified with 15-20% biotite	3551	tr	284.8	286.1	1.3			<.001	
			3552	tr	286.1	291.1	5.0			.003	
			3553	tr	298.0	302.9	4.9			.003	
302.9	305.2	<u>Siltstone</u>	3554	tr	302.9	305.2	2.3			.002	
		- light grey, fine grained, foliated at 60° to the core axis, trace fine grained disseminated pyrite, minor chlorite-rich bands									

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-2 SHEET NO. 6 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPH IDES	FOOTAGE			%	%	Au oz/ton	Check oz/ton
					FROM	TO	TOTAL				
305.2	322.2	<u>Interbedded Mafic Tuff and Siltstone</u> - tuffaceous horizons contain 1-2% pink garnets, trace calcite, trace fine grained pyrite  305.2 to 307.5 - moderately to heavily silicified with 10-15% biotite  307.5 to 310.8 - sheared at 70° to the core axis	3555	tr	305.2	307.5	2.3			<.001	
			3556	tr	307.5	310.8	3.3			.004	
			3557	tr	310.8	315.4	4.6			<.001	
			3558	tr	315.4	320.1	4.7			.002	
			3559	tr	320.1	322.2	2.1			<.001	
322.2	376.0	<u>Siltstone</u> - typical, as above, grey/green, fine grained, foliated at 60° to the core axis, trace fine grained disseminated pyrite, very minor quartz (+ carbonate) stringers at random angles to the core axis	3560	tr	322.2	324.6	2.4			.001	
			3561	tr	324.6	329.6	5.0			.001	
			3562	tr	334.2	339.2	5.0			.002	
			3563	tr	344.2	349.0	4.8			.001	
			3564	tr	354.0	358.6	4.6			.003	
			3565	tr	363.5	368.1	4.6			.002	
	376.0	<u>END OF HOLE</u>									

*[Handwritten Signature]*

LANGRIDGES - TORONTO - 366-1168

FORM 2

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-3 LENGTH 274 feet  
 LOCATION 36100E, 2175N  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED January 30, 1988 FINISHED February 3, 1988

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH

HOLE NO. SMZ-88-3 SHEET NO. 1 of 1  
 REMARKS 861419

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	274.0	<u>Casing</u>									
	274.0	<u>END OF HOLE</u>									

*J. Williams*

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-4 LENGTH 506'  
 LOCATION 12+00E, 22+35S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH \_\_\_\_\_ DIP -45°  
 STARTED January 31, 1988 FINISHED February 3, 1988

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200'	-43°				
506'	-38.5°				

HOLE NO. SMZ-88-4 SHEET NO. 1 of 1

REMARKS Claim #Pa 861432  
Summary Log

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS			
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL			
0	20.7	Casing								
20.7	31.1	Granitic Intrusive								
31.1	34.1	Mafic Metavolcanics - 20-30% biotite								
34.1	36.6	Granitic Intrusive								
36.6	56.8	Mafic Metavolcanics								
56.8	57.9	Granitic Intrusive								
57.9	59.3	Mafic Metavolcanics								
59.3	68.2	Granitic Intrusive								
68.2	71.8	Mafic Metavolcanics - weakly silicified								
71.8	74.6	Granitic Intrusive								
74.6	109.2	Mafic Metavolcanics - weakly silicified sections								
109.2	111.9	Granitic Intrusive								
111.9	122.1	Mafic Metavolcanics								
122.1	125.5	Intermediate Intrusive								
125.5	126.4	Mafic Metavolcanics								
126.4	130.0	Intermediate Intrusive								
130.0	132.0	Mafic Metavolcanics - 20-30% biotite								
132.0	150.1	Intermediate Intrusive								
150.1	153.6	Mafic Metavolcanics - highly biotitic, weakly silicified								
153.6	166.0	Intermediate Intrusive								
166.0	183.8	Ultramafic Metavolcanics								
183.8	196.0	Granitic Intrusive								
196.0	198.4	Ultramafic Metavolcanics								
198.4	236.3	Intermediate Intrusive								
236.3	330.7	Ultramafic Metavolcanics								
330.7	346.2	Intermediate Intrusive								
346.2	506.0	Granitic Intrusive								
	506.0	END OF HOLE								

- ANGRIDDGES - TORONTO - 366-1166

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-4 LENGTH 506'  
 LOCATION 12+00E, 22+35S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED January 31, 1988 FINISHED February 3, 1988

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200'	-43 <sup>0</sup>				
506'	-38.5 <sup>0</sup>				

HOLE NO. SMZ-88-4 SHEET NO. 1 of 12  
 REMARKS Claim #861432

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON	ppbAu
					FROM	TO	TOTAL					
0	20.7	<u>Casing</u>										
20.7	31.1	<u>Granitic Intrusive</u> - white to light pink, medium to coarse grained, massive to weakly foliated, locally pegmatitic  Average Modes Quartz 60-80% Feldspar 15-25% Biotite 2-3% Sericite 5-10% Garnet trace to 3% Sulphide trace  20.7 to 23.5 - coarse grained to pegmatitic granite; mostly clear to white quartz and creamy white to pink angular grains of plagioclase (and possibly K-feldspar); small flakes and masses of biotite; small garnets occur scattered throughout the section and also form loose bands; sericite-lined fractures common, rare pyrite										

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-4 SHEET NO. 2 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS						
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au g/TON	Check g/TON	ppbAu
					FROM	TO	TOTAL					
		23.5 to 31.1 - weakly foliated, possibly sheared, medium grained, sericitic granite; sericite forms thin anastomosing bands foliated at 25° to the core axis; frequent biotite bands, scattered garnet	3061	tr	22.5	27.5	5.0			<.001		<5
31.1	34.1	<u>Mafic Metavolcanics</u> - brownish black, fine to medium grained, well foliated, schistose, highly biotitic mafic volcanic (shearing with associated potassic alteration)  Average Modes Biotite 70-80% Chlorite 10-15% Amphibole 5-10% Quartz-Carbonate 2-3%  - most of the unit is foliated at 30° to the core axis; near granitic intrusive contacts, the foliation is at very low angles to the core axis (0-15°) - unit is weakly silicified; concordant stringers and small blebs of quartz-carbonate	3062	tr	31.1	34.1	3.0			.001		21
34.1	36.6	<u>Granitic Intrusive</u> - white, medium to coarse grained, sericitic granite similar to 20.7 to 31.1										
36.6	56.8	<u>Mafic Metavolcanics</u> - dark green, fine grained, massive to very weakly foliated (35-40° to the core axis)										

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-4 SHEET NO. 3 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS						
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au of 10m	Check of 10m	ppbAu
					FROM	TO	TOTAL					
		Average Modes Amphibole 70-80% Plagioclase 15-20% Chlorite 2-5% Quartz 1-2% Carbonate 1-2% Sulphide trace to 1%  - fine grained, even textured mafic volcanic, highly biotitic near intrusive contacts (up to 30% biotite) - quartz-carbonate veining common; majority are thin (1/8 to 1/4" wide), crosscutting veinlets, oriented at low angles to the core axis (5-20°) - trace disseminated pyrite and chalcopyrite	3063	tr	36.6	41.6	5.0			.001		37
			3064	tr	41.6	46.0	4.4			.001		35
			3065	tr	49.4	54.4	5.0			.001		31
			3120	tr	54.4	56.8	2.4			.008		261
56.8	57.9	<u>Granitic Intrusive</u> - white to grey, coarse grained intrusive similar to 20.7 to 31.1 - 5-10% biotite, occurring in thin bands and along fracture surfaces										
57.9	59.3	<u>Mafic Metavolcanics</u> - well foliated, schistose, highly biotitic volcanics, similar to 31.1 to 34.1 - weakly silicified; several crosscutting quartz-carbonate stringers - foliated at 45° to the core axis	3121	tr	56.8	59.3	2.5			.005		179
59.3	68.2	<u>Granitic Intrusive</u> - mostly white to light pink, coarse grained granite similar to 20.7 to 31.1; several medium grained, weakly foliated, sericitic sections - locally up to 10% biotite; 1-2% garnet	3066	-	59.3	64.3	5.0			.002		79

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-4 SHEET NO. 4 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au g/TON	Check ppbAu
					FROM	TO	TOTAL				
68.2	71.8	<u>Mafic Metavolcanics</u> - well foliated, highly biotitic volcanics similar to 31.1 to 34.1; trace disseminated pyrite - slight increase in degree of silicification - foliation is at 50° to the core axis, contorted near intrusive contacts	3067	tr	68.2	71.8	3.6			.002	70
71.8	74.6	<u>Granitic Intrusive</u> - white to grey, mostly medium grained intrusive similar to 20.7 to 31.1 - local concentrations of fine grained sericite; biotite occurs mostly along fractures near the lower contact									
74.6	109.2	<u>Mafic Metavolcanics</u> 74.6 to 79.4 - weakly silicified, biotite-rich volcanics similar to 31.1 to 34.1; foliation is locally contorted (some tight fold closures occur) but generally runs at 40-45° to the core axis - distinct quartz-carbonate veinlets are uncommon (mostly fine grains and discontinuous stringers) - rare pyrite 79.4 to 98.3 - dark green, relatively unaltered volcanics similar to 36.6 to 56.8 - fine grained; massive to weakly foliated at 55° to the core axis - several 1/2 to 1" wide granitic dikelets - trace disseminated pyrite and chalcopyrite - quartz-carbonate veinlets are very narrow (<1/8") and of minor occurrence; weakly silicified zones with fine, randomly oriented stringers occur in some sections - biotite content increases in silicified areas to about 5%	3068	tr	74.6	79.4	4.8			.002	59
			3069	tr	82.0	86.0	4.0			.001	21
			3070	tr	88.5	93.5	5.0			<.001	11

LANGRISHES - TORONTO - 366-1158



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-4 SHEET NO. 5 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS						
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au of TON	Check of TON	ppbAu
					FROM	TO	TOTAL					
		98.3 to 109.2 - medium to coarse grained, massive to very poorly foliated mafic volcanics - similar mineralogy to other mafic volcanic units; prismatic amphibole (actinolite), chlorite and biotite with lesser plagioclase and quartz in a loosely foliated assemblage; - biotite often forms loose, irregular bands of coarse flakes - moderately silicified; 3-5% quartz-carbonate throughout unit, usually as small interstitial grains (veinlets uncommon) - disseminated pyrite and chalcopyrite - possibly a coarse grained flow center	3071	tr	98.3	103.3	5.0			<.001		15
			3072	tr	103.3	108.3	5.0			.001		31
109.2	111.9	<u>Granitic Intrusive</u> - predominantly white, fine to medium grained intrusive similar to 20.7 to 31.1 - coarse grained pink feldspar occurs near upper contact (grains up to 1" wide) - several sericitic and garnetiferous bands - abundant biotite near lower contact - 111.6 - small prismatic tourmaline crystals in a yellow-green epidote matrix	3073	tr	109.3	111.9	2.6			.001		25
111.9	122.1	<u>Mafic Metavolcanics</u> 111.9 to 120.2 - fine grained, weakly foliated volcanics similar to 36.6 to 56.8 - frequent, thin (< 1/8"), crosscutting to subconcordant quartz-carbonate stringers - a few granitic dikelets, less than 1" wide - trace disseminated pyrite and chalcopyrite - minor biotite - foliated at 40-45° to the core axis	3074	tr	111.9	116.9	5.0			.001		21

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-4 SHEET NO. 6 of 12

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au oz/TON	Check oz/TON	ppbAu
					FROM	TO	TOTAL					
		120.2 to 122.1 - medium to coarse grained, poorly foliated volcanics similar to 98.3 to 109.2 - silicified; several irregular quartz-carbonate pods up to 1/2" wide, interstitial grains of quartz-carbonate also occur - foliated at 25-30° to the core axis	3075	tr	120.2	122.1	1.9			<.001		9
122.1	125.5	<u>Intermediate Intrusive</u> - light to medium grey, medium grained, massive to weakly foliated  Average Modes Quartz 40-50% Plagioclase 30-40% Biotite 15-20% K-Feldspar 3-5% Chlorite 0-2%  - tonalite; contains several 1-2" quartz pods and occasional thin chloritic bands - weak foliation at 40° to the core axis	3076	-	122.1	125.5	3.4			.001		35
125.5	126.4	<u>Mafic Metavolcanics</u> - narrow band of medium to coarse grained volcanics similar to 98.3 to 109.2 - 5-10% biotite, trace chalcopyrite										
126.4	130.0	<u>Intermediate Intrusive</u> - medium grained, light to medium grey tonalite as per 122.1 to 125.5 - 129.4 to 130.0 - quartz pod or vein; likely a quartz-rich segregation from the intrusive body; fine biotite flakes throughout the quartz, which is white and medium grained	3077	-	126.5	130.0	3.5			.002		57

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# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-4 SHEET NO. 7 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS						
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au of TON	Check of %	ppbAu
					FROM	TO	TOTAL					
130.0	132.0	<u>Mafic Metavolcanics</u> - highly biotitic, silicified volcanics similar to 31.1 to 34.1 - 20-30% biotite; abundant concordant quartz-carbonate veinlets; trace chalcopyrite occurs in several veinlets - well foliated at 50° to the core axis	3078	tr	130.0	132.0	2.0			.001		41
132.0	150.1	<u>Intermediate Intrusive</u> - predominantly light to medium grey, medium grained tonalite with several granodioritic phases  132.0 to 134.6 - tonalite, slightly darker grey colour  134.6 to 138.4 - white, medium to coarse grained, massive granodiorite; 10-15% K-feldspar - very fine grained pyrite occurs in some fractures  138.4 to 150.1 - tonalite, typical - weakly foliated at 40° to the core axis	3079	tr	133.4	138.4	5.0			.001		83
			3080	tr	145.1	150.1	5.0			.001		19
150.1	153.6	<u>Mafic Metavolcanics</u> - highly biotitic and silicified volcanics similar to 31.1 to 34.1 - highly contorted bands of biotite, chlorite and quartz-carbonate occur at intrusive contacts; most sections foliated at 45-50° to the core axis - pink garnet occurs in trace amounts near the larger quartz pods - silicified zones are mostly concordant; several 1/2 to 1" pods and crosscutting veinlets also occur - trace chalcopyrite	3081	tr	150.1	153.6	3.5			<.001		15

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# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-4 SHEET NO. 8 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au g/TON	Check ppbAu	ppbAu
					FROM	TO					
153.6	166.0	<u>Intermediate Intrusive</u> - light to medium grey, mostly medium grained (locally coarse) tonalite; foliated at 48° to the core axis - several wide fractures (1/4 to 1/2") infilled with biotite - 159.8 to 162.2 - abundant sericite along fractures and foliation planes	3082	tr	158.0	163.0	5.0			.001	49
166.0	183.8	<u>Ultramafic Metavolcanics</u> 166.0 to 169.7 - dark green, medium grained, moderately well foliated  Average Modes Amphibole 70-85% Talc/Serpentine 2-5% Chlorite 5-15% Plagioclase 5-10% Sulphide trace Carbonate trace  - predominantly medium grained, randomly oriented prismatic amphibole (actinolite); thin chloritic bands and interstitial serpentine also occur - disseminated pyrite and chalcopyrite - quartz-carbonate veining absent  169.7 to 183.8 - light to medium grey to grey-green, fine grained, weakly foliated	3083	tr	166.0	169.7	3.7			.002	52

LANGRANGES - TORONTO - 366-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-4 SHEET NO. 9 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE FROM TO TOTAL	%	%	Au of ton	Check of ton	ppbAu
		Average Modes Talc/Serpentine 75-85% Amphibole 5-10% Plagioclase 2-5% Magnetite 2-5% Carbonate 2-3%								
		- talc-rich, even textured, ultramafic volcanic; occasional clots and lens shaped bands of talc - quartz-carbonate veining rare; a few crosscutting veinlets - trace pyrite - 182.4 to 183.8 - increasing biotite content toward intrusive contact; rocks turn into a biotite schist between 183.3 to 183.8	3084	tr	174.8 178.8 4.0			.003		95
			3085	tr	178.8 183.8 5.0			.005		191
183.8	196.0	<u>Granitic Intrusive</u> - grey to brick red, medium grained, massive granite - minor coarse grained sections	3086	-	191.0 196.0 5.0			.003		98
196.0	198.4	<u>Ultramafic Metavolcanics</u> - dark green to greenish black, medium grained, well foliated - altered, incompetent ultramafic volcanic composed essentially of prismatic actinolite grains with interstitial talc and biotite - core is fractured and blocky; several clayey sections	3087	-	196.0 198.4 2.4			.004		123
198.4	236.3	<u>Intermediate Intrusives</u> - predominantly light grey, medium grained granodiorite; massive to very weakly foliated - minor sericitic sections; irregular biotite bands up to 1/4" wide occur in some sections	3088	-	198.4 203.4 5.0			.004		131
			3089	-	209.0 214.0 5.0			.003		105
			3090	-	221.0 226.0 5.0			.004		121
			3091	-	231.0 236.0 5.0			.002		75

LANGRIDDGES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-4 SHEET NO. 10 of 12

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS																
FROM	TO		NO	% SULPHIDES	FOOTAGE			%	%	Au g/TON	Check ppbAu											
					FROM	TO	TOTAL															
236.3	330.7	<p><u>Ultramafic Metavolcanics</u></p> <p>236.3 to 260.9 - light to medium grey to grey-green, fine grained talc-rich ultramafics, similar to 169.7 to 183.8</p> <ul style="list-style-type: none"> <li>- 2-3% magnetite, trace pyrite</li> <li>- quartz-carbonate veining very minor</li> <li>- 236.3 to 237.9 - biotite-rich section below intrusive contact</li> <li>- 247.5 - foliation is at 70° to the core axis</li> <li>- 257.9 to 259.8 - narrow, poorly foliated, medium to coarse grained section</li> <li>- 260.6 to 261.6 - intercalation of highly biotitic mafic volcanics, similar to 31.1 to 34.1</li> </ul> <p>262.9 to 299.4 - dark green, fine grained, massive</p> <p>Average Modes</p> <table style="margin-left: 20px;"> <tr><td>Amphibole</td><td>70-80%</td></tr> <tr><td>Serpentine</td><td>10-15%</td></tr> <tr><td>Talc</td><td>5-10%</td></tr> <tr><td>Magnetite</td><td>2-3%</td></tr> <tr><td>Plagioclase</td><td>3-5%</td></tr> <tr><td>Carbonate</td><td>trace to 1%</td></tr> </table> <ul style="list-style-type: none"> <li>- massive ultramafic volcanics with abundant, randomly oriented bands of nearly pure talc (1/8" to 3/4" wide); thin discontinuous stringers of talc and possibly magnesite also occur</li> <li>- quartz-carbonate veinlets are rare; no visible sulphides</li> <li>- 280.2 to 282.4 - three 1/2" wide quartz-albite-carbonate veins occur in this interval; no visible sulphides; veins are oriented at 20-30° to the core axis</li> </ul>	Amphibole	70-80%	Serpentine	10-15%	Talc	5-10%	Magnetite	2-3%	Plagioclase	3-5%	Carbonate	trace to 1%								
Amphibole	70-80%																					
Serpentine	10-15%																					
Talc	5-10%																					
Magnetite	2-3%																					
Plagioclase	3-5%																					
Carbonate	trace to 1%																					
			3092	tr	236.3	241.3	5.0			.003	91											
			3093	tr	246.4	251.4	5.0			.005	183											
			3094	tr	257.9	262.9	5.0			.003	87											
			3095	-	267.0	272.0	5.0			.003	95											
			3096	-	276.0	280.0	4.0			.001	99											
			3097	-	280.0	282.5	2.5			.002	75											
			3098	-	289.5	294.5	5.0			.002	63											

LANGRIDGE - TORONTO - 365-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-4 SHEET NO. 11 of 12

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au 0.1 TON	CHECK 0.1 TON	ppbAu
					FROM	TO	TOTAL					
		299.4 to 330.7 - predominantly light grey, fine grained talc-rich ultramafics, as per 236.3 to 260.9 - intercalations of mafic volcanics and felsic intrusives	3099	tr	299.4	304.4	5.0			.001		55
		- 306.9 to 308.2 - granitic intrusive dike, predominantly quartz; abundant biotite in volcanics at either contact	3100	-	306.5	309.1	2.6			.003		97
		- 311.6 to 313.0 - blocky core; much of the core has been ground up into clay; abundant biotite at bottom of section	3101	-	311.0	313.0	2.0			.002		83
		- 319.9 to 320.8 - biotite schist, possibly a highly altered intercalation of mafic volcanics	3102	tr	319.0	324.0	5.0			.002		73
			3103	tr	326.7	330.7	4.0			.006		207
330.7	346.2	<u>Intermediate Intrusive</u> - white to light grey tonalite, as per 132.0 to 150.1 - thin bands of sericite are common throughout the unit - gradational change into a felsic (granitic) intrusive	3104	-	330.7	335.7	5.0			.003		87
			3105	-	341.2	346.2	5.0			.003		95
346.2	506.0	<u>Granitic Intrusive</u> - mostly grey to light pink, medium grained massive, granite, as per 183.8 to 196.0 - local tonalitic and granodioritic phases - several weakly sericitic sections display a weak foliation - minor quartz veins up to 1/2" wide - 400.0 - sericitic section foliated at 70° to the core axis	3106	-	352.0	357.0	5.0			.003		87
			3107	-	364.0	369.0	5.0			.002		59
			3108	-	376.0	380.4	4.4			.005		161
			3109	-	387.0	392.0	5.0			.003		89
			3110	-	399.8	404.8	5.0			.003		113
			3111	-	412.0	417.0	5.0			.002		53
			3112	-	423.0	428.0	5.0			.002		61
			3113	-	435.0	440.0	5.0			.002		73
			3114	-	447.0	452.0	5.0			.002		83
			3115	-	460.0	465.0	5.0			.003		97
			3116	-	470.0	475.0	5.0			.002		85

LANGRIDGE - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-4 SHEET NO. 12 of 12

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au g/ton	Check g/g	ppbAu
					FROM	TO	TOTAL					
		- 478.3 to 480.6 - narrow section of pink granite containing 2-5% epidote (small anhedral grains)	3117	-	477.5	481.5	4.0			.002		71
			3118	-	489.0	494.0	5.0			.003		87
			3119	-	501.0	506.0	5.0			.002		51
506.0		END OF HOLE										

*J. Adams*

LANGRIDGES - TORONTO - 366-1188



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 LENGTH 997'  
 LOCATION 36+00E, 6+00N  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED February 3, 1988 FINISHED February 6, 1988

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-43 <sup>0</sup>		997'	-32 <sup>0</sup>	
400	-40 <sup>0</sup>				
600	-38 <sup>0</sup>				
800	-36 <sup>0</sup>				

HOLE NO. SMZ-88-5 SHEET NO. 1 of 4

REMARKS Claim #861418  
Summary Log

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	31.3	<u>Casing</u>									
31.3	111.4	<u>Mafic Metavolcanics</u>									
111.4	113.0	<u>Chert</u>									
113.0	116.7	<u>Mafic Metavolcanics</u>									
116.7	186.4	<u>Interbedded Mafic Tuff and Metasiltstone</u>									
186.4	199.2	<u>Feldspathic Mafic</u>									
199.2	221.4	<u>Mafic Metavolcanics</u>									
221.4	225.1	<u>Metagreywacke</u>									
225.1	227.9	<u>Metasiltstone</u>									
227.9	230.4	<u>Metagreywacke</u>									
230.4	234.3	<u>Interbedded Siltstone and Argillite</u>									
234.3	236.7	<u>Metagreywacke</u>									
236.7	238.1	<u>Interbedded Siltstone and Argillite</u>									
238.1	243.9	<u>Chert - 2-3% pyrrhotite</u>									
243.9	263.8	<u>Mafic Metavolcanics</u>									

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 2 of 4

FOOTAGE		DESCRIPTION SUMMARY LOG (Continued)	SAMPLE			ASSAYS	
FROM	TO		NO	DEPTH FEET	FOOTAGE FROM TO TOTAL	AV TON	Check Tons
263.8	265.9	<u>Argillite</u> - 5-15% pyrite, minor pyrrhotite					
265.9	268.7	<u>Metasiltstone</u>					
268.7	274.7	<u>Argillite</u> - 5-15% pyrrhotite, trace pyrite					
274.7	287.7	<u>Metagreywacke With Interbedded Chert</u>					
287.7	295.6	<u>Lean Banded Iron Formation</u>					
295.6	393.3	<u>Mafic to Intermediate Metavolcanics</u>					
393.3	418.9	<u>Highly Sheared Clastic Metasediments</u> - possible fault gouge; clay alteration					
418.9	533.5	<u>Interbedded Metasiltstone and Metagreywacke</u>					
533.5	535.1	<u>Mafic Metavolcanics</u>					
535.1	537.3	<u>Metasiltstone</u>					
537.3	543.8	<u>Metagreywacke</u>					
543.8	564.3	<u>Mafic Metavolcanics</u>					
564.3	566.3	<u>Metagreywacke</u>					
566.3	575.9	<u>Mafic Metavolcanics</u>					

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 3 of 4

FOOTAGE		DESCRIPTION SUMMARY LOG (Continued)	SAMPLE			ASSAYS			
FROM	TO		NO	SULPH (%)	FOOTAGE		%	Au oz TON	Check
				FROM	TO	TOTAL			
575.9	582.7	<u>Chert - 1-2% pyrite</u>							
582.7	586.8	<u>Loss of Core</u>							
586.8	671.8	<u>Metasiltstone</u>							
671.8	687.6	<u>Metagreywacke</u>							
687.6	695.5	<u>Interbedded Metasiltstone and Argillite</u>							
695.5	705.5	<u>Interbedded Metasiltstone and Mafic Tuff</u>							
705.5	754.4	<u>Mafic Metavolcanics</u> - 705.5 - 707.2 - heavily silicified, weakly brecciated interval; abundant quartz-carbonate and epidote, trace-1% disseminated pyrrhotite	3232	tr	705.5	707.5	2.0	.017	
754.4	758.4	<u>Ultramafic Metavolcanics</u>							
758.4	809.6	<u>Mafic Metavolcanics</u>							
809.6	839.2	<u>Ultramafic Metavolcanics</u>							
839.2	841.5	<u>Mafic Dike</u>							
841.5	870.0	<u>Ultramafic Metavolcanics</u>							

LANGRANGES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 4 of 4

FOOTAGE		DESCRIPTION SUMMARY LOG (Continued)	SAMPLE			ASSAYS			
FROM	TO		NO	SUPPH IDES	FOOTAGE		Average	Check	
				FROM	TO	TOTAL	OF TON		
870.0	997.0	Ultramafic to Mafic Metavolcanics - 872.9 - 877.2 - talc-rich section with abundant magnetite, several concordant quartz-carbonate stringers containing trace pyrite	3253	tr	872.9	877.0	4.1	.009	
			3254	tr	881.0	886.0	5.0	.009	
	997.0	End of Hole							

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 LENGTH 997'  
 LOCATION 36+00E, 6+00N  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED February 3, 1988 FINISHED February 6, 1988

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200'	-43 <sup>0</sup>		997'	-32 <sup>0</sup>	
400'	-40 <sup>0</sup>				
600'	-38 <sup>0</sup>				
800'	-36 <sup>0</sup>				

HOLE NO. SMZ-88-5 SHEET NO. 1 of 27

REMARKS Claim #Pa 861418

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	31.3	<u>Casing</u>									
31.3	111.4	<u>Mafic Metavolcanics</u>  31.3 - 40.3 - mostly medium grained flows which locally grade into coarse grained, plagioclase-rich gabbroic rocks, possibly flow centers or small sills - medium to dark green or grey-green, fine to medium grained, massive to weakly foliated  Average Modes Amphibole 60-80% Plagioclase 15-30% Chlorite 0-2% Quartz 2-5% Sulphide trace  - fine to medium grained flow, weakly foliated 50° to the core axis - scattered porphyroblasts of dark green amphibole (probably hornblende) up to 1/4" wide - quartz (+ carbonate) veinlets are common; most are crosscutting, randomly oriented, discontinuous veinlets or lens shaped pods - several small coarse grained segregations of amphibole and plagioclase + quartz (possible gabbro sills)									

LANGRISHES - "CORON" - 366-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 2 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHUR IDES	FOOTAGE		Au G/TON	Check	
				FROM	TO	TOTAL			
		- trace disseminated pyrrhotite and chalcopyrite - 36.6 - 36.9 - brecciated section; small fragments (<1/2") in a matrix of quartz and fine grained amphibole - 38.5 - concordant stringer of pyrrhotite, 1/4" wide	3122	tr	35.3	40.3	5.0	.002	
		40.3 - 42.7 - porphyritic section of greenish-grey mafic volcanics; poorly formed plagioclase phenocrysts up to 1/4" wide in a fine grained groundmass of amphibole and plagioclase (10% phenocrysts) - very weak foliation at 55° to the core axis - trace disseminated pyrite	3123	tr	40.3	42.7	2.4	.001	
		42.7 - 44.2 - light greyish green, medium equigranular, gabbroic flow center or sill  Average Modes Plagioclase 60-70% Amphibole 15-25% Quartz 2-5% Chlorite 2-5% Sulphide trace  - gradational upper contact, sharp lower contact - trace disseminated pyrite	3124	tr	42.7	44.2	1.5	.005	
		44.2 - 63.5 - predominantly medium grained flows with narrow, coarser grained sections of gabbroic material; trace disseminated pyrite							

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 3 of 27

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ TON	Check OZ TON
					FROM	TO	TOTAL				
		- 51.6 - 54.0 - abundant chlorite in matrix (approx. 15%); weakly foliated at 55-60° to the core axis	3125	tr	51.0	55.0	4.0			.002	
		63.5 - 89.1 - predominantly medium to coarse grained flows, several sections grading into gabbro - gabbroic sections contain 40-60% white plagioclase, clear to milky blue quartz (approx. 5%) and dark green amphibole; trace pyrite - several silicified sections containing quartz (+ carbonate) pods and crosscutting stringers - texture is mostly massive; some sections display a weak foliation between 40-50° to the core axis - 68.5 - 68.8 - blocky, broken core; fragments of a quartz-carbonate vein containing large blebs (up to 1/2") of massive chalcopyrite	3126	tr	63.5	68.0	4.5			.003	
			3127	tr	68.0	69.0	1.0			.004	
			3128	tr	71.0	76.0	5.0			.001	
			3129	tr	80.0	84.1	4.1			.002	
			3130	tr	84.1	89.1	5.0			.002	
		89.1 - 111.4 - fine grained, well foliated, weakly banded volcanics; biotite is common throughout this unit in thin discontinuous bands (2-10%) - disseminated pyrrhotite and pyrite (trace to 1%) - several small (3-8") gabbro or diorite sills - quartz-carbonate veining very minor - 94.8 - 96.1 - biotitic section containing 1-2% disseminated pyrrhotite; foliated at 50° to the core axis - 98.8 - 100.2 - narrow silicified section; several 1/4-1/2", slightly boudinaged, concordant quartz veins; trace disseminated pyrrhotite	3131	tr-1%	93.0	97.0	4.0			.002	
			3132	tr	98.0	101.0	3.0			.003	

LANGRIDGE - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 4 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SUPPH THES	FOOTAGE FROM TO TOTAL	AU G/TON	CHECK TON
		- 106.9 - 111.4 - medium to coarse grained, massive to weakly foliated gabbroic sill; abundant biotite in matrix; sill is cut by several small quartz-chlorite veinlets; trace to 1% disseminated pyrrhotite; foliated at 50° to the core axis	3133	tr-1%	106.9 111.4 4.5	.002	
111.4	113.0	<u>Chert</u> - light green chert, weakly banded at 45° to the core axis - carbonatized; trace disseminated pyrite	3134	tr	111.4 113.0 1.6	.003	
113.0	116.7	<u>Mafic Metavolcanics</u> - silicified volcanics; quartz-carbonate occurs mostly as concordant stringers and pods or as small interstitial grains; 1-3% pyrrhotite and trace pyrite in small concordant stringers and blebs - fine grained biotite occurs throughout the unit; small milky-blue quartz porphyroblasts occur in some sections - foliation is at 40-45° to the core axis	3135	tr	113.0 116.7 3.7	.002	
116.7	186.4	<u>Intercalated Mafic Tuff and Metasiltstone</u> - finely intercalated, chlorite-rich tuffaceous volcanics and finely banded, cherty metasiltstone - siltstone usually contains thin bands of biotite (2-5%) - gabbroic sills (1-4" wide) are common, biotite content increases in surrounding rocks					

S.M.Z. - 88 - 5 - 4



# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 5 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		g/TON	Check	
				FROM	TO	TOTAL			
		- trace - 1% disseminated pyrite and pyrrhotite and rare chalcopyrite - quartz-carbonate veining minor except for silicified sections; most veinlets are concordant and $\leq 1/4$ " wide							
116.7	119.9	- tuffaceous bands with interbedded white to light green chert; 1% disseminated pyrite, trace arsenopyrite; a loose band of arsenopyrite with associated reddish-brown hematite occurs at 117.8 in a 3" wide chert band	3136	1%	116.7	119.9	3.2	.006	
119.9	122.9	- typical, interbedded tuff and siltstone - foliation and banding is at 50° to the core axis							
122.9	125.6	- silicified section; numerous concordant stringers and small interstitial grains of quartz-carbonate in a matrix of highly biotitic tuffs and siltstones - minor pyrrhotite stringers and blebs (tr-1%)	3137	tr-1%	122.9	126.0	3.1	.004	
125.6	167.5	- typical, interbedded tuff and siltstone - gabbroic sills are particularly abundant in this interval	3138	tr	132.0	137.0	5.0	.002	
		- 139.5 - 140.9 - several concordant pyrrhotite stringers within a weakly silicified zone; abundant biotite	3139	1%	139.0	141.0	2.0	<.001	
			3140	tr	147.5	152.5	5.0	.001	
			3141	tr	156.8	161.8	5.0	<.001	

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# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 6 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		ID	FROM	TO	TOTAL	Au G/TON	Check	
		- 167.8 - 172.5 - quartz-carbonate veinlets and gabbroic sections are vuggy and weathered (feldspars and carbonate have been weathered out); this section is foliated at 50° to the core axis	3142	tr	167.5	172.5	5.0	.001	
		- 173.0 - 173.9 - quartz-carbonate veinlets (1/8" wide) crosscutting the foliation at a 10-30° angle to the core axis; no visible sulphides in veinlets							
		- 175.9 - 177.0 - subconcordant veinlets consisting of quartz, minor carbonate and fine grained epidote or feldspar; pyrite occurs disseminated and as very small stringers infilling fractures in the veins	3143	tr	172.5	177.0	4.5	.002	
		177.8 - 186.4 - interbedded feldspathic wacke and siltstone; gradational into lower wacke unit - locally up to 1% disseminated pyrite	3144	tr-1%	181.4	186.4	5.0	.002	
186.4	199.2	<u>Feldspathic Wacke</u>  - light to medium grey, medium grained, poorly foliated  Average Modes Framework           60% Feldspar             80% Quartz                20% Matrix                40% Felsics               30% Biotite               70% Pyrite                trace							

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# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 7 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au oz ton	Check oz ton
					FROM	TO	TOTAL				
		- fairly even textured wacke consisting mostly of plagioclase and quartz grains with minor pink and yellow k-feldspar; biotite rich matrix - most sections are weakly foliated at 50-55° to the core axis - 188.0 - 188.6 - 1" wide quartz vein oriented at 20° to the core axis; trace disseminated pyrite, minor carbonate - 192.7 - 193.0 - concordant quartz-carbonate vein; chloritic inclusions, no visible sulphides	3145	tr	188.0	193.0	5.0			.002	
			3146	tr	194.2	199.2	5.0			.001	
199.2	221.4	<u>Mafic Metavolcanics</u>									
		199.2 - 206.4 - sheared, silicified, well mineralized section - fine grained volcanics, brecciated into coarse fragments; matrix of mainly quartz-carbonate, although several veinlets also contain fine yellow feldspar grains; some sections display pervasive silicification, consisting of 5-10% quartz-carbonate grains and fine stringers in the matrix - mineralization consists mainly of pyrrhotite (5-15%) and minor chalcopyrite and pyrite (both trace - 1%); blebs and stringers of massive pyrrhotite up to 1/2" wide occur near the bottom of the interval; usual mode of mineralization is fine grained disseminated sulphide within silicified zones and small blebs along the edges of quartz veins - 3-10% biotite occurs throughout the section - 205.1 - 205.3 - massive pyrrhotite stringers	3147	5-10%	199.2	204.2	5.0			.003	
			3148	5-10%	204.2	206.4	2.2			.004	

