

41114NW0004 OM92-090 RHODES

010

**THE BHARTI LAAMANEN MINING INC.  
1992 RICHARDSON LAKE EXPLORATION PROGRAM**

**OMIP REPORT**

**RHODES TOWNSHIP  
(G-4096)**

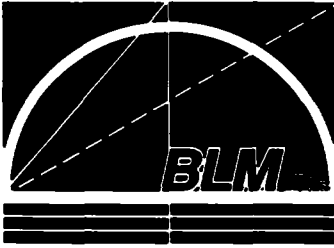
**SUDBURY MINING DIVISION**

**ONTARIO**

**Report Prepared By:**

**Harold Joseph Tracanelli  
Exploration Geologist, BEA**

**February 5, 1993**



**Bharti Laamanen Mining Inc.**

*Risto Laamanen - Chairman  
Stan Bharti - President*

131 Fielding Road  
P.O. Box 700  
Lively, Ontario  
POM 2E0  
Tel: (705) 682-3211  
Fax: (705) 682-2718

**February 5, 1993**

**AFFILIATED COMPANIES:**  
*Bharti Engineering Assoc. Inc.  
BLM Mining Services Inc.  
BLM Mincon Inc.*

**Edward R. Solonyka, Supervisor  
The Incentives Office  
Mineral Development Section  
Ministry of Northern Development and Mines  
5th Floor  
933 Ramsey Lake Road  
Sudbury, Ontario  
P3E 6B5**

**Dear Mr. Solonyka:**

**Enclosed please find the required copies of the 1992 BLMI Richardson Lake Exploration Program which was carried out in Rhodes Township (G-4096) during the summer of 1992.**

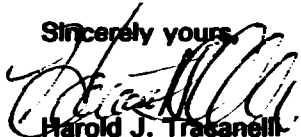
**A great deal of effort has been put into the project over the months. The results of the work were shown to be interesting and has made it possible to identify specific areas on the mining claims which may host potential mineral deposits.**

**Please keep in mind that there has been a modification of the eligible expenses from \$53,775 to \$65,781 as specified by Cathie Simon-Leonard on December 22, 1992.**

**It is hoped that the government incentives can be utilized in the future to continue the ongoing investigative work in the never-ending search for new resources.**

**If you have any questions or comments with respect to the submitted data, please do not hesitate to contact me.**

**Thank you very much for your time and attention to this matter. We will be looking forward to the project approval and remittance of the 50% grant for the eligible expenses.**

**Sincerely yours,**  
  
**Harold J. Trapanelli  
Exploration Geologist**

**BLMI RICHARDSON LAKE PROPERTY**



**A southward view of Richardson Lake and the BLMI Richardson Lake Property.**

**A property with the potential for hosting future mineral resource deposits.**

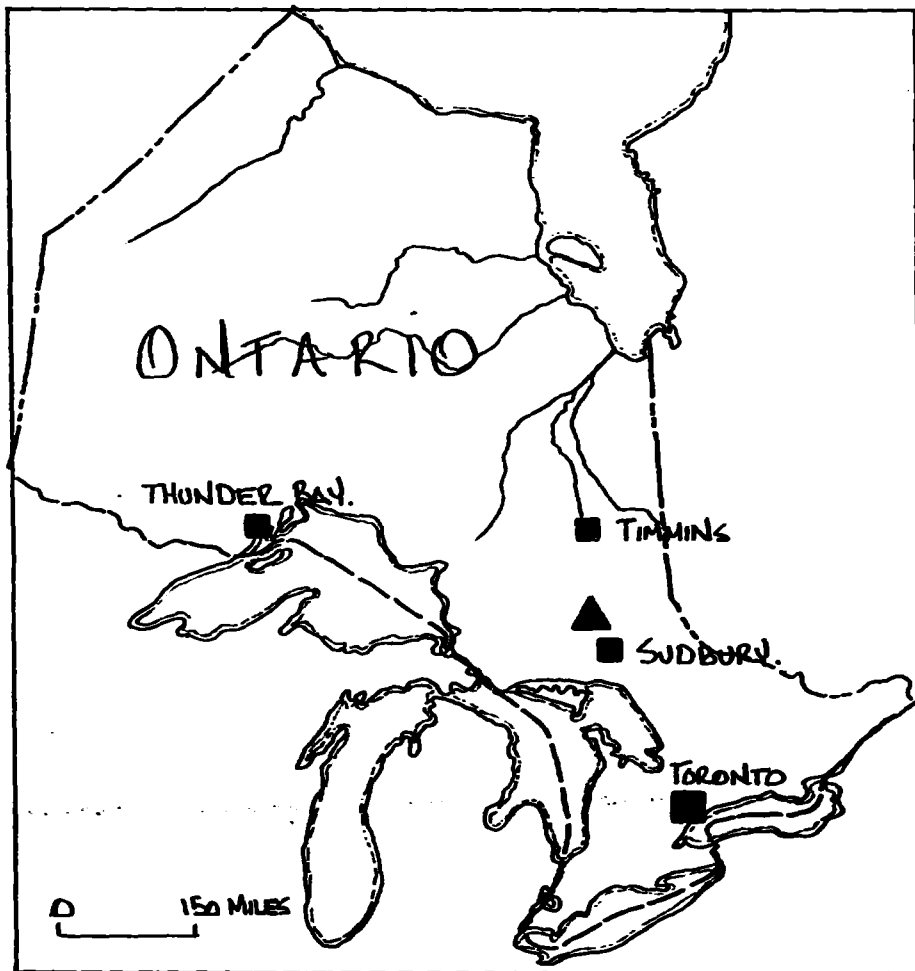
**Photograph by Harold J. Tracanelli, Exploration Geologist in May 1990.**

**FIGURE 1**

*This report has been respectfully dedicated  
to the memory of the late*

*David "Artie" Langdon*

*1965 - 1992*



▲ BLM RICHARDSON LAKE PROPERTY

RHODES TOWNSHIP ONTARIO.

SUDBORY MINING DIVISION.

FIGURE 2



41114NW0004 OMB2-060 RHODES

010C

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**ACKNOWLEDGEMENTS**

The completion of the 1992 BLMI Richardson Lake Exploration Program could not have been possible without the grateful participation of several parties involved.

David A. Langdon was certain that the property was not a "Dog" and it is most unfortunate that David is not with us to see the potential fruits of his labour. Many thanks must be given to the Ecuadorian professionals Gabriel Valenzuela and Efrain Gonzalez for their very active participation and debates while studying the various metalvolcanic sequences in the western areas of the BLMI property.

Thanks should also be given to the Laamanen Construction excavating crew and Larry Salo of Sparta Diamond Drilling for a number of important jobs being very well done.

A great deal of thanks must be given to Maryann Foy for her persistence and patience with respect to the final production of this report.

## 1.0 INTRODUCTION

Over much of 1992, an extensive amount of exploration type work was carried out on the BLM Richardson Lake Property in Rhodes Township located approximately 35 miles north, northwest of Sudbury, Ontario. This mining property is situated within the Richardson Lake Greenstone Belt consisting of mafic to felsic metavolcanic and metasedimentary rocks.

The Richardson Lake Greenstone Belt is thought to be genetically related to the Benny Greenstone Belt to the southwest and the Parkin Greenstone Belt to the east. These once interconnected groups of volcanic rocks probably made up a quite large volcanic terrain.

Base metal mineral deposits are known to exist in both the Benny and Parkin Belts while a number of base metal prospects have been discovered in the Richardson Lake Belt.

Primary interest in the Richardson Lake Greenstone Belt has been concentrated around the exploration of the iron bearing formations found throughout the belt. Exploration work concentrating on developing the potential iron deposits appears to have begun as early as 1904. There is little evidence to suggest that other metals other than iron were being explored for. The Algoman metasediments in the Rhodes Township area were identified as the western extension of the Hutton and Parkin Iron Ranges. For many years there are no available records indicating that precious or base metals were discovered, even though certain geological formations were probably encountered which today are well known to be favourable hosts for mineral deposits.

The old records show that no gold or base metal exploration work was carried out in the Richardson Lake area until 1933 or 1934. The first recorded prospector to work the ground now held by BLM was Thure Holmstrom. Possibly spurred on by the ongoing development at the Geneva Lake Mine in the early 1930's, Holmstrom prospected and staked two mining claims on what is now the BLM Richardson Lake Property, on January 22, 1934. Holmstrom worked the claims for a short time, blasting and digging trenches before allowing the claims to lapse. Between the years 1934 and 1990 there were no mining claims staked over the area under current investigation. In the spring of 1990 after hearing reports of a new copper showing being found northwest of Richardson Lake and by utilizing former documents, attempts were made to relocate the old Holmstrom workings. During this reconnaissance investigation the badly overgrown trenches were relocated after 57 years. Following the relocation of the workings, a series of claims were staked to secure the main trench-showing areas as well as the along strike extent of the general geology.

In the fall of 1990 Falconbridge Ltd. took an interest in the belt and proceeded to stake over 100 claims to cover a large portion of the metavolcanic sequences. A winter program of line cutting and ground VLF-EM and magnetics was undertaken in early winter of 1991 by BLMI over the entire Richardson Lake Property. The results of the survey were considered to be encouraging and future fieldwork was recommended which included the running of a soil sampling program and reconnaissance geological investigations were carried out during the 1991 field season. The results of the 1991 work were found to be encouraging and recommendations for work to be carried out in 1992 were made.

An OMIP grant was secured in the later winter of 1992 which allowed for the initiation of prospecting - geological type investigations, line cutting and VLEM geophysical surveying, followed by surface backhoe trenching and finally diamond drilling.

The work was designed to test the highly altered and deformed mineral bearing felsic metavolcanic rocks, which are known to strike for several hundreds of feet across the BLMI property. The detailed investigative work has shown that these mineral bearing metavolcanic rocks have an estimated strike length of at least 4000 feet. More work shall have to be carried out in order to test the mineral potential along this favourable strike length area.

Petrographic investigations of this favourable mineral bearing environment may indicate the presence of potential volcanogenetic massive sulphide deposits within these rocks. The results of the geological, geochemical, geophysical, trenching and diamond drilling type work carried out over the property may reveal information that might indicate possible buried mineralization on the property.

A considerable amount of useful information has been presented including geological - geophysical maps, trench plans, diamond drill logs and cross sections, etc.

In conclusion, all of the work which has been carried out on the BLMI property has been valuable in identifying potential mineral bearing environments which may host valuable mineral deposits.

So far most of the assaying results obtained from both the surface trenching and diamond drilling have not been overly encouraging. The most promising results of the work have shown that the strong alteration zone is clearly identifiable at depth. This should be considered encouraging since so little of the zone has been tested that there would appear to remain plenty of room for a mineral deposit to have developed.

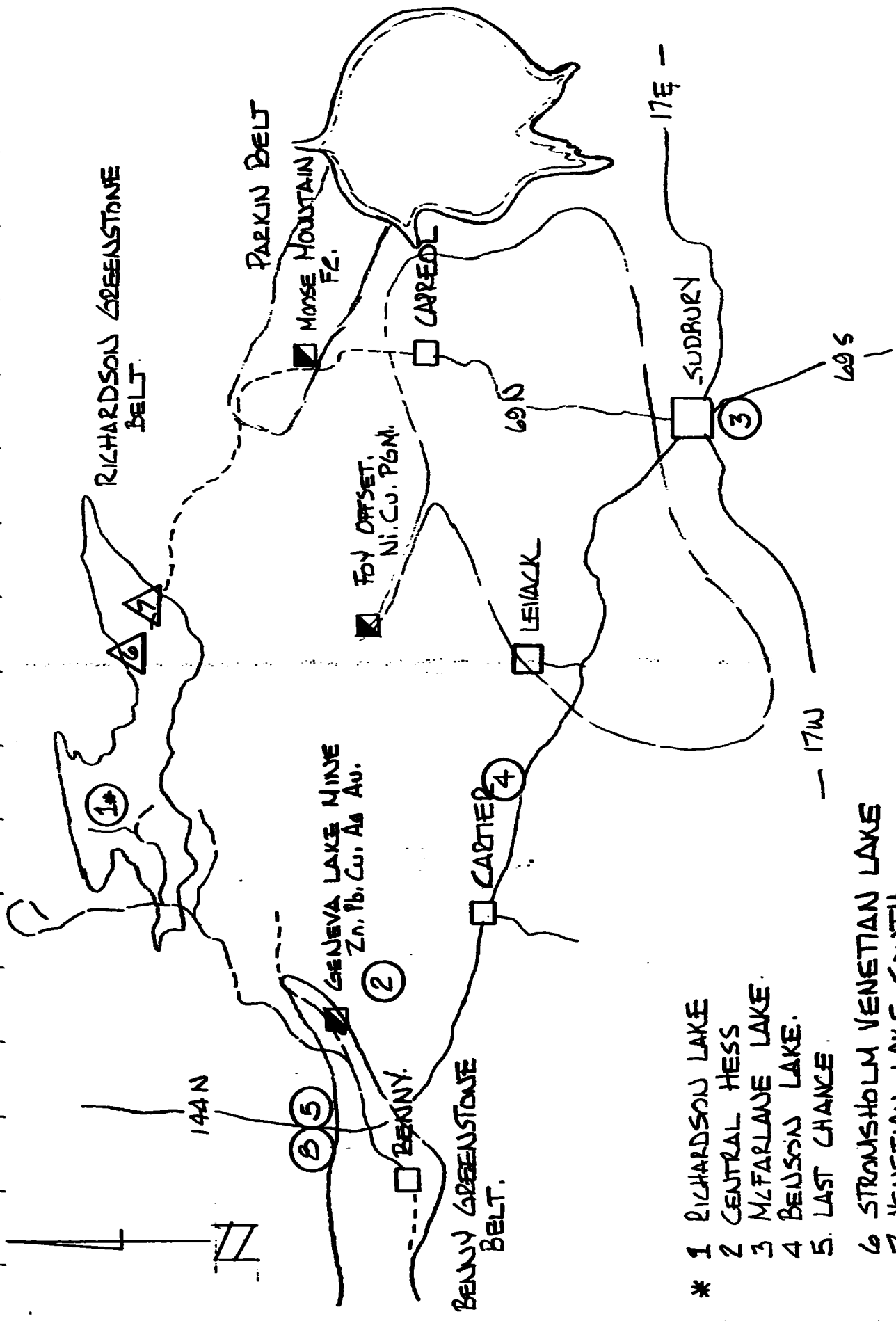
The favourable strong alteration of the felsic metavolcanics and the contacting amphibolites appear to be open along strike and at depth and should be tested further.



## 2.0 PROPERTY LOCATION AND ACCESS

The Richardson Lake Property consists of 4 contiguous 40 acres +/- mining claims, numbered S-1095077, S-1095078, S-1095079 and S-1095080, located in Central Rhodes Township, Sudbury Mining Division (G-4096), approximately 35 air miles north-northwest of the City of Sudbury, Ontario.

Present access to the property can be made through a series of good logging roads, constructed by E.B. Eddy Forest Products, which run northeast from Highway 144 north, just outside of Benny, Ontario. Good access directly onto the property can be afforded by float plane or boat by travelling south along the western shore of Richardson Lake. Access onto the property can also be obtained by way of a 4000 ft +/- bulldozer trail which was established off of a small bush road branching off of the main E.B. Eddy access road. Please refer to Figures 3, 4 and 5.

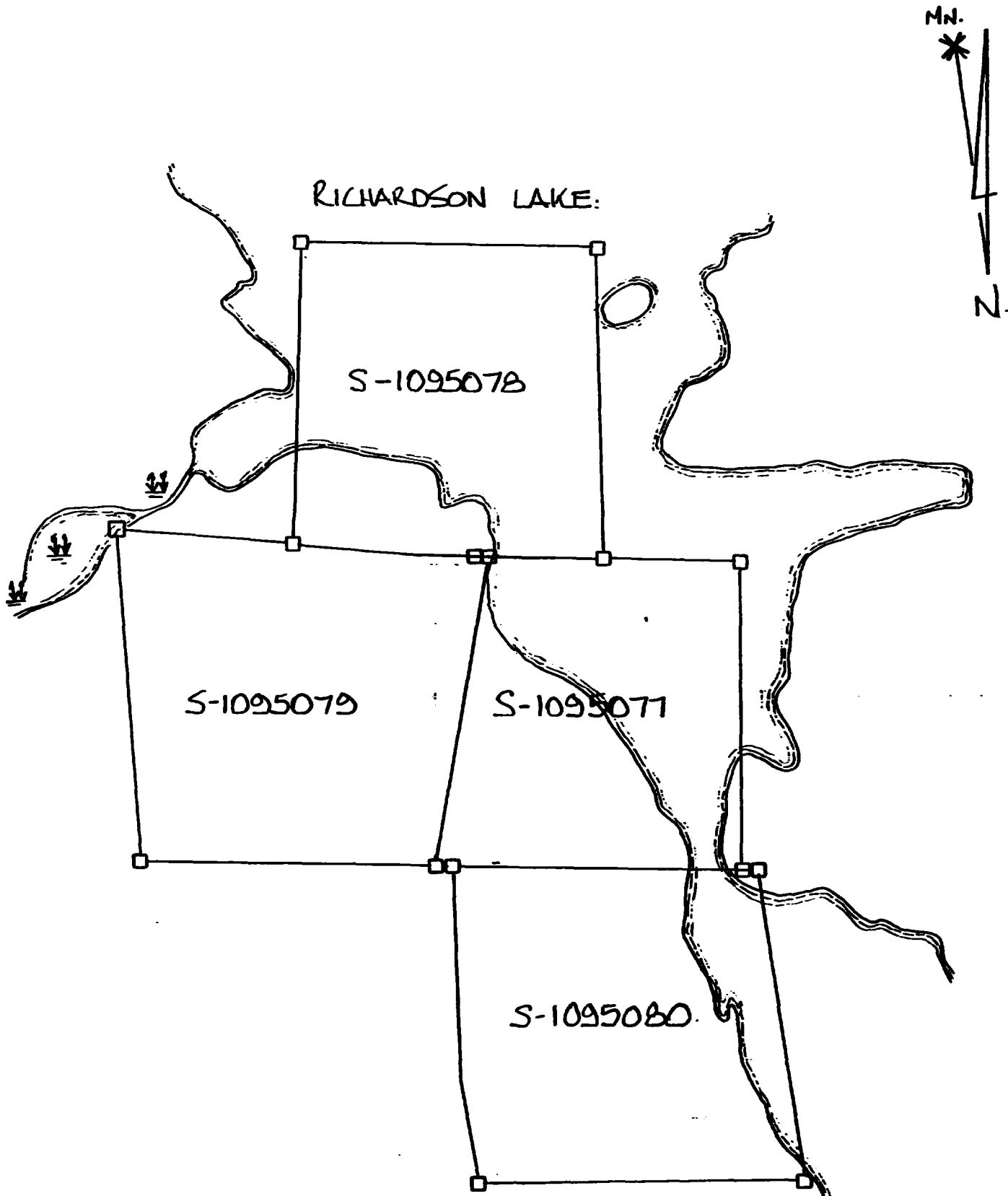


- \* 1 RICHARDSON LAKE
- 2 CENTRAL HESS
- 3 MCFARLANE LAKE
- 4 BENSON LAKE
- 5. LAST CHANCE
- 6 STRANSHOLM VENETIAN LAKE
- 7. VENETIAN LAKE SOUTH
- 8. ULSTER LAKE

BLMI MINING PROPERTIES  
N.T.S.

FIGURE 3.