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-88-5 SHEET NO. 8 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au 0.2 TON	Check 0.2 TON
206.4	210.0	fine grained, weakly silicified volcanics; weak banding and abundant concordant quartz-carbonate stringers and small pods; 1% biotite - moderately well foliated at 50° to the core axis - trace disseminated pyrrhotite	3149	tr	205.4 210.0 3.6	.002	
210.0	214.0	medium grained, massive to poorly foliated mafic flow  Average Modes Amphibole 70-80% Chlorite 5-10% Plagioclase 15-20% Quartz 1-2%  - quartz-carbonate veining generally minor; a few small (1/4-1/2"), discontinuous veinlets made up of brick-red feldspar and minor quartz could be very small intrusive dikelets - no visible sulphides	3150	-	210.0 214.0 4.0	.002	
214.0	221.4	fine grained, silicified volcanics, as per 206.4 - 210.0 - banding is more prominent throughout this section, consisting of interbanded concordant quartz-carbonate veinlets, biotite rich bands, and wider sections of unaltered volcanics - several of the concordant quartz-carbonate veinlets are boudinaged; minor, very thin crosscutting veinlets at low angles to the core axis	3151	tr	214.0 218.0 4.0	.002	
			3152	tr	218.0 221.4 3.4	.004	

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# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 9 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		ID	FOOTAGE		Au	Check
			FROM	TO	TOTAL	GT TON	GT TON
221.4	225.1	<p><u>Metagreywacke</u></p> <ul style="list-style-type: none"> <li>- several quartz porphyroblasts (&lt;1/4") occur in the section</li> <li>- trace disseminated pyrrhotite</li> <li>- banding and foliation are at 52° to the core axis</li> </ul>					
225.1	227.9	<p><u>Metasiltstone</u></p> <ul style="list-style-type: none"> <li>- dark grey, medium grained, quartz-feldspar wacke (roughly 30:70 framework to matrix ratio)</li> <li>- abundant biotite in the matrix</li> <li>- weakly foliated at 50° to the core axis</li> <li>- no visible sulphides</li> </ul>					
227.9	230.4	<p><u>Metagreywacke</u></p> <ul style="list-style-type: none"> <li>- greenish-grey, very fine grained, cherty siltstone; very thin sericitic bands occur throughout the unit</li> <li>- trace disseminated pyrite</li> <li>- similar to the unit between 116.7 - 186.4</li> <li>- banded and foliated at 50° to the core axis</li> </ul>	3153	225.4	230.4	5.0	.002
		<ul style="list-style-type: none"> <li>- similar to above unit between 221.4 - 225.1 except that this unit is much finer grained</li> <li>- abundant thin sericite bands, trace disseminated pyrrhotite</li> </ul>					

# DIAMOND DRILL RECORD

Santa Maria Zeemel Lake

NAME OF PROPERTY

HOLE NO. SMZ-88-5

SHEET NO. 10 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		G/G	SULPHIDES	FOOTAGE		Au g/ton	Check	
					FROM	TO			TOTAL
230.4	234.3	<u>Interbedded Siltstone and Argillite</u>  - light grey to greenish-grey siltstone interbedded with thin bands (1/8-3/4") of dark grey argillite - siltstone is fairly cherty and contains thin sericite bands - argillite bands contain thin stringers and blebs of pyrrhotite and lesser pyrite; total sulphide content for the unit is between 2-4% - concordant quartz-carbonate veinlets are common, occurring mostly in the argillaceous bands; several veinlets are finely brecciated - banding is at 52° to the core axis	3154	2-5%	230.4	234.3	3.9	.003	
234.3	236.7	<u>Metagreywacke</u>  - brownish-grey, medium grained, weakly foliated wacke similar to 221.4 - 225.1 - framework to matrix ratio is about 40:60 - frequent quartz porphyroblasts (approx. 1/4" wide) - no visible sulphides							
236.7	238.1	<u>Interbedded Siltstone and Argillite</u>  - basic description as per 230.4 - 234.3 - 237.5 - 238.1 - abundant biotite bands in the siltstone, boudinaged quartz-carbonate veinlets; fine grained pyrrhotite and possible galena	3155	2-4%	236.7	238.1	1.4	.004	

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zemeet Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 11 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au G/TON	Check G/TON	
					FROM	TO			TOTAL
238.1	243.9	<u>Chert</u> - brownish-grey to light grey chert, massive to very weakly banded - grades downward from a brownish "dirty" chert (inclusions of biotite?) to a light grey chert containing small clots of biotite and sulphide - numerous thin, crosscutting quartz-carbonate stringers at very low angles to the core axis - 2-3% pyrrhotite; small blebs and stringers	3156	2-3%	238.1	243.1	5.0	.004	
243.9	263.8	<u>Mafic Metavolcanics</u> - predominantly fine grained flows, as per 206.4 - 210.0, weakly foliated at 50° to the core axis - quartz-carbonate veining generally minor; majority of the veinlets crosscut the foliation at low to medium angles to the core axis and are less than 1/4" wide; several of the veinlets contain pink feldspar - trace disseminated pyrite, minor pyrrhotite stringers - 258.1 - 262.8 - weakly silicified zone; discontinuous concordant stringers and pods of quartz-carbonate; some sections are weakly biotitic; frequent pyrrhotite blebs up to 1/4" wide	3157	tr	243.1	247.6	4.5	.003	
			3158	tr	249.9	254.9	5.0	.004	
263.8	265.9	<u>Argillite</u> - dark grey to black graphitic argillite; much of the unit is finely brecciated and locally displays highly contorted bedding - quartz-carbonate pods and stringers are common throughout the unit and are usually brecciated							

SANGRIDGES - TORONTO - 366-1148

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 12 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		%	Au OZ TON	Check OZ TON
					FROM	TO			
		- pyrrhotite and minor pyrite occur throughout the unit, mostly as concordant, discontinuous stringers and small blebs; total sulphide varies between 5-15% - 263.8 - 265.0 - highly brecciated section containing numerous carbonate + quartz veinlets; a 1/2" wide vein of rhodochrosite occurs at 264.3 and a 2" wide quartz-carbonate vein occurs at 264.6	3160	5%	263.8	265.9	2.1	.003	
265.9	268.7	<u>Metasiltstone</u>							
		- light greyish-green, finely banded siltstone, as per 225.1 - 227.9 - several bands of recrystallized chert containing disseminated pyrrhotite - banded at 65° to the core axis - 267.4 - 1" wide band of graphitic argillite	3161	tr-1%	265.9	268.7	2.8	.002	
268.7	274.7	<u>Argillite</u>							
		- black graphitic argillite, as per 263.8 - 265.9 - sulphides are dominantly pyrrhotite; trace pyrite; 5-15% total sulphide	3162	5-15%	268.7	271.7	3.0	.003	
			3163	5-15%	271.7	274.7	3.0	.002	
274.7	287.7	<u>Metagreywacke with Interbedded Chert</u>							
		- light brown to brownish-grey, medium grained quartz-feldspar wacke, similar in character to 234.3 - 236.7, interbedded with white, recrystallized chert - highly biotitic wacke matrix; total biotite content is 20-30%	3164	3-5%	274.7	279.0	4.3	.002	
			3165	3-5%	279.0	283.0	4.0	.002	
			3166	3-5%	283.0	287.7	4.7	.002	

LANGRIDDGES - TORONTO - 366-1188



# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 13 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS		
FROM	TO		NO	SULPHIDES	FOOTAGE		Au	Check
				FROM	TO	TOTAL	0.1 TON	0.2 TON
		- sections of chert 4-8" wide contain thin sericite and chlorite bands - pyrrhotite (and minor pyrite) stringers and blebs occur in both wacke and chert units; total sulphide content ranges from 3-5% (locally up to 15%); larger blebs and stringers contain many fine vugs - banding and foliation oriented at 50-55° to the core axis						
287.7	295.6	<u>Lean Banded Iron Formation</u>						
		- predominantly white chert and fine grained chloritic siltstones and tuffs which locally grade into narrow sections (up to 1" wide) of oxide facies iron formation - iron formation units consist mainly of chert (60%), highly chloritic pelitic or tuffaceous bands (30%), and magnetite (10%); rare grunerite bands also occur - magnetite bands are usually 1/8 - 1/4" wide; chert and chlorite bands are much wider, up to several inches; bands are oriented at 55° to the core axis - concordant pyrrhotite and pyrite stringers up to 1/4" wide occur throughout the unit; sulphide content ranges from 2-5% - carbonate is generally rare; a few narrow crosscutting stringers occur - 290.5 - 3/4" wide quartz vein containing euhedral quartz crystals' minor carbonate, trace pyrrhotite	3167	2-5%	287.7	291.7	4.0	.004
			3168	2-5%	291.7	295.0	3.9	.005

LANGRISHES - TORONTO - 366-158

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeebri Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 14 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		ID	SULPHIDES	FOOTAGE			Au	Check
				FROM	TO	TOTAL		OF TON	
295.6	393.3	<p><u>Mafic to Intermediate Metavolcanics</u></p> <p>- dark green to grey, massive to weakly foliated, fine to medium grained</p> <p>Average Modes</p> <p>Amphibole 55-75%</p> <p>Plagioclase 20-40%</p> <p>Chlorite 2-5%</p> <p>Quartz 1-3%</p> <p>Sulphides trace</p> <p>- fairly even textured flows with gradational variations in plagioclase content and grain size</p> <p>- quartz-carbonate veining is very minor; veinlets are mostly small (1/8-1/4") and concordant</p> <p>- several highly fractured, blocky sections, limonite coating on most fracture surfaces</p> <p>- trace disseminated pyrite; minor crosscutting stringers</p> <p>- 300.0 - 305.0 - broken, blocky core; recovery about 40%, section is foliated at 55° to the core axis</p> <p>- 208.6 - 308.9 - 1/8" wide, crosscutting quartz-carbonate stringer containing pyrite blebs</p> <p>- 309.0 - 1/2" wide concordant quartz vein carrying trace pyrite; a small vug contains small crystals and reniform masses of specular hematite (?)</p> <p>- 314.5 - pyrrhotite bleb (1/8" wide) in a small silicified zone</p> <p>- 333.0 - 336.0 blocky, broken core</p>							
			3169	tr	295.6	300.5	5.0		.002
			3170	tr	306.0	310.0	4.0		.003
			3171	tr	310.0	315.0	5.0		.003
			3172	tr	320.0	325.0	5.0		.001
			3173	tr	332.0	337.0	5.0		.003

LANGRIDGE - "PROV" - 366-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemer Lake  
 HOLE NO.: SMZ-88-5 SHEET NO.: 15 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		ID	SULPHIDES	FOOTAGE		Au GT TON	Check ppbAu	
					FROM	TO			TOTAL
		- 339.5 - 343.5 - several crosscutting quartz-carbonate-pyrrhotite stringers in this interval; most are oriented at 10-20° to the core axis; foliation (very weak) is at 60° to the core axis	3174	tr	339.0	344.0	5.0	.002	
		- 357.8 - 395.4 - fine to medium grained flows (possibly with small sections of gabbroic intrusives); several sections of blocky, broken core; most sections are weakly foliated at 50-55° to the core axis	3175	tr	349.0	354.0	5.0	.002	
		- quartz veinlets are common throughout this section; all of the carbonate has been dissolved out, creating numerous small vugs	3176	tr	357.8	362.8	5.0	.001	
		- fracture surfaces and many vugs are coated with limonite	3177	tr	362.8	367.8	5.0		73
		- highly oxidized pyrite stringers occur frequently throughout the section; most are < 1/8" wide	3178	tr	367.8	372.8	5.0		113
		- shearing and silicification become gradually more intensive downhole towards the fault zone	3179	tr	372.8	377.8	5.0		115
			3180	tr	377.8	382.8	5.0		93
			3181	tr	382.8	387.8	5.0		85
			3182	tr	387.8	392.8	5.0		81
393.3	418.9	<u>Highly Sheared Clastic Metasediments</u>							
		- highly sheared, altered siltstones and wackes; this section could possibly be fault gouge, altered by connate and possible hydrothermal solutions							
		- core is fairly incompetent, most of the rock is blocky and broken; soft, clay altered seams occur frequently and most of the core has a heavy limonite + manganese stain; no visible sulphides or carbonate							
		- well foliated at 55-60° to the core axis							

LANGRISHES - TORONTO - 355-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 16 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS				
FROM	TO		NO	SULPHIDES	FOOTAGE		%	Au	Check	%
					FROM	TO				
		393.3 - 397.0 - intensely altered material; core is very soft and crumbly (clay alteration), recovery is about 50%; a 3" wide section of highly siliceous sediments, looking similar to a finely banded, limonite stained chert, could possibly be a mylonite	3183	-	392.8	397.0	4.2			195
		397.0 - 400.4 - light green, weakly altered material with a light limonitic stain; a highly fractured 8" wide interval (fragments < 1" wide) occurs within this section; appears to be a fine grained sediment but it could also be a highly sheared volcanic	3184	-	397.0	400.4	3.4			81
		400.4 - 406.5 - highly altered section; crumbly, highly limonitic material; several small (1-2") clay seams; strongly foliated at 60° to the core axis; core recovery about 80%	3185	-	400.4	406.5	6.1			97
		406.5 - 418.9 - weakly altered material with a light limonite stain, similar to above; light green fuchsite occurs as small flakes interspersed throughout the sediments (2-3%); core recovery is about 90%	3186	-	406.5	411.5	5.0			67
		- 414.0 - 418.9 - small, vuggy quartz veinlets occur locally, most are concordant and $\leq 1/8$ " wide	3187	-	411.5	415.5	4.0			43
			3188	-	415.5	418.9	3.4			59
418.9	533.5	<u>Interbedded Metasiltstone and Metagreywacke</u>  - sericitic siltstones interbedded with fine grained quartz-feldspar wackes - the degree of shearing and alteration in the sediments decreases steadily downhole - many small vugs occur throughout the section (carbonate veins have been dissolved out) - minor garnet occurs in some sections								

LANGRIDGE - TORONTO - 366-1-58

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 17 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		ID	SULPH (%)	FOOTAGE		Au g/ton	Check	ppbAu		
					FROM	TO				TOTAL	
		418.9 - 427.0 - light greyish-green, sheared wackes; the sediments appear to have been bleached - minor quartz-carbonate veining (concordant) - small, highly fractured and distended grains of a black mineral, possibly tourmaline - no visible sulphides; trace to 2% biotite, trace to 1% fuchsite	3189	-	418.9	423.4	4.5			67	
			3190	-	423.4	427.0	3.6			57	
		427.0 - 447.6 - mostly light to medium grey, fine grained metagreywacke, highly sheared and with a light limonite stain - foliated at 65° to the core axis - biotite occurs in small isolated flakes (1-2%) - 427.0 - 437.0 - core recovery is about 20% - 437.0 - 447.6 - core recovery is about 60% - 442.1 - 442.9 - about 5% pink garnet; porphyroblasts are highly fractured and smeared out along the foliation	3191	-	427.0	439.0	12.0			73	
			3192	-	439.0	447.6	8.6			80	
			3193	-	447.6	452.6	5.0	.002			
			3194	-	452.6	457.6	5.0	.003			
		447.6 - 491.6 - typical interbedded wacke and siltstone with several narrow interbeds (2-6") of highly garnetiferous pelitic sediments - wackes tend to be coarse grained (not as highly sheared); larger quartz grains and garnet porphyroblasts are shattered and smeared out along the foliation (possible cataclastic deformation away from the main ductile shear zone) - wackes and siltstones contain very narrow, highly irregular, chloritic veinlets surrounded by bleached alteration haloes; frequent concordant quartz veins with numerous small vugs also occur	3195	-	457.6	462.6	5.0	.003			
			3196	-	462.6	467.6	5.0	.002			

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 18 of 27

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO	TOTAL	Au g/TON	Check g/TON	ppbAu	
		- pelitic bands are composed of chlorite with minor biotite and about 5-10% garnet; well developed quartz pressure shadows often occur adjacent to garnet porphyroblasts	3197	-	467.8	472.8	5.0	.004		
		- 469.4 - 473.5 - heavy limonitic staining throughout this interval; narrow sections (1-3") of incompetent rock	3198	-	472.8	477.8	5.0	.002		
		- 478.0 - foliated at 63° to the core axis	3199	-	477.8	482.8	5.0	.003		
		- 486.8 - 491.6 - heavy limonite staining throughout this interval; 6" wide pelitic band contains numerous vugs; very minor core loss from a narrow, blocky interval (recovery 95%)	3200	-	482.8	486.5	3.7	.003		
			3201	-	486.5	491.5	5.0	.002		
		491.6 - 533.5 - predominantly siltstone with minor wacke interbeds; finely banded and foliated at 60° to the core axis; garnet porphyroblasts and quartz grains are highly shattered and smeared out along the foliation; minor quartz veining (mostly concordant veins with numerous small vugs)	3202	-	497.0	502.0	5.0	.003		
			3203	-	507.0	512.0	5.0	.002		
			3204	-	518.4	523.4	5.0	.001		
			3205	-	523.4	528.4	5.0	.001		
			3206	-	528.4	533.5	5.1	.001		
533.5	535.1	<u>Mafic Metavolcanics</u>								
		- dark green, finely grained, well foliated volcanics consisting mainly of chlorite (60%), amphibole (approx. 15%) and plagioclase (approx. 25%); possible tuff	3207	-	533.5	535.1	1.6	.002		
		- trace disseminated pyrite								
		- two 1/2" wide, concordant quartz-carbonate veins occur near the bottom of the unit								

JAN BRIDGES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 19 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		ID	SULPHIDES	FOOTAGE FROM TO TOTAL	Au GT TON	Check GT TON
535.1	537.3	<u>Metasiltstone</u> - greyish-green, highly siliceous (cherty) siltstone - weakly banded and foliated at 60° to the core axis - subparallel fractures with bleached alteration haloes occur near the bottom of the interval; fractures are oriented at 30° to the core axis					
537.3	543.8	<u>Metagreywacke</u> - fine to medium grained, weakly sheared quartz-felspar wacke; light limonite stain throughout the unit; minor biotite in matrix - several concordant to subconcordant quartz veins up to 3/4" wide - 541.9 - 543.0 - highly altered zone below a 2" wide quartz vein; very limonitic and vuggy	3208	-	535.1 540.1 5.0	.002	
543.8	564.3	<u>Mafic Metavolcanics</u> - fine grained, possibly tuffaceous volcanics with narrow interbeds of cherty siltstone and wacke - mostly amphibole (approx. 60%) and chlorite (20%) with lesser plagioclase (15%) and biotite (5%) - weakly carbonatized, trace pyrite - quartz + carbonate veins are common; many of the veinlets contain small vugs - 543.8 - 557.0 - blocky core; recovery about 85% - 557.0 - 564.3 - recovery about 65%	3209	-	540.1 543.8 3.7	.002	
			3210	tr	543.8 548.8 5.0	.002	
			3211	tr	548.8 556.0 7.2	.002	
			3212	tr	556.0 562.8 6.3	.003	

LANGRISHES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 20 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		ID	SULPHIDES	FOOTAGE		Au	Check	
				FROM	TO	TOTAL	oz ton	oz ton	
564.3	566.3	<u>Metagreywacke</u> - greyish-brown, fine grained quartz-feldspar wacke with an abundance of biotite in the matrix - small concordant quartz-carbonate veinlets are common, with frequent small vugs; a few very narrow, chlorite-rich veinlets also occur							
566.3	575.9	<u>Mafic Metavolcanics</u> - basic description as per 543.8 - 564.3 - greyish-green, fine grained volcanics; possibly tuffs - large vugs up to 1/4" wide and 1" long are very common in this unit (carbonate dissolved out of veinlets) - trace pyrite	3213	tr	566.3	571.3	5.0	.003	
			3214	tr	571.3	575.9	4.6	.002	
575.9	582.7	<u>Chert</u> - light to medium grey impure chert - fine grained sericite forms thin wispy bands; foliated at 65° to the core axis - 1-2% disseminated pyrite; very thin, discontinuous stringers also occur - rare crosscutting quartz-carbonate stringers - 580.1 to 580.8 - intercalation of highly biotitic metagreywacke	3215	1-2	575.9	578.9	3.0	.004	
			3216	1-2	578.9	582.7	3.8	.003	
582.7	586.8	<u>Loss of Core</u>							

LANGRIGGS - TORONTO - 366, 1958



# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 21 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au OZ TON	Check OZ TON	
					FROM	TO			TOTAL
586.8	671.8	<u>Metasiltstone</u> - greyish-green, cherty siltstone, similar to above - finely banded; thin, wispy biotite and sericite bands mainly; chlorite bands (tuffaceous layers) also occur - quartz-carbonate veining is common, majority of the veinlets are concordant and between 1/8" to 1/4" wide; rare crosscutting veinlets also occur; many veinlets are boudinaged - rare disseminated pyrite occurs in the siltstone; some veinlets contain trace pyrite - 600.0 - foliated at 60° to the core axis - 609.1 - 2" wide concordant quartz vein containing trace to 1% disseminated pyrite - 613.0 to 613.4 - subconcordant quartz-carbonate vein; inclusions of biotite and chlorite, trace pyrite  - 635.1 to 1/2" wide, finely brecciated chert band - 636.2 to 636.3 - brecciated section, infilled with quartz-carbonate, no visible sulphides  - 665.0 - fine banding at 60° to the core axis	3217	tr	586.8	591.8	5.0	.001	
			3218	tr	596.8	601.8	5.0	.003	
			3219	tr	608.5	613.5	5.0	.001	
			3220	tr	617.0	622.0	5.0	.002	
			3221	tr	627.0	632.0	5.0	.002	
			3222	tr	634.0	639.0	5.0	.003	
			3223	tr	640.9	645.9	5.0	.003	
			3224	tr	653.5	658.5	5.0	.003	
			3225	tr	666.8	671.8	5.0	.006	
			671.8	687.6	<u>Metagreywacke</u> - typical greyish-brown, quartz-feldspar, wacke, as per above, weak to moderate silicification - silicified sections contain numerous concordant to subconcordant quartz-carbonate veinlets; most veinlets are discontinuous and several are brecciated	3226	-	671.8	676.8
3227	-	676.8				681.8	5.0	.002	

LANGFORDS - TORONTO - 366-1166

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 22 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS		
FROM	TO		NO	SULPHIDES	FOOTAGE		Au OZ TON	Check OZ TON
					FROM	TO		
		<ul style="list-style-type: none"> <li>- silicified sections are poorly banded and contain many chloritized and biotite-rich sections</li> <li>- no visible sulphides</li> <li>- small interbeds of siltstone become more common towards bottom of unit (gradational lower contact)</li> </ul>						
687.6	695.5	<p><u>Interbedded Metasiltstone and Argillite</u></p> <ul style="list-style-type: none"> <li>- light greyish green siltstone (80%) interbedded with dark grey to black graphitic argillite (20%)</li> <li>- argillite bands range in size from 1/2" to 6" wide; most of these bands contain 1-5% pyrrhotite, mostly disseminated but also the small concordant stringers; minor pyrrhotite occurs in siltstone bands</li> <li>- 693.5 to 694.6 - silicified section; concordant, discontinuous stringers and small brecciated grains of quartz carbonate; a 1/4" wide, concordant pyrite stringer occurs near the bottom of the section</li> </ul>	3228	1-3	686.8	691.8	5.0	.004
			3229	1-3	691.8	695.5	3.7	.001
695.5	705.5	<p><u>Interbedded Metasiltstone and Mafic Tuff</u></p> <ul style="list-style-type: none"> <li>- heavily silicified and carbonatized cherty siltstone, interbedded with layers of chlorite schist (1" to 6" wide)</li> <li>- silicified areas locally contain 3-5% biotite</li> <li>- shear fractures oriented at 30-35° to the core axis occur near the top of the section</li> <li>- finely banded at 60-65° to the core axis</li> <li>- 696.4 - 1 1/2" wide finely brecciated section infilled with pyrrhotite and minor pyrite; many small vugs</li> <li>- 696.6 to 697.0 - fuchsite occurs in thin concordant bands</li> <li>- 705.1 to 705.5 - chert band; greenish grey chert containing thin pyrrhotite stringers, minor chalcopyrite, and possible arsenopyrite</li> </ul>	3230	tr-1	695.5	700.5	5.0	.001
			3231	tr	700.5	705.5	5.0	.002

- ANGSDIGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 23 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO.	SULPHIDES	FOOTAGE FROM TO TOTAL	Av OF TON	Check
705.5	754.4	<u>Mafic Metavolcanics</u> - dark green, fine grained, moderately well foliated mafic flows - typical amphibole - chlorite - plagioclase assemblage; much of the unit has been silicified and carbonatized; biotite content increases in heavily silicified areas  705.5 to 707.2 - heavily silicified, weakly brecciated section; large brecciated grains of epidote (zoisite ?) occur throughout the section, usually within quartz-carbonate veinlets; trace to 1% disseminated pyrrhotite  707.2 to 737.9 - typical fine grained volcanics, foliated at 60-65° to the core axis - 714.1 to 715.3 - heavily biotitic section containing several small garnets, trace to 1% disseminated pyrrhotite  737.9 to 742.1 - lost core (broken core box)  742.1 to 754.4 - typical fine grained volcanic flows - large crosscutting quartz-carbonate stringers occur frequently in this section (1-3" wide); brecciated wallrock fragments are common in the veinlets					
			3232	tr	705.5 707.5 2.0	.017	
			3233	tr	713.6 718.5 4.9	.004	
			3234	tr	722.0 727.0 5.0	.004	
			3235	tr	732.9 737.9 5.0	.002	
			3236	tr	742.1 747.0 4.9	<.001	
			3237	tr	747.0 752.0 5.0	.002	
754.4	758.4	<u>Ultramafic Metavolcanics</u> 754.4 to 756.1 - mostly dark green, fine grained, weakly foliated flows	3238	tr	754.4 758.4 4.0	.003	

AVG DEGS - "DPC" - 266-115P

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 24 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS		
FROM	TO		NO	SUPTH DEFS	FOOTAGE FROM TO TOTAL	Au GT TON	Check GT TON	
		Average Modes Amphibole 60-75% Chlorite 20-30% Plagioclase 5-10% Sulphides trace  - quartz-carbonate veining absent, trace disseminated pyrite  756.1 to 757.6 - light to medium grey, fine grained, weakly foliated, talc-rich volcanics  Average Modes Amphibole 40-60% Talc/Serpentine 30-40% Chlorite 10-15% Magnetite 2-3% Carbonate 1-2%  - minor carbonate and talc veinlets  757.6 to 758.4 - dark green, fine grained flows, as per 754.4 to 756.1 - foliated at 70° to the core axis						
758.4	809.6	<u>Mafic Metavolcanics</u> - basic description as per above (i.e. 705.5 to 754.4); massive to weakly foliated flows - 777.1 to 775.2 - several 1/8" to 1/4" wide concordant quartz-carbonate-epidote veinlets	3239	tr	758.4 763.4 5.0	.003		
			3240	tr	771.0 776.0 5.0	.004		
			3241	tr	782.0 787.0 5.0	.003		

LANGRISHES - TORONTO - 1955-1958

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-88-5 SHEET NO 25 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au Check		
					FROM	TO	TOTAL	07 TON	07 TON
		- 787.1 to 792.2 - several veinlets 1/4" to 1/2" wide, composed of quartz, pink feldspar + carbonate; veins are randomly oriented in predominantly massive mafic volcanics; trace to 1% disseminated chalcopyrite	3242	tr	787.0	792.0	5.0	.003	
		- 801.2 to 809.6 - several concordant quartz + carbonate + pink feldspar veins between 1/2 to 2" wide occur in this interval; biotite content approaches 15% in some sections; trace disseminated chalcopyrite and pyrrhotite; small garnets occur scattered throughout the more heavily silicified and biotite-rich zones; section is foliated at 75-80° to the core axis	3243	tr	801.2	806.2	5.0	.003	
			3244	tr	806.2	809.6	3.4	.004	
809.6	839.2	<u>Ultramafic Metavolcanics</u> - dark green, medium grained, massive flows	3245	tr	809.6	814.0	4.4	.002	
		Average Modes: Amphibole 80-90% Plagioclase 5-10% Chlorite 2-5% Biotite 0-2% Carbonate 1-2% Serpentine 1-2% Sulphides trace							
		- massive ultramafic flows composed almost entirely of medium grained, prismatic amphibole crystals (actinolite) - chlorite and serpentine occur along fracture planes, minor slickensides - entire unit is weakly carbonatized; randomly oriented stringers and veinlets up to 1" wide composed of quartz + carbonate + pink feldspar are common throughout the unit							

LANGRIDGE - TORONTO - 366-1156

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 26 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Av Grav TON	Check of TOL
		<ul style="list-style-type: none"> <li>- trace disseminated chalcopyrite</li> <li>- 818.6 to 819.5 - quartz-carbonate-feldspar vein, 1/2" to 1" wide; smaller veinlets branch off from the principal vein; trace chalcopyrite</li> <li>- 830.2 to 831.0 - two 1" wide quartz-feldspar porphyry dikes occur at either end of this interval; well formed plagioclase phenocrysts and anhedral quartz grains in a greyish-green, fine grained groundmass</li> </ul>	3246	tr	818.6 823.6 5.0	.001	
			3247	tr	829.8 831.3 1.5	<.001	
			3248	tr	835.0 839.2 4.2	.002	
839.2	841.5	<u>Mafic Dike</u> <ul style="list-style-type: none"> <li>- dark brown, porphyritic dike; well formed plagioclase phenocrysts (10-15%) lie in a fine grained matrix of mainly biotite with lesser felsic minerals and minor chlorite</li> <li>- phenocrysts range in size from 1/8 to 1/4"</li> <li>- groundmass is weakly foliated at 70-80° to the core axis</li> <li>- trace pyrite</li> <li>- sharp contacts</li> </ul>	3249	tr	839.2 841.5 2.3	.003	
841.5	870.0	<u>Ultramafic Metavolcanics</u> <ul style="list-style-type: none"> <li>- basic description as per above (i.e. 809.6 to 841.5)</li> <li>- massive, medium grained flows</li> <li>- 856.1 to 858.7 - quartz-carbonate vein; mostly milky quartz with minor carbonate; inclusions of chloritic and amphibole; trace chalcopyrite</li> </ul>	3250	tr	841.5 846.5 5.0	.001	
			3251	tr	855.5 860.0 4.5	.002	
			3252	tr	860.0 865.0 5.0	.004	

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-5 SHEET NO. 27 of 27

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SILPH IDES	FOOTAGE FROM TO TOTAL	Av TUN	Check
870.0	997.0	<p>Ultramafic to Mafic Volcanics</p> <ul style="list-style-type: none"> <li>- mostly medium grained, massive ultramafic flows, as per 809.6 to 841.5; plagioclase content locally increases to over 15% (gradational change to mafic volcanics); mafic intervals are visually less than 3 feet in length</li> <li>- 872.9 to 877.2 - medium grey, talc-rich ultramafic volcanics similar to 756.1 to 757.6; several concordant quartz-carbonate veinlets with trace pyrite; abundant magnetite</li> <li>- 908.2 to 913.1 - several quartz-carbonate stringers (1/8 to 1/4"), randomly oriented; trace chalcopyrite</li> <li>- 930.0 - weakly foliated at 75-80° to the core axis</li> <li>- 936.5 to 945.0 - numerous randomly oriented, discontinuous quartz-carbonate stringers; zone appears to be weakly brecciated</li> <li>- 950.1 to 952.5 - coarse grained mafic volcanics; amphibole crystals up to 1/2" long, randomly oriented; possible flow center; trace chalcopyrite</li> <li>- 960.2 to 969.8 - medium grey, talc rich ultramafics similar to 756.1 to 757.6; abundant anhedral magnetite; talc-rich bands are common</li> <li>- 970.6 to 971.9 - sheared mafic (?) volcanics; biotite-chlorite schist; foliated at 60° to the core axis</li> <li>- 975.4 to 977.0 - sheared mafic volcanics, biotite-chlorite schist, as per above; trace euhedral pyrite</li> <li>- 990.6 to 993.8 - chlorite schist, possible mafic tuff; well foliated at 65° to the core axis</li> </ul>	3253	tr	872.9 877.0 4.1	.009	
			3254	tr	881.0 886.0 5.0	.009	
			3265	tr	894.5 899.5 5.0	.002	
			3255	tr	908.1 913.1 5.0	.002	
			3256	tr	919.0 924.0 5.0	.003	
			3257	tr	928.8 933.8 5.0	.003	
			3258	tr	936.5 941.5 5.0	.001	
			3259	tr	941.5 945.5 4.0	.001	
			3260	tr	950.0 954.0 4.0	.002	
			3261	tr	960.2 965.2 5.0	.003	
			3262	tr	970.6 973.6 3.0	.007	
			3263	tr	975.4 978.4 3.0	.004	
			3264	tr	990.6 995.0 4.4	.004	
	997.0	END OF HOLE					

*J. Williams*

SANGREDES - COPONTO - 355-149

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-6 LENGTH 346'  
 LOCATION 40+00E, 26+50S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED February 3, 1988 FINISHED February 5, 1988

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-42 <sup>0</sup>				
346	-39 <sup>0</sup>				

HOLE NO. SMZ-88-6 SHEET NO. 1 of 1  
 REMARKS Claim #861430  
Summary Log  
 LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	48.8	<u>Casing</u>									
48.8	153.3	<u>Granodiorite</u>									
153.3	346.0	<u>Granite</u> 286.0 to 286.8 - minor fractures and quartz stringers containing, 1% pyrite, 1% chalcopyrite, 2% molybdenite and 1% galena									
	346.0	<u>End of Hole</u> <u>Casing pulled</u>									

LANGRISHES - TORONTO - 566-1188



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-6 LENGTH 346'  
 LOCATION 40+00E, 26+50S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED February 3, 1988 FINISHED February 5, 1988

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-42°				
346	-39°				

HOLE NO. SMZ-88-6 SHEET NO. 1 of 3

REMARKS Claim #861430

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	48.8	<u>Casing</u>									
48.8	153.3	<u>Grandiorite</u> - light grey, fine to medium grained, massive  Average Modes Quartz 40-45% Plagioclase 20-25% Potassium Feldspar 10-15% Biotite 20-25% Pyrite trace  - 84.2 to 86.3 - quartz-muscovite-pyrite filled fractures at low angles to the core axis - 94.6 to 95.4 - ground core representing a possible shear, 1-2% muscovite - 99.9 to 100.5 - quartz vein with 5-10% pyrite along the contacts - 101.9 to 103.4 - heavily fractured at low angles to the core axis - 107.6 to 109.4 - fractured at low angles to the core axis, minor muscovite coating  - 142.3 to 145.4 - heavily sericitized and weakly sheared, 1% pyrite - 143.1 to 144.6 - quartz vein with irregular contacts	3566	tr	53.6	58.4	4.8			.001	
			3567	tr	63.4	68.1	4.7			.002	
			3568	tr	73.3	78.2	4.9			.001	
			3569	1-2	84.2	86.3	2.1			.002	
			3570	tr	94.0	96.0	2.0			.001	
			3571	tr	96.0	99.6	3.6			<.001	
			3572	3-5	99.6	100.6	1.0			<.001	
			3573	tr	100.6	103.5	2.9			.001	
			3574	tr	103.5	106.7	3.2			.001	
			3575	tr	106.7	109.4	2.7			.002	
			3576	tr	111.4	116.3	4.9			<.001	
			3577	tr	126.0	130.8	4.8			.001	
			3578	tr	135.7	140.6	4.9			.001	
			3579	1	142.3	145.4	3.1			<.001	
			3580	tr	145.4	149.9	4.5			.002	

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake

HOLE NO. SMZ-88-6

SHEET NO. 2 of 3

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OF TON	Check OF TON	
					FROM	TO					TOTAL
153.3	346.0	<u>Granite</u> - pink/grey, medium to coarse grained, massive	3581	tr	153.3	158.3	5.0			.001	
			3582	tr	164.2	169.0	4.8			<.001	
			3583	tr	173.7	178.6	4.9			.003	
		Average Modes									
		Quartz 40-50%									
		Plagioclase 15-20%									
		Potassium Feldspar 15-20%									
		Biotite 15-20%									
		Pyrite trace									
		Garnet trace									
		Unit is made up of interfingering pink, slightly more potassic, and pinkish grey granite; hematite staining is evident in the pink granite									
		- 187.2 - 1/32" pyrite stringer	3584	tr	183.5	188.2	4.7			.001	
		- 195.8 to 196.0 - chlorite-quartz schist; probable shear zone	3585	tr	193.0	197.5	4.5			.002	
			3586	tr	201.7	206.4	4.7			.003	
			3587	tr	211.3	216.0	4.7			.002	
			3588	tr	225.7	230.3	4.6			.002	
			3589	tr	235.0	239.6	4.6			.002	
			3590	tr	244.5	249.1	4.6			.001	
		- 249.1 to 267.3 - several zones of broken-up granular rock with minor sand seams indicating probable shearing, minor core loss.	3591	tr	249.1	254.9	5.8			<.001	
			3592	tr	254.9	259.6	4.7			.001	
			3593	tr	259.6	264.4	4.8			.001	
			3594	tr	264.5	267.3	2.8			.002	
			3595	tr	273.6	278.3	4.7			.001	
			3596	tr	283.0	285.9	2.9			<.001	
		- 286.0 to 286.8 - minor fractures and quartz stringers containing 1% pyrite, 1% chalcopyrite, 2% molybdenite and 1% galena	3597	5	285.9	286.9	1.0			<.001	
			3598	tr	286.9	291.0	2.1			.001	
			3599	tr	293.4	298.2	4.8			<.001	
			3600	tr	302.7	307.5	4.8			.001	
			3601	tr	312.2	317.0	4.8			.001	
			3602	tr	321.9	326.9	5.0			.001	
			3603	tr	331.5	336.3	4.8			<.001	

LANGRIDDGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-88-6 SHEET NO 3 of 3

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS		
FROM	TO		NO	SULPHIDES	FROM	TO	TOTAL	Au G/TON	Check
		- 336.3 to 346.0 - minor quartz veining with trace to 1% pyrite and chalcopyrite	3604	tr-1	336.3	341.3	5.0	<.001	
			3605	tr-1	341.3	346.0	4.7	<.001	
	346.0	END OF HOLE Casing pulled							

*J. Adams*

LANGRIDDGES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-7 LENGTH 406'  
 LOCATION 36+00W 14+00N  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -50<sup>0</sup>  
 STARTED Feb. 5, 1988 FINISHED Feb. 7, 1988.

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-51 <sup>0</sup>				
406	-48 <sup>0</sup>				

HOLE NO. SMZ-88-7 SHEET NO. 1 of 1

REMARKS Claim # Pa 861514

Summary Log

LOGGED BY B.A. Huston

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE			ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL			
0	121.6	<u>Casing</u>								
121.6	124.7	<u>Siltstone</u>								
124.7	137.0	<u>Mafic Metavolcanics - trace to 1% po, cpy</u>								
137.0	160.2	<u>Siltstone</u>								
160.2	171.4	<u>Mafic Metavolcanics</u>								
171.4	183.0	<u>Siltstone</u>								
183.0	406.0	<u>Mafic Metavolcanics</u> - 203.3 to 222.9 - 3 to 5% po, 1% cpy								
	406.0	<u>End of Hole</u>								

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-7 LENGTH 406'  
 LOCATION 36+00W 14+00N  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -50<sup>0</sup>  
 STARTED Feb. 5, 1988 FINISHED Feb. 7, 1988

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200	-51 <sup>0</sup>				
406	-48 <sup>0</sup>				

HOLE NO. SMZ-88-7 SHEET NO. 1 of 3

REMARKS Claim #861514

LOGGED BY B. A. Huston

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS			
FROM	TO		NO.	% SULPHIDES	FOOTAGE		%	%	Au OZ/TON	Check OZ/TON
					FROM	TO				
0	121.6	<u>Casing</u>								
121.6	124.7	<u>Siltstone</u> - light grey/green, fine grained, foliated at 50° to the core axis  Average Modes Quartz 80-85% Biotite 5-10% Chlorite 5-10% Pyrite trace	3606	tr	121.6	124.7	3.1			.001
124.7	137.0	<u>Mafic Metavolcanic</u> - medium to dark green, fine grained, foliated at 45° to the core axis  Average Modes Chlorite 45-55% Amphibole 25-30% Plagioclase 20-25% Pyrrhotite trace to 1% Chalcopyrite trace to 1% Garnet trace  - 135.0 to 137.0 - brecciated and infilled with quartz and minor carbonate	3607	1	124.7	128.7	4.0			.001
			3608	1	128.7	131.9	3.2			.001
			3609	1	131.9	135.0	3.1			<.001
			3610	1	135.0	137.0	2.0			.002

ANGLEDGES - TOPON TO - 366-168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-7 SHEET NO. 2 of 3

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au oz/tw	Check
					FROM	TO	TOTAL				
137.0	160.2	<u>Siltstone</u> - typical, as above, grey, fine to medium grained, grades towards a wacke in places, massive, slightly increased biotite content, minor quartz (+ carbonate) veins, trace to 1% pyrrhotite and chalcopryrite  - 137.0 to 138.2 - minor shearing 65° to the core axis, 5-10% fuchsite - 153.3 to 154.3 - sheared at 65° to the core axis, 5-10% fuchsite	3611	tr-1	137.0	138.2	1.2			.001	
			3612	tr-1	138.2	140.1	4.9			.002	
			3613	tr-1	149.7	153.3	3.6			.003	
			3614	tr-1	153.3	154.3	1.0			.001	
			3615	tr-1	154.3	157.0	2.7			.001	
160.2	171.4	<u>Mafic Metavolcanic</u> - typical, as above, medium green, fine grained, massive	3616	tr-1	157.0	160.2	3.2			.006	
			3617	1	160.2	163.7	3.5			.002	
			3618	1	163.7	167.1	3.4			.003	
			3619	1	167.1	171.4	4.3			.002	
171.4	183.0	<u>Siltstone</u> - typical, as above, grey/brown, massive, minor randomly oriented quartz stringers	3620	tr	171.4	176.0	4.6			.001	
			3621	tr	176.0	179.4	3.4			.006	
			3622	tr	179.4	183.0	3.6			.001	
183.0	406.0	<u>Mafic Metavolcanic</u> - typical, as above, medium to dark green, fine to medium grained, massive  183.0 to 203.3 - weakly to moderately silicified with minor small quartz (+ carbonate) stringers at random angles to the core axis, trace to 1% pyrrhotite and chalcopryrite - 194.4 to 196.4 - quartz veining with abundant mafic volcanic inclusions	3626	tr-1	194.4	196.4	2.0			.001	
			3627	tr-1	196.4	200.0	3.6			.001	
			3628	tr-1	200.0	203.3	3.3			.001	

LANGRIDDGES - TORONTO - 365-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-7 SHEET NO. 3 of 3

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS		
FROM	TO		NO	SULPH IDES	FOOTAGE		Au OZ TON	Check OZ TON	
				FROM	TO	TOTAL			
		203.3 to 222.9 - massive, 3-5% pyrrhotite and 1% chalcopyrite infilling randomly oriented fractures	3629	5	203.3	208.3	5.0	.001	
			3630	5	208.3	213.3	5.0	.001	
			3631	5	213.3	217.0	3.7	.001	
			3632	5	217.0	221.0	4.0	.001	
			3633	5	221.0	225.1	4.1	.001	
			3634	5	225.1	228.9	3.8	.001	
		222.9 to 292.1 - typical, minor quartz (+ carbonate) stringers	3635	tr	228.9	232.4	3.5	.002	
			3656	tr	232.4	235.5	3.1	.003	
			3636	tr	235.5	240.1	4.6	.001	
			3637	tr	244.7	249.3	4.6	.001	
		- 257.4 to 260.9 - heavily silicified with randomly oriented quartz (+ calcite) veins	3638	tr	257.4	260.9	3.5	.004	
			3639	tr	263.3	268.0	4.7	.004	
			3640	tr	273.0	277.7	4.7	.003	
			3641	tr	282.8	287.4	4.6	.002	
		292.1 to 406.0 - typical, weakly silicified, minor biotite, minor cross-cutting quartz stringers	3642	tr	292.1	296.5	4.4	.002	
			3643	tr	305.7	310.3	4.6	.004	
			3644	tr	315.2	319.9	4.7	.001	
			3645	tr	319.9	323.9	4.0	.002	
		- 323.9 to 325.1 - quartz vein and associated smaller stringers	3646	tr	323.9	325.1	1.2	.002	
			3647	tr	325.1	329.2	4.1	.003	
			3648	tr	333.7	338.4	4.7	.003	
			3649	tr	343.5	348.0	4.5	.003	
			3650	tr	353.0	357.7	4.7	.002	
			3651	tr	362.8	367.5	4.7	.003	
			3652	tr	372.5	377.2	4.7	.002	
			3653	tr	382.3	386.9	4.6	.001	
			3654	tr	391.7	396.4	4.7	.003	
			3655	tr	401.1	406.0	4.9	.004	

*J. Williams*

LANGRIDGES - TORONTO - 1966-11-88

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-8 LENGTH 347'  
 LOCATION 4+00W, 3+25N  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -48°  
 STARTED February 6, 1988 FINISHED February 7, 1988

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200'	-45°				
347'	-40°				

HOLE NO. SMZ-88-8 SHEET NO. 1 of 1

REMARKS Claim #Pa 861512

Summary Log

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE			ASSAYS			
FROM	TO		NO.	% SULPHIDES	FOOTAGE FROM TO TOTAL	%	%	Au OZ/TON	Check OZ/TON
0	71.0	Casing							
71.0	120.9	Mafic Metavolcanics							
120.9	124.7	Metasiltstone							
124.7	126.4	Ultramafic Metavolcanics							
126.4	144.9	Metasiltstone							
144.9	147.9	Mafic Metavolcanics - 5% magnetite porphyroblasts							
147.9	163.7	Ultramafic Metavolcanics - 1-2% magnetite							
163.7	168.5	Metagreywacke - 2-3% magnetite, 1% pyrite							
168.5	170.9	Metasiltstone - 1-2% magnetite							
170.9	176.1	Metagreywacke							
176.1	183.9	Mafic Metavolcanics - sheared, silicified							
183.9	210.0	Ultramafic Metavolcanics							
210.0	231.9	Metasiltstone							
231.9	243.2	Metagreywacke							
243.2	287.6	Mafic Metavolcanics - 5% magnetite porphyroblasts							
287.6	312.1	Ultramafic Metavolcanics							
312.1	316.8	Mafic Metavolcanics							
316.8	323.4	Metasiltstone							
323.4	347.0	Metagreywacke							
	347.0	End of Hole							



# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-8 LENGTH 347'  
 LOCATION 4100W, 3125N  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -48<sup>0</sup>  
 STARTED February 6, 1988 FINISHED February 7, 1988

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200'	-45 <sup>0</sup>				
347'	-40 <sup>0</sup>				

HOLE NO. SMZ-88-8 SHEET NO. 1 of 10  
 REMARKS Claim #Pa 861512

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	71.0	<u>Casing</u>									
71.0	120.9	<u>Mafic Metavolcanics</u> - dark green, fine to medium grained, moderate to strong foliation  Average Modes Amphibole 50-65% Chlorite 20-25% Plagioclase 15-20% Biotite 0-10% Quartz + Carbonate 1-5% Sulphides trace to 1%  - predominantly an amphibole - chlorite - plagioclase assemblage; most of the unit is weakly silicified and carbonatized - several heavily silicified, carbonatized, biotite-rich sections which may be narrow shear zones - quartz-carbonate veining consists mainly of small (< 1/4"), concordant, discontinuous veinlets; minor crosscutting veinlets also occur, visually oriented between 40-60° to the core axis - trace to 1% disseminated chalcopyrite, rare pyrite and pyrrhotite - 75.0 - foliated at 55° to the core axis - 86.4 to 88.4 - silicified zone; abundant chlorite and biotite; trace chalcopyrite	3266 tr	75.0	80.0	5.0			.003		
			3267 tr	85.8	90.4	4.6			.002		

LANGRANGES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-88-8 SHEET NO: 2 of 10

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au oz/Ton	Check oz/Ton	
					FROM	TO			TOTAL
		- 91.0 to 95.5 - weakly silicified section with several very narrow (1/8"), contorted, crosscutting quartz-carbonate veinlets	3268	tr	90.4	95.4	5.0	.001	
		- 101.8 to 103.1 - highly silicified zone, abundant chlorite and biotite							
		- 103.2 to 104.1 - small lens shaped pods and narrow crosscutting stringers of quartz-carbonate containing small grains of pink feldspar	3269	tr	101.0	106.0	5.0	.002	
		- 109.0 - foliated at 50° to the core axis	3270	tr	108.3	113.3	5.0	.002	
		- 115.5 to 119.2 - silicified zone containing small euhedral crystals of pyrite, foliated at 45° to the core axis	3271	tr	115.5	120.9	5.4	.003	
120.9	124.7	<u>Metasiltstone</u> - Tight grey-green, well banded cherty siltstone - narrow bands (1/8 to 1/4") of chert, chlorite and sericite occur throughout the unit; banding is at 40° to the core axis, blocky core - 123.9 to 124.6 - quartz + carbonate vein; milky quartz vein with minor inclusions of chlorite; no visible sulphides	3272	tr	120.9	124.7	3.8	.002	
124.7	126.4	<u>Ultramafic Metavolcanics</u> - light to medium grey, fine grained, weakly foliated  Average Modes Amphibole 45-65% Talc/Serpentine 30-40% Plagioclase 5-10% Chlorite 2-5% Carbonate 1-2%  - narrow unit of talc-rich ultramafic flow; several small bands of nearly pure talc	3273	-	124.7	126.4	1.7	.004	

LANGRISHES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-8 SHEET NO. 3 of 10

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SHIP IDES	FOOTAGE		Au OZ TON	Check OZ TON	
					FROM	TO			TOTAL
126.4	144.9	<p>- entire section is weakly carbonatized; several small concordant veinlets occur</p> <p>- no visible sulphides; limonitic stain in some veinlets</p> <p>- foliated at 55° to the core axis</p> <p><u>Metasiltstone</u></p> <p>- grey-green to greyish brown cherty siltstone similar to 120.9 to 124.7; minor dark grey argillite bands; fine banding at 55° to the core axis</p> <p>- frequent cross-fractures at high angles to the core axis (60-80°); some infilled with quartz-carbonate; small offsets in bands and veinlets are common</p> <p>- quartz-carbonate veining is generally minor; most veinlets are concordant and less than 1/4" wide; several are boudinaged</p> <p>- no visible sulphides</p> <p>- 127.1 to 128.1 - garnet porphyroblasts occur throughout this section (about 10% garnet); possible interbedded pelitic sediments</p> <p>- 128.1 to 129.3 - blocky, broken core</p>	3274	-	126.4	131.4	5.0	.003	
			3275	-	139.9	144.9	5.0	.001	
144.9	147.9	<p><u>Mafic Metavolcanics</u></p> <p>- weakly silicified mafic flows similar to 71.0 to 120.9</p> <p>- this unit contains well formed octahedral porphyroblasts of magnetite up to 1/4" wide (about 5% total magnetite content); the crystals decrease in abundance toward the lower contact</p> <p>- trace disseminated chalcopyrite</p>	3276	tr	144.9	147.9	3.0	.001	

BRIDGES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO.: SMZ-88-8 SHEET NO. 4 of 10

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPH IDES	FOOTAGE		Au OZ TON	Check OZ TON	
					FROM	TO			TOTAL
147.9	163.7	<u>Ultramafic Metavolcanics</u> - light to medium grey, talc-rich ultramafic flows similar to 124.7 to 126.4 - small clots and discontinuous bands of talc and small anhedral magnetite grains (1-2%) occur throughout the unit; serpentine occurs along fracture surfaces and foliation planes - small, euhedral pyrite cubes (most between 1/8 to 1/4" wide) occur scattered throughout the unit - 151.6 to 153.4 - several quartz-carbonate veins up to 3/4" wide occur in this section, most are subconcordant; no visible sulphides - 155.9 to 157.1 - intercalation of highly biotitic, carbonatized, mafic volcanics; trace pyrite; foliated at 60° to the core axis - 162.0 - foliated at 50° to the core axis - 163.4 to 163.7 - narrow unit of chlorite schist, possibly mafic tuff	3277	tr	149.7	154.7	5.0	.001	
			3278	tr	154.7	158.7	4.0	.004	
			3279	tr	158.7	163.7	5.0	.002	
163.7	168.5	<u>Metagreywacke</u> - light grey, medium grained quartz-feldspar wacke; framework to matrix ratio is about 50:50 - matrix composed of fine grained felsic material, biotite (5%) and chlorite (5-10%) - small porphyroblasts of magnetite (< 1/8") occur scattered throughout the unit (2-3%) - 1% disseminated pyrite; several cubes up to 1/2" wide also occur - quartz-carbonate veining very minor - foliated at 55° to the core axis	3280	1	163.7	168.5	4.8	<.001	

LANGRIDGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-8 SHEET NO. 5 of 10

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au	Check	
				FROM	TO	TOTAL	0.7 TON	0.7 TON	
168.5	170.9	<u>Metasiltstone</u> - light grey-green, well banded cherty siltstone, similar to 120.9 to 124.7 - numerous magnetite porphyroblasts, many up to 1/4" wide - narrow chlorite bands (possible tuffs) are very common							
170.9	176.1	<u>Metagreywacke</u> - basic description as per 163.7 to 168.5 - large magnetite porphyroblasts occur near the lower contact	3281	1	171.1	176.1	5.0	.002	
176.1	183.9	<u>Mafic Metavolcanics</u> - sheared, silicified mafic volcanics - pervasive silicification; fine grained, intergranular quartz-carbonate as well as minor veining; total quartz-carbonate content is about 15% - 10-15% biotite occurs in thin anastomosing bands - trace to 1% disseminated pyrite; several small cubes also occur - foliated at 50° to the core axis	3282	tr-1	176.1	180.1	4.0	.003	
			3283	tr-1	180.1	183.9	3.8	.006	
183.9	210.0	<u>Ultramafic Metavolcanics</u> - predominantly light to medium grey, talc rich ultramafic flows, as per 147.9 to 163.7 - frequent lens shaped clots of talc; serpentine occurs along fracture planes (slickensided surfaces common) - poorly foliated at 55° to the core axis - locally up to 1% disseminated pyrite; euhedral to subhedral crystals up to 1/4" wide are also common							

LANGRISHES - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-88-8 SHEET NO: 6 of 10

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au	Check	
					FROM	TO			TOTAL
		183.9 to 188.8 - typical, light grey, talc-rich ultramafic flows	3284	1	183.9	188.8	4.9	.004	
		188.8 to 190.6 - intercalation of mafic volcanics, including a 3" wide band of chlorite schists (tuff) at the top of the interval, followed by a fine grained flow; heavily biotitic lower contact; trace disseminated pyrite	3285	tr	188.8	190.8	2.0	.003	
		190.6 to 200.4 - typical light-grey, talc-rich ultramafic flows - 196.3 to 196.9 - brecciated interval; fragments up to 3/4" wide, highly serpentinized, minor quartz-carbonate veining	3286	tr	195.4	200.4	5.0	.003	
		200.4 to 202.7 - dark green ultramafic material composed essentially of amphibole and minor chlorite; the section is weakly carbonatized and contains 5-10% biotite, trace pyrite	3287	tr	200.4	202.7	2.4	.003	
		202.7 to 203.5 - typical, light grey, talc-rich ultramafic flows							
		203.5 to 210.0 - ultramafic flows composed mostly of amphibole and chlorite, with minor talc-rich intervals; foliated at 50° to the core axis	3288	tr	206.0	210.0	4.0	.002	
210.0	231.9	<u>Metasiltstone</u> - light grey to greyish-green cherty siltstone, as per 120.9 to 124.7 - well banded; thin chlorite bands occur frequently; boudinaged chert bands and quartz-carbonate veins also occur	3289	-	210.0	215.0	5.0	.003	
			3290	tr	223.0	228.0	5.0	.002	

LANGRANGES - TORONTO - 366-1156

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-8 SHEET NO. 7 of 10

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au GZ TON	Check GZ TON
231.9	243.2	<p>- rare disseminated pyrite; minor pyrite (+ quartz-carbonate) fracture coatings</p> <p>- occasional quartz pods between 1/2 to 1" wide</p> <p>- banding is at 50° to the core axis</p> <p><u>Metagreywacke</u></p> <p>231.9 to 236.6 - medium grained quartz-feldspar wacke, very similar in texture and composition to 163.7 to 168.5, however no magnetite porphyroblasts occur in this unit; locally coarse enough to be a matrix supported conglomerate</p> <p>- trace disseminated pyrite</p> <p>236.6 to 237.6 - intercalation of fine grained, silicified mafic volcanics; a 3" wide quartz-carbonate vein occurs in the middle of the unit (no visible sulphides); abundant biotite in the matrix</p> <p>237.6 to 243.2 - fine grained, even textured, wacke; foliated at 60° to the core axis</p> <p>- 241.3 to 243.2 - several narrow crosscutting quartz carbonate veinlets at low angle (5-15°) to the core axis</p>	3291	tr	231.9 236.6 4.7	<.001	
			3292	tr	236.6 237.6 1.0	.002	
			3293	tr	239.2 243.2 4.0	.004	
243.2	287.6	<p><u>Mafic Metavolcanics</u></p> <p>243.2 to 265.4 - medium grained, weakly silicified and carbonatized flows similar to 71.0 to 120.9</p> <p>- amphibole - chlorite - plagioclase assemblage containing small grains and stringers at quartz-carbonate; biotite content increases (up to 10%) in highly silicified sections</p>	3294	tr-1	243.2 248.2 5.0	<.001	
			3295	tr-1	248.2 253.0 4.8	<.001	
			3296	tr-2	253.0 258.0 5.0	<.001	
			3297	tr-1	258.0 263.0 5.0	.001	

ANGRIDGES - TORONTO - 366.11.68

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO SMZ-88-8 SHEET NO. 8 of 10

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au OZ TON	Check OZ TON	
					FROM	TO			TOTAL
		<ul style="list-style-type: none"> <li>- euhedral magnetite porphyroblasts are common throughout the unit (approx. 5%)</li> <li>- trace to 2% disseminated chalcopyrite and pyrite</li> <li>- massive to weakly foliated at 60° to the core axis</li> </ul>	3297	tr-1	258.0	263.0	5.0	.001	
		265.4 to 287.6 - coarse grained, massive flow; mafic minerals are almost entirely amphibole, which form in short, randomly oriented prismatic crystals; about 15% interstitial plagioclase and minor chlorite (1-2%) - biotite content increases near the lower contact (1-3%); trace disseminated chalcopyrite - randomly oriented, discontinuous quartz-carbonate veinlets occur throughout the unit; several are up to 1/2" wide and some contain trace chalcopyrite - possibly a sill - 281.8 - irregular quartz-carbonate veinlet or pod containing several small blebs and stringers of chalcopyrite up to 1/4" wide	3298	tr	266.0	271.0	5.0	.001	
			3299	tr	276.5	281.5	5.0	<.001	
			3300	tr	281.5	285.0	3.5	.001	
287.6	312.1	<u>Ultramafic Metavolcanic</u>							
		287.6 to 295.4 - light grey, weakly foliated, talc-rich ultramafic flows similar to 147.9 to 163.7 - frequent clots and small discontinuous bands of talc; serpentine occur along slickensided fracture planes - euhedral to subhedral pyrite crystals up to 1/4" wide occurs scattered throughout the unit - poorly foliated at 55° to 60° to the core axis	3301	tr	288.5	293.5	5.0	.002	

LANGRIDDGES - TORONTO - 366-1158



# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO... SMZ-88-8 SHEET NO... 9 of 10

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au OZ/TON	Check OZ/TON
		295.4 to 312.1 - medium grained, weakly foliated ultramafic flows composed mostly of dark green to black amphibole, with fine interstitial grains of serpentine + talc - 1% pyrite, as fine disseminated grains and small euhedral cubes - quartz-carbonate veining very minor - foliated at 55-65° to the core axis					
312.1	316.8	<u>Mafic Metavolcanics</u> - weakly sheared and silicified flows - thin, anastomosing bands of biotite form in fractures; discontinuous, fractured quartz-carbonate veinlets occur randomly oriented throughout the unit; brecciated wallrock occurs in several veinlets - trace disseminated pyrite - well foliated at 60° to the core axis	3304	tr	312.1 316.8 4.7	.001	
316.8	323.4	<u>Metasiltstone</u> - light grey to grey-green, well banded, cherty siltstone, as per 120.9 to 124.7 - minor crosscutting veinlets (< 1/8") oriented at 20° to the core axis - banding is at 60° to the core axis	3305	tr	316.8 321.8 5.0	.002	
323.4	347.0	<u>Metagreywacke</u> - light grey to greyish-brown, medium grained quartz feldspar wacke similar to 231.9 to 236.6 - fractures and crosscutting quartz-carbonate veinlets oriented at 30-40° to the core axis; many fractures are coated with flaky pyrite - most sections are foliated at 60° to the core axis - concordant, boudinaged quartz-carbonate veinlets are common - trace disseminated pyrite	3306	tr	323.5 327.5 4.0	.004	

LANGRISHES - TORONTO - 355-1-68

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-8 SHEET NO. 10 of 10

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au OZ TON	Check OZ TON	
					FROM	TO			TOTAL
		- 327.5 to 328.4 - quartz-carbonate vein; mostly clean, inclusion-free milky quartz with minor carbonate; no visible sulphides; oriented at 28° to the core axis	3307	-	327.5	328.5	1.0	.002	
		- 335.0 to 335.4 - thin intercalation of fine grained mafic volcanics	3308	tr	330.8	335.8	5.0	<.001	
		- 338.8 to 339.3 - several 1/4 to 1/2" concordant bands of biotite schist; two small quartz pods also occur in this section	3309	tr	338.5	343.5	5.0	.005	
347.0		END OF HOLE							

ANGRIDGES - TORONTO - 366-1-58

*J. Adams*

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-9 LENGTH 396'  
 LOCATION 36+00W, 18+00S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180<sup>0</sup> DIP -45<sup>0</sup>  
 STARTED February 7, 1988 FINISHED February 8, 1988

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200'	-44 <sup>0</sup>				
396'	-40.5 <sup>0</sup>				

HOLE NO. SMZ-88-9 SHEET NO. 1 of 1

REMARKS Claim #Pa 861524

Summary Log

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	OZ/TON	CHECK OZ/TON
					FROM	TO	TOTAL				
0	26.3	<u>Casing</u>									
26.3	110.8	<u>Mafic Metavolcanics</u>									
110.8	126.5	<u>Arenite - 1-2% pyrite</u>									
126.5	159.9	<u>Metagreywacke</u> - intruded by several narrow granitic dikes									
159.9	174.4	<u>Mafic Metavolcanics</u> - sheared; trace pyrite, rare molybdenite									
174.4	192.6	<u>Metagreywacke</u>									
192.6	195.2	<u>Loss of Core</u>									
195.2	396.0	<u>Granitic Intrusive</u>									
	396.0	<u>End of Hole</u>									

LANGRANGES - \*DEFON TO - 386-1162

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-10 LENGTH 396'  
 LOCATION 36+00W, 18+00S  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -45°  
 STARTED February 7, 1988 FINISHED February 8, 1988

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
200'	-44°				
396'	-40.5°				

HOLE NO. SMZ-88-9 SHEET NO. 1 of 6

REMARKS Claim #Pa 861524

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	26.3	<u>Casing</u>									
26.3	110.8	<u>Mafic Metavolcanics</u> - dark green, fine grained, massive to weakly foliated flows  Average Modes Amphibole           70-80% Plagioclase         15-20% Chlorite             1-5% Quartz                1-3% Biotite               0-2% Carbonate            1-2% Sulphide             trace  - predominantly fine grained amphibole and plagioclase with minor quartz; chlorite forms along fracture surfaces and in quartz carbonate veins; biotite occurs locally, usually adjacent to granitic dikes - quartz-carbonate veinlets are fairly common throughout the unit; roughly equal proportions of concordant and crosscutting veinlets - zero to trace disseminated pyrite and chalcopyrite; trace sulphide occurs in some quartz-carbonate veinlets - 29.0 - foliation is at 70° to the core axis - 33.1 to 33.9 - narrow intercalation of light grey, fine grained metagreywacke; framework composed mostly of quartz with lesser feldspar, matrix contains abundant biotite	3310	tr	28.1	33.1	5.0			.001	

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-9 SHEET NO. 2 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS						
FROM	TO		NO	SUI PH IDES	FOOTAGE		Au OZ TON	Check OZ TON				
					FROM	TO			TOTAL			
110.8	126.5	- 49.1 to 51.1 - medium grained granitic dike; mostly quartz with minor orthoclase and biotite; limonite stain on fracture surfaces; mafics above the dike are highly biotitic - 59.9 to 60.4 - granitic dike, as per above  - 76.0 - very weak foliation at 80° to the core axis - 83.2 to 84.0 - granitic dike, similar to above (higher percentage of orthoclase); 1% disseminated pyrite - 91.7 to 93.7 - several subconcordant quartz-carbonate veins carrying trace pyrite occur in this interval; a 6" wide vein occurs at 93.0 to 93.5 - 108.1 to 110.7 - quartz-carbonate veinlets (1/4 to 1/2") containing small blebs of pyrrhotite	3311	tr	38.0	43.0	5.0	.001				
			3312	tr	48.3	53.3	5.0	.001				
			3313	tr	59.0	64.0	5.0	.001				
			3314	tr	69.0	74.0	5.0	.003				
			3315	tr	77.5	82.5	5.0	.003				
			3316	tr-1	82.5	84.7	2.2	.002				
			3317	tr-1	91.5	96.0	4.5	.006				
			3318	tr	96.0	100.5	4.5	.003				
			3391	tr	100.5	105.8	5.3	.002				
			3319	tr	105.8	110.8	5.0	.003				
			126.5	159.9	<u>Arenite</u> - light to medium grey, fine grained quartz-feldspathic arenite - the unit is well fractured; thin, randomly oriented fractures are often lined with chlorite and fine grained or flaky pyrite (+ quartz-carbonate); disseminated pyrite also occurs - quartz pods and lenses up to 1" wide are common; several contain disseminated pyrite - 122.6 - S-folded quartz vein (1/2" wide) containing fine grained pyrrhotite in the fold noses	3320	1-2	110.8	115.8	5.0	.001	
						3321	1-2	115.8	120.8	5.0	.002	
						3322	1-2	120.8	125.8	5.0	.001	
			126.5	159.9	<u>Metagreywacke</u> - light to medium grey, medium grained, poorly foliated							

LANGRISHES - TORONTO - 366-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-9 SHEET NO. 3 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au g/TON	Check g/TON
		Average Modes Framework 70%      Matrix 30% Quartz 75%          Biotite 60% Feldspar 25%        Chlorite 40% Sulphides - trace to 1%					
		- most of the unit has undergone shearing; the degree of shearing sharply increases towards the bottom of the unit					
		- numerous felsic and intermediate intrusive dikes occur, ranging in size from 1" to 1' wide; many contain disseminated pyrite					
		- quartz-carbonate veinlets and small pods of milky quartz are common; most contain minor pyrite					
		- stringers and small blebs of pyrite occur throughout the sediments (well fractured)					
		- 127.1 - 1" wide greenish-white quartz-feldspar porphyry dikelet containing small grains of pyrrhotite	3323	tr	125.8 129.5 3.7	.001	
		- 129.5 to 131.1 - granitic dike, no visible sulphides	3324	tr-1	129.5 134.5 5.0	.002	
		- 135.3 to 137.0 - granitic dike; no visible sulphides	3325	tr-1	134.5 139.5 5.0	.003	
			3326	tr-1	139.5 144.5 5.0	.002	
		- 146.5 to 152.4 - sediments locally display highly contorted bedding	3327	tr-1	144.5 148.5 4.0	.003	
			3328	tr-1	148.5 152.4 3.9	.001	
		- 152.4 to 154.6 - granitic dike; approximately 70% quartz, 20% K-feldspar and 10% biotite; minor chlorite along fractures	3329	-	152.4 154.6 2.2	.003	
		- 159.5 to 159.8 - narrow granitic dike at contact; trace pyrite	3330	tr	154.6 159.6 5.0	.001	

LANGRAGES - TORONTO - 356-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-88-9 SHEET NO: 4 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS									
FROM	TO		NO	SULPHIDES	FOOTAGE FROM TO TOTAL	Au OZ TON	Check OZ TON								
159.9	174.4	<p><u>Mafic Metavolcanics</u></p> <ul style="list-style-type: none"> <li>- medium to dark green, fine grained, well foliated (sheared) at 55-65° to the core axis</li> </ul> <p>Average Modes</p> <table> <tr> <td>Amphibole</td> <td>60-70%</td> </tr> <tr> <td>Chlorite</td> <td>25-35%</td> </tr> <tr> <td>Biotite</td> <td>2-5%</td> </tr> <tr> <td>Sulphides</td> <td>trace</td> </tr> </table> <ul style="list-style-type: none"> <li>- well foliated schist consisting of fine prismatic crystals of actinolite-tremolite, chlorite, and minor biotite</li> <li>- trace disseminated pyrite and rare molybdenite</li> <li>- entire unit is weakly carbonatized (finely disseminated carbonate, discrete veinlets are rare)</li> <li>- several small sections of highly incompetent clayey, schistose material</li> <li>- 166.0 to 174.4 - core recovery about 70%</li> <li>- 174.0 - foliated at 70° to the core axis</li> </ul>	Amphibole	60-70%	Chlorite	25-35%	Biotite	2-5%	Sulphides	trace	3331	tr	159.6 164.6 5.0	.002	
Amphibole	60-70%														
Chlorite	25-35%														
Biotite	2-5%														
Sulphides	trace														
			3392	tr	164.6 171.9 7.3	.002									
			3332	tr	171.9 174.4 2.5	.001									
174.4	192.6	<p><u>Metagreywacke</u></p> <ul style="list-style-type: none"> <li>- light to medium grey, medium grained, poorly foliated wacke, as per 126.5 to 159.9</li> <li>- well fractured with several highly sheared intervals, most fractures contain minor pyrite</li> <li>- broad folding occurs throughout the unit</li> <li>- 175.0 - foliated at 35° to the core axis</li> <li>- 177.0 - foliated at 50° to the core axis</li> <li>- 177.8 to 178.7 - several quartz pods (1/2 to 1" wide): trace disseminated pyrite</li> <li>- 180.0 - foliated at 35° to the core axis</li> </ul>	3333	tr	174.4 179.0 4.6	.001									

LANGRISHES - TORONTO - 366-1188

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-88-9 SHEET NO: 5 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au G/TON	Check G/TON	
					FROM	TO			TOTAL
		- 182.7 to 183.2 - highly sheared section; incompetent brecciated material, some sections infilled with green clay	3334	tr	179.0	184.0	5.0	.001	
		- 186.9 to 187.8 - numerous closely spaced fractures and narrow clay seams oriented at roughly 50° to the core axis; foliation appears to approximately parallel to the core axis	3335	tr	184.0	189.0	5.0	<.001	
		- 191.2 to 192.6 - highly fractured, blocky core; several narrow clay seams	3336	tr	189.0	192.6	3.6	.002	
192.6	195.2	<u>Loss of Core</u> - possibly a highly sheared clay seam which washed away during drilling							
195.2	396.0	<u>Granitic Intrusive</u> - mostly light grey, occasionally light pink, medium grained, mostly massive and equigranular	3337	-	195.2	200.2	5.0	.002	
			3338	-	204.0	209.0	5.0	.002	
			3339	-	213.0	218.0	5.0	.001	
		Average Modes Quartz 50-70% Orthoclase 10-30% Plagioclase 5-10% Biotite 3-10% Sericite 1-4% Muscovite trace to 3%							
		- predominantly medium grained granite, grading into granodiorite in several places - several sections with fine anastomosing, sericite bands show a weak foliation - minor quartz veining							

LANGRIDDIES - TORONTO - 366.1.68



# DIAMOND DRILL RECORD

NAME OF PROPERTY... Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-9 SHEET NO. 6 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SHIP IDES	FOOTAGE		Au OZ TON	Check OZ TON	
					FROM	TO			TOTAL
		- 231.0 to 233.8 - thin sericite bands throughout this section; weak foliation at 70° to the core axis; thin bands of brick red hematite also occur	3340	-	230.5	235.5	5.0	<.001	
		- 257.7 to 261.1 - thin, crosscutting quartz-carbonate stringers containing abundant hematite (0 to 10° to core axis); sericite is also common throughout this interval	3341	-	241.0	246.0	5.0	.001	
			3342	-	252.0	257.0	5.0	.001	
			3343	-	257.0	261.5	4.5	.001	
			3344	-	271.0	276.0	5.0	<.001	
			3345	-	284.0	289.0	5.0	.001	
		- 300.0 to 304.0 - several quartz-carbonate veinlets running nearly parallel to the core axis	3346	-	299.0	304.0	5.0	.002	
			3347	-	310.0	315.0	5.0	.001	
			3348	-	322.0	327.0	5.0	.002	
		- 335.0 to 336.5 - trace to 1% disseminated pyrite	3349	tr	334.5	337.5	3.0	.002	
		- 341.0 to 346.0 - several sections of blocky, broken core; fractures are coated with a thin layer of green clay	3350	tr	341.0	346.0	5.0	.001	
		- 358.2 to 360.2 - blocky, broken core; two narrow (1/4") clay seams	3351	-	357.0	362.0	5.0	<.001	
			3352	-	370.0	375.0	5.0	.001	
		- 376.0 - quartz-tourmaline vein, 1/8" wide, oriented at 60° to the core axis	3353	-	375.0	380.0	5.0	.002	
		- 378.2 - quartz-carbonate-hematite veinlet, 3/4" wide; trace pyrite	3354	-	386.0	391.0	5.0	<.001	
			3355	-	391.0	396.0	5.0	<.001	
396.0		END OF HOLE							