BLMI RICHARDSON LAKE PROPERTY

RHODES TOWNSHIP.  
SCALE 1" = 600 FT.

FIGURE 5.



Claim No.  
S.1095077

Recorded in the Name of <b>Harold Joseph Tracanelli</b>	Licence No. <b>C.34300</b>	Receipt No. <b>8941</b>	Date Recorded <b>May 29, 1990</b>
Address <b>582 Vermillion Lake Road, Box 167, Chelmsford ON POM 1L0</b>			Date and Time of Staking <b>May 27/90 @ 9:30</b>
Office Use Only		Days Recorded	Description of Claim <b>RHODES TWP. (G.4096)</b>  Reservations - 400 foot Surface Rights reservation around all lakes and rivers. Sand, gravel and peat reserved.  <b>Including land under water</b>
Assessment Work Credits Assigned to other Claims		Balance	
<b>Harold J. Tracanelli</b>		<b>2</b>	<b>3998</b>
			File No. <b>R.9007.00267</b>

Date	Days Work		Receipt No.
May 29/90		(X30) Assay Coupons (2 issued)	(X.9007.00208)
June 8/90	1	(PMAN) Manual	(W9007.00266)
Jan. 24/91	.817	(X77-19) Section 77(19) Expenditures	(W9170.00027) Approved MAR 27 1991
Jan. 24/91	4.666	(X77-19) Section 77(19) Expenditures	(W9170.00028) Approved MAR 27 1991
Apr. 16/91	40	(VLF) Geophysical (E.M. - V.L.F.)	(W9170.00076) Approved SEP 25 1991
Apr. 16/91	20	(MAG) Geophysical (Mag.)	(W9170.00076) Approved SEP 25 1991
Feb. 11/92		(T10) Harold Joseph Tracanelli Client # 202732 transfers 100% to Bharti Laamanen Mining. Inc. Client # 216618.	
	66.483		(T9270.00006)
<p>This Abstract is a copy of the entries in the Record Book and is not to be considered as assurance of the validity of the claim.</p> <p>FEB 19 1992</p> <p>RECORDED SUDBURY MINING DIVISION</p>			
		66.483 * 22 = \$1,462.63	
		May 29/91 = 400.00	
		May 29/92 400.00	
		May 29/93 400.00	1 0
		May 29/94 262.63	2 137.37
		May 29/95 1462.63	3 400.00
		May 29/96 400.00	4 400.00
		May 29/97 400.00	5 400.00
			1337.37

May 29/96  
May 29/97

603694



Mining Act

Claim No.  
S.1095078

Recorded in the Name of <b>Harold Joseph Tracanelli</b>		Licence No. <b>C.34300</b>	Receipt No. <b>8941</b>	Date Recorded <b>May 29, 1990</b>
Address <b>582 Vermillion Lake Road, Box 167, Chelmsford, ON P0M 1L0</b>		Date and Time of Staking <b>May 27/90 @ 13:00</b>		P.T. <b>X</b>
Office Use Only Assessment Work Credits Assigned to other Claims		Days Recorded	Balance	Description of Claim <b>RHODES TWP. (G.4096)</b>  Reservations - 400 foot Surface Rights reservation around all lakes and rivers. Sand, gravel and peat reserved.  <b>Including land under water</b>
				File No. <b>R.9007.00267</b>

Date	Days Work		Receipt No.
May 29/90		(X30) assay Coupons (2 issued)	(X.9007.00208)
June 8/90	1	(PMAN) Manual	(W9007.00266)
June 24/91	4666	(X77-19) Section 77(19) Expenditures	(W9170.00028)
Apr. 16/91	40	(VLF) Geophysical (E.M. - V.L.F.)	(W9170.00076)
Apr. 16/91	20	(MAG) Geophysical (Mag.)	(W9170.00076)
Feb. 11/92		(T10) Harold Joseph Tracanelli Client # 202732 transfers 100% to Bharti Laamanen Mining Inc. Client #216618.	
		This Abstract is a copy of the entries in the Record Book and is not to be considered as assurance of the validity of the claim.	(T9270.00006)
	65.666		
		FEB 19 1992	
		RECORDED SUDBURY MINING DIVISION	
		65.666 x 22 =	1444.65
		May 29/91	400.00
		May 29/92	400.00
		May 29/93	400.00 1 0
		May 29/94	244.65 2 155.35
		May 29/95	3 400.00
		May 29/96	4 400.00
		May 29/97	5 400.00

603695  
1355.35



Mining Act

Claim No.  
S.1095079

Recorded in the Name of <b>Harold Joseph Tracanelli</b>		Licence No. <b>C.34300</b>	Receipt No. <b>8941</b>	Date Recorded <b>May 29, 1990</b>
Address <b>582 Vermillion Lake Road, Box 167, Chelmsford, ON POM 1L0</b>		Date and Time of Staking <b>May 28/90 @ 10:30</b>		P.T. <b>X</b>
Office Use Only Assessment Work Credits Assigned to other Claims		Days Recorded	Balance	Description of Claim <b>RHODES TWP. (G.4096)</b>
Reservations - 400 foot Surface Rights reservation around all lakes and rivers. Sand, gravel and peat reserved.				
				File No. <b>R.9007.00267</b>


Date	Days Work		Receipt No.
May 29/90		(X30) Assay Coupons (2 issued) (X.9007.00208)	
June 8/90	1	(PMAN) Manual (W9007.00266)	
Jan.24/91	4.666	(X77-19) Section 77(19) Expenditures (W9170.00028)	Approved MAR 27 1991
Apr.16/91	40	(VLF) Geophysical (E.M. - V.L.F.) (W9170.00076)	Approved SEP 25 1991
Apr.16/91	20	(MAG) Geophysical (Mag.) (W9170.00076)	Approved SEP 25 1991
Feb. 11/92		(T10) Harold Joseph Tracanelli Client #202732 transfers 100% to Bharti Laamanen Mining Inc. Client #216618.	
	65.666	This Abstract is a copy of the entries in the Record Book and is not to be considered as evidence of the validity of the claim.  FEB 19 1992  SUDBURY MINING DIVISION Mining Recorder	(T9270.00006)
		65:666 x 22 = 1444.65	
		May 29/91 400.00	
		May 29/92 400.00	
		May 29/93 400.00 1 ⊕	
		May 29/94 244.65 2 \$ 155.35	
		May 29/95 3 \$ 400.00	
		May 29/96 4 \$ 400.00	
		May 29/97 5 \$ 400.00	
		\$ 1355.35 ✓	603696



Mining Act

Claim No. S. 1095080

Recorded in the Name of <b>HAROLD JOSEPH TRACANELLI</b>		Licence No. <b>C. 34300</b>	Receipt No. <b>8985</b>	Date Recorded <b>June 1, 1990</b>
Address <b>Box 167, Chelmsford, Ontario POM 1L0</b>		Date and Time of Staking <b>May 30/90 @ 13:00</b>		
Office Use Only		Days Recorded	Balance	Description of Claim
Assessment Work Credits Assigned to other Claims				<b>RHODES TWP. (G.4096)</b>
Reservations - 400 foot Surface Rights reservation around all lakes and rivers. Sand, gravel and peat reserved.				
Including land under water				
				File No. <b>R. 9007.00270</b>

Date	Days Work	Description	Receipt No.																												
Jan. 24/91	4.666	(X77-19) Section 77(19) Expenditures (W9170.00028)	Approved MAR 27 1991																												
Apr. 16/91	40	(VLF) Geophysical (E.M. - V.L.F.) (W9170.00076)	Approved SEP 25 1991																												
Apr. 16/91	20	(MAG) Geophysical (Mag.) (W9170.00076)	Approved SEP 25 1991																												
Feb. 11/92		(T10) Harold Joseph Tracanelli Client #202732 transfers 100% to Bharti Laamanen Mining Inc. Client #216618.																													
		(T9270.00006)																													
	64.666																														
		<div style="border: 1px solid black; padding: 5px;"> <p>This Abstract is a copy of the entries in the Record Book and is not to be considered as assurance of the validity of the claim.</p> <p style="text-align: center;">FEB 19 1992.</p>  <p style="text-align: center;">SUC-BURY MINING DIVISION Mining Recorder</p> </div>																													
		$64.666 \times 22 = \$ 1422.65$																													
		<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">June 01/91</td> <td style="width: 20%;">400.00</td> <td style="width: 10%;"></td> <td style="width: 20%;"></td> </tr> <tr> <td>June 01/92</td> <td>400.00</td> <td></td> <td></td> </tr> <tr> <td>June 01/93</td> <td>400.00</td> <td>1</td> <td>0</td> </tr> <tr> <td>June 01/94</td> <td>222.65</td> <td>2</td> <td>177.35</td> </tr> <tr> <td>June 01/95</td> <td></td> <td>3</td> <td>400.00</td> </tr> <tr> <td>June 20/96</td> <td></td> <td>4</td> <td>400.00</td> </tr> <tr> <td>June 01/97</td> <td></td> <td>5</td> <td>400.00</td> </tr> </table>	June 01/91	400.00			June 01/92	400.00			June 01/93	400.00	1	0	June 01/94	222.65	2	177.35	June 01/95		3	400.00	June 20/96		4	400.00	June 01/97		5	400.00	
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## 2.1 PROPERTY OWNERSHIP

The existing 4 claim, 160 acre BLMI Richardson Lake property was staked by Harold J. Tracanelli in the early summer of 1990, who is presently employed as an exploration geologist with Bharti Engineering Associates Inc. (BEA) of Lively, Ontario.

Bharti Laamanen Mining Inc. (BLMI) holds a 100% interest in the mining claim group and is presently responsible for supplying the necessary exploration funds required to conduct various exploration endeavours. A significant amount of the exploration funding was provided by the Ontario Provincial Government through the O.M.I.P. program, in order that specific work could be carried out. In later winter of 1992 an O.M.I.P. grant was secured, allowing various types of exploration work to be carried out on the property during the summer months of 1992. Monies spent on the BLMI property were credited to Bharti Engineering Associates Inc. for work carried out on the property by BEA on behalf of its parent company BLMI. Please refer to the attached abstracts for property ownership.

## 2.2 PROPERTY STATUS

Recent work carried out on the Richardson Lake Property under the direction of this Writer which included prospecting, surface trenching and diamond drilling have been undertaken in an attempt to more thoroughly evaluate the base and precious metal potential of the mining property. All relevant exploration functions will at some point in the near future be converted into dollar value assessment work credits which will allow the claims to remain in good standing for a number of years into the future.

Various exploration endeavours undertaken on the property in the summer of 1992 will allow the mining claims to remain in good standing for about 15 years provided that the banked assessment credits are maintained and updated.

### 3.0 PHYSIOGRAPHY

The Emo, Rhodes and Botha Township areas which includes the BLMI Richardson Lake property, occur within the Canadian shield and have characteristic low relief of isolated to interconnected swamps to glacial debris areas and deposits which can be interrupted by random protruding rock outcroppings.

The general elevation throughout the area is approximately 1475 feet above sea level, with the average topographic relief ranging from 100 feet to 330 feet. The highest point in Rhodes Township is 1679 feet above mean sea level and is located approximately 2600 feet east of the BLMI property.

The topography of the area generally shows a relationship to the regional fabric of the bedrock lithology, structures and the deposition characteristics of the assorted glacial debris deposits laid down in the area.

The early Precambrian granitic rocks, quartz sandstones of the Lorrain Formation and those metavolcanic rocks with inherent primary fabric occurring somewhat parallel to the abrading trend of glaciation, can be quite resistant to erosion and form high, often barren rocky hills. The amphibolite rich rocks in the area tend to form pronounced hills, easily visible in the area.

Under most circumstances the Early Precambrian archean metavolcanic, metasedimentary rocks and the Proterozoic siltstones and conglomerates of the Gowganda Formation are generally less resistant to erosion and can be found at lower elevations.

Lakes and swamps are numerous throughout the area. The largest bodies of water found within the township include Friday Lake, Rhodes Lake, Richardson Lake and Bennet Lake which are drained through a series of straight to meandering course creeks and swamps which ultimately drain and are part of the upper Onaping River drainage system.<sup>1</sup>

Climatic conditions in the area can be quite variable throughout the seasons. Summers are often hot and humid due to the large presence of swamp water, while winters are often cold and dry. Due to a significant height of land located between the Sudbury Basin and Cartier, Ontario, various weather conditions can be affected and are notable in the Richardson Lake area. To the north of the height of land such as the Richardson Lake area, often receive less rain or snow and see greater temperature variations than Cartier or Levack, Ontario, located only 12 - 15 miles to the south.

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<sup>1</sup> Dressler, Burkard, O., 1980, Pg. 2, 3.

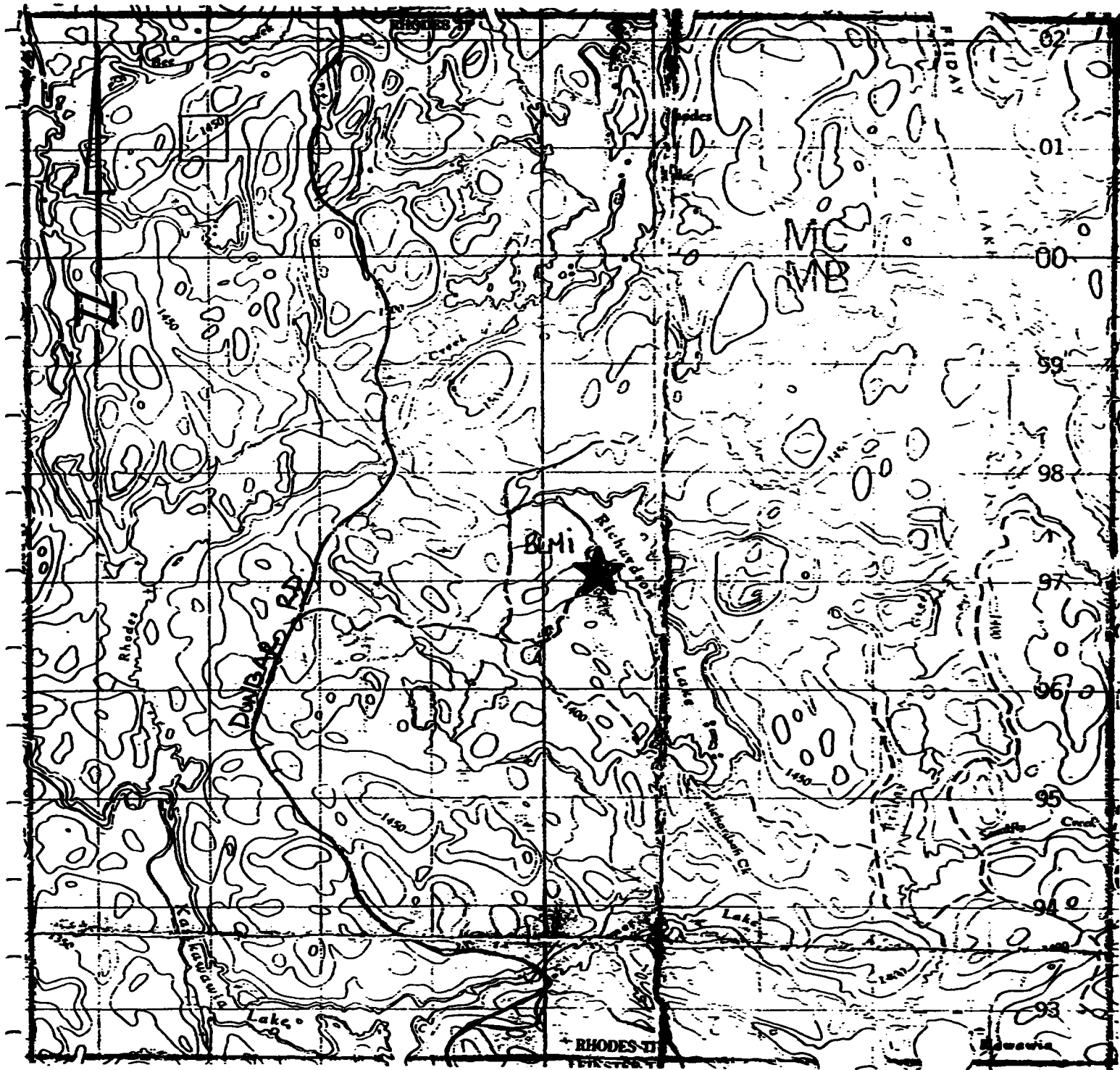
Throughout the past 60 to 70 years, large portions of the timber resources in the area were cut down by the KVP Company and most recently by the E.B. Eddy Company. What remains today is scattered stands of Red and White Pine, various species of Spruce, Poplar and White Birch. Within low swampy areas, Alders, Tamarack, Cedar and other brush wood species can be found. In those areas which have been logged or burnt as a result of forest fires, the most prominent tree species is the Balsam Fir which covers vast areas as very thick masses. Occasionally Birch, Poplar, Spruce and Hazels can be found growing amongst the Firs.

Wildlife species in the area include Moose, Deer, Black Bear, Fox, Wolf, Beaver, Muskrat, etc. Fish species found in most of the lakes and large creeks include Northern Pike, Yellow Pickerel, Small Mouth Bass and Speckled Trout.

Much of the area's timber resources have been exploited although there remains a number of localized pine tree stands yet to be harvested. With the recent construction of the new network of logging roads into the township, there are now certain accessible areas which could host sizeable aggregate deposits.

As with the limited timber resources, the aggregates could be potentially utilized for future potential mineral developments in the area.

Please refer to Figure 6 and 6a(i).



RHODES TOWNSHIP, ONTARIO

1:50,000

VENETIAN LAKE

41-1/14.

FIGURE 6.

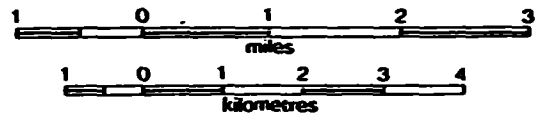
Rhodes Tp.

Sudbury District



 Possible Sand & Gravel Resource   
  Pit   
  Esker

NOTE: Due to the reconnaissance scale of mapping, small aggregate deposits may not be shown, but their importance as wayside pits should not be overlooked for planning purposes.



Sand and Gravel  
Inventory  
Sudbury Area



Ministry of  
Natural  
Resources  
Ontario

Sand and Gravel Resources

GRANULAR RESOURCES OCCUR AS GLACIOFLUVIAL OUTHWASH AND SMALL, BUT CONTINUOUS ESKERS IN THREE DISTINCT AREAS: ALONG THE WESTERN BOUNDARY, IN THE RHODES-RICHARDSON LAKES AREA, AND SOUTH OF FRIDAY LAKE IN THE FRIDAY AND SANDFLY CREEKS AREA. MOST OF THE DEPOSITS IN THE TOWNSHIP ARE PRIMARILY COMPOSED OF SAND, ALTHOUGH IT APPEARS THAT COARSER MATERIAL IS PRESENT IN THE EASTERN-MOST DEPOSITS.

POSSIBLE RESERVES - 48.0 MILLION TONNES

Remarks

ALTHOUGH THERE IS A FAIR QUANTITY OF GRANULAR MATERIAL IN THE TOWNSHIP, CRUSHABLE MATERIAL APPEARS TO BE LACKING EXCEPT PERHAPS IN THE MOST EASTERLY DEPOSIT. AT PRESENT, ONLY THE EASTERLY DEPOSIT IS ACCESSIBLE, BY A FOREST-RY ACCESS ROAD.