*J. Williams*

LANGRIDDGES - TORONTO - 366-1182

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-10 LENGTH 407'  
 LOCATION 24+00W, 12+00N  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -55°  
 STARTED February 7, 1988 FINISHED February 9, 1988

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
217'	-55°				
407'	-53°				

HOLE NO. SMZ-88-10 SHEET NO. 1 of 1  
 REMARKS Claim #Pa 861513  
Summary Log  
 LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION SUMMARY LOG	SAMPLE				ASSAYS				
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON
					FROM	TO	TOTAL				
0	190.8	<u>Casing</u>									
190.8	253.3	<u>Banded Iron Formation</u> - chert - magnetite + grunerite - 2 to 5% pyrite, trace to 2% pyrrhotite 205.8 to 208.9 - graphitic argillite 222.5 to 226.2 - intercalated wacke and siltstone									
253.3	259.9	<u>Metasiltstone</u>									
259.9	271.1	<u>Metagreywacke</u>									
271.1	281.4	<u>Metaconglomerate</u>									
281.4	287.2	<u>Interbedded Metasiltstone and Metagreywacke</u>									
287.2	291.7	<u>Interbedded Chert and Mafic Tuff</u>									
291.7	407.0	<u>Mafic Metavolcanics</u> 315.1 to 315.8 - iron formation, trace to 1% pyrrhotite, chalcopyrite									

LANGRIDGES - TORONTO - 365-1152

# DIAMOND DRILL RECORD

NAME OF PROPERTY Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-10 LENGTH 407'  
 LOCATION 24100W, 12100N  
 LATITUDE \_\_\_\_\_ DEPARTURE \_\_\_\_\_  
 ELEVATION \_\_\_\_\_ AZIMUTH 180° DIP -55°  
 STARTED February 7, 1988 FINISHED February 9, 1988

FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
217'	-55°				
407'	-53°				

HOLE NO. SMZ-88-10 SHEET NO. 1 of 6  
 REMARKS Claim # Pa 861513

LOGGED BY Eric Timoshenko

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS					
FROM	TO		NO.	% SULPHIDES	FOOTAGE			%	%	Au OZ/TON	Check OZ/TON	
					FROM	TO	TOTAL					
0	190.8	<u>Casing</u>										
190.8	253.3	<u>Banded Iron Formation</u>  - oxide facies iron formation (banded chert - magnetite + grunerite) interbanded with actinolite - chlorite schist (possible tuff bands) and minor graphitic argillite  Average Modes  <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <u>Bands</u>                              Chert 40-60%                              Magnetite 15-20%                              Grunerite 15-25%                              Actinolite+Chlorite 10-15%                              Argillite 2-5%                         </td> <td style="width: 50%; border: none;"> <u>Accessories</u>                              Pyrite 2-5%                              Pyrrhotite trace to 2%                              Carbonate 2-3%                         </td> </tr> </table> - discontinuous, irregular and anastomosing bands of magnetite and grunerite are interbanded with generally wider actinolite - chlorite bands and boudinaged chert; band width varies greatly over the section (usually 1/8 to 1/2") - several highly brecciated intervals; shear fractures are common with minor displacement of bands - frequent crosscutting quartz-carbonate veinlets (most 1/4" wide) oriented at high angles to the core axis (60-80°)	<u>Bands</u> Chert 40-60% Magnetite 15-20% Grunerite 15-25% Actinolite+Chlorite 10-15% Argillite 2-5%	<u>Accessories</u> Pyrite 2-5% Pyrrhotite trace to 2% Carbonate 2-3%								
<u>Bands</u> Chert 40-60% Magnetite 15-20% Grunerite 15-25% Actinolite+Chlorite 10-15% Argillite 2-5%	<u>Accessories</u> Pyrite 2-5% Pyrrhotite trace to 2% Carbonate 2-3%											

LANGRIDGE - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO. SMZ-88-10 SHEET NO. 2 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS		
FROM	TO		NO	SULPHIDES	FOOTAGE		Au OZ TON	Check OZ TON
					FROM	TO		
		- sulphide mineralization consists mainly of pyrite with lesser pyrrhotite; vuggy blebs and stringers up to 1/2" wide, mostly concordant or subconcordant						
190.8	205.8	- highly gruneritic; poorly banded section, minor sulphide mineralization (trace to 1%)	3393	tr	190.8	194.4	3.6	.002
		- 190.8 to 196.3 - highly contorted banding; predominant banding angle is between 20-30° to the core axis						
		- 194.4 to 196.3 - several crosscutting quartz-carbonate veinlets carrying trace sulphide	3356	tr	194.4	196.6	2.2	<.001
		- 198.6 to 199.1 - heavily brecciated section; very small stringers and blebs of pyrrhotite	3357	tr	196.6	201.0	4.4	.001
		- 201.0 to 205.0 - banded at 30-35° to the core axis	3358	tr	201.0	205.8	4.8	.002
205.8	208.9	- dark grey to black graphitic argillite; gradational contacts; the unit contains mm size, concordant quartz-carbonate veinlets and fine pyrrhotite stringers (trace to 1% sulphide); bedding is at 40° to the core axis	3359	tr	205.8	208.9	3.1	.001
208.9	222.5	- this interval is more uniformly banded with a lower abundance of grunerite (approx. 15%); wide chert bands (1/2 to 2"), nearly all of which are boudinaged; trace to 2% sulphide	3360	tr-2	208.9	213.0	4.1	.002
		- entire section is banded at 50° to the core axis	3361	tr-2	213.0	217.6	4.6	.001
		- 217.6 to 222.5 - several brecciated sections (2-6" wide)	3362	tr-2	217.6	222.5	4.9	.001
222.5	226.2	- intercalation of clastic sediments; mostly siltstones with minor fine grained wacke; trace sulphide	3363	tr	222.5	226.2	3.7	<.001

LANGRIDGE - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-88-10 SHEET NO: 3 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		ID	SULPHIDES	FOOTAGE		Au OZ TON	Check OZ TON	
					FROM	TO			TOTAL
		226.2 to 234.3 - as per 208.9 to 222.5, with fairly uniform banding, boudinaged chert, 5-10% grunerite and trace to 2% sulphide; actinolite - chlorite bands are more frequent and wider (up to 3") in the interval - banded at 45-50° to the core axis	3364	tr-2	226.2	230.2	4.0	.001	
			3365	tr-2	230.2	234.3	4.1	.002	
		234.3 to 253.3 - similar to above; actinolite - chlorite bands are well mineralized, mostly with pyrite (3-10% sulphide throughout this interval); pyrite stringers (1/2" to 1" wide) are mostly concordant and contain numerous small vugs - disseminated sulphide and small stringers occur in the chert bands - majority of the section is banded at 45° to the core axis	3366	5	234.3	239.2	4.9	.002	
			3367	5-10	239.2	244.0	4.8	.001	
			3368	5-10	244.0	249.0	5.0	<.001	
			3369	5	249.0	253.3	4.3	.002	
253.3	259.9	<u>Metasiltstone</u> - grey-green, very fine grained, well foliated siltstone - composed essentially of very fine grained felsic material (dominated by quartz) and fine grained chlorite; minor quartz veining - foliated at 50° to the core axis - gradational into lower wacke unit	3370	-	253.3	258.3	5.0	.001	
259.9	271.1	<u>Metagreywacke</u> - grey-green, fine to medium grained, moderately well foliated wacke (framework 20%, matrix 80%) - similar to the above siltstone, except coarser grained; framework consists mostly of quartz, in a matrix of chlorite and biotite - quartz-carbonate veining is very minor; small concordant veinlets and pods - no visible sulphides	3371	-	263.0	268.0	5.0	<.001	

LANGPAGES - TORONTO - 366-1168

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO.: SMZ-88-10 SHEET NO.: 4 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au	Check	
					FROM	TO			TOTAL
271.1	281.4	<p>- foliated at 45° to the core axis                      - gradational into lower conglomerate unit</p> <p><u>Metaconglomerate</u></p> <p>- matrix supported conglomerate consisting of subangular to rounded quartz pebbles (15-20%) in a matrix composed mainly of biotite with lesser fine grained felsic minerals and chlorite</p> <p>Average Modes                      Framework (15-20%)                      Quartz 100%</p> <p>Matrix (80-85%)                      Biotite 60-70%                      Felsics 15-20%                      Chlorite 15-20%</p> <p>- quartz-carbonate veining minor, mostly small (approx. 1/8") crosscutting veinlets                      - no visible sulphides                      - several rectangular clasts occur which could be plagioclase, indicating that this unit may be a highly sheared mafic intrusive; no alteration occurs at contacts                      - foliated at 50° to the core axis</p>	3372	-	271.9	276.9	5.0	.002	
281.4	287.2	<p><u>Interbedded Metasiltstone and Metagreywacke</u></p> <p>- mostly wacke with narrow interbeds of siltstone, descriptions as per above                      - minor interbedded chert; chert bands often contain pyrrhotite and pyrite stringers                      - foliated at 45° to the core axis                      - 282.0 to 282.5 - concordant milky quartz vein; minor carbonate; chloritic inclusions; no visible sulphides                      - 284.3 - narrow concordant stringers and small blebs of pyrite in a cherty siltstone</p>	3373	tr	281.4	285.4	4.0	.001	

LANGRIDGE - "GROUNTO" - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-88-10 SHEET NO: 5 of 6

FOOTAGE		DESCRIPTION	SAMPLE				ASSAYS	
FROM	TO		NO	SULPHIDES	FOOTAGE		Au 0.7 TON	check 0.2 TON
					FROM	TO		
287.2	291.7	<p><u>Interbedded Chert and Mafic Tuff</u></p> <ul style="list-style-type: none"> <li>- gradational upper contact; interbedded cherty siltstone and chlorite tuff near the top of the interval; chert bands become more prominent lower in the section</li> <li>- concordant to subconcordant pyrite stringers, several up to 1/4" wide; occur throughout the unit; minor fine grained pyrrhotite also occurs</li> <li>- 290.4 to 291.7 - brecciated chert; brown chert fragments in a chloritic matrix containing several small quartz-carbonate stringers; trace sulphide</li> </ul>	3374	tr	287.2	291.7	4.5	.002
291.7	407.0	<p><u>Mafic Metavolcanics</u></p> <ul style="list-style-type: none"> <li>-predominantly dark green, fine grained well foliated mafic tuff (chlorite schist) with minor fine grained flows; varying degrees of silicification throughout the unit</li> </ul> <p>Average Modes</p> <ul style="list-style-type: none"> <li>Chlorite 60-85%</li> <li>Amphibole 5-10%</li> <li>Biotite 5-10%</li> <li>Plagioclase 0-15%</li> <li>Chert 0-5%</li> <li>Quartz+Carbonate 2-5%</li> <li>Sulphide trace</li> </ul> <ul style="list-style-type: none"> <li>- most of the unit is weakly silicified and carbonatized; several sections of pervasive silicification occur, with numerous concordant to subconcordant veinlets in a highly biotitic matrix</li> <li>- minor chert bands occur, interbedded with tuffaceous volcanics</li> <li>- trace disseminated pyrite and chalcopyrite</li> </ul>	3375	tr	291.7	296.0	4.3	.002
			3376	tr	300.0	304.5	4.5	.001

LANGFORDS - TORONTO - 366-1158

# DIAMOND DRILL RECORD

NAME OF PROPERTY: Santa Maria Zeemel Lake  
 HOLE NO: SMZ-88-10 SHEET NO: 6 of 6

FOOTAGE		DESCRIPTION	SAMPLE			ASSAYS			
FROM	TO		NO	SULPHIDES	FOOTAGE		Au 07 TON	Check 02 TON	
					FROM	TO			TOTAL
		- 304.5 to 308.1 - weakly silicified interval; 10-20% biotite in the matrix; foliated at 45° to the core axis	3377	tr	304.5	308.1	3.6	<.001	
		- 310.7 to 315.1 - weakly silicified, highly biotitic interval, as per above	3378	tr	310.7	315.1	4.4	.001	
		- 315.1 to 315.8 - weakly banded iron formation consisting of dark green, very fine grained, magnetite-rich, argillaceous material, trace to 1% disseminated pyrrhotite and chalcopyrite; banded at 40° to the core axis; several small garnets occur at both contacts	3379	tr-1	315.1	316.1	1.0	.001	
		- 320.8 to 321.0 - highly garnetiferous band of pelitic sediment	3380	tr	320.7	325.7	5.0	.002	
		- 329.0 - crosscutting quartz-carbonate veinlet containing several small chalcopyrite blebs							
		- 329.8 to 330.1 - concordant quartz-carbonate vein; chloritic inclusions, no visible sulphides	3381	tr	328.8	331.3	2.5	.001	
		- 337.4 to 342.4 - several 1/4 to 1/2" wide chert bands occur interbedded with tuffaceous volcanics in this interval	3382	tr	337.4	342.4	5.0	.002	
		- 348.0 - foliated at 35° to the core axis	3383	tr	348.9	353.9	5.0	.002	
		- 358.2 to 367.1 - boundinaged and brecciated chert bands up to 1" wide occur throughout this section; minor pyrrhotite stringers	3384	tr	358.2	362.2	4.0	.002	
			3385	tr	362.2	367.2	5.0	.002	
		- 361.0 - foliated at 25° to the core axis	3386	tr	367.2	372.2	5.0	.001	
		- 367.1 to 384.0 - several highly silicified sections and many small chert bands occur in this interval	3387	tr	372.2	377.2	5.0	.002	
		- 378.0 - foliated at 48° to the core axis	3388	tr	377.2	382.2	5.0	<.001	
			3389	tr	388.0	393.0	5.0	<.001	
		- 403.0 - foliated at 42° to the core axis	3390	tr	402.0	407.0	5.0	<.001	
407.0		END OF HOLE							

LANGRISHES - TORONTO - 366-1168

*J. Adams*



APPENDIX D  
ASSAY CERTIFICATES

APPENDIX C  
LEGEND AND DIAMOND DRILL SECTIONS

# LEGEND FOR DIAMOND DRILL HOLE SECTIONS ZEEMEL LAKE PROPERTY

Pickle Lake Area, Patricia M.D., Ontario

q.v.,c.v. Quartz/carbonate veins

8 Intermediate and felsic intrusives

- 8a Granite
- 8b Diorite
- 8c Granite gneiss
- 8d Porphyry, quartz/feldspar

7 Mafic to ultramafic intrusives

- 7a Gabbro, diabase
- 7b Peridotite

6 Iron formation

- 6a Oxide facies
- 6b Carbonate facies
- 6c Silicate facies
- 6d Sulphide facies

5 Clastic sediments

- 5a Wacke
- 5b Mudstone, argillite
- 5c Siltstone

4 Felsic volcanics

- 4a Flows
- 4b Tuff, lapilli tuff
- 4c Breccia, agglomerate

3 Intermediate volcanics

- 3a Flows
- 3b Tuff, lapilli tuff
- 3c Breccia, agglomerate

2 Mafic volcanics

- 2a Flows
- 2b Tuff, lapilli tuff
- 2c Breccia, agglomerate
- 2d Amphibolite

1 Ultramafic volcanics

## SYMBOLS

Geological contact.....	
Bedding.....	
Foliation.....	
Fault, shear zone.....	
Sample interval (feet) with gold assay in ounces per ton.....	
Lost core.....	

## Alteration

si -	silicification
se -	sericitization
ch -	chloritization
ca -	carbonatization
bx -	brecciated
shr -	sheared

## Mineralization

s -	sulphides
po -	pyrrhotite
py -	pyrite
cp -	chalcopyrite
as -	arsenopyrite
sp -	sphalerite
ga -	galena
mo -	molybdenite
gf -	graphite
tour -	tourmaline
mt -	magnetite
qtz -	quartz
bte -	biotite

*J. W. Davidson*

Fig. 5



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. MI-1817/6763

Date: September 17, 1987

Received \_\_\_\_\_ 28 Samples of Rock

Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
Santa Maria Resources Ltd. c.c. Mr. G. G. Plaskett  
c.c. Mr. B. A. Huston

Project: ZEEMEL LAKE

Sample No.	Au oz/ton	Sample No.	Au oz/ton
19001	.002	19021	.002
19002	.002	19022	.004
19003	.001	19023	.003
19004	.002	19024	.003
19005	.001	19025	<.001
19006	.001	19026	<.001
19007	.001	19027	<.001
19008	.001	19028	.001
19009	.001		
19010	.002		
19011	.002		
19012	.002		
19013	.002		
19014	.002		
19015	.001		
19016	<.001		
19017	.001		
19018	.001		
19019	.002		
19020	.001		

Date Rec'd	<u>9/21/87</u>
To: H.J.H.	.....
J.H.A.	.....
J.M.H.	.....
File:	.....
	.....
	.....

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. MI-1824/6786

Date: September 22, 1987

Received 48 Samples of Drill Core

Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
"Santa Maria Resources" c.c. Mr. G. G. Plaskett

Project: ZEEMEL c.c. Mr. B. A. Huston

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
19029	.007	19049	<.001	19069	<.001
19030	.001	19050	<.001	19070	<.001
19031	<.001	19051	<.001	19071	.001
19032	.001	19052	<.001	19072	.001
19033	.001	19053	<.001	19073	.002
19034	<.001	19054	<.001	19074	.002
19035	<.001	19055	<.001	19075	.002
19036	.001	19056	<.001	19076	.004
19037	.001	19057	<.001		
19038	<.001	19058	<.001		
19039	<.001	19059	<.001		
19040	<.001	19060	.001		
19041	<.001	19061	.001		
19042	<.001	19062	<.001		
19043	.001	19063	<.001		
19044	.001	19064	<.001		
19045	<.001	19065	<.001		
19046	<.001	19066	<.001		
19047	<.001	19067	<.001		
19048	<.001	19068	<.001		

ASSAYERS (ONTARIO) LIMITED

Per 

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-01/6804 Date: September 24, 1987

Received \_\_\_\_\_ 48 Samples of Drill Core

Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
"SANTA MARIA RESOURCES" c.c. Mr. B. A. Huston  
c.c. Mr. G. G. Plaskett

Project: ZEEMEL

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
19077	.002	19097	.001	19118	.002
19078	<.001	19089	.014	19119	.007
19079	<.001	19100	.001	19120	.008
19080	<.001	19101	<.001	19121	.015
19081	<.001	19102	<.001	19122	.009
19082	<.001	19103	<.001	19123	.008
19083	.001	19104	<.001	19124	.007
19084	<.001	19105	<.001	19187	.009
19085	<.001	19106	<.001		
19086	<.001	19107	<.001		
19087	.002	19108	.001		
19088	.56 (.52)	19109	.001		
19089	.010	19110	.002		
19090	.002	19111	.001		
19091	.001	19112	.001		
19092	<.001	19113	.001		
19093	.001	19114	.001		
19094	.001	19115	<.001		
19095	.001	19116	.001		
19096	.001	19117	.002		

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Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-03/6819 Date: September 28, 1987  
Received Sept. 18/87 63 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
"SANTA MARIA RESOURCES" c.c. Mr. G. G. Plaskett  
c.c. Mr. B. A. Huston

Project: ZEEMEL

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
19125	.002	19146	.001	19167	.001
19126	.001	19147	.001	19168	.001
19127	<.001	19148	.002	19169	.009
19128	.002	19149	.001	19170	.001
19129	.001	19150	.002	19171	.001
19130	.001	19151	.002	19172	.019
19131	.002	19152	.001	19173	.010
19132	.001	19153	.002	19174	.005
19133	.002	19154	.002	19175	.001
19134	.001	19155	.001	19176	<.001
19135	.002	19156	.001	19177	<.001
19136	.001	19157	<.001	19178	.001
19137	.001	19158	.001	19179	<.001
19138	.002	19159	<.001	19180	<.001
19139	.001	19160	.001	19181	.001
19140	<.001	19161	<.001	19182	.001
19141	.001	19162	.001	19183	<.001
19142	.002	19163	<.001	19184	<.001
19143	.001	19164	.001	19185	<.001
19144	.001	19165	.001	19186	<.001
19145	.001	19166	.001	19282	.001

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Per

  
J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-04/01/6819 Date: September 28, 1987  
 Received Sept. 21/87 96 Samples of Drill Core  
 Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
"SANTA MARIA RESOURCES" c.c. Mr. G. G. Plaskett  
 c.c. Mr. B. A. Huston

Project: ZEEMEL

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
19188	.001	19208	.001	19228	.001
19189	.001	19209	.001	19229	.001
19190	<.001	19210	<.001	19230	.001
19191	<.001	19211	.001	19231	.001
19192	<.001	19212	<.001	19232	.001
19193	<.001	19213	.001	19233	.001
19194	<.001	19214	<.001	19234	.001
19195	.001	19215	<.001	19235	.002
19196	.001	19216	<.001	19236	.001
19197	<.001	19217	.001	19237	<.001
19198	<.001	19218	<.001	19238	.001
19199	.001	19219	<.001	19239	.001
19200	.001	19220	.001	19240	.001
19201	<.001	19221	.001	19241	.001
19202	.001	19222	.001	19242	.001
19203	<.001	19223	.001	19243	<.001
19204	.001	19224	.001	19244	.001
19205	.001	19225	.001	19245	.001
19206	.001	19226	<.001	19246	<.001
19207	<.001	19227	.001	19247	.001

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.





# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GE0-04/02/6819 Date: September 28, 1987  
Received Sept. 21/87 96 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
"SANTA MARIA RESOURCES" c.c. Mr. G. G. Plaskett  
c.c. Mr. B. A. Huston

Project: ZEEMEL

Sample No.	Au oz/ton	Sample No.	Au oz/ton
19248	.001	19267	<.001
19249	<.001	19268	.001
19250	<.001	19269	.001
19251	<.001	19270	.001
19252	<.001	19271	.001
19253	<.001	19272	.002
19254	<.001	19273	.001
19255	.001	19274	.001
19256	.001	19275	.001
19257	<.001	19276	.001
19258	<.001	19277	<.001
19259	<.001	19278	.001
19260	<.001	19279	<.001
19261	.001	19280	<.001
19262	.001	19281	.001
19263	<.001		
19264	.002		
19265	<.001		
19266	<.001		
19267	<.001		

ASSAYERS (ONTARIO) LIMITED

Per 



# ASSAYERS (ONTARIO) LIMITED

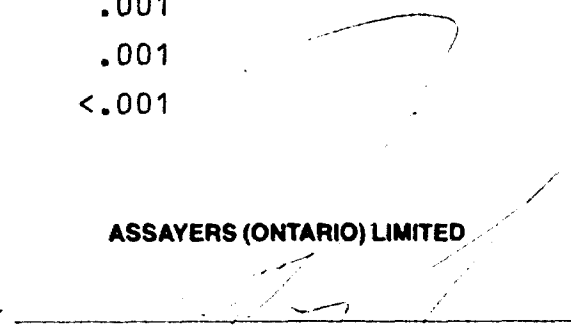
33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-07/6883 Date: October 7, 1987  
Received Sept. 25/87 55 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
19379	.001	19399	<.001	19419	<.001
19380	<.001	19400	<.001	19420	.001
19381	<.001	19401	<.001	19421	.001
19382	<.001	19402	<.001	19422	.001
19383	<.001	19403	<.001	19423	.003
19384	<.001	19404	<.001	19424	.002
19385	<.001	19405	<.001	19425	.002
19386	<.001	19406	<.001	19426	.003
19387	.001	19407	.001	19427	.002
19388	.001	19408	.001	19428	.002
19389	<.001	19409	.001	19429	.001
19390	<.001	19410	.001	19430	<.001
19391	.001	19411	.002	19431	<.001
19392	<.001	19412	<.001	19432	.001
19393	<.001	19413	.001	19433	.002
19394	<.001	19414	<.001		
19395	<.001	19415	.001		
19396	.001	19416	.001		
19397	.001	19417	.001		
19398	<.001	19418	<.001		

ASSAYERS (ONTARIO) LIMITED

Per 

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GE0-08/6883 Date: October 7, 1987  
Received Oct. 5/87 61 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. A. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
19434	.001	19454	.003	19474	.003
19435	.002	19455	.002	19475	.003
19436	.001	19456	.001	19476	.002
19437	.001	19457	.001	19477	.002
19438	<.001	19458	.001	19478	.001
19439	.001	19459	.002	19479	.003
19440	.001	19460	.002	19480	.001
19441	.001	19461	.001	19481	.001
19442	<.001	19462	.001	19482	.001
19443	<.001	19463	<.001	19483	<.001
19444	.001	19464	.002	19484	.001
19445	.001	19465	.002	19485	<.001
19446	.001	19466	.002	19486	.001
19447	<.001	19467	.002	19487	.001
19448	<.001	19468	.001	19488	.001
19449	.001	19469	.001	19489	.001
19450	.001	19470	.001	19490	.001
19451	.001	19471	.003	19491	<.001
19452	.002	19472	.003	19492	.001
19453	.003	19473	.003	19493	.001
				19494	.001

ASSAYERS (ONTARIO) LIMITED

Per J. van Engelen

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-05/6883 Date: October 7, 1987  
Received Sept. 30/87 63 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. A. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
19495	.001	19516	<.001	19537	<.001
19496	<.001	19517	<.001	19538	<.001
19497	<.001	19518	<.001	19539	<.001
19498	<.001	19519	<.001	19540	<.001
19499	<.001	19520	<.001	19541	<.001
19500	<.001	19521	<.001	19542	<.001
19501	<.001	19522	<.001	19543	<.001
19502	<.001	19523	<.001	19544	<.001
19503	<.001	19524	<.001	19545	<.001
19504	<.001	19525	<.001	19546	<.001
19505	<.001	19526	<.001	19547	<.001
19506	<.001	19527	<.001	19548	<.001
19507	<.001	19528	<.001	19549	<.001
19508	<.001	19529	<.001	19550	<.001
19509	<.001	19530	<.001	19551	<.001
19510	<.001	19531	<.001	19552	<.001
19511	.001	19532	<.001	19553	<.001
19512	<.001	19533	<.001	19554	<.001
19513	<.001	19534	<.001	19555	<.001
19514	<.001	19535	<.001	19556	<.001
19515	<.001	19536	<.001	19557	<.001

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-09/02/6895 Date: October 9, 1987  
Received Oct. 5/87 96 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton
19343	.001	19363	.002
19344	.001	19364	.002
19345	.001	19365	<.001
19346	<.001	19366	.001
19347	.001	19367	.001
19348	.001	19368	<.001
19349	.002	19369	<.001
19350	.001	19370	<.001
19351	<.001	19371	.001
19352	<.001	19372	<.001
19353	.001	19373	<.001
19354	.002	19374	.001
19355	.002	19375	<.001
19356	.003	19376	<.001
19357	.002	19377	<.001
19358	.003	19378	<.001
19359	.002		
19360	.001		
19361	.002		
19362	.004		

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

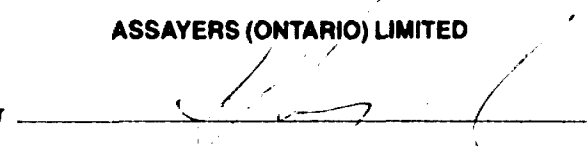
33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-09/01/6895 Date: October 9, 1987  
Received Oct. 5/87 96 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
19283	.001	19303	.006	19323	.002
19284	.007	19304	.004	19324	.001
19285	<.001	19305	.002	19325	.001
19286	.001	19306	.003	19326	<.001
19287	.001	19307	.003	19327	.001
19288	.006	19308	.002	19328	.001
19289	<.001	19309	.003	19329	<.001
19290	<.001	19310	.003	19330	.001
19291	.001	19311	.003	19331	<.001
19292	.001	19312	.002	19332	<.001
19293	.003	19313	.003	19333	<.001
19294	.008	19314	.002	19334	.002
19295	.001	19315	.002	19335	.002
19296	.001	19316	.002	19336	.002
19297	.002	19317	.002	19337	.001
19298	.004	19318	.003	19338	.001
19299	.001	19319	.001	19339	<.001
19300	.002	19320	.003	19340	.001
19301	.001	19321	.002	19341	<.001
19302	.002	19322	.002	19342	.001

ASSAYERS (ONTARIO) LIMITED

Per 

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-10/6895 Date: October 13, 1987  
Received Sept. 30/87 8 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton
19669	<.001
19670	<.001
19671	<.001
19672	.001
19673	<.001
19674	<.001
19675	.001
19676	<.001

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# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GE0-11/6895 Date: October 13, 1987  
Received Oct. 1/87 57 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
19721	.001	19741	.001	19761	.001
19722	.001	19742	.004	19762	.001
19723	<.001	19743	.003	19763	.002
19724	.005	19744	.002	19764	.002
19725	.022	19745	.003	19765	.002
19726	.004	19746	.016	19766	.002
19727	.002	19747	.004	19767	.001
19728	.002	19748	.004	19768	.001
19729	.001	19749	.003	19769	.004
19730	.002	19750	.001	19770	.004
19731	.004	19751	.001	19771	.005
19732	.004	19752	.002	19772	.005
19733	.004	19753	.002	19773	.007
19734	.004	19754	.001	19774	.006
19735	.005	19755	.002	19775	.007
19736	.005	19756	.008	19776	.007
19737	.003	19757	.003	19777	.005
19738	.008	19758	.001		
19739	.002	19759	.002		
19740	.001	19760	.002		

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# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-13/01/6901

Date: October 14, 1987

Received \_\_\_\_\_ 73 Samples of Drill Core

Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
19558	<.001	19578	.001	19598	<.001
19559	.001	19579	.001	19599	<.001
19560	.001	19580	<.001	19600	.002
19561	<.001	19581	<.001	19701	.001
19562	.001	19582	.001	19702	<.001
19563	.002	19583	.001	19703	<.001
19564	.001	19584	.001	19704	.001
19565	.001	19585	<.001	19705	.001
19566	<.001	19586	.001	19706	<.001
19567	.001	19587	<.001	19707	.001
19568	.002	19588	<.001	19708	<.001
19569	.001	19589	<.001	19709	.001
19570	.002	19590	<.001	19710	<.001
19571	.001	19591	<.001	19711	<.001
19572	.002	19592	<.001	19712	.001
19573	.002	19593	<.001	19713	<.001
19574	.001	19594	.001	19714	<.001
19575	.001	19595	<.001	19715	<.001
19576	.001	19596	<.001	19716	<.001
19577	.002	19597	<.001	19717	<.001

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-12/6901 Date: October 14, 1987  
Received Oct. 3/87 68 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
19601	.007	19624	<.001	19647	.009
19602	.007	19625	.002	19648	.012
19603	.006	19626	.001	19649	.005
19604	.002	19627	<.001	19650	.005
19605	.002	19628	.001	19651	.007
19606	.002	19629	<.001	19652	.012
19607	.003	19630	.003	19653	.001
19608	.002	19631	<.001	19654	.001
19609	.005	19632	<.001	19655	.001
19610	.003	19633	.003	19656	.002
19611	.002	19634	.004	19657	.002
19612	.002	19635	.011	19658	.002
19613	.003	19636	.010	19659	<.001
19614	.002	19637	.004	19660	<.001
19615	.001	19638	.004	19661	<.001
19616	.002	19639	.005	19662	<.001
19617	.002	19640	.010	19663	.001
19618	.001	19641	.004	19664	<.001
19619	.002	19642	.004	19665	.002
19620	<.001	19643	.003	19666	.001
19621	.002	19644	.009	19667	<.001
19622	<.001	19645	.005	19668	<.001
19623	<.001	19646	.006		

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-13/02/6901

Date: October 14, 1987

Received 73

Samples of Drill Core

Submitted by Geocanex Ltd.

Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton
19708	.001
19709	.001
19710	.001
19711	<.001
19712	.001
19713	<.001
19714	<.001
19715	<.001
19716	<.001
19717	<.001
19718	.001
19719	<.001
19720	<.001

**ASSAYERS (ONTARIO) LIMITED**

Per \_\_\_\_\_

*J. van Engelen*  
J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

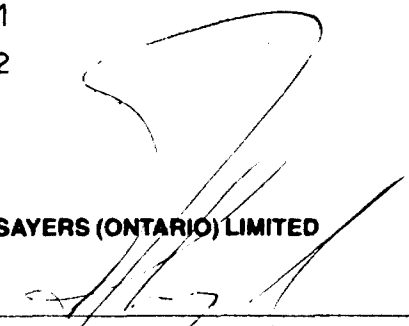
## Certificate of Analysis

Certificate No. GE0-14/6901 Date: October 14, 1987  
Received 53 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
19778	<.001	19798	.002	19818	.002
19779	<.001	19799	.001	19819	.001
19780	<.001	19800	<.001	19820	.001
19781	<.001	19801	<.001	19821	<.001
19782	<.001	19802	.001	19822	.004
19783	<.001	19803	<.001	19823	<.001
19784	<.001	19804	<.001	19824	<.001
19785	<.001	19805	.001	19825	.001
19786	<.001	19806	<.001	19826	<.001
19787	<.001	19807	<.001	19827	<.001
19788	<.001	19808	<.001	19828	<.001
19789	<.001	19809	<.001	19829	<.001
19790	<.001	19810	.001	19830	<.001
19791	.001	19811	.001		
19792	.002	19812	.002		
19793	.002	19813	.001		
19794	.002	19814	<.001		
19795	.002	19815	.002		
19796	.002	19816	<.001		
19797	.002	19817	.002		

ASSAYERS (ONTARIO) LIMITED

Per

  
J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-15/6942 Date: October 21, 1987  
Received \_\_\_\_\_ 17 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton
19900	.004
19901	.001
19902	.001
19903	.001
19904	.001
19905	.002
19906	.001
19907	.001
19908	.001
19909	.001
19910	.001
19911	.002
19912	.001
19913	.002
19914	.001
19915	.001
19916	.001

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.

ANALYTICAL CHEMISTS · ASSAYING · CONSULTING · ORE DRESSING · REPRESENTATION



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-16/6942

Date: October 21, 1987

Received 69

Samples of Drill Core

Submitted by Geocanex Ltd.

Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
19831	.001	19854	.003	19877	.003
19832	.001	19855	.003	19878	.003
19833	.001	19856	.004	19879	.002
19834	.001	19857	.003	19880	.003
19835	.002	19858	.001	19881	.003
19836	.003	19859	.002	19882	.003
19837	.002	19860	.002	19883	.005
19838	.001	19861	.002	19884	.004
19839	.002	19862	.002	19885	.003
19840	.001	19863	.001	19886	.003
19841	.002	19864	.003	19887	.002
19842	.001	19865	.002	19888	.003
19843	.002	19866	.002	19889	.003
19844	.002	19867	.002	19890	.003
19845	.001	19868	.002	19891	.001
19846	.002	19869	.002	19892	.002
19847	.001	19870	.002	19893	.002
19848	.003	19871	.004	19894	.002
19849	.002	19872	.002	19895	.001
19850	.002	19873	.007	19896	.002
19851	.001	19874	.003	19897	.002
19852	.001	19875	.002	19898	.002
19853	.003	19876	.003	19899	.001

ASSAYERS (ONTARIO) LIMITED

Per J. van Engelen

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GE0-17/6965

Date: October 26, 1987

Received 74

Samples of Drill Core

Submitted by Geocanex Ltd.

Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton
19677	.001	19697	<.001
19678	<.001	19698	<.001
19679	<.001	19699	<.001
19680	.001	19700	<.001
19681	.001	19918	.001
19682	.001	19919	<.001
19683	.002	19920	.001
19684	.001	19921	.001
19685	.002	19922	.001
19686	.001	19923	.001
19687	.002	19924	<.001
19688	.001	19925	<.001
19689	.001	19926	.001
19690	<.001	19927	.001
19691	<.001	19928	.001
19692	<.001	19929	.001
19693	.001	19930	.001
19694	.001	19931	.001
19695	.001	19932	.001
19696	.001	19933	.001

*[Handwritten signature and notes in a box]*

ASSAYERS (ONTARIO) LIMITED

Per J. van Engelen

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GE0-17/02/6965 Date: October 26, 1987  
Received \_\_\_\_\_ 74 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton
19934	.001	19954	.001
19935	.001	19955	.001
19936	.001	19956	.001
19937	.001	19957	<.001
19938	.001	19958	<.001
19939	.001	19959	.001
19940	<.001	19960	.001
19941	.001	19961	<.001
19942	<.001	19962	.001
19943	<.001	19963	.001
19944	.001	19964	.002
19945	<.001	19965	<.001
19946	.001	19966	.001
19947	<.001	19967	.001
19948	<.001		
19949	.001		
19950	<.001		
19951	.001		
19952	<.001		
19953	.001		

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.





# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GE0-18/01/6978

Date: October 29, 1987

Received 71 Samples of Drill Core

Submitted by Geocanex Ltd.

Att'n: Mr. H. J. Hodge

c.c. Mr. G. G. Plaskett

c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton
12020	.007	12040	.007
12021	.006	12041	.005
12022	.004	12042	.003
12023	.004	12043	.003
12024	.007	12044	.003
12025	.006	12045	.003
12026	.006	12046	.004
12027	.005	12047	.008
12028	.006	12048	.004
12029	.006	12049	.003
12030	.005	12050	.001
12031	.005	12051	.002
12032	.006	12052	.003
12033	.006	12053	.002
12034	.003	12054	.002
12035	.004	12055	.002
12036	.005	12056	.003
12037	.004	12057	.003
12038	.007	12058	.003
12039	.004	12059	.005

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.

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# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-18/02/6978 Date: October 29, 1987  
Received \_\_\_\_\_ 71 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton
12060	.002	12080	<.001
12061	.001	12081	.001
12062	.004	12082	.001
12063	.001	12083	.002
12064	<.001	12084	.001
12065	<.001	12085	.001
12066	<.001	12086	<.001
12067	<.001	12087	<.001
12068	.001	12088	<.001
12069	.004	12089	.001
12070	.002	12090	.001
12071	.001		
12072	<.001		
12073	<.001		
12074	.001		
12075	.001		
12076	.002		
12077	.001		
12078	.002		
12079	.001		

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.

ANALYTICAL CHEMISTS · ASSAYING · CONSULTING · ORE DRESSING · REPRESENTATION



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GE0-19/6978

Date: October 29, 1987

Received 75

Samples of Drill Core

Submitted by Geocanex Ltd.

Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
17897	.004	17917	.001	17937	<.001
17898	.003	17918	<.001	17938	.001
17899	.002	17919	.001	17939	.002
17900	.002	17920	.002	17940	.002
17901	.003	17921	<.001	17941	.002
17902	.003	17922	.001	17942	.001
17903	.002	17923	.002	17943	<.001
17904	.002	17924	.002	17944	.001
17905	.001	17925	.002	17945	.001
17906	.002	17926	.001	17946	<.001
17907	.001	17927	.003	17947	.001
17908	<.001	17928	.002	17948	.001
17909	.002	17929	.002	17949	.001
17910	.002	17930	.001	17950	.001
17911	.002	17931	.003	17951	<.001
17912	.001	17932	.001		
17913	.002	17933	.001		
17914	.003	17934	.001		
17915	.002	17935	.002		
17916	.002	17936	.002		

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

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# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-20/02/6992 Date: October 30, 1987  
Received 129 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
17834	.001	17855	.002	17876	<.001
17835	.002	17856	<.001	17877	.001
17836	<.001	17857	<.001	17878	.001
17837	.001	17858	<.001	17879	.001
17838	<.001	17859	<.001	17880	.003
17839	.003	17860	<.001	17881	.002
17840	<.001	17861	<.001	17882	<.001
17841	<.001	17862	.001	17883	.001
17842	<.001	17863	.001	17884	.001
17843	.001	17864	<.001	17885	.001
17844	<.001	17865	.003	17886	<.001
17845	.001	17866	.001	17887	<.001
17846	<.001	17867	<.001	17888	.002
17847	.001	17868	<.001	17889	.002
17848	.002	17869	<.001	17890	.002
17849	<.001	17870	.002	17891	<.001
17850	.003	17871	.001	17892	.001
17851	.002	17872	.001	17893	.001
17852	<.001	17873	.001	17894	<.001
17853	.001	17874	.003	17895	<.001
17854	.001	17875	.002	17896	<.001

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GE0-20/01/69 Date: October 30, 1987  
Received 129 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
19968	.001	19990	<.001	17812	<.001
19969	<.001	19991	<.001	17813	.001
19970	.002	19992	<.001	17814	<.001
19971	.002	19993	.001	17815	<.001
19972	.001	19994	<.001	17816	<.001
19973	<.001	19995	<.001	17817	.001
19974	.001	19996	<.001	17818	<.001
19975	.001	19997	<.001	17819	.001
19976	.001	19998	.002	17820	<.001
19977	.001	19999	.002	17821	<.001
19978	<.001	20000	.001	17822	<.001
19979	.001	17801	.001	17823	<.001
19980	.002	17802	.001	17824	.001
19981	<.001	17803	.002	17825	.001
19982	.001	17804	<.001	17826	.001
19983	.001	17805	.002	17827	<.001
19984	.002	17806	.002	17828	.001
19985	.002	17807	.002	17829	<.001
19986	.001	17808	.001	17830	<.001
19987	<.001	17809	.002	17831	<.001
19988	.001	17810	<.001	17832	<.001
19989	.001	17811	<.001	17833	.001

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-21/01/6996 Date: October 30, 1987  
Received 79 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton
12091	.005	12111	.002
12092	.003	12112	.003
12093	.002	12113	.003
12094	.002	12114	.003
12095	.002	12115	.003
12096	.002	12116	.003
12097	.002	12117	.002
12098	.002	12118	.001
12099	.002	12119	.003
12100	.002	12120	.003
12101	.001	12121	.003
12102	.002	12122	.001
12103	.001	12123	.003
12104	.002	12124	.003
12105	.002	12125	.003
12106	.001	12126	.003
12107	.002	12127	.003
12108	.001	12128	.003
12109	.003	12129	.004
12110	.002	12130	.001

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

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# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GE0-02/6996 Date: October 30, 1987  
Received \_\_\_\_\_ 79 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton
12131	.003	12151	.004
12132	.002	12152	.002
12133	.003	12153	.002
12134	.003	12154	.002
12135	.003	12155	.001
12136	.003	12156	.002
12137	.002	12157	.003
12138	.001	12158	.003
12139	.001	12159	.003
12140	.001	12160	.003
12141	.001	12161	.003
12142	<.001	12162	.003
12143	<.001	12163	.005
12144	.001	12164	.001
12145	.001	12165	.002
12146	.001	12166	.002
12147	<.001	12167	.001
12148	.001	12168	.002
12149	.001	12169	.002
12150	.001		

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33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-22/01/7016

Date: November 5, 1987

Received 91

Samples of Drill Core

Submitted by Geocanex Ltd.

Att'n: Mr. H. J. Hodge

c.c. Mr. G. G. Plaskett

c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
12170	.003	12190	<.001	12210	.002
12171	.002	12191	.001	12211	<.001
12172	.002	12192	.001	12212	.002
12173	.003	12193	.001	12213	.002
12174	.003	12194	.001	12214	.001
12175	.002	12195	.002	12215	.002
12176	.001	12196	.003	12216	.002
12177	.002	12197	.002	12217	.002
12178	.001	12198	.002	12218	.001
12179	.002	12199	.001	12219	.001
12180	.002	12200	.001	12220	.001
12181	.002	12201	.003	12221	.002
12182	.002	12202	.002	12222	.002
12183	.003	12203	.002	12223	.003
12184	.002	12204	.002	12224	.003
12185	.001	12205	.001	12225	<.001
12186	.001	12206	<.001	12226	.001
12187	<.001	12207	.001	12227	.001
12188	.001	12208	.002	12228	.001
12189	<.001	12209	.002	12229	.001

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# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-22/02/7016

Date: November 5, 1987

Received \_\_\_\_\_ 91 Samples of Drill Core

Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge

c.c. Mr. G. G. Plaskett

c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton
12230	.001	12250	<.001
12231	<.001	12251	<.001
12232	<.001	12252	<.001
12233	.001	12253	<.001
12234	.002	12254	<.001
12235	<.001	12255	<.001
12236	<.001	12256	<.001
12237	<.001	12257	<.001
12238	<.001	12258	<.001
12239	.002	12259	<.001
12240	.001	12260	<.001
12241	.001		
12242	.001		
12243	.002		
12244	.002		
12245	<.001		
12246	<.001		
12247	<.001		
12248	<.001		
12249	<.001		

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# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-28/7029

Date: November 9, 1987

Received 69 Samples of Drill Core

Submitted by Geocanex Ltd. (SANTA MARIA - ZENEL) Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
12001	<.001	17952	<.001	17972	.001	17592	<.001
12002	<.001	17953	<.001	17973	<.001	17593	<.001
12003	<.001	17954	<.001	17974	<.001	17594	<.001
12004	<.001	17955	<.001	17975	<.001	17595	<.001
12005	<.001	17956	<.001	17976	<.001	17596	<.001
12006	<.001	17957	<.001	17977	<.001	17597	<.001
12007	<.001	17958	<.001	17978	<.001	17598	<.001
12008	<.001	17959	<.001	17979	<.001	17599	<.001
12009	<.001	17960	.001	17980	<.001	18000	<.001
12010	<.001	17961	<.001	17981	<.001		
12011	<.001	17962	.001	17982	<.001		
12012	<.001	17963	<.001	17983	<.001		
12013	<.001	17964	<.001	17984	<.001		
12014	.002	17965	.001	17985	<.001		
12015	<.001	17966	<.001	17986	<.001		
12016	.001	17967	.001	17987	<.001		
12017	<.001	17968	.001	17988	<.001		
12018	.001	17969	<.001	17989	<.001		
12019	<.001	17970	<.001	17990	<.001		
12590	<.001	17971	<.001	17991	<.001		

ASSAYERS (ONTARIO) LIMITED

Per 

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-25/7029

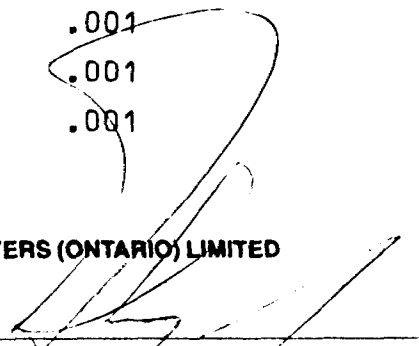
Date: November 9, 1987

Received 74 Samples of Drill Core

Submitted by Geocanex Ltd. (SANTA MARIA-ZEEMEL) Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
12261	.002	12281	.002	12301	.002	12321	.001
12262	.001	12282	.002	12302	.002	12322	.001
12263	.001	12283	.001	12303	.002	12323	.002
12264	<.001	12284	.002	12304	.002	12324	<.001
12265	.001	12285	.002	12305	.001	12325	.001
12266	.002	12286	.002	12306	.001	12326	.002
12267	.002	12287	.002	12307	.001	12327	.001
12268	.002	12288	.002	12308	.001	12328	.002
12269	.002	12289	.001	12309	.001	12329	.001
12270	.001	12290	.002	12310	<.001	12330	.001
12271	.001	12291	.002	12311	.001	12331	.002
12272	.002	12292	.002	12312	<.001	12332	.002
12273	.001	12293	.001	12313	.001	12333	.002
12274	.002	12294	.001	12314	.001	12591	.002
12275	.002	12295	.001	12315	.002		
12276	.002	12296	.001	12316	.002		
12277	.002	12297	.001	12317	.002		
12278	.002	12298	.002	12318	.001		
12279	.003	12299	.002	12319	.001		
12280	.003	12300	.002	12320	.001		

ASSAYERS (ONTARIO) LIMITED

Per 

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GE0-24/7029

Date: November 9, 1987

Received 67 Samples of Drill Core

Submitted by Geocanex Ltd. (SANTA MARIA - ZEEHEL) Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
12424	.002	12447	<.001	12469	.001
12425	.001	12448	.001	12470	.001
12426	.001	12449	.002	12471	<.001
12427	.001	12450	.001	12472	.001
12428	.004	12451	<.001	12473	.001
12429	.001	12452	<.001	12474	.003
12430	.001	12453	.001	12475	<.001
12431	.001	12454	.001	12476	.001
12432	.001	12455	.002	12477	<.001
12433	.001	12456	.002	12478	.001
12434	.001	12457	.001	12479	.002
12435	.002	12458	.002	12480	.002
12436	.002	12459	.001	12481	.002
12437	.001	12460	.001	12482	.002
12438	.002	12461	.001	12483	.002
12439	.001	12462	.002	12484	.002
12440	.001	12463	.002	12485	.002
12441	.002	12464	.002	12486	<.001
12442	.001	12465	<.001	12487	.001
12443	.001	12466	<.001	12488	<.001
12444	<.001	12467	<.001	12489	.001
12445	<.001	12568	.001	12490	.001
12446	<.001				

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-27/7029 Date: November 9, 1987  
Received 46 Samples of Drill Core - SANTA MARIA-ZEEVEL  
Submitted by Geocanex Ltd. (SANTA MARIA-ZEEVEL) Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
12491	.002	12511	.004	12531	.001
12492	.002	12512	.003	12532	.001
12493	.001	12513	.003	12533	.001
12494	.001	12514	.003	12534	.002
12495	.002	12515	.003	12535	.002
12496	.001	12516	.003	12536	.003
12497	.001	12517	.008		
12498	.001	12518	.003		
12499	<.001	12519	.006		
12500	.070	12520	.005		
12501	.006	12521	<.001		
12502	.003	12522	.007		
12503	.003	12523	.017		
12504	.003	12524	.002		
12505	.003	12525	.001		
12506	.003	12526	<.001		
12507	.003	12527	.001		
12508	.003	12528	.002		
12509	.003	12529	<.001		
12510	.003	12530	.001		

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GE0-32/7050 Date: November 12, 1987  
Received 53 Samples of Drill Core  
Submitted by Geocanex Ltd. (SANTA MARIA - ZEEHEL) Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
12537	.001	12557	<.001	12577	<.001
12538	.001	12558	<.001	12578	.001
12539	.001	12559	<.001	12579	.001
12540	.001	12560	<.001	12580	.001
12541	.002	12561	<.001	12581	.001
12542	.001	12562	<.001	12582	.001
12543	.001	12563	.001	12583	<.001
12544	<.001	12564	.001	12584	<.001
12545	<.001	12565	.002	12585	<.001
12546	<.001	12566	<.001	12586	<.001
12547	.001	12567	.002	12587	<.001
12548	<.001	12568	.002	12588	<.001
12549	.001	12569	.001	12589	<.001
12550	.001	12570	.002		
12551	<.001	12571	.002		
12552	<.001	12572	.002		
12553	.002	12573	.001		
12554	<.001	12574	.002		
12555	<.001	12575	.001		
12556	<.001	12576	.001		

ASSAYERS (ONTARIO) LIMITED

Per 

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-45/7110 Date: November 26, 1987  
Received \_\_\_\_\_ 10 Samples of Drill Core  
Submitted by Geocanex Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. J. H. Adams

Project: SANTA ZEEMEL LAKE

Sample No.	Au oz/ton
1035	.001
1036	.001
1037	.001
1038	.002
1039	.003
1040	.002
1041	.002
1042	.002
1043	.002
1044	N/S

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-78/7425

Date: February 19, 1988

Received \_\_\_\_\_ 61 Samples of Drill Core

Submitted by Geocanex Ltd. Santa Maria Resources Ltd. Att'n: Mr. H. J. Hodge  
c.c. Mr. G. G. Plaskett  
c.c. Mr. B. A. Huston

Project: ZEEMEL

Sample No.	Au ppb	Sample No.	Au ppb	Sample No.	Au ppb
3061	<5	3081	15	3101	83
3062	21	3082	49	3102	73
3063	37	3083	52	3103	207
3064	35	3084	95	3104	87
3065	31	3085	191	3105	95
3066	79	3086	98	3106	87
3067	70	3087	123	3107	59
3068	59	3088	131	3108	161
3069	21	3089	105	3109	89
3070	11	3090	121	3110	113
3071	15	3091	75	3111	53
3072	31	3092	91	3112	61
3073	25	3093	183	3113	73
3074	21	3094	87	3114	83
3075	9	3095	95	3115	97
3076	35	3096	99	3116	85
3077	57	3097	75	3117	71
3078	41	3098	63	3118	87
3079	33	3099	55	3119	51
3080	19	3100	97	3120	261
				3121	179

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.





# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

"CORRECTED COPY"

Certificate No. GE0-78/7425

Date: February 19, 1988

Received 61 Samples of Drill Core

Submitted by Geocanex Limited Att'n: Mr. H.J. Hodge  
Santa Maria Resources Ltd. c.c. Mr. G. Plaskett

c.c. Mr. B.A. Huston

PROJECT: ZEEMEL LAKE

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
3061	<.001	3081	<.001	3101	.002
3062	.001	3082	.001	3102	.002
3063	.001	3083	.002	3103	.006
3064	.001	3084	.003	3104	.003
3065	.001	3085	.005	3105	.003
3066	.002	3086	.003	3106	.003
3067	.002	3087	.004	3107	.002
3068	.002	3088	.004	3108	.005
3069	.001	3089	.003	3109	.003
3070	<.001	3090	.004	3110	.003
3071	<.001	3091	.002	3111	.002
3072	.001	3092	.003	3112	.002
3073	.001	3093	.005	3113	.002
3074	.001	3094	.003	3114	.002
3075	<.001	3095	.003	3115	.003
3076	.001	3096	.003	3116	.002
3077	.002	3097	.002	3117	.002
3078	.001	3098	.002	3118	.003
3079	.001	3099	.001	3119	.002
3080	.001	3100	.003	3120	.008
				3121	.005

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-81/ 7451

Date: February 25, 1988

Received \_\_\_\_\_

60

Samples of Drill Core

Submitted by Geocanex Limited

Att'n: Mr. H.J. Hodge

c.c. Mr. G. Plaskett

c.c. Mr. B.A. Huston

"Santa Maria Resources - Zeemel Lake Project"

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
3001	.004	3021	.004	3041	.004
3002	.001	3022	.002	3042	.003
3003	.006	3023	.001	3043	.006
3004	.002	3024	.003	3044	.005
3005	.001	3025	.002	3045	.010
3006	.004	3026	.004	3046	.003
3007	.002	3027	.003	3047	.005
3008	.002	3028	.002	3048	.004
3009	.004	3029	.001	3049	.005
3010	.002	3030	.002	3050	.003
3011	<.001	3031	<.001	3031	.004
3012	<.001	3032	<.001	3502	.006
3013	.002	3033	.004	3053	.003
3014	.004	3034	.005	3054	.003
3015	.007	3035	.004	3055	.004
3016	.001	3036	.003	3056	.004
3017	.002	3037	.006	3057	.003
3018	.003	3038	.009	3058	.004
3019	.002	3039	.004	3059	.004
3020	<.001	3040	.005	3060	.003

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-80/ 7451

Date: February 25, 1988

Received \_\_\_\_\_ 44 Samples of Drill Core

Submitted by Geocanex Limited Att'n: Mr. H.J. Hodge

c.c. Mr. G. Plaskett

c.c. Mr. B.A. Huston

"Santa Maria Resources - Zeemel Lake Project"

Sample No.	Au oz/ton	Sample No.	Au oz/ton
3266	.003	3289	.003
3267	.002	3290	.002
3268	.001	3291	<.001
3269	.002	3292	.002
3270	.002	3293	.004
3271	.003	3294	<.001
3272	.002	3295	<.001
3273	.004	3296	<.001
3274	.003	3297	.001
3275	<.001	3298	.001
3276	.001	3299	<.001
3277	.001	3300	.001
3278	.004	3301	.002
3279	.002	3302	.006
3280	<.001	3303	.003
3281	.002	3304	.001
3282	.003	3305	.002
3283	.006	3306	.004
3284	.004	3307	.002
3285	.003	3308	<.001
3286	.003	3309	.005
3287	.003		
3288	.002		

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-83/01/ 7457

Date: February 26, 1988

Received 128

Samples of Drill Core

Submitted by Geocanex Limited

Att'n: Mr. H.J. Hodge

c.c. Mr. G. Plaskett

c.c. Mr. B.A. Huston

"Santa Maria Resources - Zeemel Lake Project"

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
3122	.002	3144	.002	3166	.002
3123	.001	3145	.002	3167	.004
3124	.005	3146	.001	3168	.005
3125	.002	3147	.003	3169	.002
3126	.003	3148	.004	3170	.003
3127	.004	3149	.002	3171	.003
3128	.001	3150	.002	3172	.001
3129	.002	3151	.002	3173	.003
3130	.002	3152	.004	3174	.002
3131	.002	3153	.002	3175	.002
3132	.003	3154	.003	3176	.001
3133	.002	3155	.004	3193	.002
3134	.003	3156	.004	3194	.003
3135	.002	3157	.003	3195	.003
3136	.006	3158	.004	3196	.002
3137	.004	3159	.003	3197	.004
3138	.002	3160	.003	3198	.002
3139	<.001	3161	.002	3199	.003
3140	.001	3162	.003	3200	.003
3141	<.001	3163	.002	3201	.002
3142	.001	3164	.002	3202	.003
3143	.002	3165	.002	3203	.002

ASSAYERS (ONTARIO) LIMITED

Per J. van Engelen

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

"CORRECTED COPY"

Certificate No. GEO-79/7451 Date: February 26, 1988  
Received 56 Samples of Drill Core  
Submitted by Geocanex Limited Att'n: Mr. H.J. Hodge  
Santa Maria Resources c.c. Mr. G. Plaskett  
c.c. Mr. B.A. Huston

PROJECT: Zeemel Lake

Sample No.	Au ppb
3177	73
3178	113
3179	115
3180	93
3181	85
3182	81
3183	195
3184	81
3185	97
3186	67
3187	43
3188	59
3189	67
3190	57
3191	73
3192	80

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-79/ 7451

Date: February 26, 1988

Received \_\_\_\_\_ 56 Samples of Drill Core

Submitted by Geocanex Limited Att'n: Mr. H.J. Hodge

c.c. Mr. G. Plaskett

c.c. Mr. B.A. Huston

"Santa Maria Resources - Zeemel Lake Project"

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
3177	.002	3570	.001	3590	.001
3178	.003	3571	<.001	3591	<.001
3179	.003	3572	<.001	3592	.001
3180	.002	3573	.001	3593	.001
3181	.002	3574	.001	3594	.002
3182	.002	3575	.002	3595	.001
3183	.007	3576	<.001	3596	<.001
3184	.002	3577	.001	3597	<.001
3185	.003	3578	.001	3598	.001
3186	.002	3579	<.001	3599	<.001
3187	.001	3580	.002	3600	.001
3188	.002	3581	.001	3601	.001
3189	.002	3582	<.001	3602	.001
3190	.002	3583	.003	3603	<.001
3191	.002	3584	.001	3604	<.001
3192	.002	3585	.002	3605	<.001
3566	.001	3586	.003		
3567	.002	3587	.002		
3568	.001	3588	.002		
3569	.002	3589	.002		

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-83/02/ 7457

Date: February 26, 1988

Received 128

Samples of Drill Core

Submitted by Geocanex Limited

Att'n: Mr. H.J. Hodge

c.c. Mr. G. Plaskett

c.c. Mr. B.A. Huston

"Santa Maria Resources - Zeemel Lake Project"

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
3204	.001	3226	.003	3248	.002
3205	<.001	3227	.002	3249	.003
3206	.001	3228	.004	3250	.001
3207	.002	3229	.001	3251	.002
3208	.002	3230	.001	3252	.004
3209	.002	3231	.002	3253	.009
3210	.002	3232	.017	3254	.009
3211	.002	3233	.004	3255	.002
3212	.003	3234	.004	3256	.003
3213	.003	3235	.002	3257	.003
3214	.002	3236	<.001	3258	.001
3215	.004	3237	.002	3259	.001
3216	.003	3238	.003	3260	.002
3217	.001	3239	.003	3261	.003
3218	.003	3240	.004	3262	.007
3219	.001	3241	.003	3263	.004
3220	.002	3242	.004	3264	.004
3221	.002	3243	.003	3265	.002
3222	.003	3244	.004		
3223	.003	3245	.002		
3224	.003	3246	.001		
3225	.006	3247	<.001		

ASSAYERS (ONTARIO) LIMITED

Per J. van Engelen

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-82/7457 Date: February 26, 1988  
Received \_\_\_\_\_ 65 Samples of Drill Core  
Submitted by Geocanex Limited Att'n: Mr. H.J. Hodge  
c.c. Mr. G. Plaskett  
c.c. Mr. B.A. Huston

"Santa Maria Resources-Zeemel Lake Project"

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
3501	.003	3523	.001	3545	.002
3502	.004	3524	.002	3546	.002
3503	.003	3525	.003	3547	.004
3504	.001	3526	.003	3548	.003
3505	.002	3527	.004	3549	.003
3506	.003	3528	.004	3550	.001
3507	.002	3529	.007	3551	<.001
3508	.002	3530	.005	3552	.003
3509	.003	3531	.003	3553	.003
3510	.003	3532	.007	3554	.002
3511	.003	3533	.004	3555	<.001
3512	.004	3534	.002	3556	.004
3513	.003	3535	.003	3557	<.001
3514	.002	3536	.001	3558	.002
3515	.001	3537	.003	3559	<.001
3516	.003	3538	.002	3560	.001
3517	.004	3539	.003	3561	.001
3518	.003	3540	.002	3562	.002
3519	.002	3541	.003	3563	.001
3520	.003	3542	.002	3564	.003
3521	.003	3543	.003	3565	.002
3522	.001	3544	.005		

ASSAYERS (ONTARIO) LIMITED

Per J. van Engelen  
J. van Engelen Mgr.





# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-84/7457

Date: February 26, 1988

Received \_\_\_\_\_ 51 Samples of Drill Core

Submitted by Geocanex Ltd. Att'n: Mr. H.J. Hodge  
Santa Maria Resources Ltd. c.c. Mr. G. Plaskett

Zeemel Lake Project

c.c. Mr. B.A. Huston

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
3606	.001	3626	.001	3646	.002
3607	.001	3627	.001	3647	.003
3608	.001	3628	.001	3648	.003
3609	<.001	3639	.001	3649	.003
3610	.002	3630	.001	3650	.002
3611	.001	3631	.001	3651	.003
3612	.002	3632	.001	3652	.002
3613	.003	3633	.001	3653	.001
3614	.001	3634	.001	3654	.003
3615	.001	3635	.002	3655	.004
3616	.006	3636	.001	3656	.003
3617	.002	3637	.001		
3618	.003	3638	.004		
3619	.002	3639	.004		
3620	.001	3640	.003		
3621	.006	3641	.002		
3622	.001	3632	.002		
3623	.003	3643	.004		
3624	.003	3644	.001		
3625	.002	3645	.002		

2/27/88

Project

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-84/ 7457

Date: February 26, 1988

Received \_\_\_\_\_ 50 Samples of Drill core

Submitted by Geocanex Limited Att'n: Mr. H.J. Hodge

c.c. Mr. G. Plaskett

c.c. Mr. B.A. Huston

"Santa Maria Resources - Zeemel Lake Project"

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
3606	.001	3626	.001	3647	.003
3607	.001	3627	.001	3648	.003
3608	.001	3628	.001	3649	.003
3609	<.001	3629	.001	3650	.002
3610	.002	3630	.001	3651	.003
3611	.001	3631	.001	3652	.002
3612	.002	3632	.001	3653	.001
3613	.003	3633	.001	3654	.003
3614	.001	3634	.001	3655	.004
3615	.001	3635	.002	3656	.003
3616	.006	3636	.001		
3617	.002	3637	.001		
3618	.003	3638	.004		
3619	.002	3639	.004		
3620	.001	3540	.003		
3621	.006	3641	.002		
3622	.001	3642	.002		
3623	.003	3643	.004		
3624	.003	3644	.001		
3625	.002	3645	.002		
		3646	.002		

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-85/01/7480 Date: March 4, 1988  
 Received 84 Samples of Drill Core  
 Submitted by Geocanex Limited Att'n: Mr. H.J. Hodge  
 c.c. Mr. G. Plaskett  
 c.c. Mr. B.A. Huston

PROJECT: Santa Maria Resources - Zeemel Lake

Sample No.	Au oz/ton	Sample No.	Au oz/ton	Sample No.	Au oz/ton
3310	.001	3330	.001	3350	.001
3311	.001	3331	.002	3351	<.001
3312 <sup>†</sup>	.001	3332	.001	3352	.001
3313	.001	3333	.001	3353	.002
3314	.003	3334	.001	3354	<.001
3315	.003	3335	<.001	3355	<.001
3316	.002	3336	.002	3356	<.001
3317	.006	3337	.002	3357	.001
3318	.003	3338	.002	3358	.002
3319	.003	3339	.001	3359	.001
3320	.001	3340	<.001	3360	.002
3321	.002	3341	.001	3361	.001
3322	.001	3342	.001	3362	.001
3323	.001	3343	.001	3363	<.001
3324	.002	3344	<.001	3364	.001
3325	.003	3345	.001	3365	.002
3326	.002	3346	.002	3366	.002
3327	.003	3347	.001	3367	.001
3328	.001	3348	.002	3368	<.001
3329	.003	3349	.002	3369	.002

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



# ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

## Certificate of Analysis

Certificate No. GEO-85/02/7480 Date: March 4, 1988  
Received \_\_\_\_\_ 84 Samples of Drill Core  
Submitted by Geocanex Limited Att'n: Mr. H.J. Hodge  
c.c. Mr. G. Plaskett  
c.c. Mr. B.A. Huston

PROJECT: Santa Maria Resources - Zeemel Lake

Sample No.	Au oz/ton	Sample No.	Au oz/ton
3370	.001	3390	<.001
3371	<.001	3391	.002
3372	.002	3392	.002
3373	.001	3393	.002
3374	.002		
3375	.002		
3376	.001		
3377	<.001		
3378	.001		
3379	.001		
3380	.002		
3381	.001		
3382	.002		
3383	.002		
3384	.002		
3385	.002		
3386	.001		
3387	.002		
3388	<.001		
3389	<.001		

ASSAYERS (ONTARIO) LIMITED

Per \_\_\_\_\_

J. van Engelen Mgr.



53B09SW0001 29 ZEEMEL LAKE

900

APPENDIX A  
CERTIFICATES OF QUALIFICATION

CERTIFICATE OF QUALIFICATION

THIS IS TO CERTIFY THAT:

I have been a resident of Kingston, Ontario since 1982.

I have worked as an exploration geologist in the Pickle Lake area since 1986.

I am a 1986 graduate of Queen's University with a B.Sc. (Eng.) degree in Geological Engineering (Mineral Resources and Exploration).

I supervised the recent exploration program on the Zeemel Lake property from September 3, 1987 to February 9, 1988.

The statements contained in this report are based upon field observations and a study of pertinent assessment work records of the Ontario Geological Survey, and geological reports and maps published by the Ontario Ministry of Natural Resources.

In this report, I have disclosed all relevant material, descriptive and interpretative, which is, to the best of my knowledge, necessary to gain a complete understanding of the viability of the project and the recommendations.

DATED THIS *26* DAY OF *May*, *1988*

Brian A. Huston, B.Sc. (Eng.)  
Geologist





Ontario

Ministry of Natural Resources

Report of Work

DOCUMENT No. W8803-210

Instructions - Supply required data on a separate form for each type of work to be recorded (see table below). - For Geo-technical work use form no. 1362 "Report of Work (Geological, Geophysical, Geochemical and Expenditures)".

The Mining Act

Name: *Assess. Library*  
 Postal Address of Recorded Holder: **SANTA MARIA RESOURCES LIMITED**  
 808 - 85 Richmond Street West, Toronto, Ontario M5H 2C9 (416-366-3947)  
 Prospector's Licence No. **T-614**

Summary of Work Performance and Distribution of Credits

Total Work Days Cr. claimed <i>15,325 days</i>	Mining Claim		Work Days Cr.	Mining Claim		Work Days Cr.	Mining Claim		Work Days Cr.
	Prefix	Number		Prefix	Number		Prefix	Number	
for Performance of the following work. (Check one only) <input type="checkbox"/> Manual Work <input type="checkbox"/> Shaft Sinking Drifting or other Lateral Work. <input type="checkbox"/> Compressed Air, other Power driven or mechanical equip. <input type="checkbox"/> Power Stripping <input checked="" type="checkbox"/> Diamond or other Core drilling <input type="checkbox"/> Land Survey	Pa	861413	140	Pa	861421	140	Pa	861429	140
		861414	140		861422	140		861430	140
		861415	140		861423	140		861431	140
		861416	140		861424	140		861432	140
		861417	140		861425	140		861501	140
		861418	140		861426	140		861502	140
		861419	140		861427	140		861503	140
	861420	140		861428	140		861504	140	

All the work was performed on Mining Claim(s): **see attached (Zeemel Lake sheet)**

Required Information eg: type of equipment, Names, Addresses, etc. (See Table Below) **G 2278**

Midwest Drilling, 180 Cree Crescent, Winnipeg, Manitoba R3J 3W1

Drilling performed between September 3, 1987 and February 9, 1988

Please see "Summary" of attached report

*15,325 performed*  
*274 not allowable - no core taken re 88-3 - overburden drilling only*  
*15,051 using this report*  
*6,300*  
*8,751 in reserve for future use*

ONTARIO GEOLOGICAL SURVEY  
 ASSESSMENT FILES OFFICE  
 SEP 6 1988  
 RECEIVED

RECEIVED  
 JUN 28 1988  
 PATRICIA MINING DIVISION

*Recorded*

Date of Report **June 20, 1988** Recorded Holder or Agent (Signature) *Plaskett*

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying  
**G. G. Plaskett, Suite 808 85 Richmond Street West Toronto, Ont.**  
**M5H 2C9**  
 Date Certified **June 20, 1988** Certified by (Signature) *Plaskett*

Table of Information/Attachments Required by the Mining Recorder

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



The Mining Act

Instructions — Supply required data on a separate form for each type of work to be recorded (see table below).  
— For Geo-technical work use form no. 1362 "Report of Work (Geological, Geophysical, Geochemical and Expenditures)".