FIGURE 6a(i)

## 4.0 DEVELOPMENTAL INFRASTRUCTURE

In the event that a sizeable economically viable mineral deposit is located on the BLM Richardson Lake Property, the present infrastructure of the area would, it is hoped, make it far less difficult to develop than a lot of other mineral deposits located in more remote regions of the province.

Currently there is good road access to within 3000 to 4000 feet +/- of the mining property. A short section of the road could easily be established and built up, utilizing the local aggregate materials as an inexpensive source of fill.

The property is 65 road miles northwest of Sudbury, Ontario. Approximately 46 miles of the route is over the paved Highway 144 north while the remaining 19 miles is over a solid bottom gravel road which would currently need minor upgrading by placing down fine grained aggregates and/or grading. Currently the 19 miles of gravel road and bridges are not being maintained by the Ministry of Natural Resources. The bridges have been well constructed of large timbers and steel beams and should remain in good condition for several years to come. The gravel road on the other hand is gradually growing in with brush wood and is riddled with potholes and washboard. Windfalls and the washing out of culverts under the road due to the increased beaver population is becoming an ever increasing problem.

Some timber resources with sizeable dimensions should be readily available to be utilized for certain mining requirements, etc.

Throughout the immediate area, large deposits of mainly coarse grained aggregates would be readily available for use. Some screening of the aggregate materials would most certainly have to be carried out to render the materials of use. No large fine grained sand deposits are known to occur in the area.

Unlimited access to water for assorted mining purposes etc. is available from Richardson Lake. Low swampy-gully areas with slow drainage characteristics would make the area suitable for settling ponds, tailings, mine water disposal sites, etc.

The closest source of hydroelectric power is located at Dowes Lake, approximately 3 miles north of Cartier, Ontario and approximately 22.5 miles southwest by road from the property.

Railway siding facilities are located at the Village of Benny, in Moncrieff Township, approximately 20 miles by road from the property.

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Labour and equipment are readily available throughout the Sudbury Basin area, 1.0 to 1.5 hours drive from the property.

## 5.0 PREVIOUS GOVERNMENT GEOLOGICAL WORK IN THE RHODES TOWNSHIP AREA

As early as the 1890's government geologists have trekked into the area to study the various geological formations, mineral bearing occurrences, etc. Although several workers have studied the area, none of the work can be said to have been carried out in any great detail. No specific area within the government mapped region can be said to have been studied in such detail that nothing of consequence remains to be discovered. On the contrary, it has been shown that the more intensely the area is being looked at by explorationists and government geologists alike, the more it has been shown that the general geological arrangement may be quite different than that which is generally or originally envisioned. In fact, much of the geological environment looks to be quite favourable for hosting potential mineral deposits. It is the explorationist's job to identify such mineral deposits and to evaluate them in such a fashion as to determine their potential exploitability.

A general summarization of the past government work can be best described by Dressler 1980.

The first geological work in the area was carried out by Robert Bell. During the period 1880-1890 he investigated the Sudbury map-area. His report (Bell 1890-1891) contains descriptions of the rocks seen along Onaping Lake.

W.H. Collins (1917) mapped the Onaping map-area. His map was presented at a scale of 4 miles to 1 inch and includes the present area of interest.

The following geological reports on neighbouring townships, including geological maps at a scale of 1/2 mile to the inch, have been published:

K.D. Card and H. Meyn, (1969): *Geology of the Leinster-Bowell Area.*

H. Meyn (1971): *Geology of Roberts, Creelman and Fraleck Townships.*

H. Meyn (1973a): *Geology of Sweeny, Beaumont and the Beresford Townships.*

A preliminary geological compilation map (Card 1967) has been issued by the Ontario Department of Mines. It includes the present area of interest.

The area is also covered by aeromagnetic maps of the Geological Survey of Canada, Venetian Lake Sheet, Map 1519G (GSC 1965a) and Pogamasing Sheet, Map 1525G (GSC 1965b).

Preliminary geological maps of the present area have been published in 1976 (Dressler 1976a, b, c).<sup>2</sup>

Of noteworthy mention to the above is some limited small scale work carried out by J.E. Thomson, Assistant Provincial Geologist. In late November of 1949 Thomson examined the Thure Holmstrom

<sup>2</sup> Dressler, Burkhard, O., 1980, Pg. 2



lead, zinc, copper and silver prospect on Venetian lake in botha Township. Thomson briefly described the geology, collected a number of the mineralized samples for analysis and went on to recommend a few drill holes to be put down in the vicinity of the mineralized showings.

During the same time period Thomson went on to examine sulphide mineralization found on the original Holmstrom property, now the BLMi Richardson Lake Property, on Mountain Lake (now Richardson Lake). Only a couple of samples were taken. There does not appear to be any evidence to suggest that a detailed geological examination was ever carried out in the area.<sup>3</sup> The results of the sample analysis showed only low gold values while lead, zinc, copper, etc. were not assayed.

In mid July of 1991 Mike Cosec from the Sudbury Resident Geologist's office was brought into the BLMi Richardson Lake Property. An examination was carried out and a number of samples were collected for analyses. A short summarization was prepared which included some brief recommendations<sup>4</sup> which are presented as follows from the Ministry of Northern Development and Mines staff geologist's note:

"BLM Mines Incorporated, now Bharti Laamanen Mining Inc. (BLMI) is currently exploring their property in Rhodes Township. A recent visit by staff of this office revealed the property is underlain by amphibolite grade mafic metavolcanic rocks in fault(?) contact with felsic metavolcanic flow rocks. The felsic units host minor finely disseminated magnetite, arsenopyrite and pyrrhotite. Several zones of massive pyrite are also found in brecciated felsic rocks. These zones have been referred to as the "Holmstrom" showing, but no data exists on the property. Precious and base metal assays are currently being conducted on several grab samples.

I recommend gret stripping to expose rocks in the area of the main showing, and along buried contacts."

Further evaluations of collected data prompted Mike Cosec to submit a more formal and detailed description of his findings which are presented as follows:

#### PROPERTY EXAMINATIONS

##### T. Holmstrom (Richardson Lake) Occurrence

This small sulphie occurrence is located near the west shore of Richardson Lake in Rhodes Township at UTM co-ordinates 470800E 5196900N, approximately 55 km from Sudbury. Access is by bush road from Cartier or float plane to Richardson Lake.

No previous information has been published, and only some handwritten

<sup>3</sup> Thomson, J.E., Nov. 29, 1949. Correspondence to J.A. McClasky (Toronto, Ontario) and Thure Holmstrom (Benny, Ontario), 2 pages.

<sup>4</sup> Cosec, M.  
August 9, 1991. Correspondence and assay data to Harold J. Tracanelli, 2 pages

correspondence from the 1930's, by T. Holmstrom, who is known for the discovery of several precious and base metal occurrences in the area, particularly Botha Township to the east. Holmstrom conducted trenching on at least two different sulphide zones which were observed by the Author. Other work appears overgrown. Bharti Laamanen Mining Cin. recently re-discovered this work and staked four claims over the ground. The occurrence is found on claim S-1095077. Outcrop coverage on the claims is relatively sparse. In 1991 the company completed trenching on the old workings, magnetometer and VLF electromagnetic geophysical surveys and limited geological mapping over the entire property (Sudbury Resident Geologist's assessment files). The regional geology has been described by Dressler (1980).

The area in the vicinity of the claims is underlain by east-trending Archean mafic metavolcanic rocks termed by Dressler (1980) as amphibolite, as well as intermediate to felsic metavolcanic rocks. Some iron formation is present within the amphibolite and at the amphibolite-intermediate to felsic metavolcanic contact. These have been intruded by granitic rocks, particularly to the north. Paleoproterozoic Huronian Supergroup sedimentary rocks unconformably overlie, or are in fault-contact with the Archean units.

The amphibolite in the area of the showing is fine to medium-grained and well foliated with bands of feldspar, quartz and hornblende. The rock is dark green to black and locally weathers dark brown. Foliation appears to strike  $280^{\circ}$  and dip  $40^{\circ}$  S. The bands are up to 10 cm wide and exhibit tight, small scale folding in hand specimen. Thin section analysis shows hornblende altering to epidote and chlorite. The amphibolite-intermediate to felsic metavolcanic contact is sharp and strikes  $290^{\circ}$  and dips  $85^{\circ}$  S. The intermediate to felsic unit appears fine-grained to aphanitic, light grey to light green and weathers grey to buff. Fine laminations are present and may be representative of a primary sedimentary structure, however, most features have been obliterated by alteration. The rock appears highly epidotized in hand specimen and the thin section reveals plagioclase crystals are highly saussuritized.

Zones of sulphide mineralization and gossan are present at the contacts of the amphibolite-intermediate to felsic metavolcanic rock in the trench. The only sulphide observed was fine to medium-grained pyrite. It occurs either massive or strongly disseminated through the intermediate to felsic metavolcanic unit associated with pervasive silicification. Quartz veins, from 1 to 10 cm wide, mimic the trend of the units (i.e.,  $290^{\circ}$ ). The massive pyrite from the trench assayed 1.7 ounces Ag per ton and 0.003 ounces Au per ton (Temiskaming Testing Laboratories, Cobalt). The disseminated pyrite lacked precious metals. A possible fault, trending  $300^{\circ}$ , cuts the amphibolite in the north end of the trench, but does not appear to have any impact on mineralization or alteration. Approximately 30 m east-southeast of the trench, on the shore of Richardson Lake, is a small outcrop of weak, finely banded iron formation. It is essentially composed of magnetite and chert, with compositional banding in the magnetite beds up to 10 mm thick. Minor pyrite is also present within the magnetite beds. Lorraine Formation quartzite unconformably overlies the Archean units in the northeast.

The recent geophysical surveys by Bharti Laamanen Mining Inc. suggest some magnetic anomalies may represent mafic dikes. However, none have been mapped in the immediate area. The VLF electromagnetic survey has identified a northwest-trending conductor approximately 100 m east of the trench (Lambert, G and Turcotte, R, 1991). This conductor may be an extension of the exposed sulphide zone. The company plans to conduct trenching over this conductor and detailed geological mapping over the claims in 1992.

In the early fall of 1992 Mike Cosec had an opportunity to examine the freshly exposed geology in the newly excavated trenches as well as some freshly drilled core from diamond drill hole RL-92-02.

Mike carefully examined the surface trenches and carried out some mapping and rock and mineral sampling exercises. The results of his field findings are to be reported within the MND & M 1992 Resident Geologist's Annual Report which is currently in press.

Thanks should be given to Mike Cosec, who, like the geologists at BEA, are very interested in the geology of the area, but are having a difficult time in sorting out the geological arrangements, timeframes, etc.

In conclusion, there has not been a lot of meaningful detailed government geological activity in the area since the preliminary fieldwork carried out by Dressler in 1975.

There are some important new findings which have been made since Dressler carried out his work over 16 years ago.

The recent discovery of copper, lead, zinc and silver mineralization in the Richardson Lake area may renew government interest, which may spur the initiation of a truly detailed study of the area geology which may ultimately lead to renewed exploration activities and lead to the potential discovery of valuable mineral deposits.

## 6.0 EXPLORATION HISTORY

Throughout the years as long as there have been people travelling over the major water routes in the area, across portages, etc. there has probably been those persons who have at least quickly glanced at, or broke away, fresh rock for further examinations. Since the Onaping River system was often navigated by trappers, loggers and hunters, it is conceivable that prospecting could have taken place well over 100 years ago.

The first government work was carried out by geologist Robert Bell in 1888 to 1890, describing the rocks of the Onaping Lake area. Bell may have helped to expose and identify this new mineral exploration area to prospectors.

There is at this time very little evidence that exists other than the occasional overgrown trenches or pits which would indicate that previous work had ever been carried out in the area. Unfortunately there is very little documentation to support most of this very old work, even if on ground evidence were found.

In most instances it is very difficult to determine precisely what commodity might have been sought. What little information is available is primarily in the form of public assessment files or private estate documents. It would appear that the main focus of exploration activities were somewhat centred around the search for iron ore deposits.

In 1904 M.T. Culbert studied the known iron deposits in the Hutton Township area about 18 miles to the southeast. Over time the iron formations found within the mafic metavolcanics were traced northwestward into and across Roberts, Botha, Rhodes and Emo Townships. With the discovery of the iron formation came the prospectors and exploration-mining companies ready to exploit the resources during the periods of high demand.

During this period various mining and logging roads were developed, which allowed for easy access to the areas allowing for the additional exploration for iron to be carried out. According to the available documentations, only iron was extensively explored for, with little apparent attention being paid to precious or base metals.

An extensive search through the government records has shown that most of the activity was restricted to a narrow band of mafic metavolcanic rocks which was known to host the iron-bearing formations. Very little or no exploration attention was directed towards the northern areas of the volcanic belt within the felsic suite of rocks west and north of Richardson Lake. The first and only

mining claims that were staked on what is now the BLM Richardson Lake Property, numbered S-25747 and S-25748 were staked on January 22, 1934, and held by Thure Holmstrom. It is believed that these original claims were staked to secure a strong sulphide showing near the western shore of what was then known as Mountain Lake, now Richardson Lake. A large blasted pit and a couple of smaller hand-dug trenches containing appreciable amounts of sulphide mineralization are believed to be part of the original Holmstrom workings and were found to be heavily overgrown with large trees and brush when rediscovered in 1990 after 57 years. Up until 1990 there was no government information found to indicate the location or results of work carried out in the area. Only by examining private documentation from the Thure Holmstrom estate was it possible to relocate the old workings.

Throughout the Emo, Rhodes and Botha Township areas, Thure Holmstrom, who was thought of as somewhat of a loner and is believed to have prospected extensively throughout the area in search of iron, precious and base metals. Thure Holmstrom operated a tourist business from his Onaping Lake Lodge and most likely would have been able to travel extensively throughout the adjacent townships. In the 1930's Thure Holmstrom discovered a very good looking lead and zinc showing at Venetian lake in Botha Township.

Although Holmstrom is most noted in the documentation for working around the iron deposits south, west and east of the BLM ground, locals claim that he discovered gold on Bennet Lake and elsewhere around the Township, but liked to keep things quiet and to himself.

Detailed prospecting expeditions in 1990 west of Richardson Lake by prospector Ted Miron of Sudbury resulted in the discovery of a strong zone of chalcopyrite and silver mineralization in a veined shear zone occurring within basaltic rocks. A short distance to the south, Miron discovered a large quartz vein in metavolcanics extending along strike for a few hundred feet and was found to carry gold in the 0.05 oz/ton gold range.

In 1990 and 1991 detailed geology, geophysics and geochemistry investigations were carried out by the BLM exploration crew and led to the discovery of strong base metal mineralizations associated with altered felsic metavolcanics near the contact with mafic metavolcanics. The detailed work has indicated that the mineralization occurs within a northwest trending zone, several feet thick with an estimated strike length of at least 4000 feet.

In the early fall of 1990 Falconbridge Limited acquired a large block of claims in Rhodes Township completely surrounding the BLM group. In late December of 1990 the company commissioned an airborne geological survey to be flown over what the company called the Rhodes Township VMS Project. The results of the airborne survey has indicated several anomalies located between the BLM

claims and the known iron formation a short distance to the south. One of the anomalies detected by Falconbridge was found to strike well into the BLMI ground.

The Falconbridge Limited airborne anomaly R8 has an estimated length of 1100 meters +/- and was found to trend deep into the BLMI claims, somewhat paralleling the western shore of Richardson Lake. Approximately 800 meters of the anomaly occurs within the BLMI claims and may represent mineralization on a geological contact.

Recent geological investigations on the BLMI claims have confirmed the presence of base metal mineralization near the contact of the mafic and felsic metavolcanics in the area.<sup>5</sup>

Exploration work carried out on the property during the summer of 1992 included extensive surface trenching and limited diamond drilling which revealed the presence of low but probable anomalous base metal values within a variety of highly complex rocks.

A lot of more detailed type work shall have to be carried out on the ground including a systematic evaluation of the existing data in an attempt to answer the multitude of questions created as a result of the recent work.

The more intense detailed work carried out in 1992 allowed for some sorting out of the geology and to explore certain concepts or models that may ultimately help to identify a potential mineral deposit.

In many instances attempts to solve certain geological problems with more intense forms of work, i.e. trenching, diamond drilling often created larger problems which have yet to be solved.

In conclusion, the discovery of a number of well mineralized geological formations in the unexplored areas north and west of Richardson Lake should be considered significant and may be indicative of future mineral deposits yet to be discovered.

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<sup>5</sup> A Geotem REM and magnetic survey  
Rhodes VMS Project, Rhodes Township, Ontario. For Falconbridge Limited, Chris Vaughan,  
Chief Geophysicist and Glenn Boustea, P. Eng. Geophysicist, May 1991

## **7.0 REGIONAL GEOLOGY OF THE RICHARDSON LAKE GREENSTONE BELT AND SURROUNDING AREAS**

The Richardson Lake Greenstone Belt which is most extensive throughout the southern half of Rhodes Township and is underlain by Early Precambrian massive metavolcanics-metasediments to ortho or paragneiss. These are the oldest rocks in the region and are thought to be genetically related to those volcanogenetic rocks found in the Benny or Geneva Lake Greenstone Belt to the southwest and the Onaping-Marshay-Dublin Township greenstone enclaves found to the north-northwest. It is conceivable that these more or less segmented belts of rock were once part of the large Abitibi volcanic terrain. Near the closing periods of the Early Precambrian, vast volcanic regions were intruded by large masses of assorted granites. The emplacement of the granitic rocks, as well as the advent of much later erosion, ultimately began the process which has led to the current positioning of the various greenstone belts as they are seen today in the areas north and west of the Sudbury Basin.

The most active period of geology is thought to have occurred in the early Precambrian. It is within the early Precambrian that most of the mineral deposits were thought to have formed, particularly those thought to be of volcanogenetic origin. Archean mineral deposits in the region include the former Geneva Lake Pb, Zn, Cu, Ag, Au Mine, Stralak Pb, Zn, Cu Ag, Au deposit, Venetian lake Pb, Zn, Cu, Ag prospect, Zinc Lake-Marshay Township Zn, Pb prospect and the Dublin Township Pb, Zn prospects. These mineral deposits and prospects are thought to have a volcanogenetic origin. Algoman type magnetite-iron mineralization found within mafic metavolcanics and fine grained metasediments occur primarily throughout the Richardson Lake Belt and extending eastwards and may have been formed around the same time as the sulphide deposits.

Middle Precambrian or Proterozoic Huronian Supergroup of metasediments, consisting of fine or coarse clastic debris to fine grained carbonated sands or muds were deposited upon the Archean basement unconformity.

Throughout the Richardson Lake Greenstone Belt most of the Huronian rocks are confined to the western areas and consist of Lorrain Formation quartzites overlying Gowganda Formation conglomerates and sandstones. Isolated embayments or fault block segments of these metasedimentary rocks can be found scattered amongst the greenstone areas and are a manifestation of a once far more expansive cover of sediments which have since been eroded away.

Late in the Proterozoic period large, irregularly shaped bodies of Nipissing type diabase intruded into the Huronian metasediments and Archean metavolcanics of the Richardson Belt. These sill or dyke-like

features are most prominent in Botha and Roberts Townships, but do occur on a minor scale just west of Richardson Lake in Rhodes Township and possibly to the west in Emo Township.

Irregular masses and inclusions of Sudbury Breccia, pseudotachylite and ultramylonite dykes and veins are thought to have followed the emplacement of the Nipissing type intrusives and are commonly found throughout the volcanic-granitic and metasedimentary terrains for many miles north of the Sudbury Basin.

Middle to late Precambrian northwest and minor northeast trending olivine diabase dykes are quite common throughout the region. These dykes appear to occur more commonly with the granitic rocks, less commonly in the metavolcanic rocks and are not known to intrude the Huronian rocks. The Huronian sediments-Olivine diabase age relationship is disturbing and is a geological enigma, particularly in the Richardson Lake and Benny Greenstone Belt areas.

Structural events throughout the region include multiple folding and faulting episodes which are thought to have occurred throughout the Precambrian. Regional folding and faulting in conjunction with local variations most certainly would have played an important role in the large scale positioning of terrains.

Structural episodes may have also been responsible in aiding the development, remobilizing-contouring etc. of potential mineral deposits.



## 8.0 EXPLORATION PROGRAM

The 1992 BLM Richardson Lake Exploration Program can essentially be broken down into four main categories or components, being:

1. Prospecting and related geological investigations and evaluations.
2. Line cutting and ground vertical loop electromagnetic (VLEM) survey.
3. Surface trench excavating.
4. Diamond Drilling.

Each of the categories or components shall be discussed and will include information on the findings of the work carried out etc.

The following pages will describe the work that was carried out as part of the 1992 exploration program. Various plans, cross sections, sketches, rock and mineral specimen descriptions, assay data, etc. have been included.

### 8.1 PROSPECTING AND RELATED GEOLOGICAL INVESTIGATIONS AND EVALUATIONS

As part of the 1992 BLM Richardson Lake Exploration Program, it had been decided that much more detailed prospecting and geological investigations should be undertaken over in some of the outer reaches of the company's mineral claims.

Much of the work that had been undertaken in the past up to the time of the start of the 1992 program essentially consisted of undertaking very systematic exploration such as air-ground geophysics, soil geochemistry and some selective detailed geological mapping.

Although the geophysical and geochemical surveys were carried out over the entire property, the geological work was essentially restricted to the central portion of the mining claims. It is within the central area of the property where the favourable amphibolite-felsic contact alteration horizon occurs, that the most intense work was carried out.

Prior to 1992 little or no really good prospecting was ever carried out in the southern part of the claims, nor were there really any attempts to study in detail the geological makeup of the ground.

In the northwestern part of the property rocks which were initially examined in 1990 and 1991 were carefully re-examined in 1992 to reveal some very interesting characteristics not previously noticed.

In order to carry out the detailed work on the claims and to assist the exploration geologist with various other related duties, David a. Langdon, formerly of Sudbury, was hired on part-time with Bharti Engineering Associates Inc. (BEA).

David acquired an Honours B.Sc. Degree in geology from Laurentian University in Sudbury, Ontario in 1988. David actively participated in various facets of exploration, working with such companies as Lamontagne Geophysics, Falconbridge Exploration, A.C.A. Howe, Noranda Exploration, etc. before joining BEA in early May of 1992.

David Langdon died in early August of 1992 at Boston Creek, Ontario and only spent a short period of time with BEA.

From mid May into June of 1992 David spent a considerable amount of time prospecting and investigating the various geological aspects of the mining claim S-1095080.

The objectives of the work were to try and determine, subdivide and generally attempt to understand the makeup of the geology, alteration, structures, etc. It is well known that previous workers who have studied the area rocks have had a difficult time in correlating the complex amphibolite rocks. For the most part much of the area studied was made up of amphibolites. As Dressler had mentioned in G.R. 196 (1980), the BLMI crew members discovered with much frustration that it is almost impossible to correlate or follow volcanic horizons within the amphibolites.

It is a fairly simple matter to subdivide the amphibolite grade metavolcanic with the apparently lower grade felsic metavolcanics by noting the location of the often visible contacts. The characteristic trend and appreciation of how these two rock types are oriented are best observed on a regional scale.

At the more local scale, even these two obviously different rock types show their complexity due to the various, not very well understood, geological circumstances that have taken place. Both the amphibolite and felsic rocks are so complex that it is very difficult at times to determine whether the rock was originally a flow, tuff, synvolcanic intrusive, etc.

The prospecting and geological investigations undertaken by David Langdon were carried out by following along a series of east-west grid lines, which were established earlier by Val d'Or Geophysics in the winter of 1991.

It is understood that all of mining claim S-1095080 had been mapped as a result of the investigations carried out by David Langdon. After his death many of the generated field notes were not recovered and subsequently the information pertaining to the northern part of the claim are missing and therefore could not be plotted.

To date it has only been possible to recover the information for the south half of mining claim S-1095080. What information was available was plotted at a scale of 1":50 feet, showing the location of grid lines, claim lines, rock types, geological contacts, structural and mineralogical alterations.

As a result of the David Langdon work, it has been shown that the general geology is made up of north to northwest striking massive to foliated flows and/or tuffs. These rocks probably represent former mafic to intermediate metavolcanics which have been subject to amphibolite grade metamorphism. The amphibolite rocks were found to dip generally from 40° to 60° +/- towards the west-southwest. In no instance were there amphibolite rocks dipping towards the east, although at a couple of locations the foliated rocks were found to strike east-northeast and dip steeply north, clearly suggesting some localized folding had taken place.

In the western part of the claim near the base line, a narrow 100 - 120 foot wide intermediate metavolcanic rock can be found, apparently overlying the amphibolites. The rocks are noted as being made up of undifferentiated massive to andesitic flows or tuffs. The rocks were found to strike north-northwest and dip at about 50° to the west. The strike and dip of the intermediate rock parallels that of the adjacent amphibolites. Since no actual geological contact was observed between the two rock types, it is difficult to determine for certain if the contacts are conformable with the underlying rocks or are fault controlled, etc. The rocks within the unit are noted to have undergone alteration of intense silicification-bleaching with some local seritization having taken place. The rock was found to host traces of pyrite.

Numerous thin quartz stringers to rare quartz veins measuring up to 2.5 feet wide were found to occur within the altered metavolcanics. The stringers and veins strike from 300° to 340° Az and dip towards the southwest. On average the stringers and veins strike from 330° to 340° Az. It is possible that the stringer/veins developed concordantly to the foliated fabric of the rock.

Secondary narrow northeast trending carbonate-feldspar veins cross cut the altered intermediate rock and stringers which may be genetically related to the northeast trending quartz feldspar porphyry dykes known to cross cut the amphibolite rock to the east. A number of east-west, north-east trending right laterally separated faults may have also played a role in the development of the cross cutting veins.

The highly silicified altered intermediate rock shows quite strong blocky joint sets which is typically observed in such altered rocks.

To the east of the altered intermediate unit within the amphibolites a number of outcrops were found to contain quartz-carbonate stringers with traces of pyrite, hematite, cross cutting the amphibolites as far as 4 + 00E. One apparently narrow band of intensely silicified magnetite bearing intermediate metavolcanic rock was identified at about 4 + 00E on line 26 + 00S.

Chlorite alteration with localized epidote infillings of the amphibolite rocks can often be observed where the quartz-carbonate stringers have formed.

It would appear at this time that the most intense effects of alteration can be observed within the narrow intermediate metavolcanic unit. The apparent same alteration episodes appear to have caused some of the adjacent amphibolites to become deformed. Alteration minerals such as sericite were observed within the intermediate rocks while the development of alteration to chlorite-epidote and magnetite are commonly typical in the amphibolite rocks.

The effects of the overall alteration within both the intermediate and amphibolite rocks in the base line, L 24 + 00 to L 26 + 00 areas, appear to be visible across a thickness of 400 - 500 feet.

At various locations within the amphibolites, the rocks have been intruded by narrow metadiabase-metabasalt and/or metagabbro.

The metadiabase-metabasalt occurs as small bodies in the central and eastern areas of the claims within the amphibolites and may represent former synvolcanic dykes with possible associated basaltic flows. Coarser grained metagabbro dykes or sill-like features were observed within the amphibolites near the western limits of the mining claim and may be genetically related to the metadiabase-metabasalt rocks.

Narrow quartz feldspar porphyry dykes were most commonly found cross cutting the amphibolites, but also rarely occur concordant to the foliation of the rocks.

In the southeast corner of the claim a mass of Sudbury Breccia - pseudotachylite - ultramylonite has been noted directly along the shoreline of Richardson Lake.

Most of the amphibolites in the investigated area were found to host from trace to 1% pyrite with lesser chalcopyrite and magnetite. A lot, if not all of the amphibolites have undergone at least some

minor alteration by chlorite. At some noted locations the amphibole minerals have been totally altered to chlorite.

Although no pillow flows were encountered during the David Langdon investigation, on claim S-109508, what looked to be highly deformed pillows were examined about 3/8 of a mile to the south of the company's south boundary line. The presence of pillow lavas within such close proximity would possibly suggest that surrounding rocks were laid down in an aqueous to subaqueous environment. Without further, more detailed study it will not be possible to truly differentiate the various metavolcanic rock types in the area.

As a result of the prospecting - geological investigations, certain structural features observed on air photographs were clearly measurable on the ground.

The most prominent structural effects can be observed from the alignment or foliation of many of the rock types. In the general area under study the foliated rocks show very gentle folding towards the northwest. The joint orientations, joint sets often appear to occur perpendicular to the foliation. The development of joint sets may, in part, reflect the tensional stresses that would develop in the rock that is being folded northwestwards.

On a regional scale it would appear that a synform has developed within the area metavolcanics. The synform appears to plunge towards the southwest at moderate to shallow angles. The axle plain of this apparent fold strikes at approximately 030° Az and is more or less perpendicular to the regional northwest trend of the metavolcanic rocks within Rhodes Township. Towards the northwest corner of the property the folding appears to become complex or is further complicated by faulting, uplifting, etc.

Northeast trending lineaments observed about one mile southeast of the BLMi property appear to run parallel to the axle plain of the apparent fold.

Faulting information obtained from the 1991 investigations on the BLMi property may be useful for future structural investigations and is presented as follows:

The geology of the property areas has been well fractured as a result of the adverse movements of the Fecunis Lake Fault to the west and the Friday Lake Fault to the east. A suspected fault which has been clearly identified on air photographs, running the length of Richardson Lake, is parallel to and thought to be directly related to the two above mentioned faults. A series of faults is known to occur parallel to the western lake shore and are thought to have developed concordantly within the

amphibolite and the underlying felsic rocks.

Numerous splays or secondary fracture systems may have developed off of the primary north, northwest trending fault.

Most of the faults which are thought to be directly related to movements along the Richardson Lake Fault, trend north to northwest, dip steeply east and west and are right laterally separated. Stereographic projection work has shown that the predominant shifting has taken place along steeply dipping north, northwest trending fracture systems, which suggest early movement occurring along the Fecunis and Friday Lake Faults.

Secondary north-east trending steeply dipping left lateral faults have been identified cross cutting geology on the property. These faults appear to have developed due to the tension and compression developed near the centre of the large block of rock between the Fecunis and Friday Lake Faults.

Late left lateral movements along the Fecunis and Friday Lake Fault would have released the stresses which resulted in the development of north-east trending splays off of the Fecunis Lake Fault. Similar northeast splays are evident running off of the Friday Lake Fault near Sandfly and Venetian Lakes.

A more thorough examination of the air photographs and the evaluation of the ground generated data, particularly from claim S-1095080, would appear to suggest that the northwest parallel faults west of the Richardson Lake Fault cross cut the fabric of the rock at an acute angle.

The development of the 330° to 340° Az quartz stringers and veins appear to strongly reflect this faulting orientation. The fault trend determined from the air photograph was found to be about 330° Az.

It may be possible that the development of the intense silicification - sericite - chlorite alteration with the quartz stringers and veins on claim S-1095080, may be directly related to movements and the emplacement of hydrothermal fluids along the fault plain conduit systems.

It would appear that much of the altered intermediate metavolcanics studied by David Langdon is covered by low swamp terrain. It is believed that the suspected fault plain crosses through this swampy area which may have become a low topographic depression due to the presence of friable and easily weathered mylonite, chlorite, carbonate altered or sulphide bearing rocks.

From the examination of the air photographs it is possible to trace the particular fault for a distance of approximately 2 miles, starting from the north shore of Bennet Lake.

To date there has been no known mineral exploration work carried out along this fault trend. Future exploration endeavours such as backhoe trenching and/or diamond drilling should be undertaken in the areas which exhibit strong alteration.

Future exploration for gold mineralization may prove to be fruitful within this area of the BLMI Property. Please refer to Map 1 to study the various geological features, etc.

The following is a listing of the various rock and mineral samples that were collected by David A. Langdon during his prospecting and geological investigations carried out on mining claim S-1095080 in May and June of 1992. Each of the samples presented in the listing has been plotted on the 1":50' map at the back of this report.

Those sample numbers which do not show the grid line co-ordinates may have a questionable +/- position on the map. In some of the sample identifications, little notations were made, such as "check again...recheck", etc.

Originally some thought was given to having the various rocks submitted for assaying, but this was not followed through due to unforeseen circumstances. A number of the samples listed are missing and it is suspected that they were taken by David Langdon off of the site for further examination, never to be returned.

**Sample ART-1****0 + 06E, 25 + 75S****Rock Type: Amphibolite**

Medium grained, well foliated, dark green mafic rock with minor rusting of the surface, more than likely due to the ubiquitous trace pyrite found within the rock. Throughout the property the majority of the rocks containing a high percentage of mafic minerals have been altered to chlorite which help to define the foliation planes. No visible macroscopic sulphide minerals were observed. 3% white to dull greenish-grey coloured irregularly rounded altered feldspars are clearly visible. The green hue of the feldspars is possibly due to the intense chloritization that the amphibolite rock has undergone.

On the cut surfaces perpendicular to foliation, the rock appears to be made up of 80% to 85% mafic minerals, 14% to 15% white to grey-green aphanitic ground mass of feldspars and 1% fine < 1 mm rusting specks of sulphides or amphibole minerals. The ground mass exhibits an orange, possibly potassic weathering. The mafic minerals (amphiboles) have been partially altered to chlorite occurring as fine to medium grained needles and flakes measuring approximately 1 - 1.5 mm by 3 - 4 mm setting an aphanitic glassy feldspar ground mass. The chlorite-amphibole needles take on a subtle spherulitic texture, where they have more of an interlocking nature as opposed to a radiating nature. The radiating mineral needles observed were quite rare. The interlocking mineral grains help to define the linear elements or planer fabric of the rock.

*The above description is probably quite representative of what most amphibolitic rocks within the Richardson Lake area would be made up of. Predominantly the rock type is made up of amphiboles, lesser feldspars, with or without chlorite alteration or sulphides.*

**Sample ART-2****0 + 06E, 25 + 75S****Rock Type: Intermediate interbedded ash tuff**

Very fine grained to aphanitic well foliated dark green intermediate rock. The surface weathering of the rock shows a light green dusting due to intense chlorite alterations and dull brown rusting due to the breakdown of minor sulphide minerals-magnetite or amphiboles.

The fresh cut surface perpendicular to foliation aphanitic individual layers or layering, alternating from dark to light green, which may represent former bedding? Very narrow < 1 mm discontinuous quartz stringers occur parallel to foliation.

*Narrow, often short discontinuous quartz stringers, inclusions, ribbons, boudins, sweats, etc. are generally quite common within the amphibolite grade rocks of the area. For the most part they occur concordant to the rock fabric and likely represent the metamorphic remobilization of silica from the adjacent country rocks. Occasionally these quartz feature host minor quantities of pyrite-pyrrhotite-chalcopyrite or chlorite. Most of the free quartz found within these types of rock show only minor visible red-orange rusting.*

**Sample ART-3****0 + 27W, 25 + 75S****Rock Type: Gabbro-metagabbro**

Massive, medium grained, black, with an interlocking granular texture. The mineral components are not easily distinguishable macroscopically due to the weathering of the surface. Surface weathering shows minor rusting with some orange coloured alterations, possibly due to the potassium alteration.



On the fresh cut surface the rock shows that it is made up of 85% mafic minerals predominantly pyroxene and hornblende, with 15% felsic minerals being the feldspars. Traces of pyrite commonly occur within the interlocking mafic-felsic mineral boundaries.

**Sample ART-4**

**0 + 27E, 24 + 57S**

**Rock Type: Silicified Andesite Tuff**

The materials are grey-green in colour with darker coloured black-green bands which may represent reflect tuff bedding features. The rock has been intensely silicified and surface weathering shows rusting and orange colorations, possibly due to potassium alterations.

On the fresh cut surfaces perpendicular to banding, the rock apparently shows the distinctive glassy texture of silicification, making it difficult to distinguish the various mineral components.

The rock was shown to consist of 60% mafic minerals and 40% felsic minerals. The felsic minerals show a grey-green colour, possibly being epidote and/or the alteration of feldspars. The mafic minerals appear to be made up of needles 2 mm +/- long to anhedral shaped masses.

Both the mafic and felsic mineral constituents display what appears to be crude layering or banding which may represent former tuff beds. Micro or hairline thick micro fractures cross cutting the fabric of the rock have been infilled with silica.

**Sample ART-5**

**3 + 00E, 25 + 98S**

**Rock Type: Unknown**

Somehow this particular sample has managed to become lost. No other records have yet been located pertaining to this sample.

**Sample ART-6**

**3 + 73E, 24 + 52S**

**Rock Type: Amphibolite (Andesite?)**

Fine to very fine grained well foliated, dark green intermediate composition rock. The rock materials have been intensely chlorite altered, showing fine needles of chlorite, measuring 1 mm +/-, which help to define the foliation planes.

Associated with the chlorite altered minerals is an estimated 30% white specs of altered feldspars? which can be difficult to observe due to the overshadowing by the chlorite minerals.

Examinations of the fresh cut surfaces perpendicular to the foliation has shown that the rock is made up of 70% mafic and 30% felsic minerals. As mentioned above, the presence of chlorite makes it difficult to examine the felsic minerals. Near the weathered surface area the felsic minerals occur as elongated whitish granular textured discontinuous bands, measured at 0.50 mm +/- wide. This observation is only possible due to differential weathering of the various minerals on the surface. The chlorite minerals derived from amphiboles occur as fine needles up to 1 mm and help to define the foliation planes. The rock hosts traces of pyrite.

**Sample ART-7****4 + 30E, 24 + 33S****Rock Type: Intermediate Tuff**

Fine grained to aphanitic, banded, dark green intermediate rock with 25% (felsic?) specs, forming an easily distinguishable banding. The ground mass of the rock has undergone intense chlorite alteration. The rock is moderately magnetic and exhibits minor rusting on the weathered surfaces.

Upon examination of the fresh cut surface it was revealed that the materials were aphanitic to fine grained, dark green. The rock was found to host 3% magnetite occurring as subrounded to subangular 0.50 mm +/- ash? fragments. The apparent deposition of ash fragments has developed what is thought to be crude graded bedding. The identification of such graded bedding may indicate the upping or tops direction. Both the magnetite minerals and the apparent grey ash fragments are set within a dark green aphanitic ground mass.

**Sample ART-8****3 + 96E, 26 + 38S****Rock Type: Amphibolite**

A fine grained dark green siliceous textured intensely chlorite altered intermediate ash tuff. On the weathered surface of the rock, shows narrow < 1 mm elongated banding as defined by angular ash fragments? The bands of possible ash fragments appear to have features that might be indicative of flowing that had taken place. The coarse grained bands are separated by dark green aphanitic-like materials. The rock type from this location is weakly magnetic and the surface weathering shows a rusty coloration.