Name Postal Address of Recorded Holder <b>SANTA MARIA RESOURCES LIMITED</b>	Prospector's Licence No. <b>T-614</b>
--	--

Summary of Work Performance and Distribution of Credits

Total Work Days Cr. claimed for Performance of the following work. (Check one only)	Mining Claim			Mining Claim			Mining Claim		
	Prefix	Number	Work Days Cr.	Prefix	Number	Work Days Cr.	Prefix	Number	Work Days Cr.
<input type="checkbox"/> Manual Work  <input type="checkbox"/> Shaft Sinking Drifting or other Lateral Work. <input type="checkbox"/> Compressed Air, other Power driven or mechanical equip. <input type="checkbox"/> Power Stripping  <input type="checkbox"/> Diamond or other Core drilling <input type="checkbox"/> Land Survey	Pa	861505	140	Pa	861513	140	Pa	861521	140
		861506	140		861514	140		861522	140
		861507	140		861515	140		861523	140
		861508	140		861516	140		861524	140
		861509	140		861517	140		861525	140
		861510	140		861518	140			
		861511	140		861519	140			
		861512	140		861520	140			

All the work was performed on Mining Claim(s):

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



Date of Report	Recorded Holder or Agent (Signature)
----------------	--------------------------------------

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying	
Date Certified	Certified by (Signature)

Table of Information/Attachments Required by the Mining Recorder

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

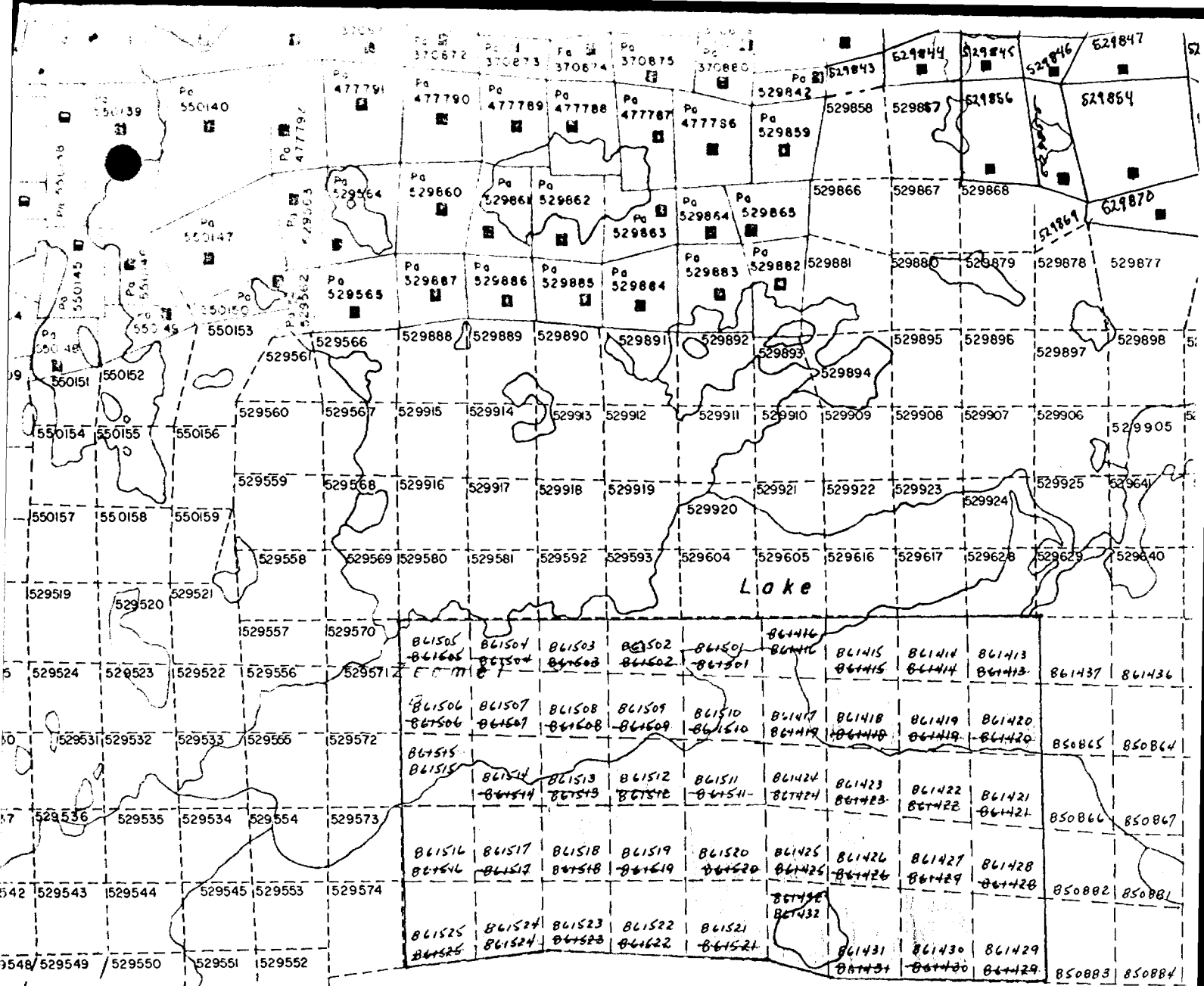


Attachment 1

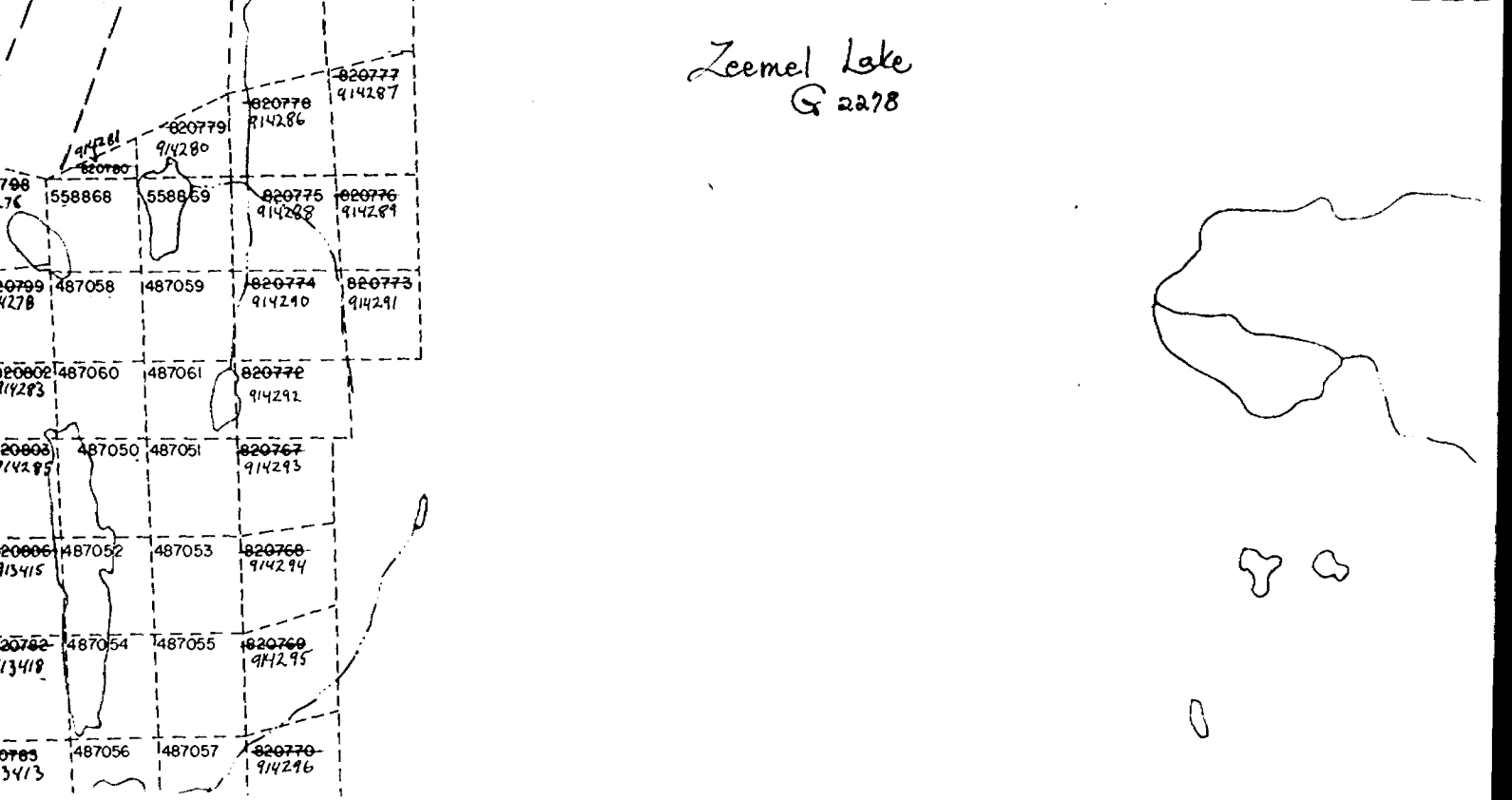
All drilling was performed on mining claims:

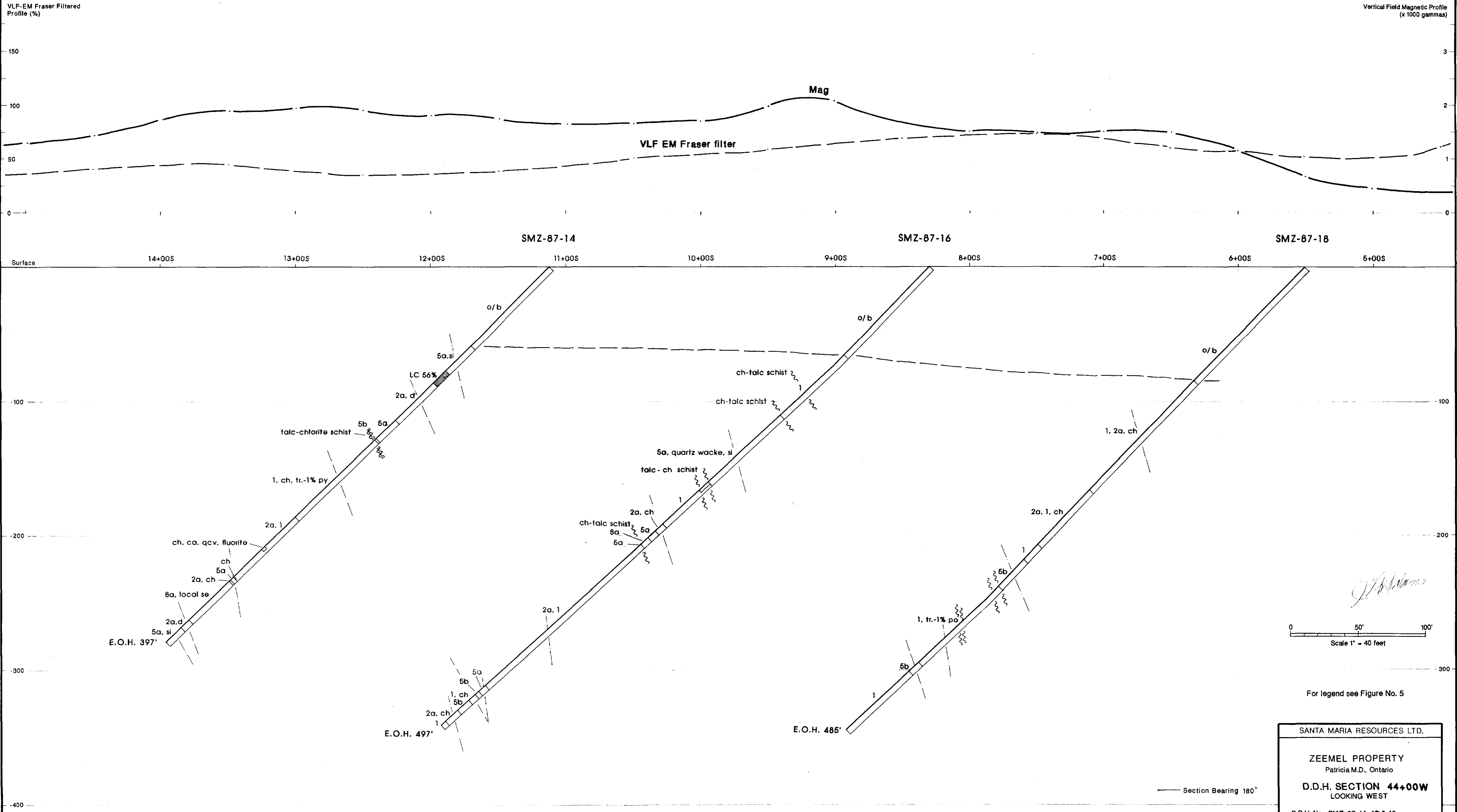
861418, 861419, 861420, 861425, 861426, 861430,  
861431, 861432, 861512, 861513, 861514, 861517,  
861518, 861520, 861521, 861524





Zemel Lake  
G 2278





*[Handwritten Signature]*

0 50' 100'

Scale 1" = 40 feet

For legend see Figure No. 5

SANTA MARIA RESOURCES LTD.

ZEEMEL PROPERTY  
Patricia M.D., Ontario

**D.D.H. SECTION 44+00W**  
LOOKING WEST

D.D.H. No. SMZ-87-14, 16 & 18

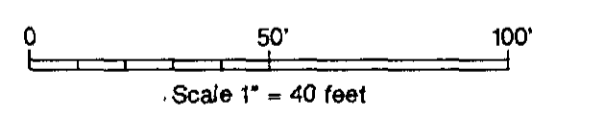
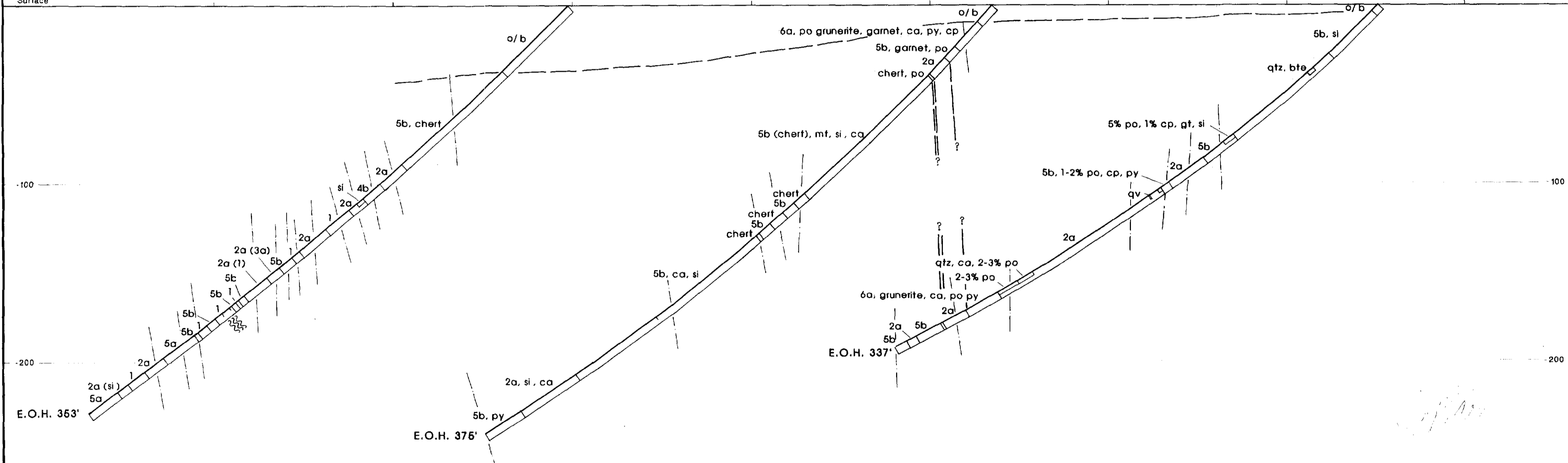
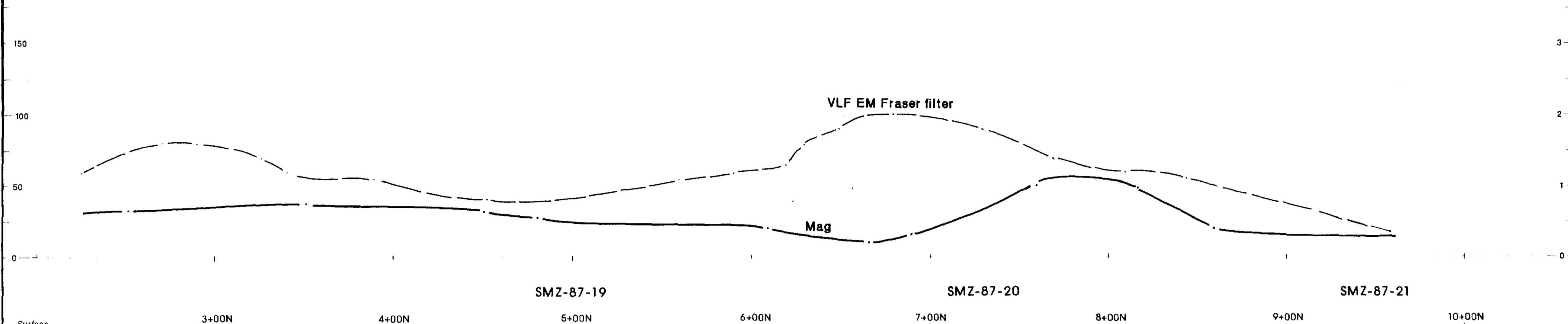
BY: EDT /RTM
DATE: April, 1988
SCALE: 1" = 480'
FIGURE 24

GEOCANEX LTD  
TORONTO CANADA



VLF-EM Fraser Filtered Profile (%)

Vertical Field Magnetic Profile (x 1000 gammas)



For legend see Figure No. 5

Section Bearing 180°

SANTA MARIA RESOURCES LTD.

ZEEMEL PROPERTY  
Patricia M.D., Ontario

D.D.H. SECTION 42+00W  
LOOKING WEST

D.D.H. No. SMZ-87-19, 20 & 21

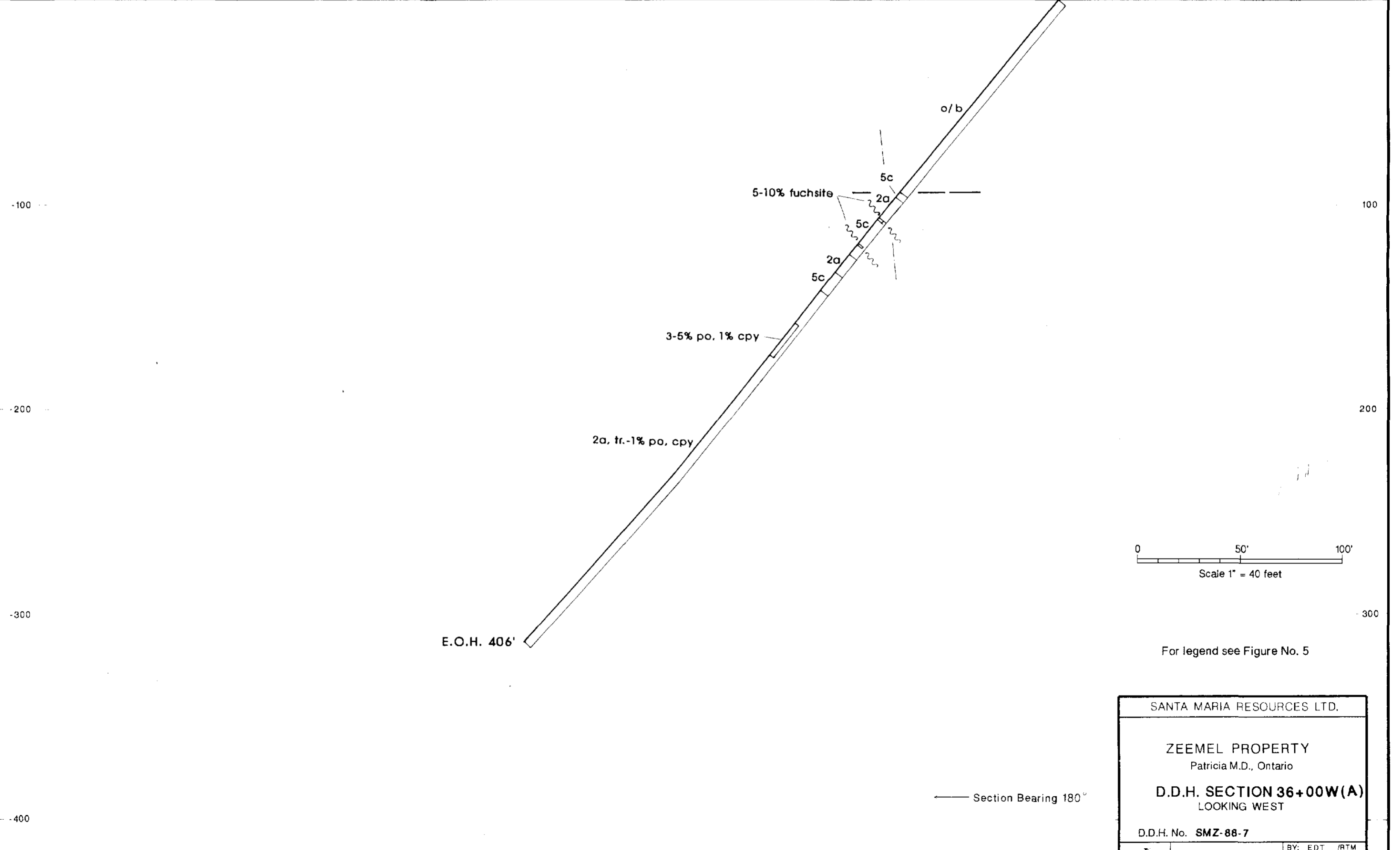
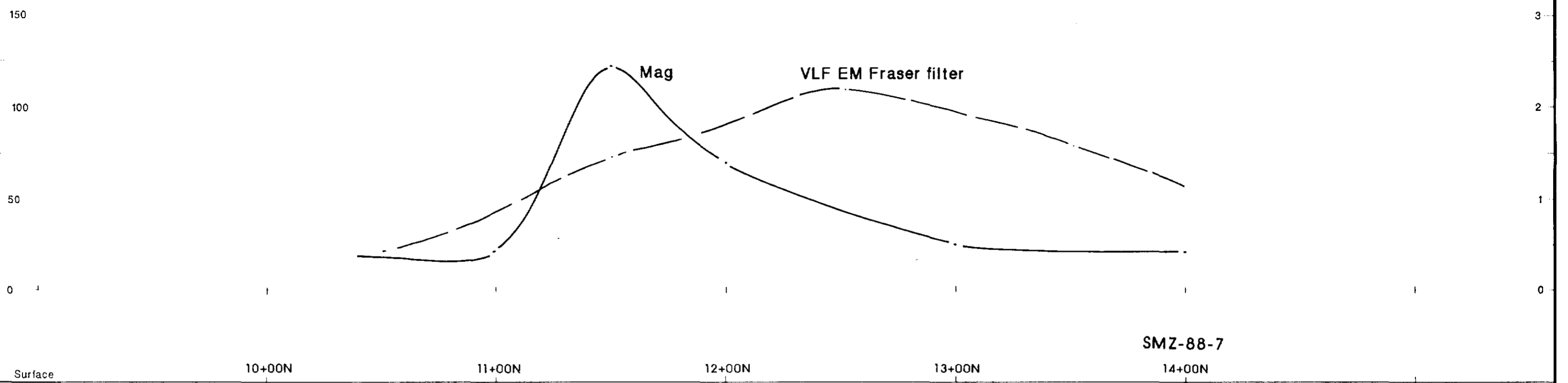
	BY: BAH/ET/RTM
	DATE: April, 1988
	SCALE: 1" = 480'
	FIGURE 23

GEOCANEX LTD  
TORONTO CANADA



VLF-EM Fraser Filtered Profile (%)

Vertical Field Magnetic Profile (x 1000 gammas)



For legend see Figure No. 5

SANTA MARIA RESOURCES LTD.

**ZEEMEL PROPERTY**  
Patricia M.D., Ontario

**D.D.H. SECTION 36+00W(A)**  
LOOKING WEST

D.D.H. No. **SMZ-88-7**

	BY: EDT /RTM
	DATE: April, 1988
	SCALE: 1" = 480'
	FIGURE 21

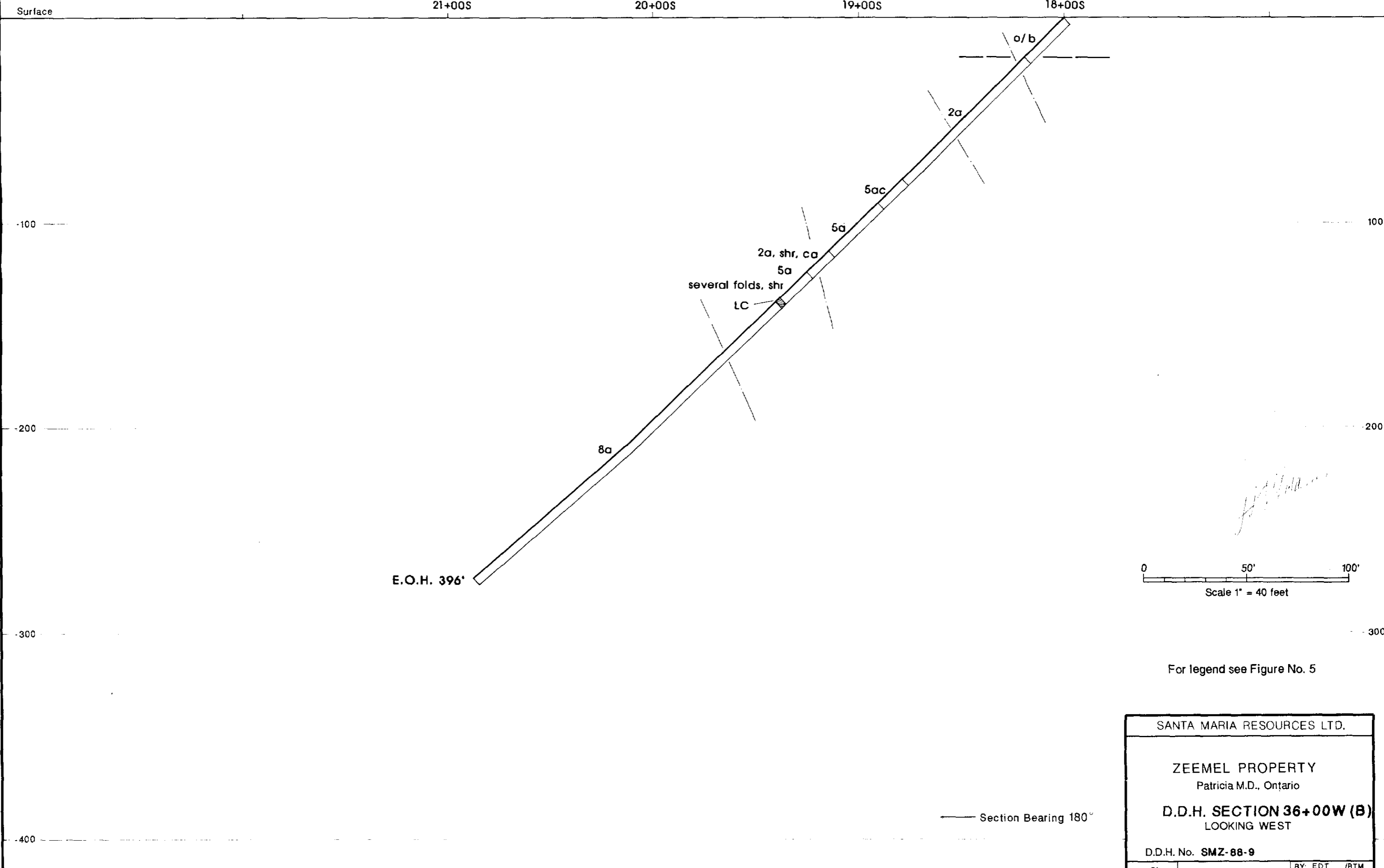
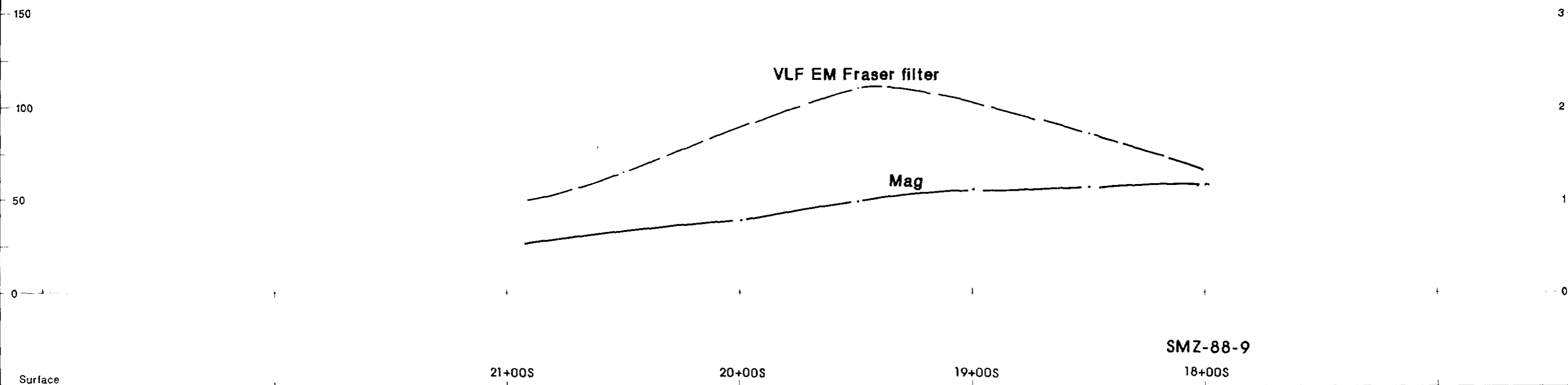
GEOCANEX LTD  
TORONTO CANADA



536095W0001 29 ZEEMEL LAKE

VLF-EM Fraser Filtered  
Profile (%)

Vertical Field Magnetic Profile  
(x 1000 gammas)



For legend see Figure No. 5

SANTA MARIA RESOURCES LTD.

ZEEMEL PROPERTY  
Patricia M.D., Ontario

D.D.H. SECTION 36+00W (B)  
LOOKING WEST

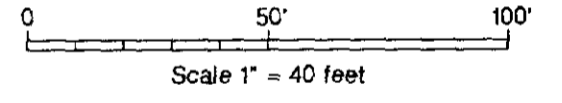
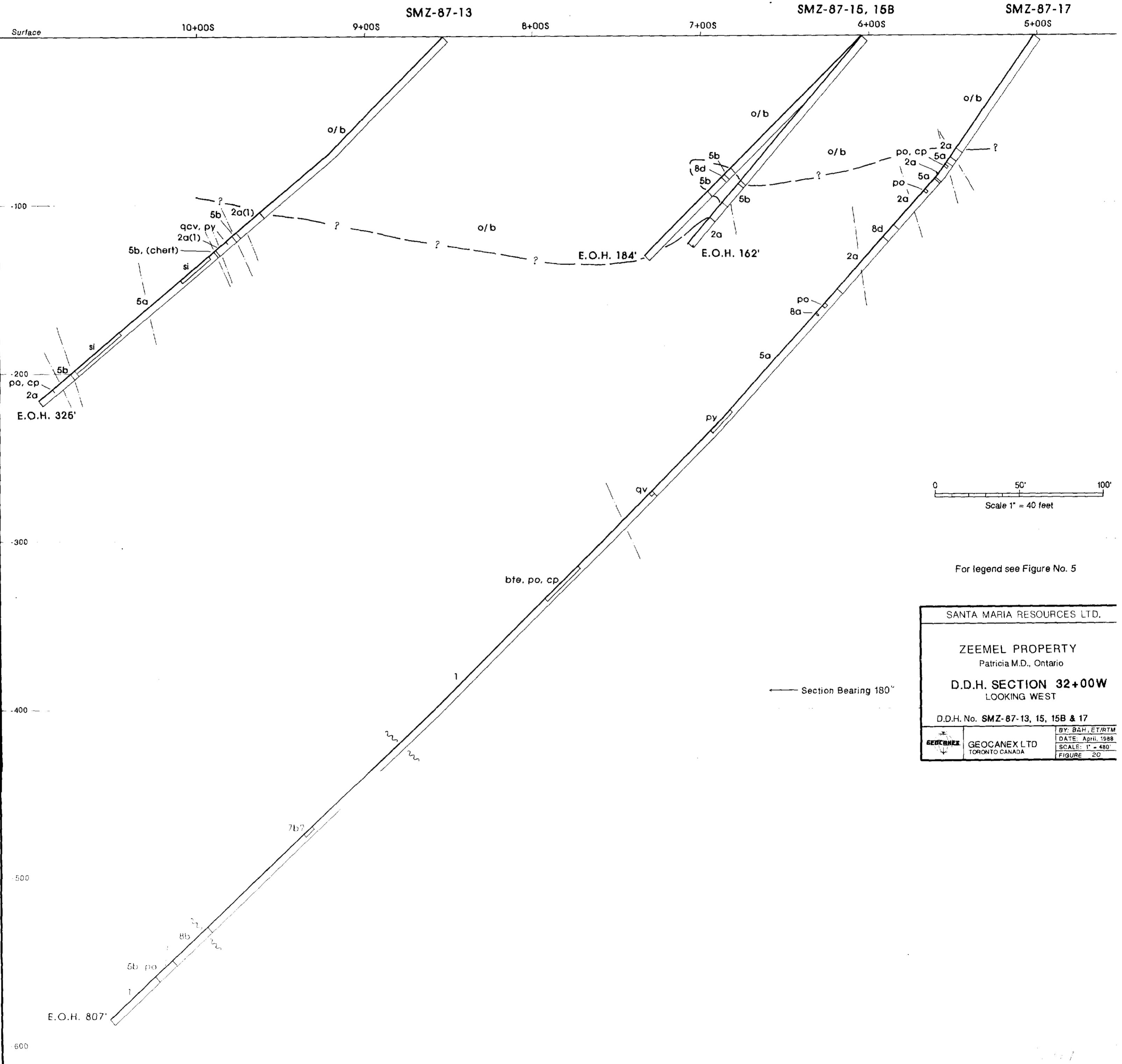
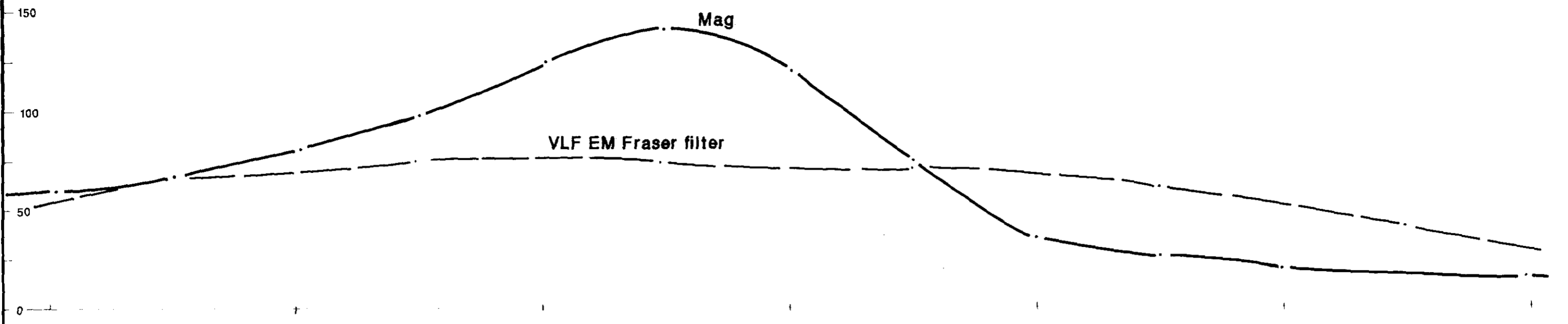
D.D.H. No. SMZ-88-9



GEOCANEX LTD  
TORONTO CANADA

BY: EDT /RTM  
DATE: April, 1988  
SCALE: 1" = 480'  
FIGURE 22





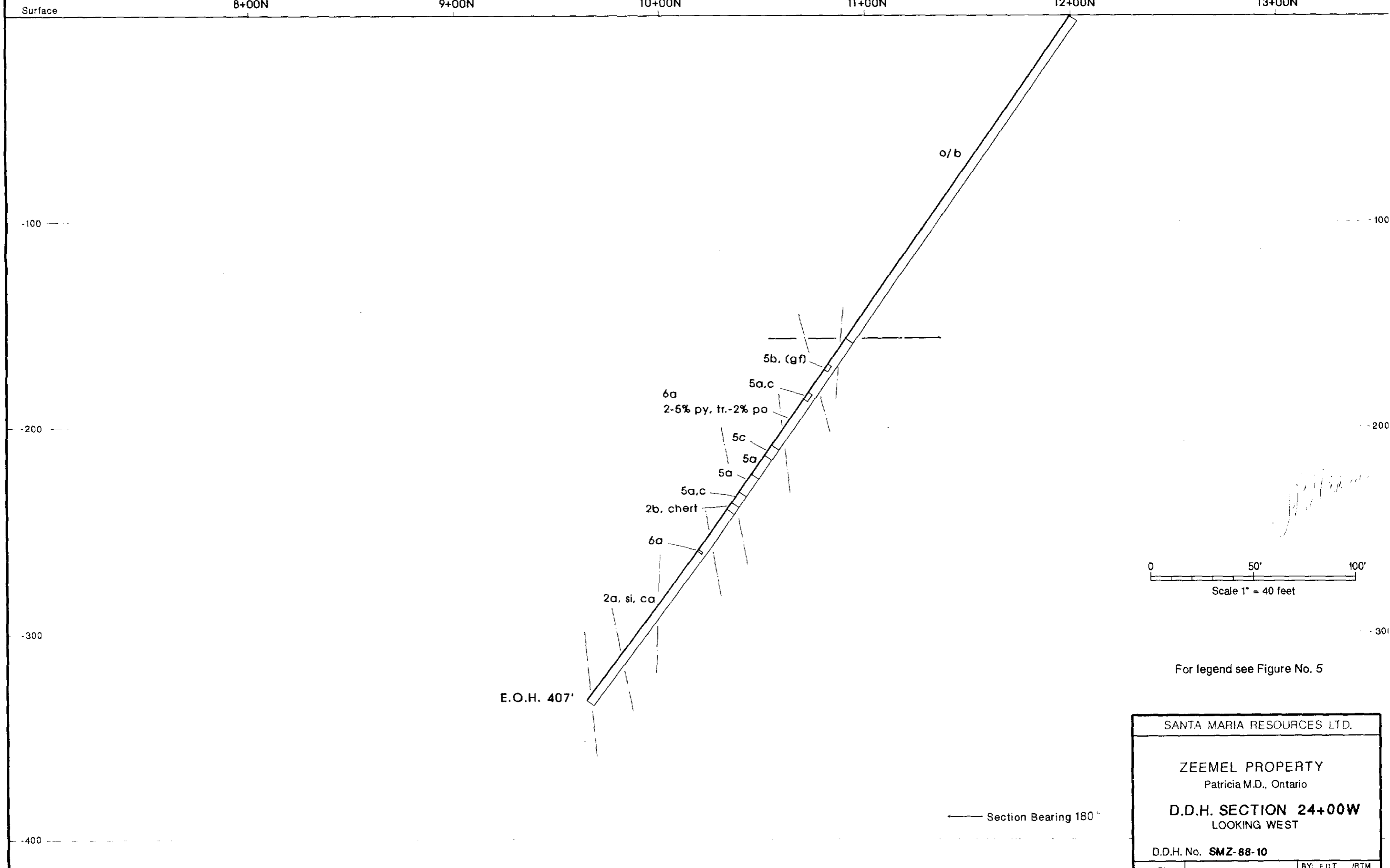
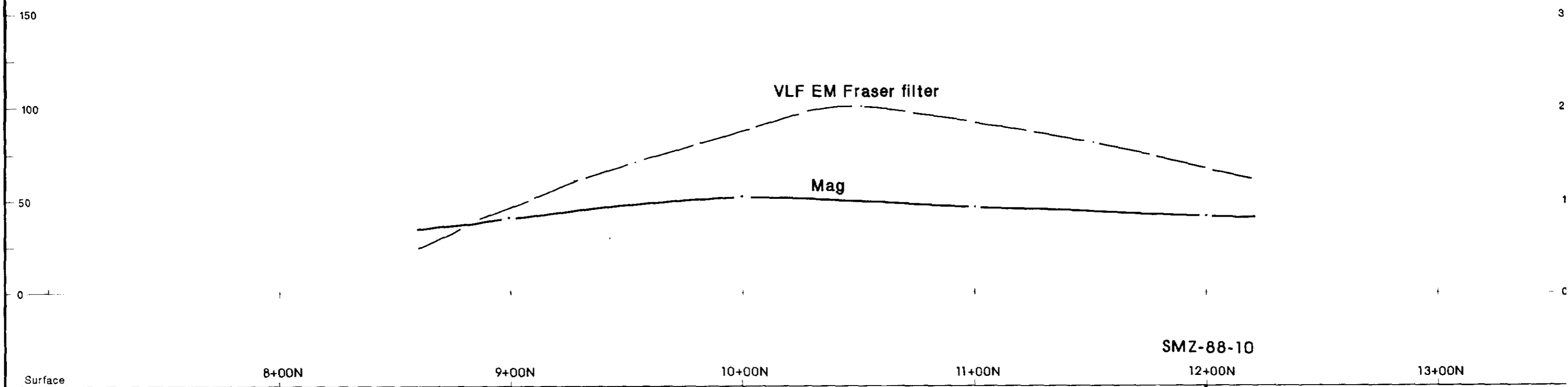
For legend see Figure No. 5

SANTA MARIA RESOURCES LTD.	
ZEEMEL PROPERTY Patricia M.D., Ontario	
D.D.H. SECTION 32+00W LOOKING WEST	
D.D.H. No. SMZ-87-13, 15, 15B & 17	
BY: BAH, ET/RTM	DATE: April, 1988
GEOCANEX LTD TORONTO, CANADA	SCALE: 1" = 480' FIGURE 20



VLF-EM Fraser Filtered  
Profile (%)

Vertical Field Magnetic Profile  
(x 1000 gammas)



For legend see Figure No. 5

SANTA MARIA RESOURCES LTD.

ZEEMEL PROPERTY  
Patricia M.D., Ontario

D.D.H. SECTION 24+00W  
LOOKING WEST

D.D.H. No. SMZ-88-10

BY: EDT /RTM  
DATE: April, 1988  
SCALE: 1" = 480"  
FIGURE 19

GEOCANEX LTD  
TORONTO CANADA

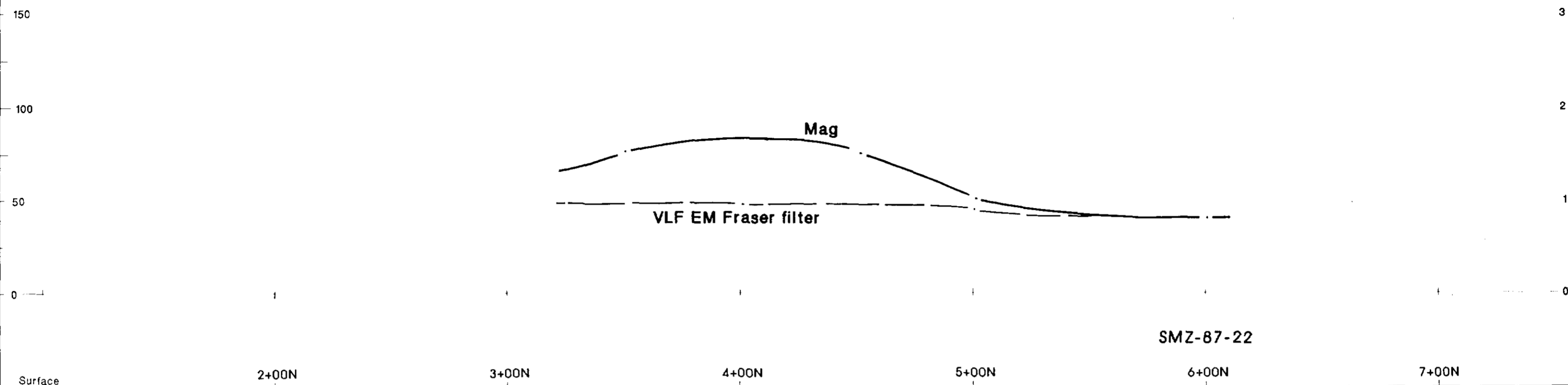


53B895W0001 29 ZEEMEL LAKE

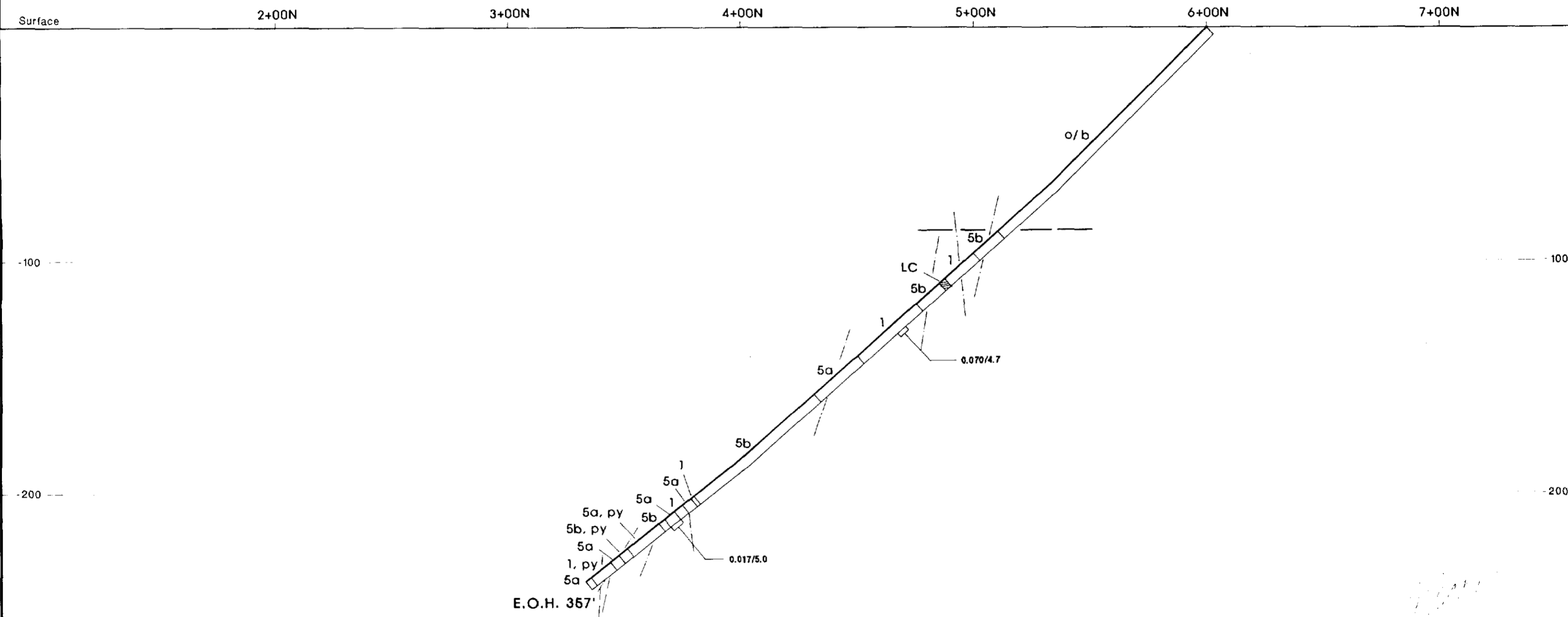


VLF-EM Fraser Filtered Profile (%)

Vertical Field Magnetic Profile (x 1000 gammas)



SMZ-87-22



For legend see Figure No. 5

Section Bearing 180°

SANTA MARIA RESOURCES LTD.

ZEEMEL PROPERTY  
Patricia M.D., Ontario

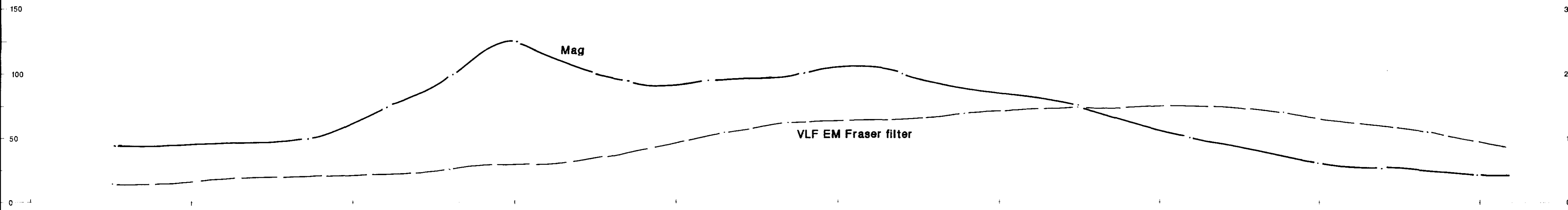
D.D.H. SECTION 18+00W (A)  
LOOKING WEST

D.D.H. No. SMZ-87-22

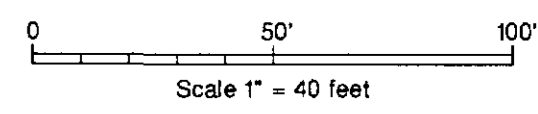
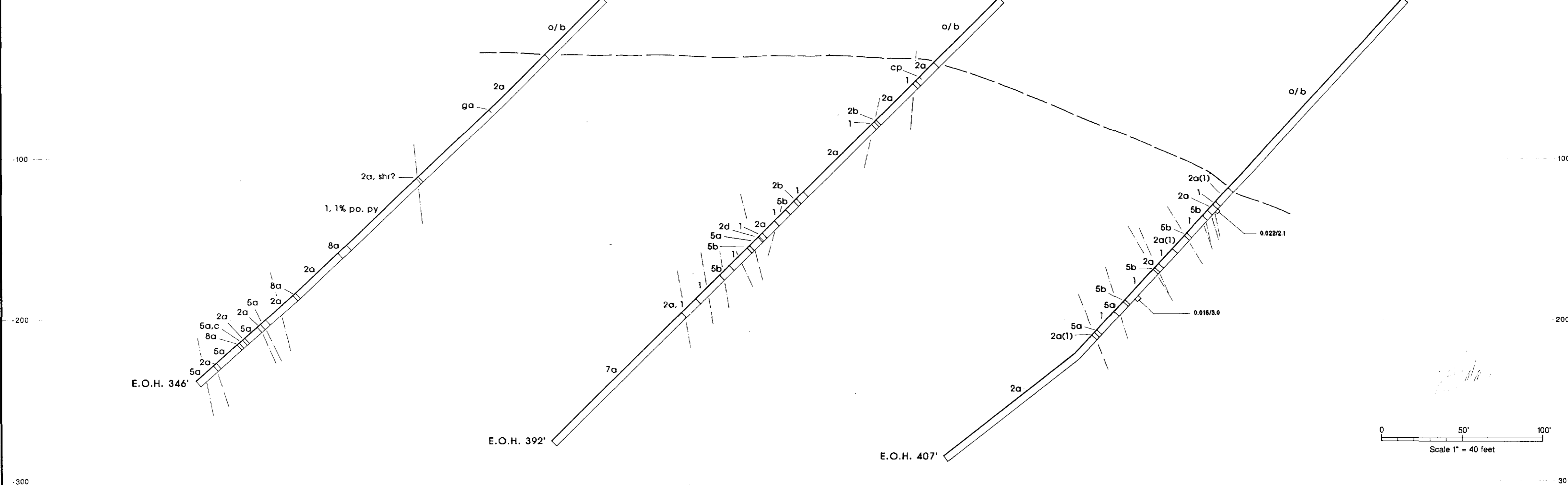
	BY: BAH /RTM
	DATE: April, 1988
	SCALE: 1" = 480'
	FIGURE 17



53B09S0001 29 ZEEMEL LAKE



Surface 14+00S 13+00S 12+00S SMZ-87-7 11+00S 10+00S SMZ-87-8 9+00S 8+00S SMZ-87-10 7+00S 6+00S

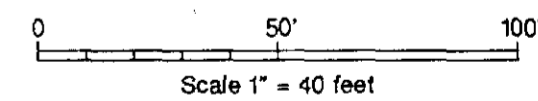
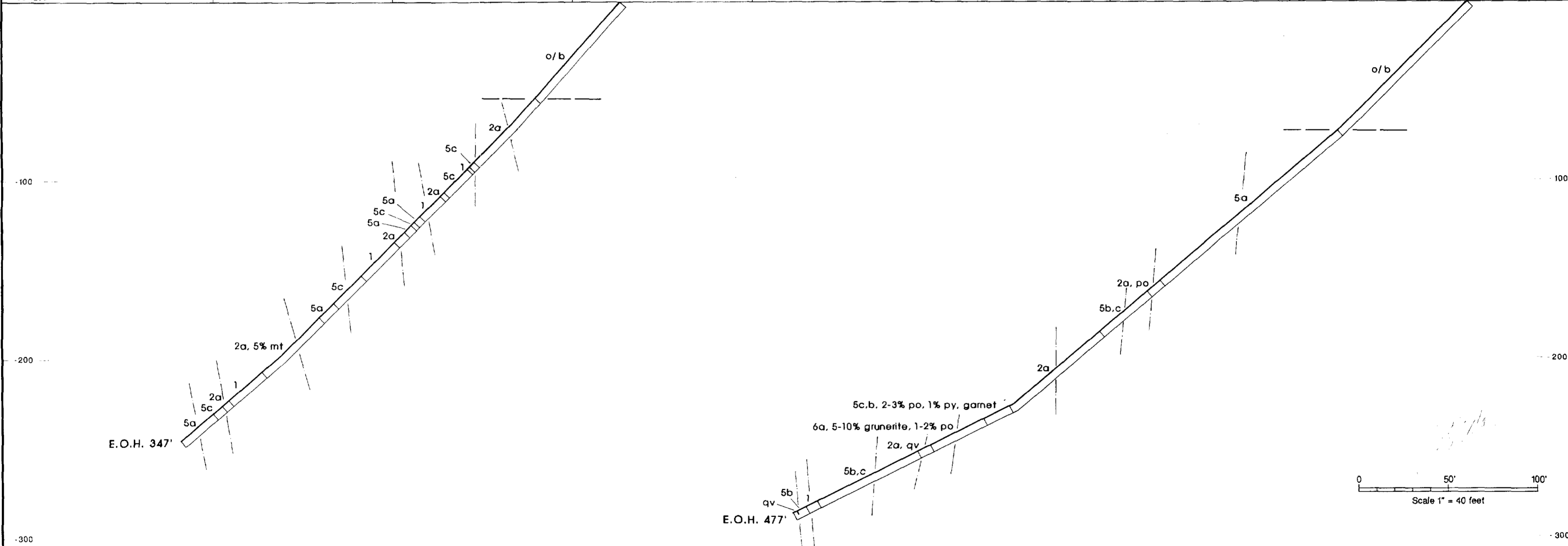
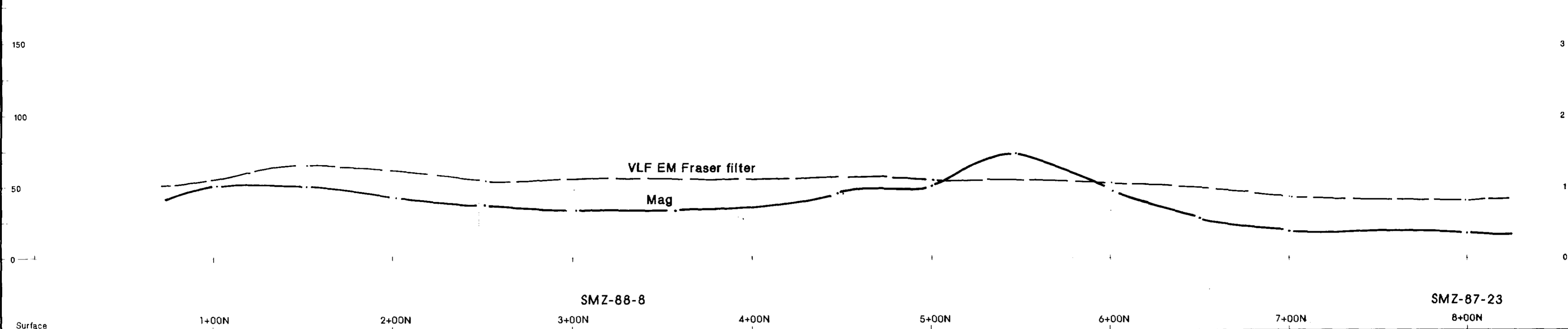


For legend see Figure No. 5

SANTA MARIA RESOURCES LTD.	
ZEEMEL PROPERTY Patricia M.D., Ontario	
D.D.H. SECTION 18+00W (B) LOOKING WEST	
D.D.H. No. SMZ-87-7, 8 & 10	
 GEOCANEX LTD TORONTO CANADA	BY: E.T. /RTM DATE: April, 1988 SCALE: 1" = 480' FIGURE 1B

Section Bearing 180°



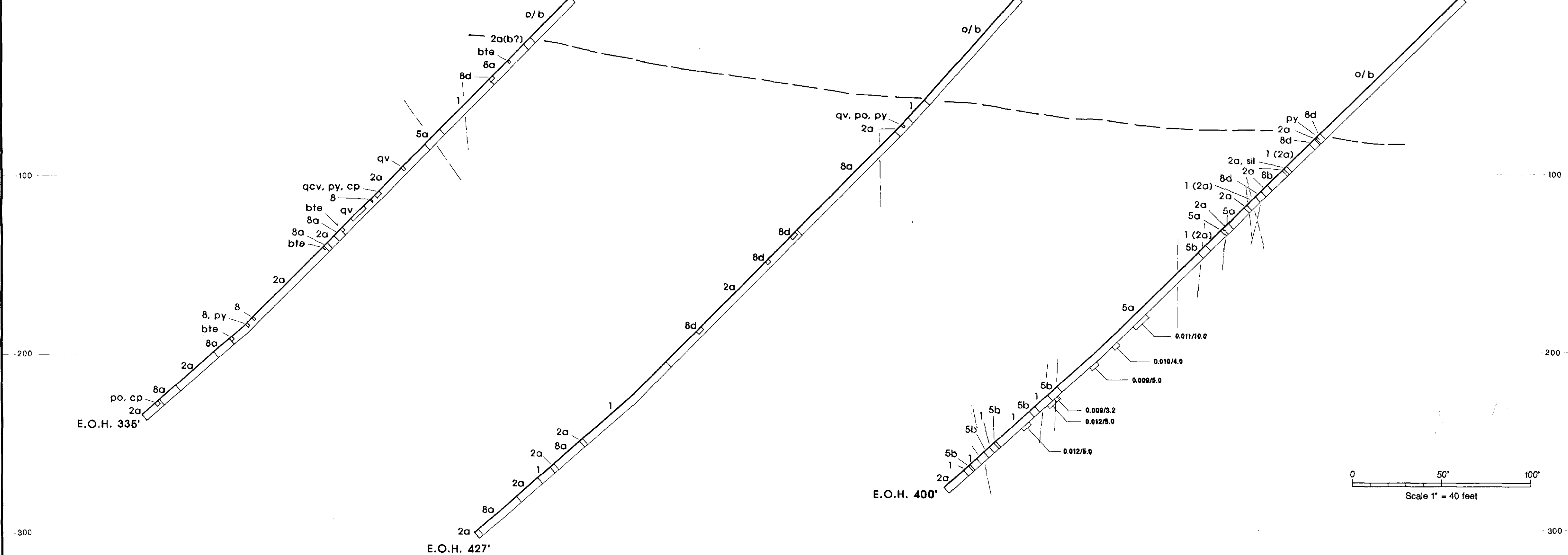
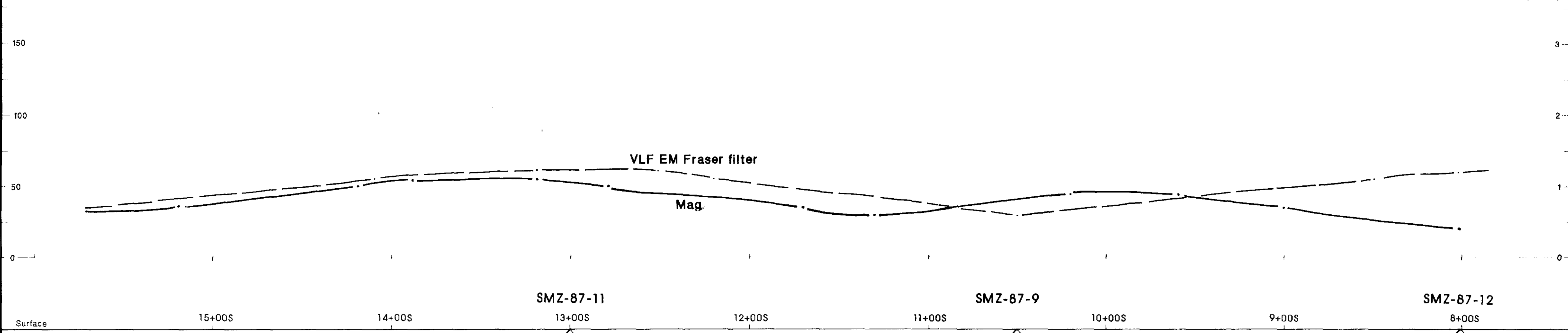


For legend see Figure No. 5

Section Bearing 180°

SANTA MARIA RESOURCES LTD.	
ZEEMEL PROPERTY Patricia M.D., Ontario	
D.D.H. SECTION 4+00W LOOKING WEST	
D.D.H. No. SMZ-87-23 & 88-8	
	GEOCANEX LTD TORONTO CANADA
BY: BAH, EDT/RTM	DATE: April, 1988
SCALE: 1" = 480'	FIGURE 16





Section Bearing 180°

SANTA MARIA RESOURCES LTD.

ZEEMEL PROPERTY  
Patricia M.D., Ontario

**D.D.H. SECTION 1+00E**  
LOOKING WEST

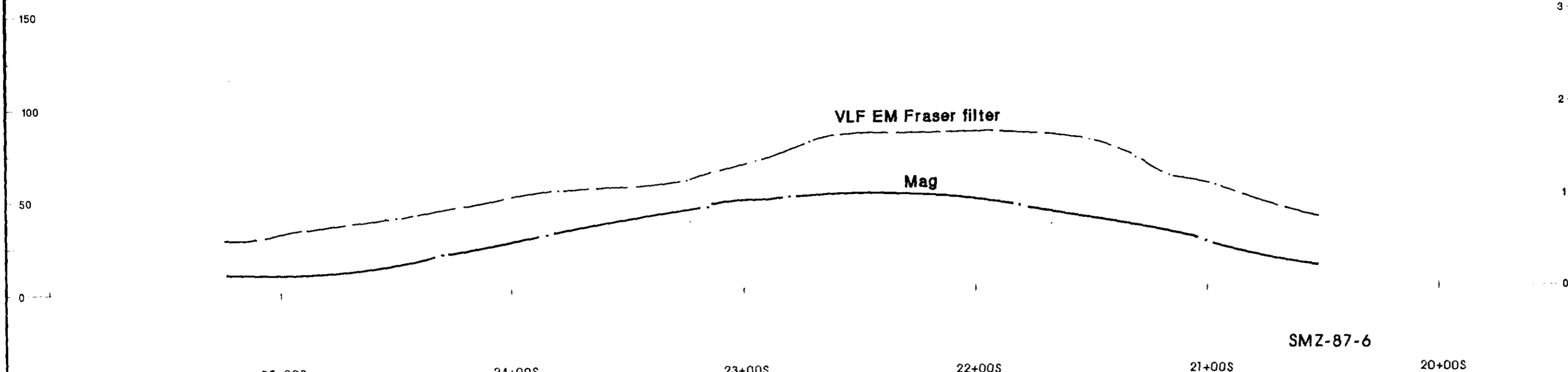
D.D.H. No. SMZ-87-9, 11 & 12

	BY: BAH, BEE/RTM
	DATE: April, 1988
	SCALE: 1" = 480'
FIGURE 15	

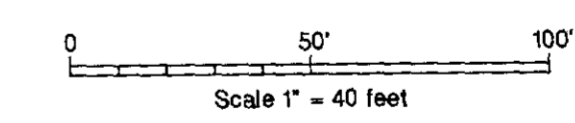
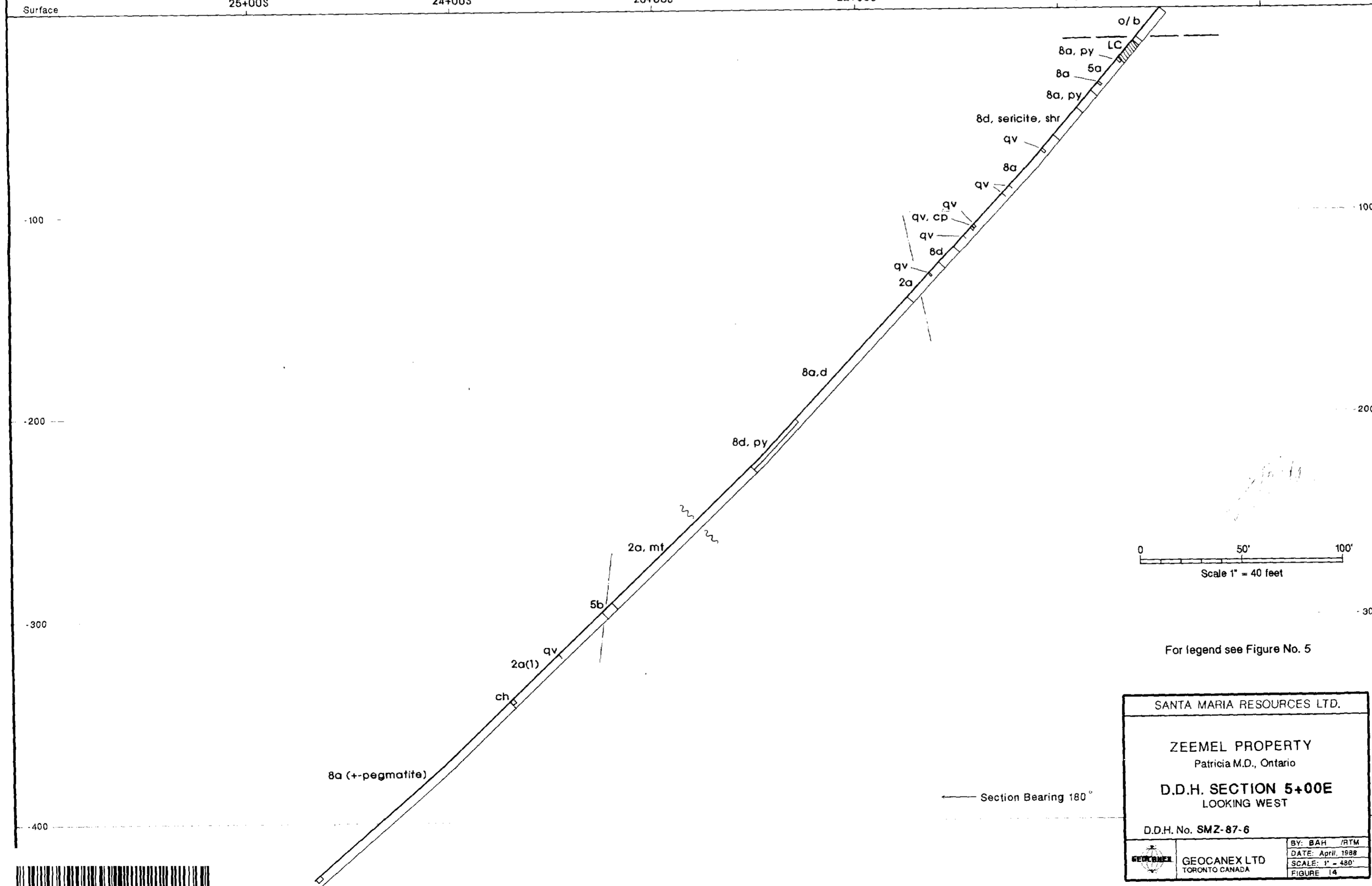


VLF-EM Fraser Filtered Profile (%)

Vertical Field Magnetic Profile (x 1000 gammas)



SMZ-87-6



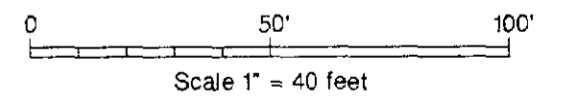
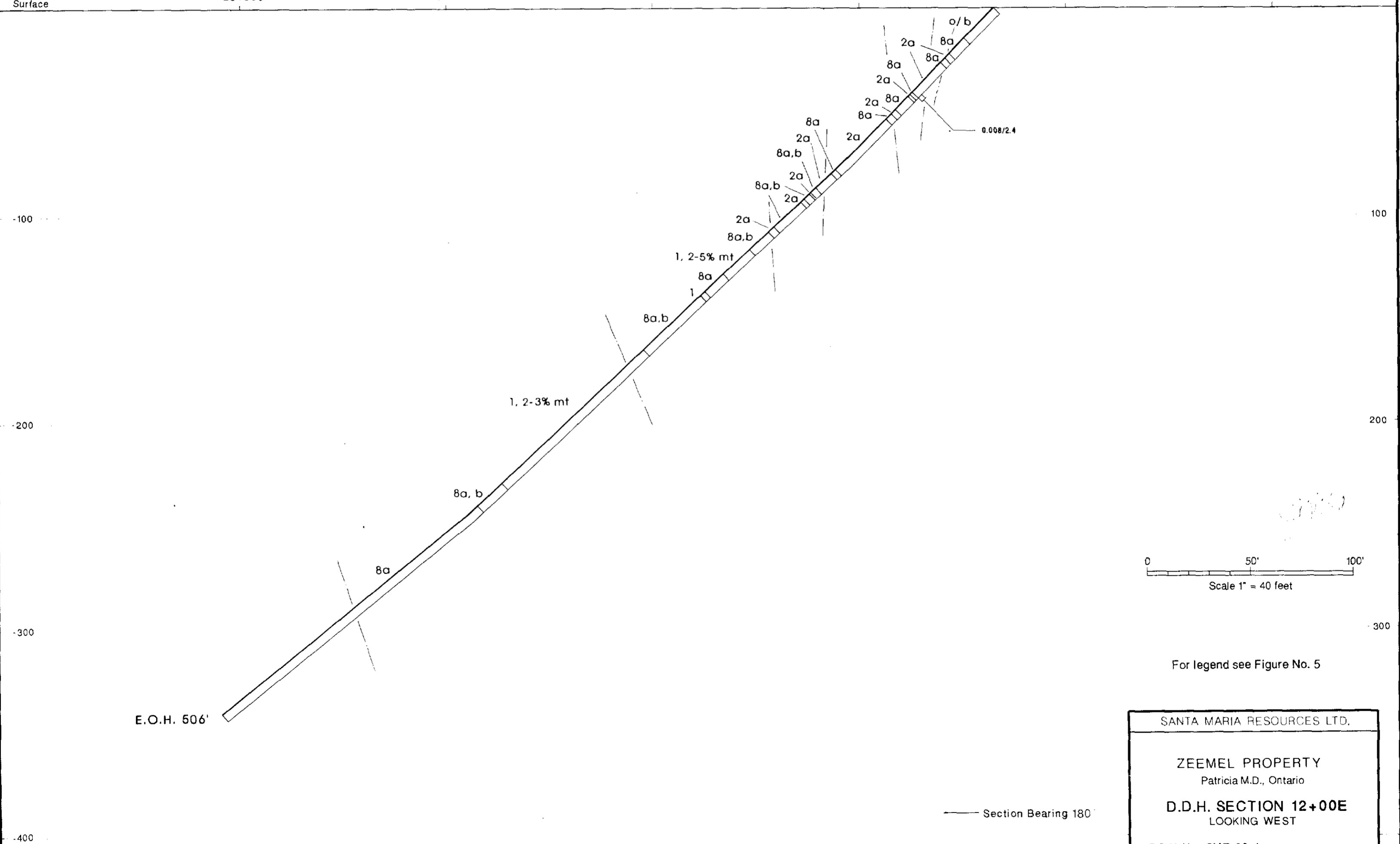
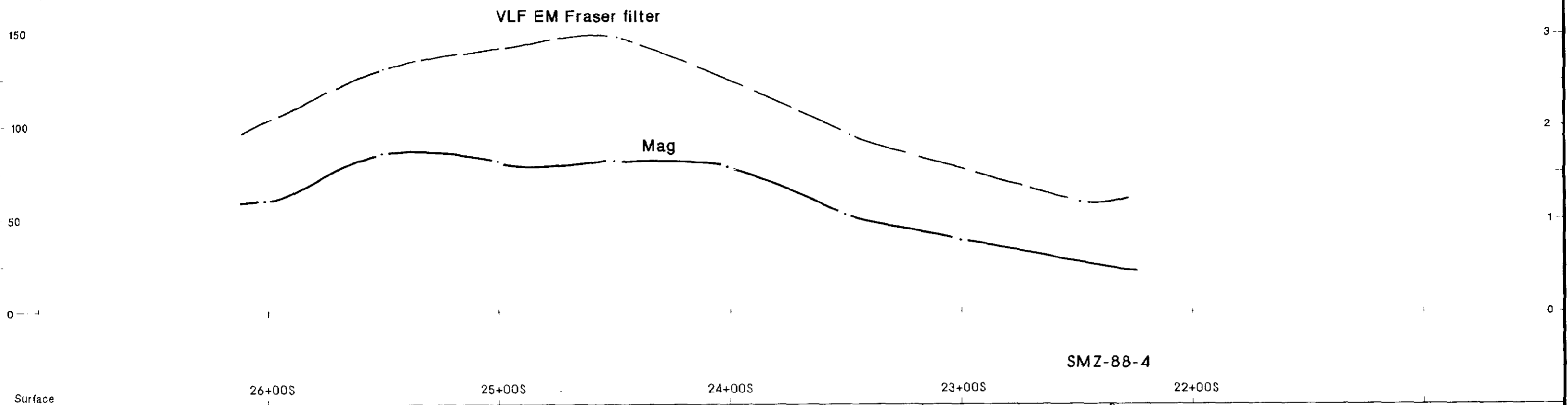
For legend see Figure No. 5

SANTA MARIA RESOURCES LTD.	
ZEEMEL PROPERTY Patricia M.D., Ontario	
D.D.H. SECTION 5+00E LOOKING WEST	
D.D.H. No. SMZ-87-6	
	BY: BAH /RTM DATE: April, 1988 SCALE: 1" = 480' FIGURE 14
GEOCANEX LTD TORONTO CANADA	



VLF-EM Fraser Filtered  
Profile (%)

Vertical Field Magnetic Profile  
(x 1000 gammas)



For legend see Figure No. 5

SANTA MARIA RESOURCES LTD.