When the sample was examined from the freshly cut surface perpendicular to the apparent bandings, it was shown that the bands appeared to be made up of silica. It is thought that the silica alteration occurred throughout much of the rock. The rock generally has a whitish granular appearance. 1% magnetite specs with 40% chlorite needles or plates occur in between the silica rich bands.

*It is difficult to determine precisely what the geological setting pertaining to this particular sample may have been like. Many of the rocks are very difficult to interpret as to their former origin, composition, etc. Often some wild guesses have been made and at this time it is almost impossible to qualify some of David Langdon's findings.*

**Sample ART-9****4 + 50E, 25 \_ 95S****Rock Type: Amphibolite**

Fine grained well foliated, dark green, possibly andesite rock, which has undergone intense chlorite alteration. On the weathered surface the sample shows magnesium oxidization and bright orange coloured (K<sup>+</sup>) alteration of the feldspars. Approximately 30% to 35% feldspars occur as elongated wisps and ovoid shapes measuring < 0.5 mm wide to 3 mm +/- long, set within a dark green ground mass.

Examining the freshly cut surface, perpendicular to the foliation has shown that the major constituent ground mass of the rock is very fine grained to aphanitic, with fine chloritic needles measuring 1.5 mm +/- long. Trace amounts of pyrite and chalcopyrite were found to occur within micro fractures infilled with quartz. An estimated 7% pyrrhotite occurs as dark brassy rounded grains measuring 0.5 mm +/- were found throughout the rock. The feldspars are less easily observed in the fresh cut due to overshadowing by the chlorite minerals.

**Sample ART-10**

5 + 38E, 26 + 12S

**Rock Type: Diabase-Metadiabase**

Massive medium grained, showing minor rusting and 30% (K<sup>-</sup>), weathering on the surface exposures. The rock is made up of 60% mafic minerals predominantly pyroxenes, interlocking with feldspars. Some of the pyroxene minerals show weak alteration to chlorite.

By examining the freshly cut surfaces it was found that the various mineral constituents were not as easily distinguishable as when examining the weathered surfaces. This is due to differential weathering. 10% visible fine grained anhedral white grey feldspars are set in an aphanitic dark green ground mass.

**Sample ART-11**

5 + 98E, 24 + 00S

**Rock Type: Amphibolite**

Fine grained well foliated dark green, possibly andesite rock. It appears as if the foliation is defined by chlorite minerals and discontinuous fine bands of altered feldspars. Some parts of the rock have undergone intense chlorite alteration which carries trace amounts of pyrite. Yellowish quartz stringers cross cutting at about 45° +/- to the foliation have been observed. Surface weathering of the rock shows some rusting with minor orange (K<sup>+</sup>) alteration colorations on the freshly cut surface perpendicular to foliation. It was difficult to observe the felsic minerals due to the chlorite alteration. As has been clearly observed with other specimens, it is sometimes much simpler to examine the weathered surfaces due to differential weathering, etc.

What felsic minerals are visible, show up as fine white to grey wisps within a predominantly mafic aphanitic ground mass. The dark coloured chlorite minerals occur as fine needles aligned parallel to foliation and measure 0.5 mm +/- wide by 1 mm +/- long. Some pyroxene stubs were said to have been observed. The rock hosts traces of pyrite and pyrrhotite.

**Sample ART-12**

6 + 73E, 24 + 63S

**Rock Type: Amphibolite**

Medium grained well foliated dark green to black, possibly andesite rock. The rock is made up of 70% mafic minerals which have been predominantly altered to chlorite and 30% white-grey specs and discontinuous bands, clearly define the foliation planes. Rose-pink coloured 2 mm wide quartz stringers were found to occur parallel to foliation. The rock is noted as being moderately magnetic and surface weathering shows orange (K<sup>+</sup>) alteration colorations.

Examining the freshly cut surface perpendicular to the foliation, it was found that the chlorite minerals occur as fine 1 mm +/- needles parallel foliation. The rock appears to have undergone minor silicification while the feldspars appear as elongated anhedral wisps or ovoids also aligned along the foliation planes. It has also been noted that the rock host 1% discontinuous bands of yellow quartz measuring 1 mm +/- in width.

*It is important to note that the vast majority of the chlorite alteration is most visible on the surface of an outcropping or hand specimen due to the direct effect of being exposed to the elements over the ages. When a sharp steel object such as a pick is dragged across the top of the outcrop, a small groove will almost always result. Much, if not all, of the surface exposed amphibole minerals will be converted to chlorite complexes. The depth of this surface alteration in most instances is restricted to the first couple of millimetres. When most field identified amphibolites are broken open, they are*

*often found to contain fresh amphibole minerals, some of which may or may not have undergone limited chlorite alterations. It seems evident that the likelihood of the chlorite alteration of amphiboles would appear to be most likely to occur with an increase in the felsic components, either primary or metamorphic.*

*Yellow quartz stringers below the weathered surface show the breakdown of pyrite or magnetite to yellow limonite, while the same quartz stringers exposed on the surface show that the sulphides and/or oxides appear to have been converted to rose-pink hematite oxidation.*

**Sample ART-13**

**7 + 20E, 26 + 27S**

**Rock Type: Amphibolite**

Fine grained well foliated dark green intensely chlorite altered andesite rock with an interbedded tuff unit. As is often observed with other specimens, the feldspars stand out due to the differential weathering. The feldspars occur as fine wisps aligned along foliation planes. Very thin 1 mm feldspathic stringers were found to occur parallel to the foliation.

The interbedded tuff unit within the amphibolite is well foliated, contain less feldspars than the host rock and has been intensely chlorite altered.

When examined on the freshly cut surfaces, perpendicular to the foliation the amphibolitic rock shows the chlorite (amphibole) needles being the only distinguishable mafic mineral. The mineral needles measure < 1 mm and are set within an aphanitic groundmass. The felsic-feldspar minerals are coarser grained in the amphibolites than in the tuff interunit. The feldspar components within both rocks occur as fine white needles within an aphanitic mafic groundmass. The rock host traces of pyrite and 1 mm +/- quartz stringers developed parallel to the foliation.

*As most who have worked with amphibolite grade rocks know, it can at times be difficult to put a definitive name to an amphibolite. With respect to this particular sample, it seems somewhat difficult to differentiate between a potential flow and a tuff based primarily on the decrease in the grain size of the feldspars and an increase in the chlorite content. It is possible that David Langdon observed certain features in the field which lead him to believe that he was examining an amphibolite (andesite) with an interbedded tuff layer. This particular material may be too complex to interpret from simply studying hand samples with the hand lens and in so, might be best classified simply as an amphibolite.*

**Sample ART-14**

**Rock Type: Possible Rhyolite**

The material consists of a dull grey intensely silicified rock with amphibole minerals taken from a quartz stringer zone. The particular rock hosts 1% - 2% disseminated pyrite and is weakly magnetic. The quartz stringers are milky white and are thought to contain some pyrite. Surface weathering shows a fair amount of rusting.

The cutting of and examining the fresh surface revealed that the dull grey areas is the massive silicification alteration which destroyed the primary features of the rock. The pyrite mineralization is primarily associated with the quartz veins or stringers, while observed pyrrhotite occurs within the country rock and appears to follow or form crude bands which may reflect the original foliation-fabric prior to silicification alteration episodes.

*Very little attention has been directed in this stringer zone area. It is obvious a considerable amount of alteration has taken place and further, more detailed exploration efforts may be warranted.*

*A large northwest trending structure is strongly suspected to trend through the immediate area in question.*

**Sample ART-15**

**Rock Type: Feldspathic Dyke (Felsic Tuff or Flow?)**

Massive, aphanitic, beige coloured, one foot wide feldspathic band or dyke within an intermediate andesite rock. The feldspathic rock is relatively soft compared to the adjacent country rock. It is possible that the band carries carbonate minerals. It was found that the materials were non-reactive to acid, so it is possible that there may exist dolomite or iron carbonates. The rock is also known to host 2% quartz lenses or boudins up to 4 mm wide.

When the materials were cut up it was found that the rock was not quite as massive as might be observed from the surface exposure. Closer examination has shown that the feldspathic rock has well developed light green bands, possibly being made up of or containing epidote. These bands were found to occur throughout the rock and were measured at 1 mm +/- wide. The bands appear to be separated into pink coloured sections containing (K<sup>-</sup>), feldspar alterations and light to dark green sections containing epidote-chlorite. The contact between the feldspathic rock and the adjacent rocks is quite distinctive and sharp.

*It is strongly suspected that the felsic rocks described above are similar to numerous thin felsic bands that seemingly-randomly occur within typical looking amphibolite rocks, all throughout the area and most notably to the south or stratigraphically above the main altered felsic units.*

**Sample ART-16**

**Rock Type: Andesite?**

Fine to medium grained, well foliated, green coloured intensely chlorite altered intermediate rock. The rock is composed of 10% - 15% fine grained white specs of altered feldspar segregations within what is suspected to be a finer grained amphibolite rich ground mass.

Examinations of the freshly cut surface of the rock sample have shown it to consist of 15% epidote alteration occurring as bands running parallel to the foliation and is associated with traces of pyrrhotite. Some rusting within the epidote altered bands have also been noted. Felsic segregations occur as fine hairlike discontinuous wisps within a predominantly chlorite altered ground mass.

**Sample ART-17**

**Rock Type: Rhyolite Flow**

The sample materials consists of a pink (K<sup>+</sup>), altered, hard, (silicified?) aphanitic rock with narrow 2 mm +/- discontinuous grey quartz (silica?) rich flow bands? The bands give the rock a laminated appearance. Certain portions of the rock show a granular sugary-chert like texture. Some of these bands may be green in colour due to possible epidote alterations.

The examinations of the cut surfaces proved to be difficult due to the fine grained nature of the rock. The aphanitic rock is generally pink to grey green in colour. Rust filled fractures were noted with the sample.

**Sample ART-18****Rock Type: Amphibolite**

Fine grained, well foliated, intensely chlorite altered rock. The rock is made up of an estimated 75% chlorite altered amphibole minerals with 25% of fine grained white segregations of altered feldspars.

The examination of the fresh cut surfaces also show that the rock consists of 25% white altered feldspars in a fine grained - aphanitic ground mass of chlorite altered amphibole minerals.

The rock host traces of disseminated pyrite. The foliation of the rock can be best observed on freshly broken surfaces.

**Sample ART-19****Rock Type: Amphibolite**

The rock is medium to coarse grained, well foliated and green in colour with bands of coarse grained blocky chlorite associated with quartz, feldspars and epidote. The blocky chlorite bands are set in a fine grained ground mass of chlorite and white altered feldspars.

The examinations of the freshly cut surfaces has revealed that numerous interlocking platy chlorite minerals measuring 2 mm +/- by 1 mm +/- form bands which are associated with an altered spherulitic textured material of radiating amphibole needles. The radiating-acicular mineral needles can be difficult to distinguish due to the intense alteration of feldspars which seem to overprint the original textures. The altered feldspars occur as white anhedral specs and splashes which are pervasive throughout the rock.

**Sample ART-20****Rock Type: Intermediate Tuff**

Rock is made up of a very fine grained to aphanitic, well foliated, green in colour, with intense chlorite and moderate siliceous alterations.

Examinations of the fresh cut surfaces has shown that the rock is predominantly made up of 90% of a green chlorite rich fine grained to aphanitic ground mass with 10% +/- of angular to rounded white grey fragments 1 mm +/- in size, consisting of quartz and felsic materials.

**Sample ART-21****Rock Type: Amphibolite**

The rock is made up of a green, intensely chlorite altered, poorly foliated rock which shows spherulitic-radiating amphibole needles set within a pink (K<sup>+</sup>) altered ground mass. Some of the radiating mineral crystals have a measured diameter of up to 3 mm +/- . The amphibole needles are set in a ground mass of granular-sugary textured feldspars with possible minor quartz.

On the freshly cut surfaces the radiating partially chlorite altered amphibole minerals occur in discontinuous bands and splotches. The rock has a massive appearance.

An estimated 4% carbonate vugs with yellow/orange rhombic crystals appear to be associated with carbonate stringers. Close examination of the rock sample showed it to contain 70% chlorite altered minerals with 25% to 30% (K<sup>+</sup>) altered minerals associated with minor epidote.

**Sample ART-22****Rock Type: Amphibolite Breccia or Fragmental Tuff**

The rock sample is massive, green, showing intense chlorite with moderate siliceous alterations. Rounded to angular fragments of quartz with pink (K<sup>+</sup>) altered feldspars, were noted within an intensely chlorite altered ground mass.

Examination of a freshly cut surface has shown that the rock is made up of a series of angular green aphanitic fragments with more rounded fragments of quartz. The quartz fragments are thought to be less abundant. The apparent fragmental rock has been cross cut by orange/pink quartz-carbonate stringers associated with hairline offshoots of epidote minerals. Some quartz stringers cross cut the rock which has resulted in the development of veining type breccia.

**Sample ART-23**

This sample has gone missing and it is not possible to locate the material at this time.

**Sample ART-24****Rock Type: Silicified Tuff**

The rock sample is made up of a dark grey, crudely laminated, intensely silicified with alternating dark to light coloured fine grained bands. The rock is so silicified that it is not possible to determine if any fragments can be seen in the collected specimen. The rock hosts trace amounts of localized pyrite mineralization.

An examination of the freshly cut surface has revealed that the rock laminations are composed of an orange/yellow siliceous aphanitic mineral. The siliceous-aphanitic minerals alternate with a black salt and pepper textured material showing some angular white quartz fragments which were found to measure < 1 mm +/- . The rock was shown to host trace pyrite and pyrrhotite.

*Within David Langdon's notes a special note was made with respect to conducting a "Recheck in Field" for the particular material described above. It is strongly suspected that David may have come across something of interest when studying the various samples that have been or will be described, and thought it might be beneficial to re-examine certain sample sites or areas.*

**Sample ART-25****Rock Type: Silicified Tuff?**

The rock is made up of a fine grained black-grey intensely silicified material which shows some intense surface rusting. The rock shows crude laminations marked by discontinuous bands of aphanitic black-grey/green (epidote) minerals. The rock is too siliceous to see anything clearly with the naked eye.

By examining a freshly cut surface it was shown that the specimen was intensely silicified, having narrow 2 mm +/- bands with orange-red coloured oxidized sulphides? These bands might be somewhat similar to the black salt and pepper textured materials examined within sample ART-24. These bands may represent relict bedding. The rock hosts trace pyrrhotite and pyrite. Rust commonly occurs along fractures.

**Sample ART-26****Rock Type: Amphibolite**

The rock consists of fine grained, moderately foliated materials which are moderately silicified. The rock is made up of 80% fine grained chlorite rich ground mass with 20% white specs of altered feldspars and traces of pyrite.

Examination of the freshly cut surface of the rock shows that it appears to be massive when viewed along the lengths of the foliation planes. When viewed perpendicular to foliation, the rock exhibits white wisps and specks of altered feldspars, which help to define the foliation. The rock has been intruded by quartz-carbonate-epidote stringers cross cutting the foliation. The stringers have cores of quartz with rims of epidote needles. The rock host trace disseminated pyrite and pyrrhotite.

**Sample ART-27****Rock Type: Fault Rock**

The rock materials are composed of subangular to well rounded fragments of quartz, amphiboles and feldspar rich materials in a light green ground mass which may be epidote rich.

Upon examination of a freshly cut surface, it was shown that the rock was made up of a series of < 1 mm to 6 mm fragments which are made up of fine grained amphibole minerals with lesser quartz and feldspars.

The fragmental ground mass is aphanitic and light green in colour, is epidote bearing and may represent altered fault gouge-mylonite.

**Sample ART-28**

This sample has gone missing and it is not possible to locate it at this time.

**Sample ART-29****Rock Type: Intermediate Tuff**

The rock is made up of a very fine grained green aphanitic, poorly foliated tuffaceous material. The tuff rocks contact amphibolites (andesite?). The amphibolite rocks are very fine grained foliated, moderately silicified and chlorite altered. The foliation planes exhibit a greasy feel due to the chlorite alteration.

The examination of the freshly cut surfaces have revealed that the rock is very fine grained to aphanitic, being nearly massive with some visible chlorite altered laths of amphibole minerals. Approximately 10% +/- angular black fragments measuring less than 1 mm +/- were observed within a green aphanitic ground mass.

**Sample ART-29A****Rock Type: Diabase**

The rock consists of medium grained massive needles of amphiboles with stubby pyroxene crystals set within an orange-red aphanitic ground mass made up of 60% mafic and 40% felsic minerals.

The examination of the fresh cut surfaces revealed that the rock is made up of 80% to 85% aphanitic mafic minerals with 15% orange and yellow-white altered feldspars occurring as irregular splotches.



*It may be possible to classify this rock as an aglomoporphyritic diabase.*

**Sample ART-30**

**Rock Type: Diabase**

The rock specimen is similar to that described above for sample ART-29A. Generally the rock is medium grained, aphanitic with a black mafic ground mass hosting 15% splotchy feldspar minerals. The rock also hosts trace pyrite.

This sample was not slabbed with the diamond saw.

**Sample ART-31**

**Rock Type: Intermediate Tuff with Amphibolites**

The rock is very fine grained, green coloured, well foliated, intensely chlorite and siliceously altered. The foliation planes are defined by fine grained chlorite altered aligned amphibole laths.

Examination of the freshly cut surfaces has revealed that the rock is made up of materials grading from finer grained intermediate tuffs to fine to medium grained amphibolite (mafic). The tuff is very fine grained to aphanitic being predominantly composed of chlorite with elongated hairlike wisps of altered feldspars. The amphibolite is coarser grained, relative to the tuff and consists of considerably more white altered feldspars and chlorite.

**Sample ART-32**

**Rock Type: Felsic Tuff**

The rock is fine grained grey-green, well foliated with intense sericite and moderate siliceous alterations. The developed sericite minerals occur along the foliation plans as flakes measuring 1 mm +/- . The rock is made up of 55% sericite which gives the rock a greasy feel. On the broken surface perpendicular to foliation, equigranular quartz and feldspar? fragments appear to be evident.

Upon the examination of the fresh cut surfaces it was revealed that the rock is made up of a number of predominantly dull grey subangular fragments of quartz and feldspars ranging in size from <0.5 to 1.5 mm. The foliation planes may represent former depositional bedding.

**Sample ART-33**

**Rock Type: Amphibolite (Andesite)**

The rock is fine to medium grained, green, well foliated with chlorite alteration and 10% to 15% white specs and splotches of altered feldspars. The rock exhibited minor rusty surface weathering.

Examination of the fresh cut surfaces revealed that the rock was made up of predominantly chlorite altered amphibolite needles with 10% to 15% white specs of altered feldspars, exhibiting a salt and pepper textured appearance.

**Sample ART-34****Rock Type: Intermediate Tuff**

The rock is very fine grained to aphanitic, with almost massive, intense chlorite alteration which gives the rock a greasy feel. A few angular to rounded aphanitic fragments of quartz and feldspars measuring less than 1 mm in size and are set in a green chlorite rich ground mass.

Examination of the freshly cut surfaces have revealed that the rock is so aphanitic that it is almost impossible to distinguish anything in the green ground mass. The odd angular black to white and grey fragments of quartz and feldspars have been noted.

**Sample ART-35****Rock Type: Amphibolite**

The rock is fine to medium grained, well foliated, intense chlorite and moderate siliceous alteration. The foliation is defined due to the alignment of the chlorite altered and feldspar altered minerals. The rock hosts trace amounts of pyrite.

Examination of the freshly cut surfaces reveals that the ground mass contains chlorite altered amphibolite needles measuring up to 0.5 mm long. Altered feldspars within the rock appear to be over printed (possible saussuritisation) by chlorite giving the minerals a light green colour. Some epidote may be present.

**Sample ART-36****Rock Type: Amphibolite**

The rock is medium grained, well laminated, green and chlorite altered. the amphibolite rock has been intruded by a 1 cm wide quartz stringer with 1% pyrite, developed concordantly with foliation. Some minor surface rusty weather is present.

Examination of the fresh cut surfaces has revealed that the rock is made up of predominantly chlorite altered amphibole needles measuring up to 1.5 mm in length. The quartz stringer is orange to red in colour and may host some ankerite. The quartz also hosts some chlorite and epidote along the contacts of the stringer. The quartz stringer contact rocks appear to have undergone some narrow 3 mm +/- chilling. The pyrite mineralization occurs along the edges of the quartz stringer.

*It is suspected that the sulphides are associated with the chlorite minerals along the stringer contacts. Many of the concordant quartz stringers or inclusion-like features observed within the amphibolite rocks drilled through in holes RL-92-02 to RL-92-04 were shown to host sulphides near their outer edges and were often associated with chlorite.*

**Sample ART-37****Rock Type: Feldspathic Rock**

The rock is orange in colour with fine grained needles of chlorite altered amphibole minerals 1 mm +/- long. The orange band is aphanitic and well foliated which is clearly defined due to the alignment of chlorite altered minerals.

Upon the examination of the freshly cut surfaces it was revealed that the chlorite altered minerals clearly define the foliation which may represent former depositional bedding. The material is made up of 70% mafic minerals and 30% aphanitic pink (K<sup>+</sup>) altered felsic minerals.

---

*It would appear that the sample might more specifically be a thinly laminated or foliated felsic band occurring within a chloritic altered amphibolite rock. Thin felsic bands interrupting more formal looking amphibolites are very common in the Richardson Lake area and may represent thin veneers of felsic tuffaceous rocks or possibly very thin fluid felsic flows.*

While David Langdon was carrying out geological investigation on mining claim S-1095080, some limited investigations were being carried out in the northwest and southeast corners of mining claim S-1095079.

From mid May 1992 to early June 1992 two Ecuadorian professionals, Gabriel Valenzuela and Efrain Gonzalez from Cambrian College in Sudbury, Ontario, were utilized to carry out geological related work.

Both men are geologists and had spent the previous fall and winter months studying at Cambrian College in an attempt to upgrade their geological-geophysical knowledge etc. and to learn of the Canadian-North American exploration techniques.

Earlier in the year Jack W. Wardle from Cambrian College solicited our company with the intent of placing two attachments in a working situation where they would gain valuable Canadian experience.

Gabriel and Efrain carried out field work on the Richardson Lake property starting from about May 12, 1992 to the first week of June 1992. Most of their time was spent working within the felsic pyroclastic rock in the western parts of the property, as well, some concentrated efforts were directed at studying the amphibolite rocks south and stratigraphically above the favourable zone on claim S-1095079.

Aside from carrying out field work the two attachments followed along with the project geologists to observe the performing of the VLEM survey and the surface trenching operations that were ongoing at the time.

Often discussions would take place at various locations on the property with respect to the various geological features being studied etc. Every attempt was made to expose Gabriel and Efrain to the various exploration functions that were taking place on the mining claims. Gabriel and Efrain participated in some microscopic work on some rock and mineral samples they had collected from the area.

Because Gabriel Valenzuela and Efrain Gonzalez were on a Cambrian College attachment program, no wages had to be paid.

Cambrian College was responsible for all of the potential liabilities, insurance, etc. No wages, commissions, fees etc. had to be paid by the participating companies. It was the main intent of Cambrian College International Programs Director to place participants into real situations in order to gain hands-on experience.

As a result of the participants work, a number of interesting geological areas were examined.

In the northwest areas of claim S-1095079 it was found that the rocks mainly consisted of medium grained to very coarse grained felsic pyroclastic metavolcanic rocks associated with porphyritic andesites. These rocks have been intruded by irregular shaped metadiabase-metagabbro intrusive rocks.

The felsic and minor intermediate metavolcanic rocks make up a thick sequence of rocks which extend southwards and westwards of the mining claims. They are generally made up of intercalated finer grained ash tuffs with coarse large fragment lapilli tuffs. It would appear that the coarsest grained rocks occur near the northwest corner of claim s-1095079 and appear to become finer grained along strike to the west. West of the property the felsic rocks have been significantly moved southwestwards, possibly due in part to faulting and folding episodes. Carbonaceous metasedimentary rocks similar to what was observed in the newly excavated trenches were observed more than 1/2 mile west of the BLMI property. This clearly suggests that the highly altered felsic metavolcanic rocks found on the BLMI property occur over considerable lengths, further to the west than originally anticipated.

An interesting characteristic noted was that the pyroclastic rock closest to Richardson Lake are more or less coarse grained and somewhat variable, while the rocks further west along strike appear to be more consistent and exhibit visible lamination or foliation features.

Most, if not all, of the mafic intrusive dykes were found within the coarser grained tuffs, while fine grained irregular-small bodies of pink quartz feldspar porphyries were more prominent in the western areas. It may be possible to speculate that the mafic and felsic intrusives could somehow be genetically related. Intense heat generated as a result of the emplacement of the mafic dykes may have dissipated into the adjacent country rocks, causing total melting-remobilization of molten fluids and recrystallization quartz feldspar porphyries.

While examining the area geology a short distance to the west of the property, a series of large, quite angular boulders were observed upon a felsic tuff outcrop. The shape and size of the chunks would suggest that they had not travelled any great distances. When these boulders were broken open and more thoroughly examined, it was revealed that the rock was a porphyry, being made up of 15% - 20% anhedral to euhedral white to yellowish weakly striated plagioclase feldspars. The feldspar phenocrysts are set in a light green siliceous aphanitic ground mass. There are no visible quartz phenocrysts, inclusion etc. within the rock.

Minor, very fine grained grey crystals of carbonate with traces of chalcopyrite and pyrite were observed within what appeared to be a thin vein or reworked portion of the porphyritic rock.

This particular rock type may be classified as a latite porphyry which may have formed dykes or other shaped masses within the adjacent felsic rocks. Attempts were made to locate an outcropping of this particular material, but was proven unsuccessful due to the overburden cover.

Much of the felsic metavolcanic rocks in this south shifted bulge like area show sericite mica development due to greenschist to upper greenschist facies metamorphism.

Locally the felsic rocks may have undergone sufficient sericitic alteration to develop sericite schist zone which appear to trend towards the northwest. No particular sericite zoning was determined from the observations of the felsic metavolcanic rocks in the area.

From the examinations that were carried out in the western areas of the BLMI property, it has been possible to determine that thick sequences of felsic pyroclastic rocks were deposited in the area. Some of these rocks consisted of fine grained tuffs or lapilli tuffs. The tuffaceous rocks were intruded by stocks or masses of porphyritic andesite, which may have developed contemporaneously with the deposition of the tuffs, but may have since been eroded down to its intrusive roots.

Deposited upon the felsic pyroclastic rocks were various thin flows with intercolated ash tuffs and carbonaceous metasediments. It is within these rocks, on top of the pyroclastics that mineralization has been found to occur. These rocks tend to be highly altered and deformed with carbonate-silica-epidote-garnet-manganese and sulphides minerals.

Overlying the felsic suite, there occurs a very thick sequence of intermediate to mafic amphibolite grade metavolcanics which are thought to represent former flows and/or tuffs. Immediately above the felsic contact the rocks tend to be of an intermediate composition consisting of about equal quantities of amphiboles and feldspar minerals. Within these rocks primary sulphide mineralization of pyrite-pyrrhotite-sphalerite-galena and chalcopyrite has been found, most notably being the "Langdon Showing". Within these rocks pyrite and pyrrhotite appear to be the most common sulphide minerals.

The more formal mafic amphibolites occur above the intermediate rocks and appear to be very expansive. Some very massive looking amphibole rich rocks may have represented former basaltic lava flows, which may be supported by the fact of the presence of pillow lava to the south. Some of the more amphibole-feldspar-quartz, chlorite altered and well foliated amphibolites may represent former tuff deposits.

Within the intermediate to mafic amphibolite unit, narrow concordant felsic bands of tuff or flow rocks have developed. These rocks may host minor amounts of sulphides.

Near the boundary between the intermediate and mafic rocks a narrow banded siliceous iron formation has developed which may either be of magmatic or metasedimentary origin. It has been possible to trace this particular iron formation a considerable distance along strike to the west all the way to the Richardson Lake Iron Occurrence (O.G.S. Map 2413). The iron formation may be utilized as a potential markerbed, which would appear to indicate that a very large "S" shaped southwards plunging fold has developed within the metavolcanic sequences west of Richardson Lake. All of the rock sequences have been dragged along during folding episodes. Some of the plains or segments may have been dislocated southwards by northeast trending fault structures developed parallel to or along the axial planes of the folds.

Prior to or following the folding episodes, all of the metavolcanic rocks were intruded by fine grained metadiabase and coarser grained metagabbro bodies. Some of the finer grained materials resemble fine grained massive flows, but exhibit what appears to be intrusive contacts. It is possible that these finer grained rocks may not be related to the metagabbros, but may represent synvolcanic flow rocks with feeder type dykes. The finer grained intrusive-extrusive rocks appear to be more common within the amphibolite rocks.

The metagabbroic rocks observed both on surface and in three of the four drill holes put down in 1992, appear to indicate that the intrusives are quite large. Various sized fragments observed within felsic pyroclastic rocks within the main felsic horizon could put the age of the intrusive as Pre-Huronian. The metagabbro dyke may have acted as a feeder system for overlying rocks which have since been eroded away.

Fine grained quartz feldspar porphyry masses have been found primarily within the felsic rocks, but minor veins have been reported (D. Langdon) in the southern part of the property cross cutting the amphibolites. Narrow, sharply contacted orthoclase-possible plagioclase-muscovite mica pegmatite dykes commonly intrude all the area rocks and are likely caused due to degassing the various intrusive rocks in the area.

The degree of metamorphic alteration within the Richardson Lake Greenstone Belt is primarily amphibolite grade. There are some unusual exceptions to this, which are noticeable within the felsic metavolcanics.

The carbonaceous metasediments near the top of the felsic sequence have well preserved bedding features exhibiting soft sediment or tectonic folding etc. In very localized sections of the metasediment, minor garnets have been developed, possibly due to the metamorphism or possibly due to hydrothermal-skarn type alteration as a result of the nearby intrusion of the metagabbro.

While some of the felsic rocks appear to have only been subject greenschist facies, other rocks such as well laminated or bedded flows or tuffs, have various layers with well developed amphibole needles.

The amphibolite grade of metamorphism may be very subtle within the felsic rock or it may occur as some form of differential? metamorphic alteration. It is clearly difficult to make a distinction between possible greenschist and amphibolite facies metamorphism in the felsic metavolcanics.

Presently there is some debate as to which direction the volcanic rocks are younging. Certain features observed on the ground would appear to indicate that younging of the rocks might occur towards the south. Please refer to Figure 7, which gives an example of a potential upping direction feature.

There are some workers who believe that the younging direction was originally towards the north. In a 1980 Laurentian University Masters of Science Degree, Alan Edger Guthrie proposed that the rocks of the Benny Greenstone Belt younged towards the north and were subsequently overturned. The Richardson Greenstone Belt is situated about 15 miles northeast of the Benny Belt. These two metavolcanic belts are believed to be genetically related.



DEAD BIRD TRENCH.

DETAILED SKETCH.

NOT TO SCALE.

SE.

NW.

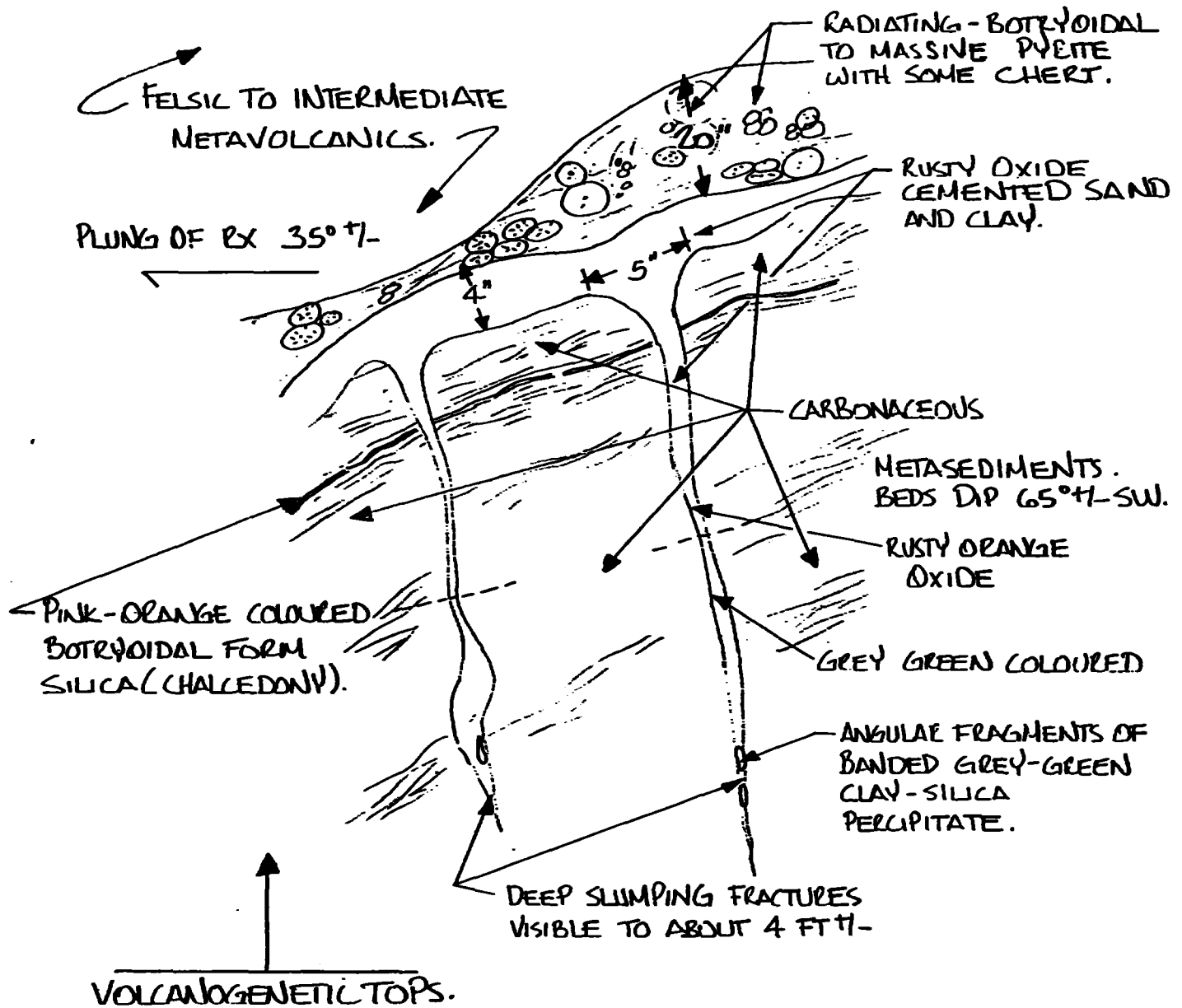


FIGURE 7

The idea that the rock originally dips north in the Richardson Lake Greenstone Belt may not be too far-fetched.

Progressing from the southern part of the belt, the rocks are made up of quartz-biotite-plagioclase gneisses, which exhibit upper amphibolite to granulite facies metamorphism. It is noteworthy that the degree of metamorphism appears to decrease in the northwards direction from granulite grade in the gneissic rocks, amphibolite grade in the intermediate-mafic metavolcanics and greenschist grade in the felsic metavolcanics.

This might suggest that gneissic rocks were subject to the effects of burial metamorphism due to having a considerable amount of volcanic rocks being piled on top of the original basement rocks.

If the rocks were originally deposited towards the north, then the large fold traced along strike utilizing the iron formation marker may actually represent a large antiformal structure. The numerous fracture infillings or stringers of quartz-carbonate-epidote and various sulphides observed crosscutting the stratigraphy may have developed along a series of tension gashes parallel to the axial plane of the folds.

If the rocks were in fact laid down towards the north, they would presently be in the overturned position.

On the regional scale there is some evidence to suggest that the rocks of the belt were deposited from north to south. On the local scale there is also good evidence to suggest the rocks were deposited from north to south.

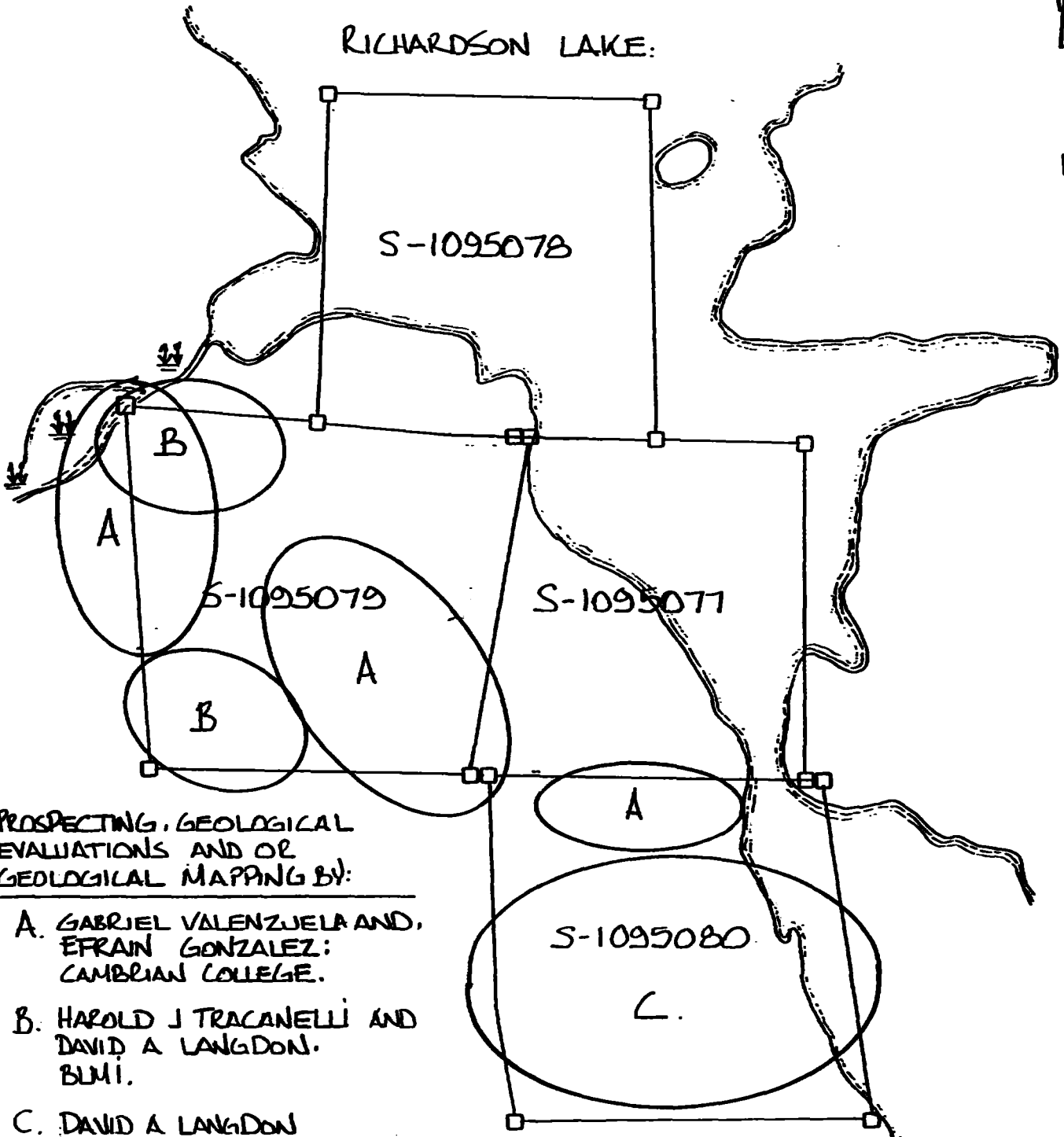
It is expected that there will be considerable debate regarding the upping matter in the future, particularly where work will be required to more thoroughly evaluate the area in search of mineral deposits.