ZEEMEL PROPERTY  
Patricia M.D., Ontario

D.D.H. SECTION 12+00E  
LOOKING WEST

D.D.H. No. SMZ-88-4

GEOCANEX LTD  
TORONTO CANADA

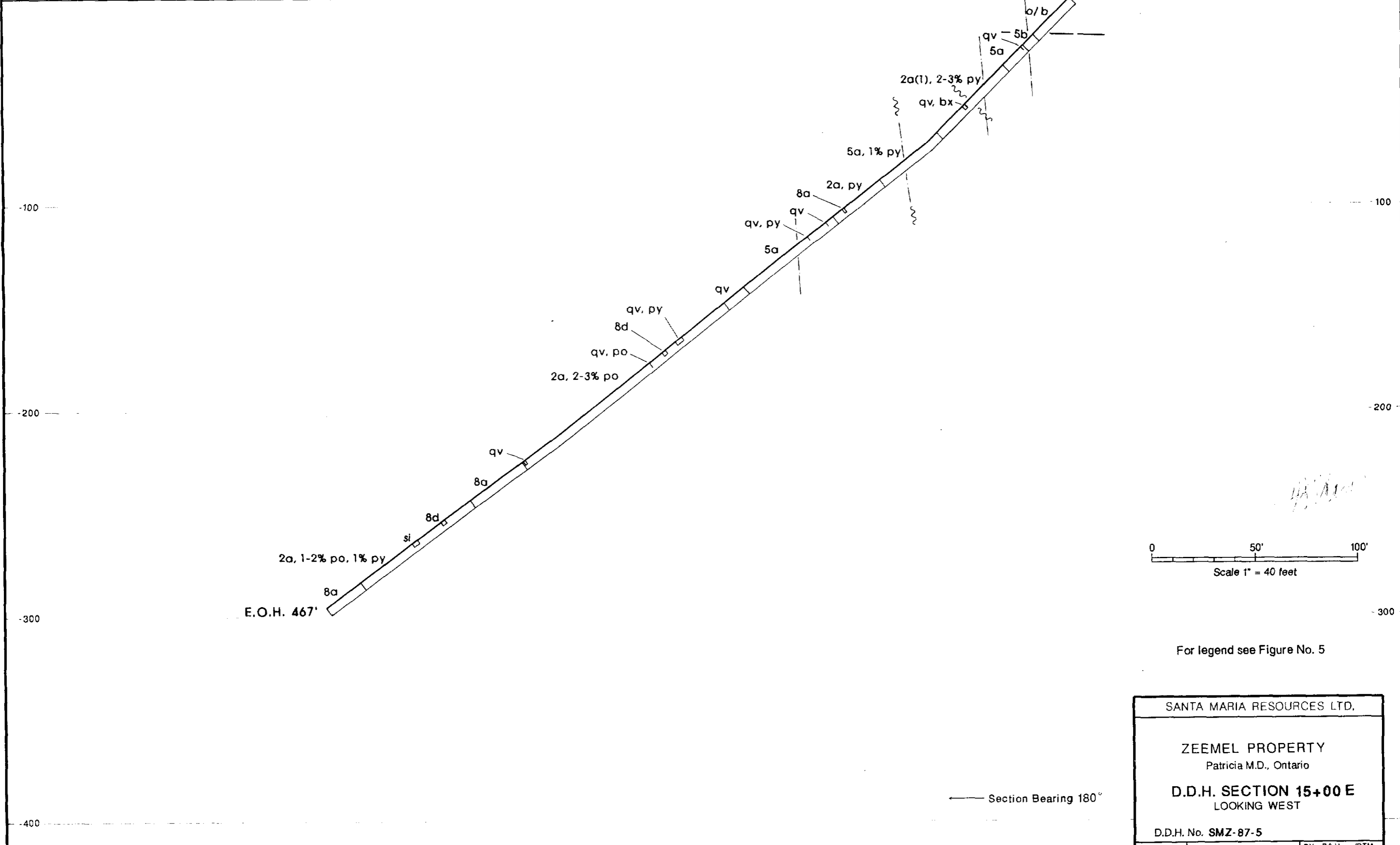
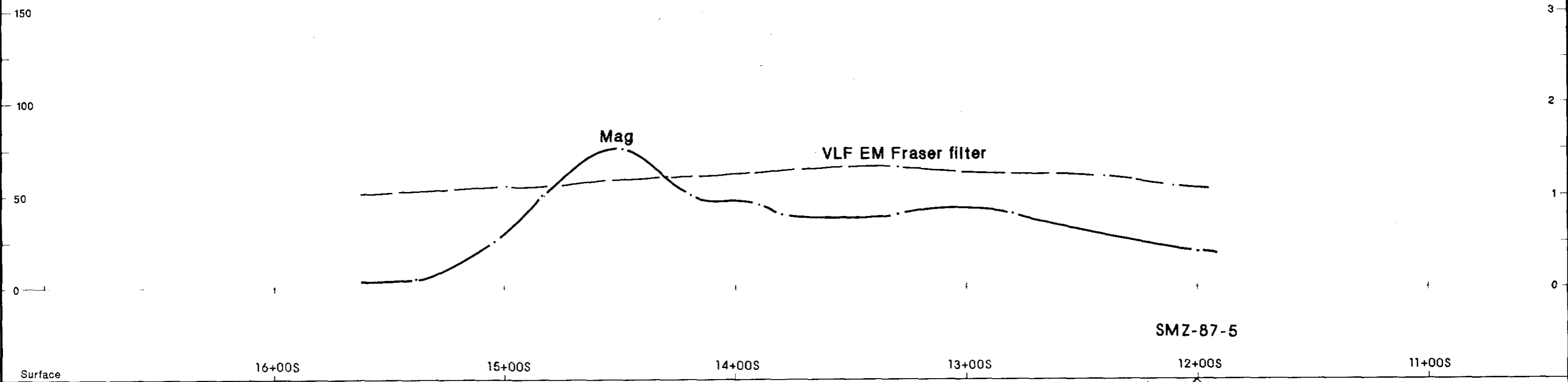
BY: EDT /RTM  
DATE: April, 1988  
SCALE: 1" = 480'  
FIGURE 15



53B095W0001 29 ZEEMEL LAKE

VLF-EM Fraser Filtered Profile (%)

Vertical Field Magnetic Profile (x 1000 gammas)



For legend see Figure No. 5

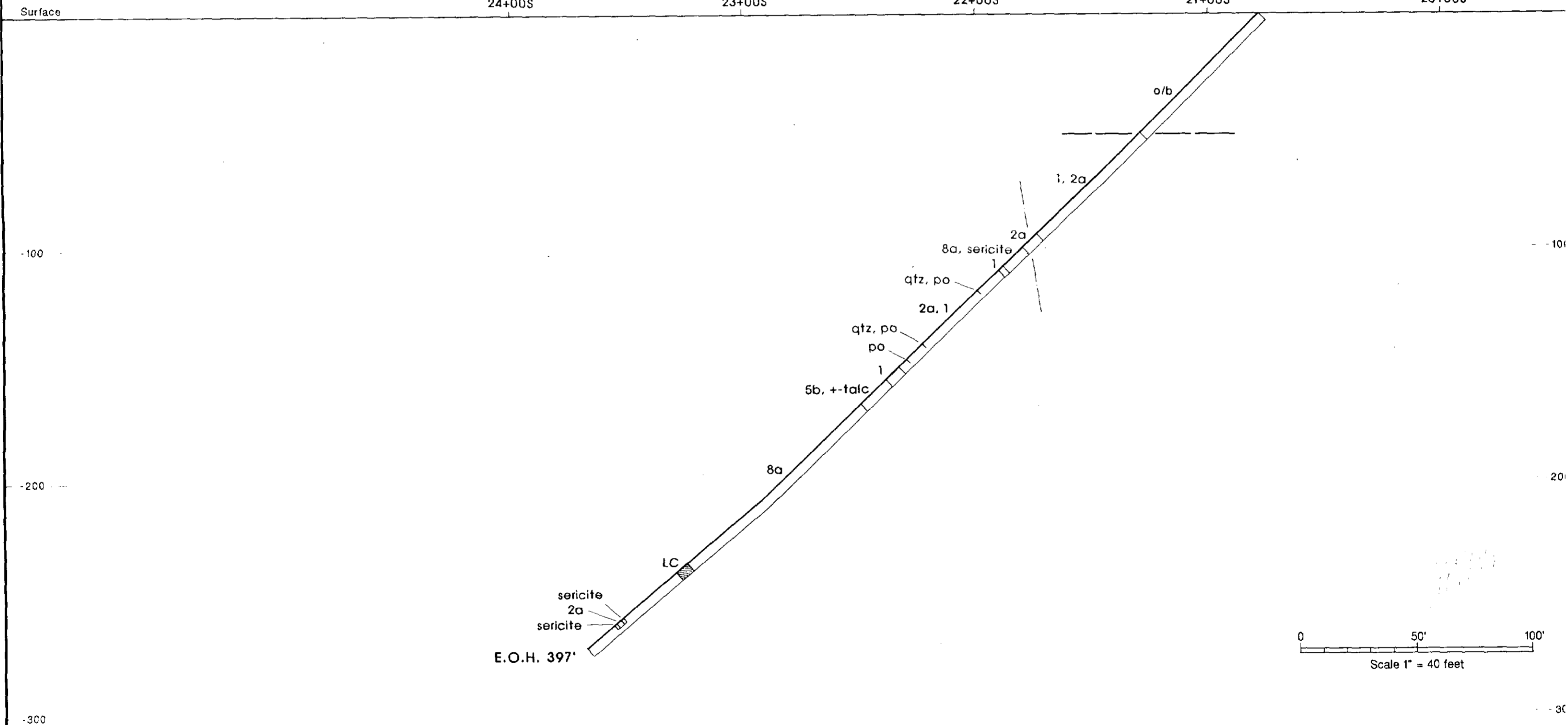
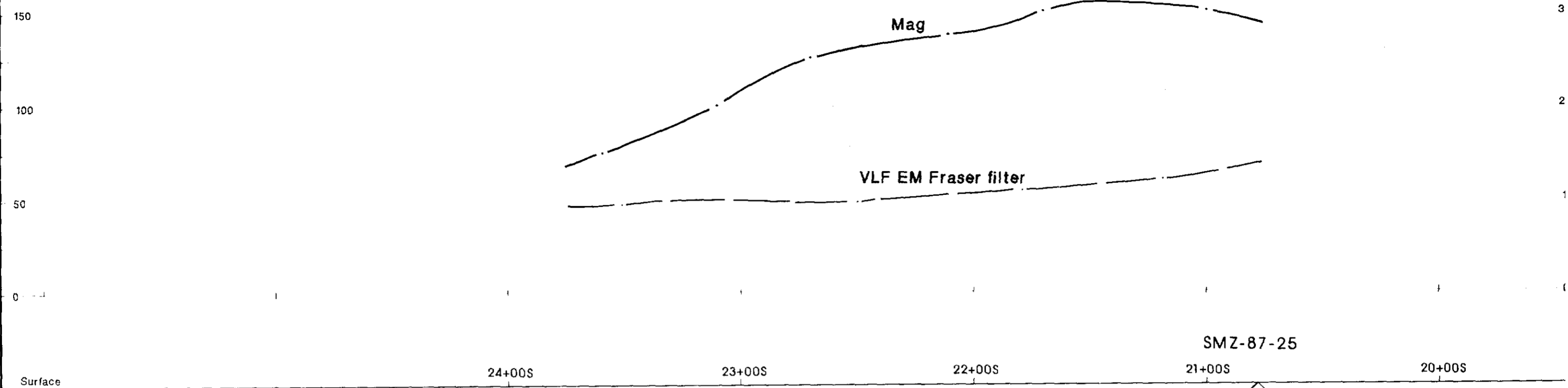
SANTA MARIA RESOURCES LTD.	
ZEEMEL PROPERTY Patricia M.D., Ontario	
D.D.H. SECTION 15+00 E LOOKING WEST	
D.D.H. No. SMZ-87-5	
GEOCANEX LTD TORONTO CANADA	BY: BAH /RTM DATE: April, 1988 SCALE: 1" = 480' FIGURE 12



53B095W0001 29 ZEEMEL LAKE

VLF-EM Fraser Filtered Profile (%)

Vertical Field Magnetic Profile (x 1000 gammas)



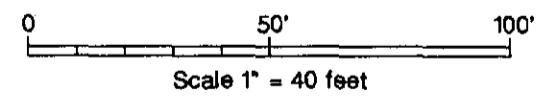
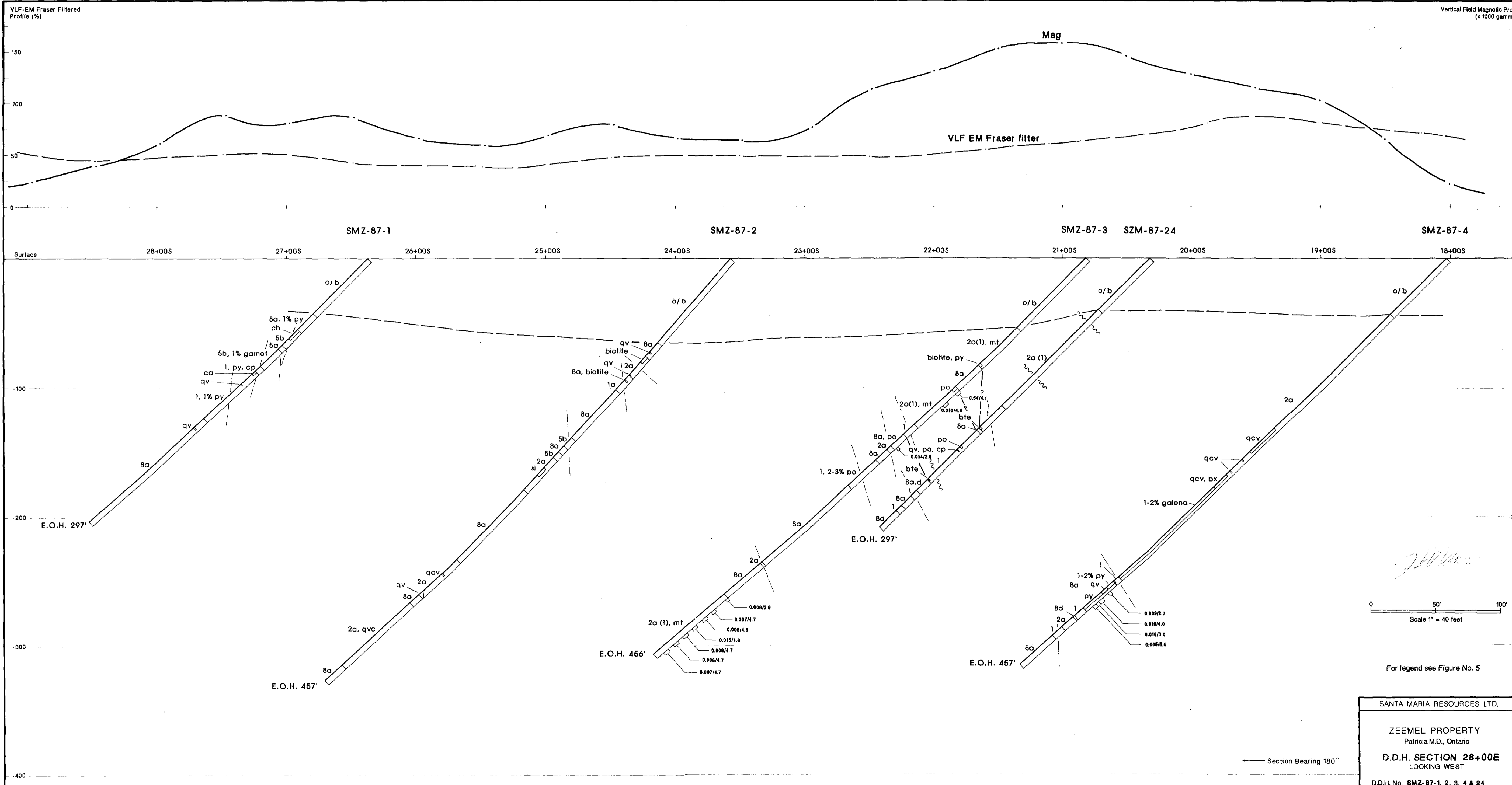
For legend see Figure No. 5

SANTA MARIA RESOURCES LTD.	
ZEEMEL PROPERTY Patricia M.D., Ontario	
D.D.H. SECTION 27+50E LOOKING WEST	
D.D.H. No. SMZ-87-25	
	BY: BAH /RTM DATE: April, 1988 SCALE: 1" = 480' FIGURE II
GEOCANEX LTD TORONTO CANADA	



538095W0001 29 ZEEMEL LAKE





For legend see Figure No. 5

SANTA MARIA RESOURCES LTD.

ZEEMEL PROPERTY  
Patricia M.D., Ontario

**D.D.H. SECTION 28+00E**  
LOOKING WEST

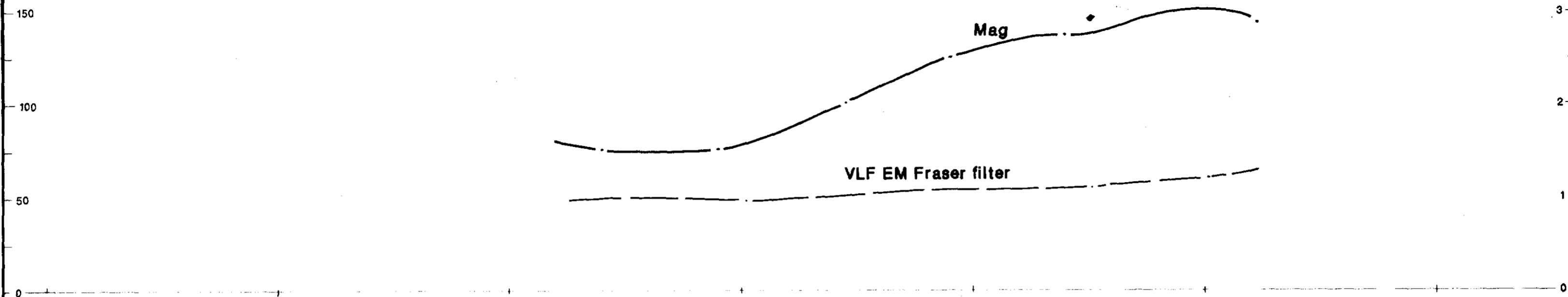
D.D.H. No. SMZ-87-1, 2, 3, 4 & 24

	GEOCANEX LTD TORONTO CANADA	BY: BAH /RTM DATE: April, 1988 SCALE: 1" = 480' FIGURE 10
--	--------------------------------	--



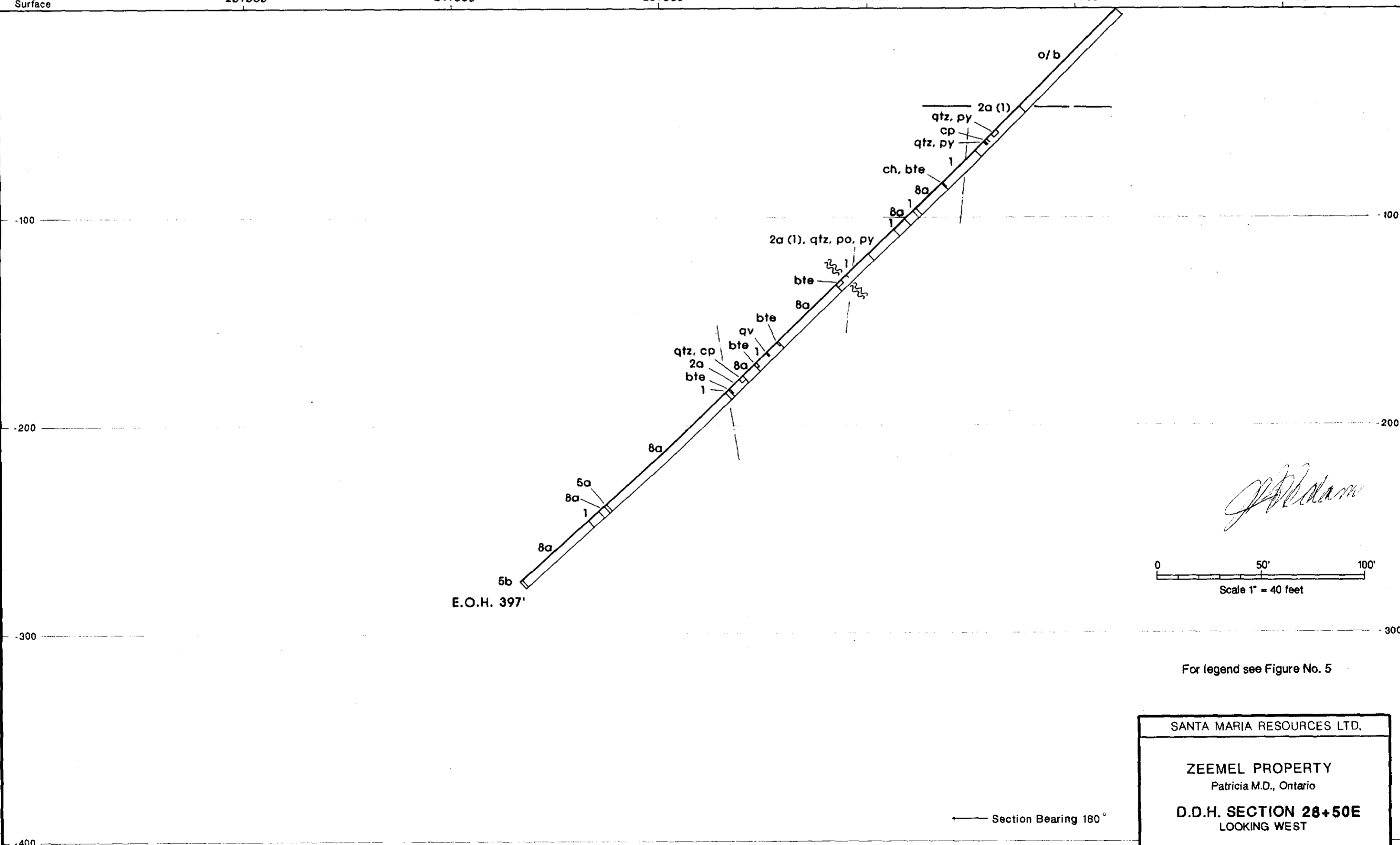
VLF-EM Fraser Filtered Profile (%)

Vertical Field Magnetic Profile (x 1000 gammas)

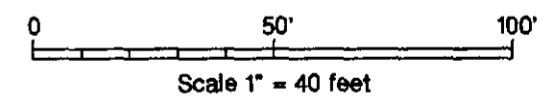


SMZ-87-26

Surface 25+00S 24+00S 23+00S 22+00S 21+00S 20+00S



*J. W. Adams*

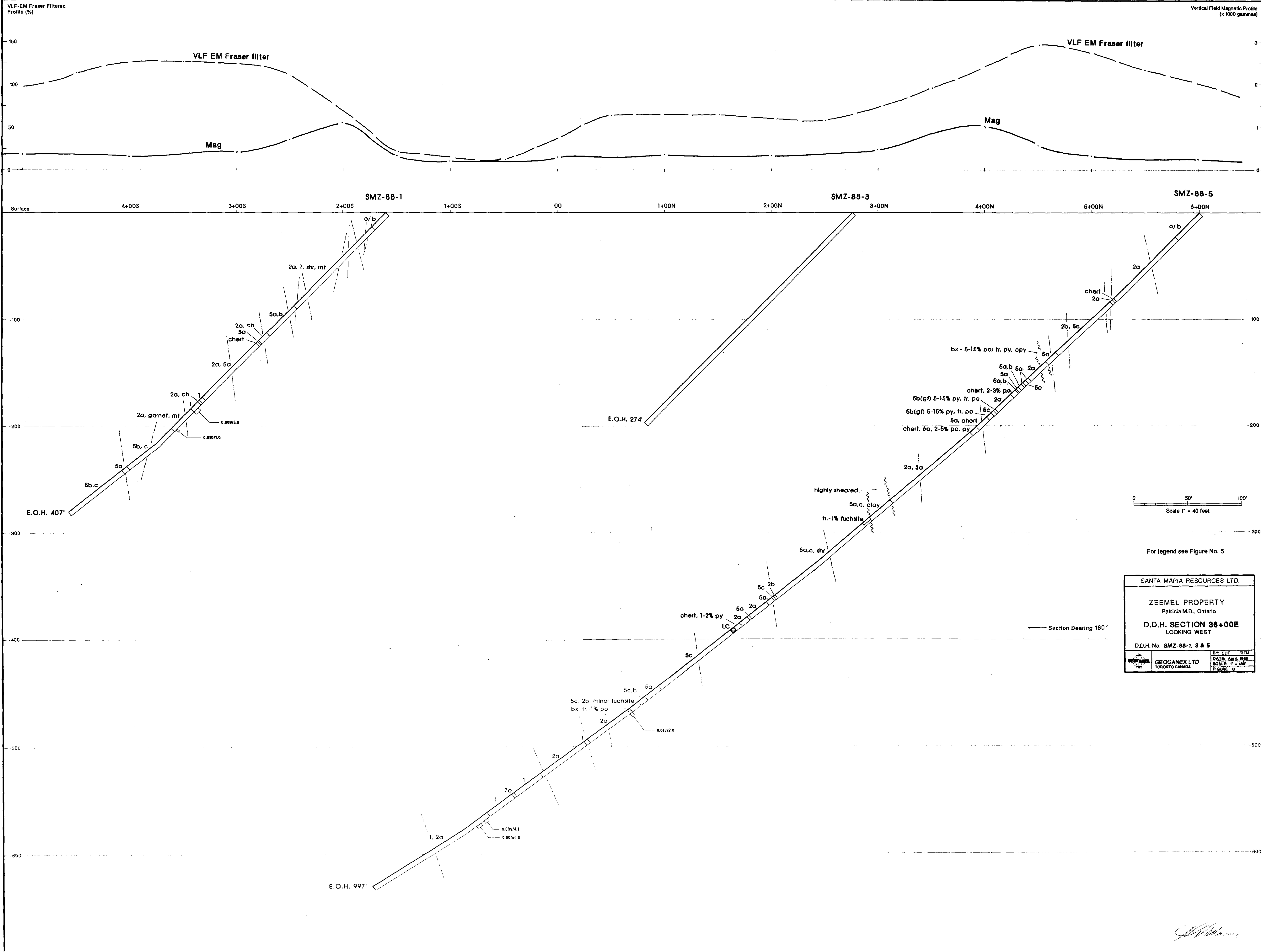


For legend see Figure No. 5

← Section Bearing 180°

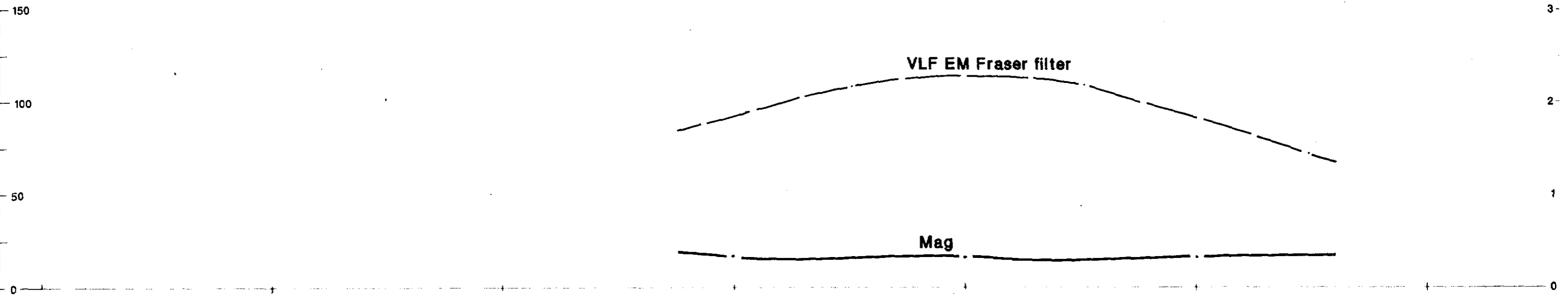
SANTA MARIA RESOURCES LTD.	
ZEEMEL PROPERTY Patricia M.D., Ontario	
D.D.H. SECTION 28+50E LOOKING WEST	
D.D.H. No. SMZ-87-26	
	GEOCANEX LTD TORONTO CANADA
BY: BAH /RTM	DATE: April, 1988
SCALE: 1" = 480'	
FIGURE 9	



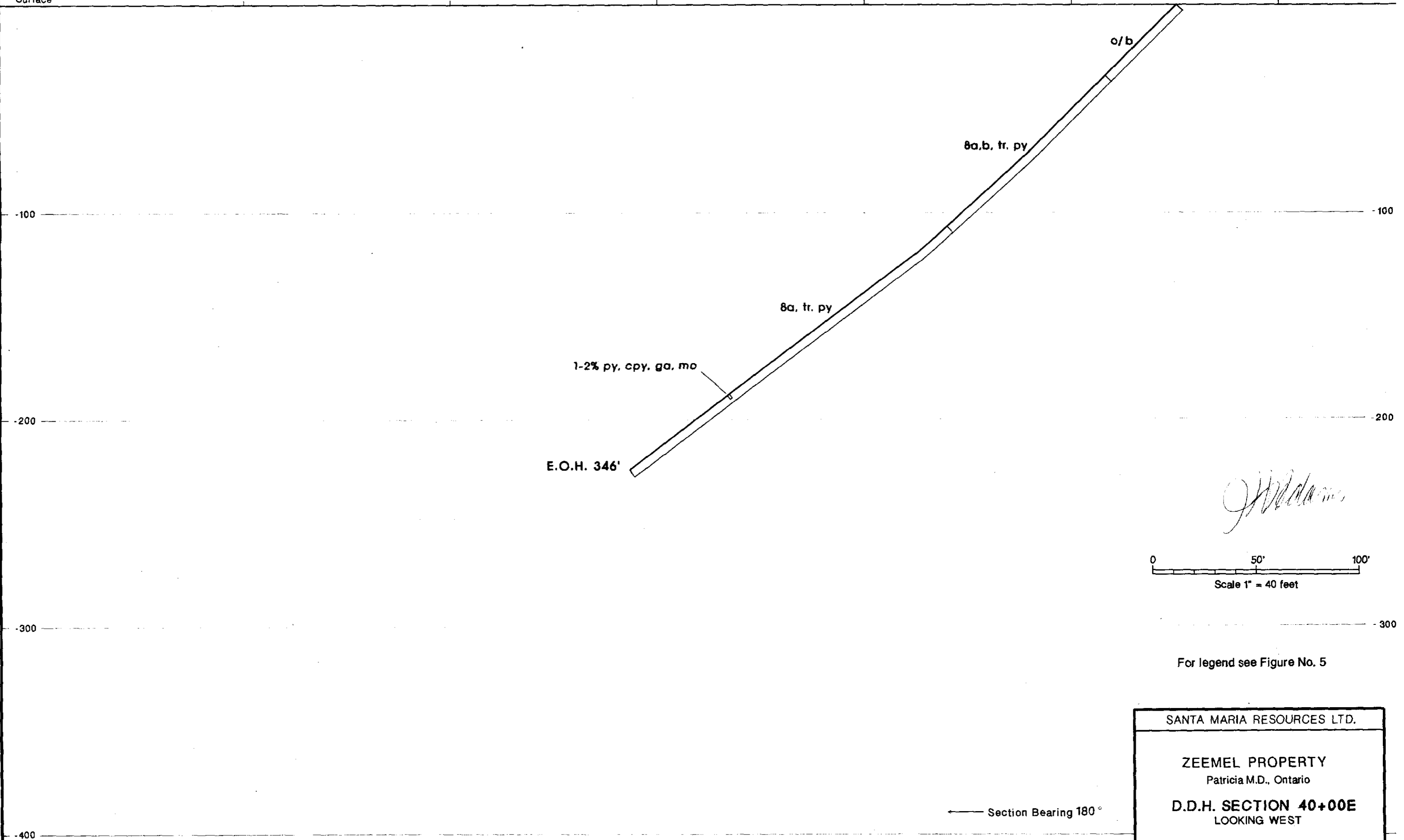


SANTA MARIA RESOURCES LTD.  
 ZEEMEL PROPERTY  
 Patricia M.D., Ontario  
 D.D.H. SECTION 36+00E  
 LOOKING WEST  
 D.D.H. No. SMZ-88-1, 3 & 5  
 BY: EDT /JTM  
 DATE: April, 1988  
 SCALE: 1" = 40'  
 FIGURE 8

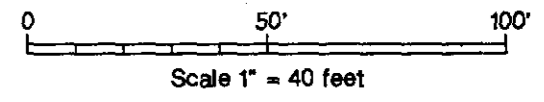




Surface 30+00S 29+00S 28+00S 27+00S SMZ-88-6 26+00S



*J. Williams*



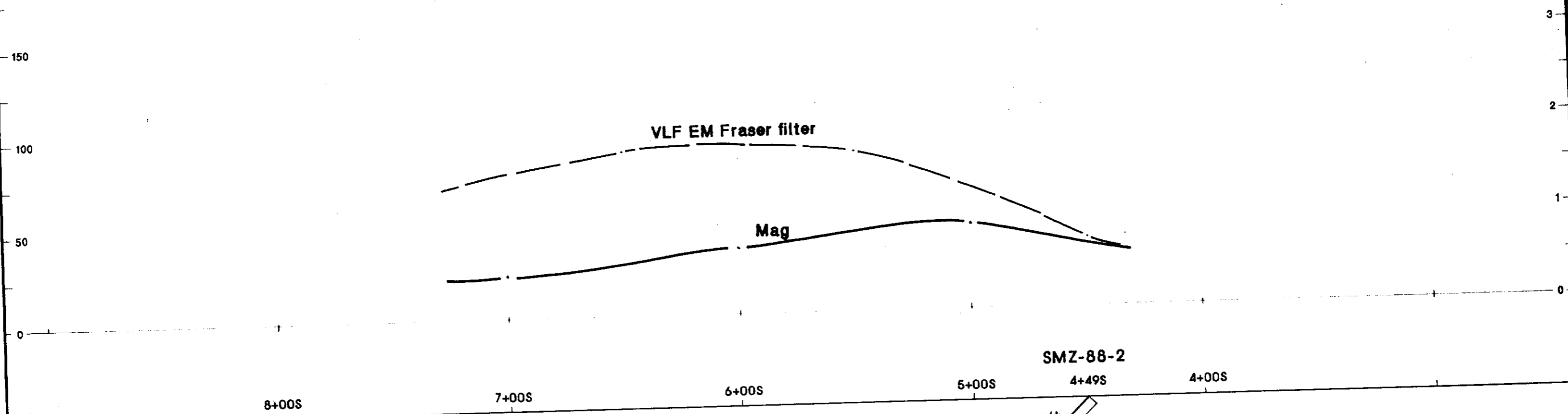
For legend see Figure No. 5

← Section Bearing 180°

SANTA MARIA RESOURCES LTD.	
ZEEMEL PROPERTY Patricia M.D., Ontario	
D.D.H. SECTION 40+00E LOOKING WEST	
D.D.H. No. SMZ-88-6	
 GEOCANEX LTD TORONTO CANADA	BY: EDT /RTM
	DATE: April, 1988
	SCALE: 1" = 480'
	FIGURE 7



VLF-EM Fraser Filtered  
Profile (%)



SMZ-88-2

Surface

8+00S

7+00S

6+00S

5+00S

4+49S

4+00S

o/b

2a, mt

1, ch, 1-2% mt, 1-2% py

5b

5b

2a, 3-5% mt

2a, mt, sl

chert, 5% py

5a, 3% py

0.007/3.1

2a

5a

2a

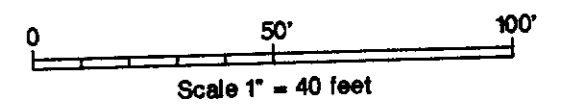
5c

2b, 5c

5c

E.O.H. 376'

*J. Williams*



For legend see Figure No. 5

SANTA MARIA RESOURCES LTD.

ZEEMEL PROPERTY  
Patricia M.D., Ontario

D.D.H. SECTION 56+00E  
LOOKING WEST

D.D.H. No. SMZ-88-2

GEOCANEX LTD  
TORONTO CANADA

BY: EDT /RTM  
DATE: April, 1988  
SCALE: 1" = 480'  
FIGURE 6

Section Bearing 180°