Please refer to Figure 8 for the generalized locations of the prospecting and geological type investigations and evaluations carried out on the BLMI Richardson Lake Property in 1992. The trench mapping has not been included within this section.

Please refer to Figure 9 which exhibits the generalized geology of the area studied.

PROSPECTING - GEOLOGICAL TYPE WORK  
INDEX MAP.

0' 600' 1200'  
1" = 600 FT.



PROSPECTING, GEOLOGICAL  
EVALUATIONS AND OR  
GEOLOGICAL MAPPING BY:

- A. GABRIEL VALENZUELA AND,  
EFRAIN GONZALEZ;  
CAMBRIAN COLLEGE.
- B. HAROLD J TRACANELLI AND  
DAVID A LANGDON.  
BLMI.
- C. DAVID A LANGDON  
BLMI.

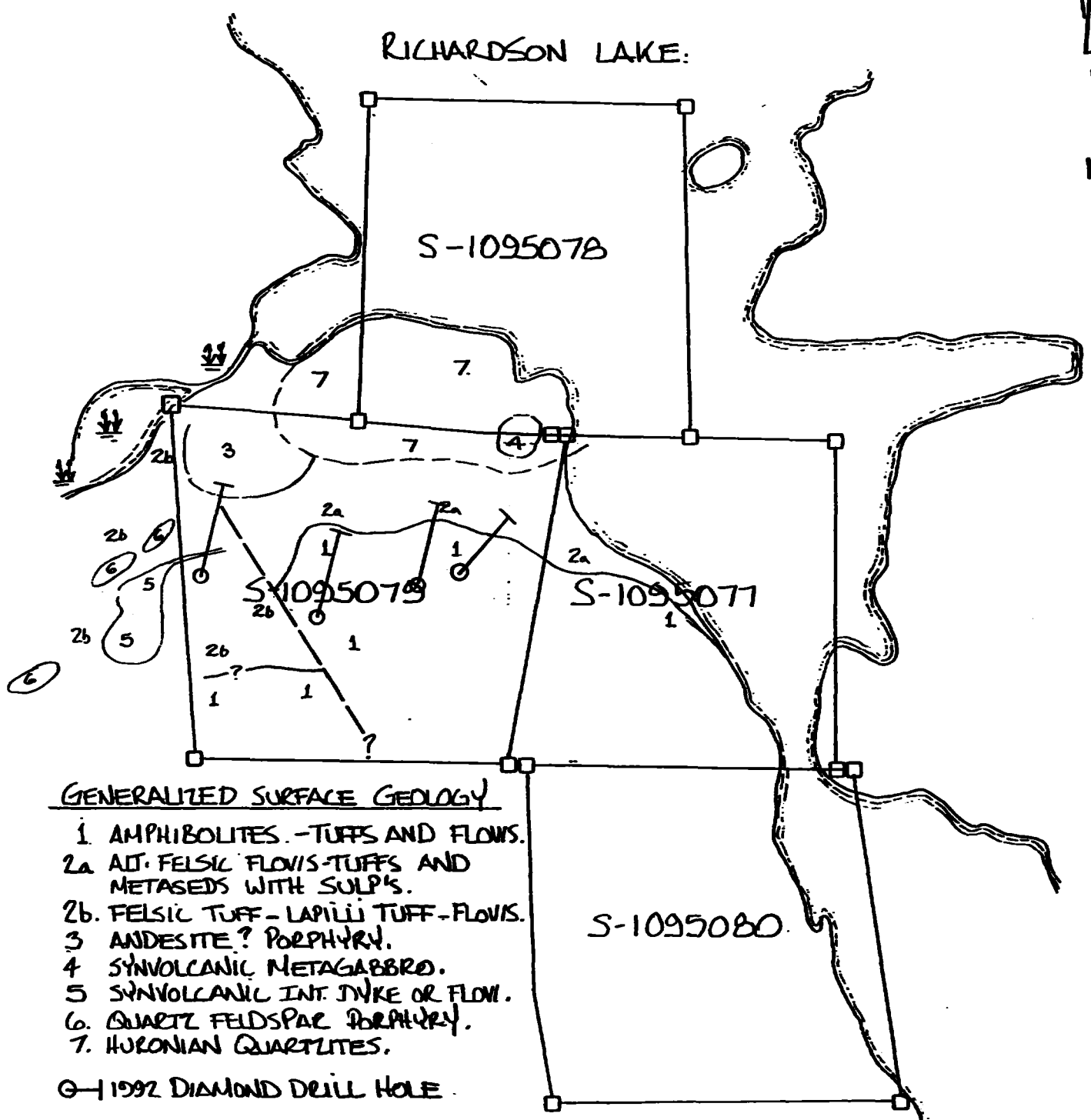
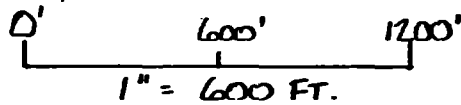
BLMI RICHARDSON LAKE PROPERTY

RHODES TOWNSHIP.  
SCALE 1" = 600 FT.

FIGURE 8

# GENERALIZED SURFACE GEOLOGY

APPROXIMATED.



## GENERALIZED SURFACE GEOLOGY

- 1 AMPHIBOLITES. - TUFFS AND FLOWS.
- 2a ALT. FELSIC FLOWS-TUFFS AND METASEDS WITH SULPH'S.
- 2b. FELSIC TUFF - LAPILLI TUFF - FLOWS.
- 3 ANDESITE? PORPHYRY.
- 4 SYNVOLCANIC METAGABBRO.
- 5 SYNVOLCANIC INT. DYKE OR FLOW.
- 6. QUARTZ FELDSPAR PORPHYRY.
- 7. HURONIAN QUARTZITES.

⊙ - 1992 DIAMOND DRILL HOLE

## BLMI RICHARDSON LAKE PROPERTY

RHODES TOWNSHIP.  
SCALE 1" = 600 FT.

Figure 9

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The following is a list of samples collected by Efrain Gonzalez and Gabriel Valenzuela, Cambrian College attachments, who were studying the geology of mining claim S-1095079 and area.

# MACROSCOPIC ROCK IDENTIFICATIONS.

## "RICHARDSON LAKE PROPERTY RHODES TWP"

NO	SAMPLE CODE	DESCRIPTION.
		TEXTURE - STRUCTURE - COLOR - COMPOSITION - REMARKS - ROCK TYPE / NAME.
1	SC-1	Aphanitic - Massive - Grey greenish - Feldspar, pyroxene - Trace of Py, chloritic alteration - Metavolcanic / Diabase.
2	SC-2	Aphanitic porphyritic (medium grained) - Massive - Dark greenish - Feldspar, pyroxene, some Qtz and biotite - Trace of Py, chloritic alteration, feldspar veinlets crossed - Metavolcanic / Diabase.
3	SC-3	Aphanitic porphyritic (medium grained) - Massive - Dark greenish - Feldspar, pyroxene, some Qtz and amphiboles - Some chloritic alteration, some Py, feldspar veinlets crossed - Metavolcanic / Diabase.
4	SC-5	Aphanitic porphyritic - Massive - white pinkish light grey - Qtz eyes, feldspar (K) some muscovite - Qtz eyes 3 to 8 cm in feldspar groundmass, Qtz veinlets - Metavolcanic / Rhyolite.
5	SC-5'	This sample is a quartz block ↗
6	SC-6	Aphanitic (fine grained) - Massive - Light grey - Feldspar, Qtz, some chlorite and sericite - Metavolcanic felsic.
7	SC-7	Aphanitic - Massive - Grey light greenish - Feldspar, Qtz, chlorite - Some Qtz eyes - Metavolcanic felsic

No	SAMPLE CODE	DESCRIPTION.
8	SC = 8	Fine to medium grained - Massive - Pink greenish - Feldspar (K, Na), Qtz, chlorite some epidote - Some Qtz veinlets - Metavolcanic felsic / Intrusive Rock?
9	SC - 9	Aphanitic - Massive - Grey greenish - Feldspar, chlorite some Qtz, px and biotite - Chloritic alteration, pieces of Qtz with epidote, some Py. - Metavolcanic Intermediate.
10	SC - 9'	Aphanitic (laminated) - Massive (Flow structure) - Grey greenish - Feldspar, chlorite, some Qtz, Py and muscovite - Py disseminated and oxidized - Metavolcanic intermediate / Felsic Flow?
11	SC - 10	Phaneritic (medium to coarse grained) - Massive (microcrystalline) - Grey light white - Feldspar, dark Qtz, muscovite, some mafics - Feldspar fencristols altered, Qtz eyes - Quartz porphyry.
12	SC - 11	Aphanitic porphyritic (fine to medium grained) - Massive (some alignment mafic grains) - Grey greenish some pink - Feldspar K, plagioclase, piroxene, some Qtz - K feldspar in veinlets, all sample with chloritic alteration, mafics altered to chlorite, some Px oxidized - Metavolcanic intermediate.
13	SC - 13	Aphanitic porphyritic (fine to medium grained) - Massive - Grey - Feldspar, Qtz, mafics chloritized - Metavolcanic intermediate.
14	SC - 13'	Porphyritic - Massive - Pink white - Feldspars (K-Na), Qtz, muscovite, weakly chlorite - Pieces of Qtz - Pegmatite.

No	SAMPLE CODE	DESCRIPTION
15	SC-14	Porphyritic - Massive - Light grey - Feldspar, Qtz, some sericite - weakly chloritic alteration - Qtz fens cristols - Felsic Metavolcanic.
16	SC-15	Fine to medium grained with some mineral orientation - weakly foliated schistose - Grey - Feldspar, Qtz, chlorite, sericite - Qtz eyes, some epidote alteration, a lot of fine sericite - Metamorphic Rx / Chlorite schist.
17	SC-15'	Aphanitic porphyritic - weakly foliated schistose - Grey - Fldspar, Qtz, sericite, chlorite - Qtz eyes, some patches of chlorite, a lot of sericite - Mtm Rx / chlorite schist.
18	SC-16	Granoblastic (fine to medium grained) - weakly foliated - Grey greenish - Feldspar, Qtz, mafics and chlorite (20-25%) and sericite - Mtm. Rx / schist.
19	SC-17	Granoblastic (fine to medium grained) - Foliated, structure schistose - Dark green - Mafics (hornblende), fldspar, some sericite - Qtz veinlets, chloritic alteration - Mafic Metavolcanic / Amphibolite?
20	SC-18	Aphanitic porphyritic (fine to medium grained) - Massive weakly alignment grains (laminar) - Grey light - Feldspar, Qtz, some mafics (px) - Fine Py disseminated - Metavolcanic felsic.
21	SC-22	Aphanitic (fine grained) - Massive - Dark greenish - Feldspar, mafics (Px, Amph.), some Qtz - Some Py disseminated, chloritic alteration - Metavolcanic mafic / diabase.
22	SC-23	Granoblastic (fine to medium grained) - Foliated, structure



Nº	SAMPLE CODE	DESCRIPTION.
		schistose - Dark green to black - Amphiboles (Hornblende) most diffracted, sericite, Qtz, few feldspar - Py disseminated, chloritic alteration - Mtm Rx / Amphibolite.
23	SC-24	Granoblastic (fine to medium grained) - Foliated, structure schistose, sometimes massive - Dark green to black - Amphiboles (hornblende) most diffracted, garnet, sericite, Qtz, few feldspar - chloritic alteration, trace Py, 24' and 24" samples are amphibolites too, and they have the same characteristics than SC-24 - Mtm Rx / Amphibolite
24	SC-25	Granoblastic - Foliated, structure schistose - Dark green to black - Amphiboles (Hornblende) most diffracted, Qtz, sericite, few feldspar - weakly chloritic alteration - Mtm Rx / Amphibolite
25	SC-26	Aphanitic - Porphyritic (fine to medium grained) - Massive - Grey greenish - Feldspar, mafics, chlorite, some Qtz - Some Py, chlorite alteration extended - Meta volcanic / Diabase?
26	SC-27	Granoblastic (fine to medium grained) - Foliated, structure schistose - Dark green - Amphiboles (hornblende), sericite, chlorite, some Qtz and feldspar - Some Py, chloritic alteration, Qtz reinitals with Py - Mtm. Rx. Amphibolite.
27	SP-3	Granoblastic (medium to coarse grained) - Structure schistose, foliated - Black whitenish - Amphiboles (hornblende), Qtz, feldspar, some sericite and chlorite - some Py, fenestals of Qtz and feldspar - Mtm Rx / Amphibolite

No	SAMPLE CODE	DESCRIPTION.
28	SP-4	Granoblastic (medium to coarse grained) - Structure schistose, foliated - Black whitenish - Amphiboles (hornblende), Qtz, feldspar, some chlorite and sericite - Fenostals of Qtz and feldspar - Mtm. Rx / Amphibolite.
29	SP-5	Granoblastic (fine grained) - Structure schistose, foliated - Dark green light white - Amphibolite (hornblende), chlorite, feldspar, some sericite and Qtz - chloritic alteration, feldspar bands with some Py - Mtm Rx / Amphibolite.
30	SP-6	Aphanitic phaneritic (fine to medium grained) - Massive, weakly lamination - Dark green - Feldspar, mafics (px), chlorite, few Qtz fenostals - feldspar veinlets, chloritic alteration - Meta-volcanic / diabase.
31	SP-7	Granoblastic (fine to medium grained) - Structure schistose, foliated - Dark green to black - Amphiboles (hornblende), feldspar, few px. - some trace Py - Mtm. Rx / Amphibolite.
32	SP-8	Aphanitic - phaneritic (fine to medium grained) - Massive light grey - Feldspar, Qtz, mafics, chlorite - weakly lamination - Meta-volcanic / intermediate.
33	SP-9	Granoblastic (medium to coarse grained) - Foliated (alternation light and dark bands), sometimes massive - Dark green to black - Amphiboles (hornblende), Qtz, sericite, feldspar - Pieces of Qtz included in the Rx, some chloritic alteration - Mtm Rx / Amphibolite.
34	SP-10	Aphanitic phaneritic (fine to medium grained) - weakly laminated, mostly massive - light grey - Qtz, feldspar, mafics, some micas - Some Py, Qtz layers - Meta-volcanic intermediate.

No	SAMPLE CODE	DESCRIPTION
35	SP-11	Aphanitic pharfiritic (fine to medium grained) - Massive, weakly lamination - Dark green - Feldspar, mafics (Px, Amph.), chlorite - Some Py, chloritic alteration, micro veinlets crossed - Metavolcanic / diabase.
36	SP-12	Granoblastic (medium to coarse grained) - Structure schistose, mineral alignment, foliation <sup>no</sup> well developed - Black greyish - Feldspar, Qtz, mafics (Px, amph.), sericite - Mtm. Rx / schist.
37	SP-13	Aphanitic (fine grained) - Massive - light grey - Feldspar, Qtz, few mafics - Few veinlets and disseminated Py - Metavolcanic felsic.
38	SP-14	Granoblastic (fine to medium grained) - Foliated, structure schistose - white to grey greenish - Feldspar, chlorite, some Qtz - Mafics chloritized - Mtm Rx / chlorite schist.
39	SP-15	Granoblastic (fine to medium grained) - Foliated, structure schistose - Black light white - Amphiboles (hornblende), feldspar, sericite - Few Py, some Qtz layers - Mtm Rx / Amphibolite.
40	SP-16	Aphanitic Phanaritic (fine to medium grained) - Massive - light grey - Feldspar, hornblende, some Qtz and sericite - Metavolcanic intermediate.
41	SP-17	Phanaritic (fxtols of Qtz, mafic pieces) - Massive - Dark greenish - Feldspar, mafics (Px, Amph), chlorite - Pieces of Qtz, trace Py, mafic concentrations, chloritic alteration - Metavolcanic mafic.

No	SAMPLE CODE	DESCRIPTION.
42	SP-18	Granoblastic (fine to medium grained) - Foliated, structure schistose - Dark green with white bands - Mafics (Px, Amph.) chloritized, feldspar, some Qtz and <u>sericite</u> - Some feldspar layers with Py included - <u>Mtm. Rx.</u> chlorite schist.
43	Ob. 1	Granoblastic (fine grained) - Foliated - Black with some white points - Feldspar, mafics (hornblende), some Qtz - Some Py, mafics chloritized, some small joint set crossed to foliation - Mtm Rx / Amphibolite.
44	Ob. 1'	Aphanitic porphyritic (fine to medium grained) - Massive, light laminated - light grey - Feldspar, some Qtz and mafics - trace Py, the rocks Ob. 1 and Ob. 1' are in contact - Meta volcanic felsic.
45	Ob. 2	Granoblastic (fine to medium grained) - Bonded, structure schistose - Black - Mafics (hornblende), feldspars, some sericite - Trace Py, some feldspar layers, mafic chloritized - Mtm Rx / Amphibolite.
46	Ob. 3	Aphanitic (fine grained) - Massive, some mineral orientation - light grey - Feldspar, Qtz, some chlorite and mafics - some chloritic alteration - Meta volcanic felsic.
47	Ob. 4	Granoblastic (fine to medium grained) - Foliated, structure schistose - Dark green with white layers - Mafics (hornblende), feldspar, some Qtz and sericite - Qtz veinlets, some Py - Mtm Rx / Amphibolite.
48	Ob. 5	Granoblastic (fine to medium grained) - Foliated, structure schistose - Black with some white layers - Feldspar,

No	SAMPLE CODE	DESCRIPTION
	-	mafic altered to chlorite, some epidote and Qtz - weakly epidotic alteration - Mtm. Rx / chlorite schist.
49	Ob. 6	Granoblastic (fine to coarse grained) - Massive, weakly foliated - Black greenish - Feldspar, mafics (hornblende) chloritized, some sericite and Qtz - chloritic alteration, trace Py - Mtm Rx / Amphibolite.
50	Ob. 7	Granoblastic (fine to medium grained) - Massive, weakly laminated - Black - Mafics (hornblende) chloritized, feldspar, some sericite and Qtz - Trace Py - Mtm Rx / Amphibolite.
51	Ob. 8	Crystalline (fine to medium grained) - Foliated, structure schistose - Dark green with white layers - Feldspar, mafics (hornblende, some px.) chloritized, few Qtz - trace Py, mafic orientation, chloritic alteration - Mtm Rx / chlorite schist?
52	Ob. 9	Granoblastic (fine to medium grained) - Massive, weakly foliated - Dark green - Amphibolite (hornblende), feldspar, few Qtz - Mafics chloritized, trace Py - Mtm. Rx. / Amphibolite.
53	Ob. 10	Aphanitic (fine grained) - Massive - light grey greenish - Feldspar, Qtz, some mafics and chlorite - Trace Py, weakly chloritized - Metavolcanic felsic.
54	Ob. 11	Granoblastic (medium to coarse grained) - Massive, weakly foliated - Dark green - Amphiboles (hornblende), feldspar, some sericite - Some feldspar veinlets - Mtm Rx / Amphibolite.

NO

SAMPLE CODE

DESCRIPTION.

55

Ob. 12

Aphanitic phaneritic (fine to medium grained) -  
Massive - Dark - Feldspar, mafics (Px, Amph.) -  
Clivage planes in different directions, Qtz veinlets with  
Py - Meta volcanic / Diabase.

## 8.2 LINE CUTTING AND GROUND VERTICAL LOOP ELECTROMAGNETIC (VLEM) SURVEY

As part of the 1992 BLMI Richardson Lake Project, it was decided that a more sophisticated form of electromagnetics should be carried out over a series of grid lines which would help to compliment the former magnetometer and very low frequency electromagnetic surveys and the geological and geochemical work that had been previously carried out over the company's mining claims.

Originally plans were first made to carry out a horizontal loop - max - min 2, frequency domain survey over the grid lines but it was discovered that the equipment was unavailable due to some electrical-electronic problems.

In place of running the max-min (HEM) survey, it was decided that a vertical Loop Electromagnetic (VLEM) survey would be initiated, utilizing the "Shoot Back Method".

In early May of 1992 Trivett Geological Explorations, Ontario Corporation 972410 was hired to carry out the cutting of a specified predetermined length of grid lines, run the Vertical Loop Electromagnetic Survey and then to report the findings of the work to the exploration staff at Bharti Engineering Associates Inc.

Prior to the initiation of the ground geophysical survey, it was necessary to extend some existing grid lines or establish a series of new grid lines having a predetermined orientation, etc.

A number of grid lines which were part of the fall 1991 orientation grid were extended, particularly towards the south. The original cross lines were established off of the east-west grid line L 4 + 00 S which was originally established for BLMI by Val d'Or Geophysics Ltee back in the winter of 1991. The various cross lines run off of the base line L 4 + 00 S, were cut out and trend at about 14° or 15° Azimuth +/-, which trended more or less perpendicular across the general geological fabric of the metavolcanic rocks.

As can be seen from the 1 inch to 50 foot map, lines L 0W, L 1W, L 2W, L 2E, and L 3E were all extended southwards to about 8 + 00 South. Somehow line L 1E was not extended, even though there were plans to do so.

In an attempt to keep the gridding consistent, lines L 3W, L 4W and L 5W were recut out. The original orientation grid lines were put in by compass and flagging tape marked the station locations. It was felt that it would be best if these lines were formally cut out, chained and picketed.

In order to continue the investigations of the favourable geological felsic-mafic contact areas, it was determined that a new base line with perpendicular cross lines should be established from a starting point located at BL 0 + Q0 and L 3E.

The base line for this new part of the grid system was established at 130° Az and was run for a length of 1200 feet. At 100 foot +/- intervals along the base line perpendicular cross lines were run off of the base line in both the northeast and southwest directions. The northeast trending lines were generally cut to the west shore of Richardson Lake with the exception of L 0 SE and L 1 SE. The southwest trending lines were cut as short as 200 feet to as long as 600 feet. The average length of lines on the southwest side of the base line is 600 feet.

On all of the orientation like gridlines, the station spacings have been established at 25 foot centres using wooden pickets.

To date only a VLEM survey has been carried out over the new grid lines, L 0 SE through to L 12 SE. There are future plans to carry out a magnetometer survey over the extended lines of the 1991 grid and the newly established lines of the 1992 grid.

In general the establishment of the 1991 Val d'Or Geophysics Ltee grid, the 1991 BLM I orientation grid and the 1992 Trivett Geological orientation grid has proven to be very useful in establishing the various geological features of importance and for establishing the position of excavated trenches, diamond drill hole collars, etc.

In conclusion, the linecutting, VLEM survey and the reporting of the survey results was carried out by Trivett Geological Explorations in May of 1992. Almost all of the work was carried out on mining claims S-1095077, S-1095079 with a small amount carried out on S-1095080 in Rhodes Township, Ontario.

As a result of the work carried out by Trivett Geological, a report of the type of work carried out and the findings of the survey etc, was produced. Included within the report is the completed profiles generated from VLEM work. A complete listing of the data was also provided in the report. A large scale 1 inch to 50 foot map was produced and was later added onto and had to be redrafted for presentation within the BLM I exploration report.

The complete unedited version of the Trivett Geological Explorations Report, as produced by david G.B. Trivett has been copied and is presented as follows:



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Some up-to-date comments with respect to the findings of the VLEM survey will be presented immediately following the David G.B. Trivett report.

REPORT

ON

V.L.E.M GEOPHYSICAL SURVEY 1992

SHOOT-BACK METHOD

RICHARDSON LAKE PROJECT

FOR

BHARTI ENGINEERING & ASSOCIATES LTD.

BY

DAVID TRIVETT

OF

TRIVETT GEOLOGICAL EXPLORATIONS  
Ontario Corporation 972410

A handwritten signature in black ink, appearing to read "David Trivett", is located in the bottom right corner of the page.

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2.....Mining Claims.....2a,b  
3.....Regional Geology.....3a  
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2 .....Plotted Data  
3 .....Survey Data / Plot Data

## Summary

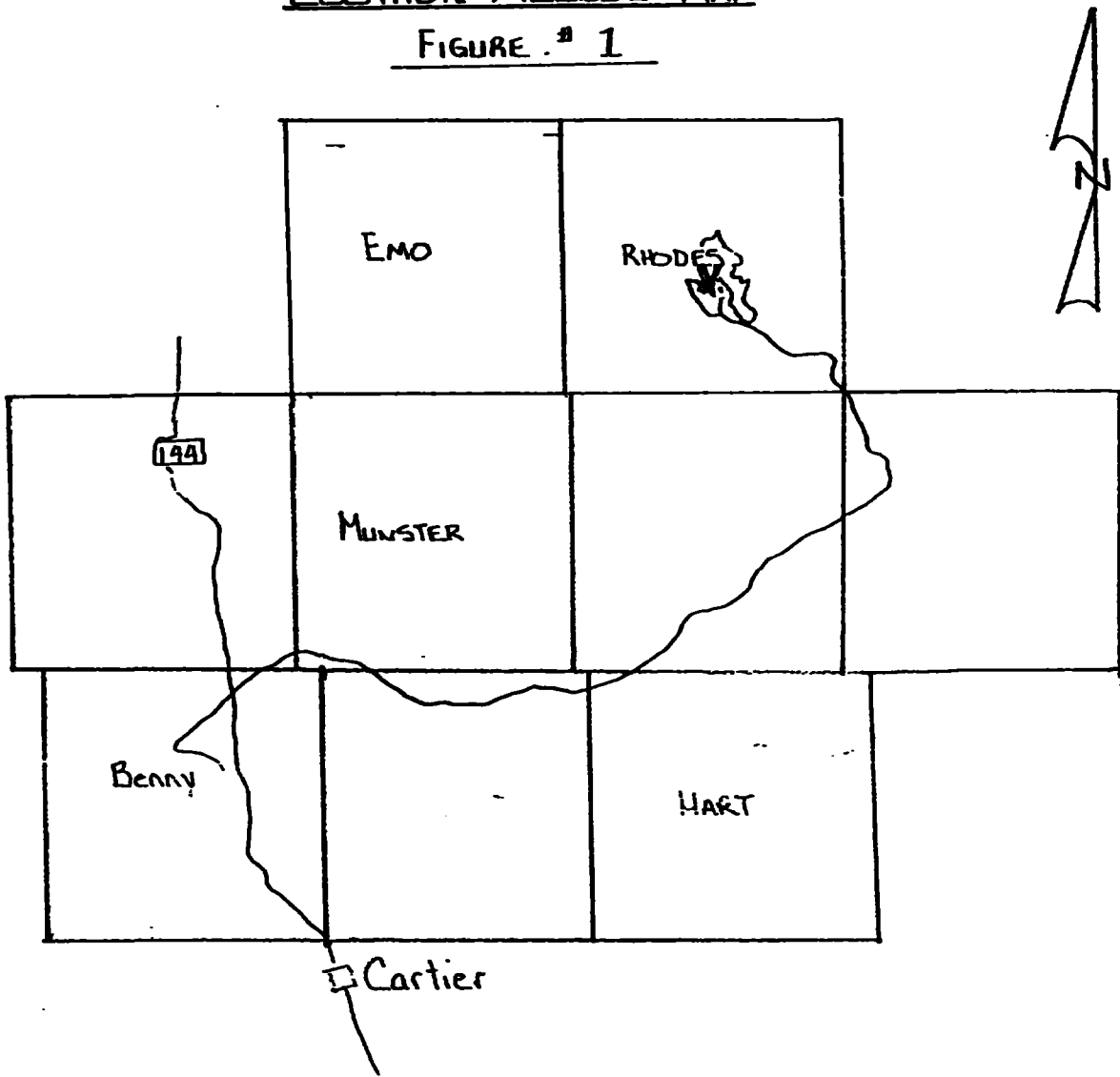
The "Richardson Lake" Property of Bharti Engineering Associates Inc. is located in Rhodes Twp. The claim group consists of the four claims s1095077 through s1095080. The property is located 98 km. west of Sudbury. The journey takes approximately 105 minutes. Transport by 4-wheel. drive is recommended. Travel 75 Km. west on Highway 144 to Dunbar Logging road which is adjacent to the turn off to the town of Benny. Drive 25 km. to Rhodes Township. See Location Access Map. (fig.1)

The property has previously yielded interesting values of galena, sphalerite, and copper. A horizon of massive to semi-massive sphalerite, galena, and copper sulphides, ( perhaps a result of exhalative activity, is interbedded with carbonated and carbonaceous tuffaceous sediments. ( H. Tracanelli, personal communication, 1992 )

Concentrations of conductive material trend across the northern and southern perimeter of the property. The mineralized zones have limited surface exposure, therefore geophysical data enhancement should be used to determine the depth and lateral subsurface extent of the zones. Further trenching and assaying should be carried out. Based on positive results from the above work, a diamond drilling program should be initiated.

LOCATION ACCESS MAP

FIGURE # 1



SCALE 1:250,000 Échelle



DRAWN BY: DGBT  
DATE: JUNE 2/92

PG# 1a

## INTRODUCTION

The purpose of this study was to assess the property for possible exploration targets through use of a vertical loop electromagnetic or V.L.E.M. geophysical survey.

The survey was conducted over the Richardson Lake Property during a two week period commencing on May 06, 1992. The geophysics party consisted of Eric Stewart and the writer.

The property is located in Rhodes Township, ( N.T.S reference 41 I/13, 41 I/14 ) and consists of four claims ( s1095077 - s1095080 ) ( See fig. 2 ) A grid was present on the property prior to the geophysical survey. The southwestern claim s1095079 underwent intense examination. The northwestern corner of claim s1095080, and the southwestern corners of claims s1095077 and s1095078 were given limited attention.

The V.L.E.M. geophysics equipment was loaned by Cambrian College in good faith toward industry and student relations. The survey was carried out over 6.4 Km. (4 miles) of cut grid. The coil spacing was 75 feet. The station interval was 25 feet. Line spacing was 100 ft. over 90 percent of the grid. ( See Appendices 1 and 2.)

The property can be accessed by taking highway #144 west 75 km. and following the Dunbar Logging Road 25 Km. to Rhodes Township. A bulldozed road accesses the claim block and Rhichardson Lake. See Location Access Map, (fig.1)

DUPLICATE

COPY

JAN 25 1991

2.1300 MINING LANDS SECTION

RICHARDSON LAKE.

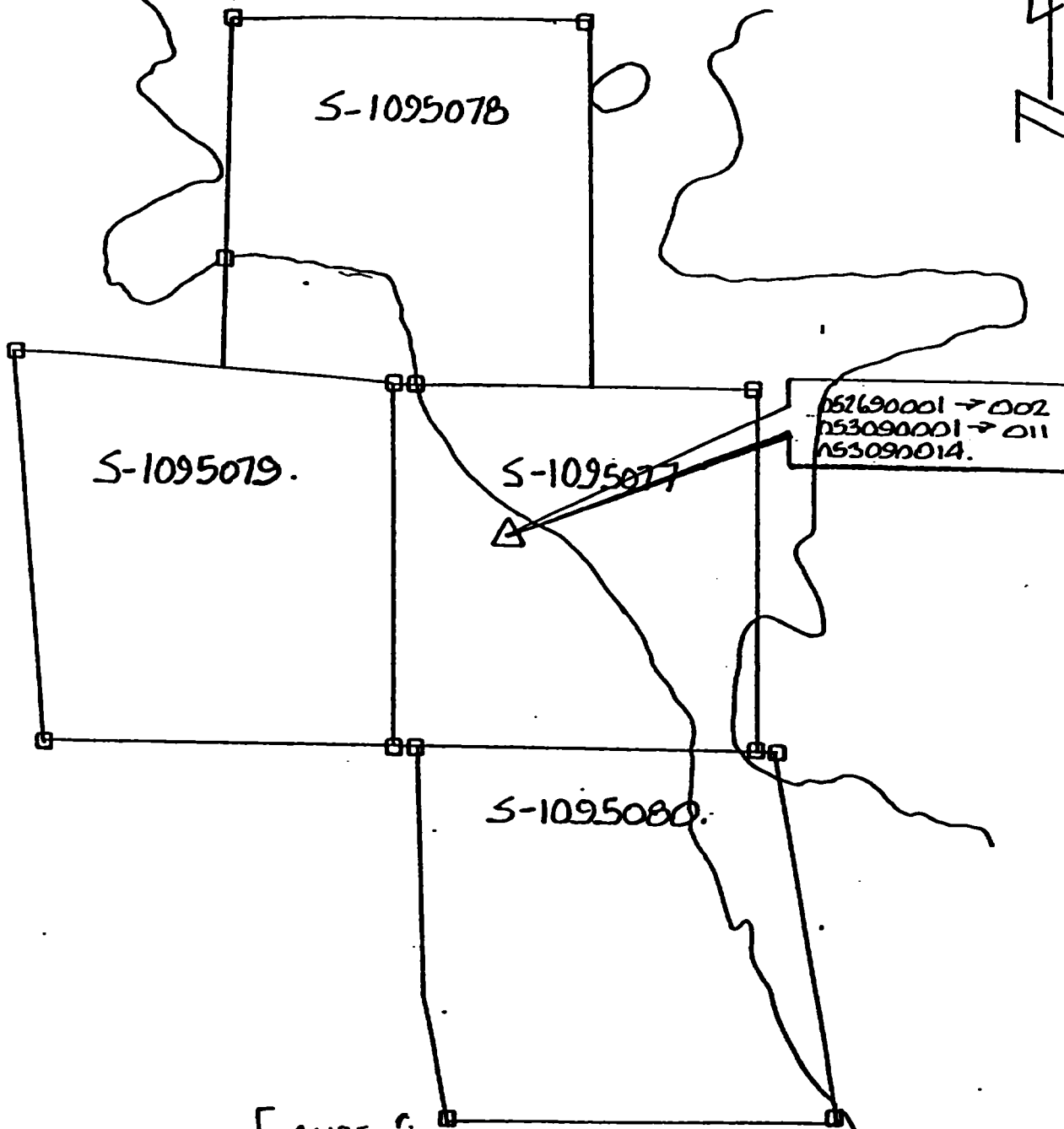


Fig. 2a

FIGURE 2  
 BLM MINE LTD.  
 RICHARDSON LAKE CLAIM BLOCK

*Handwritten signature*  
 July 27/90  
 D. H. ...

PG# 2a

SCALE 1 INCH = 600 FEET.

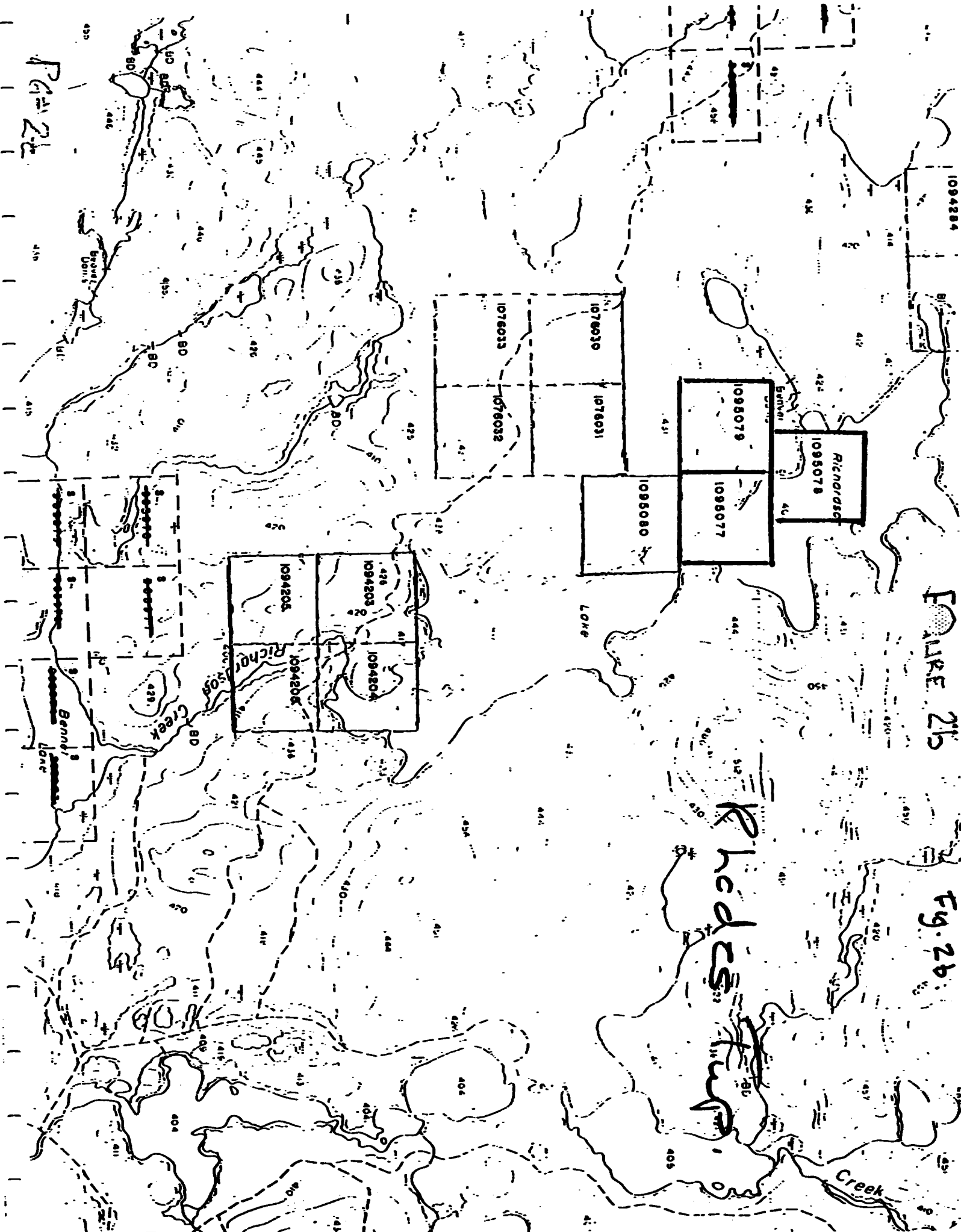


FIGURE 21b

Fig. 2b

Page 27



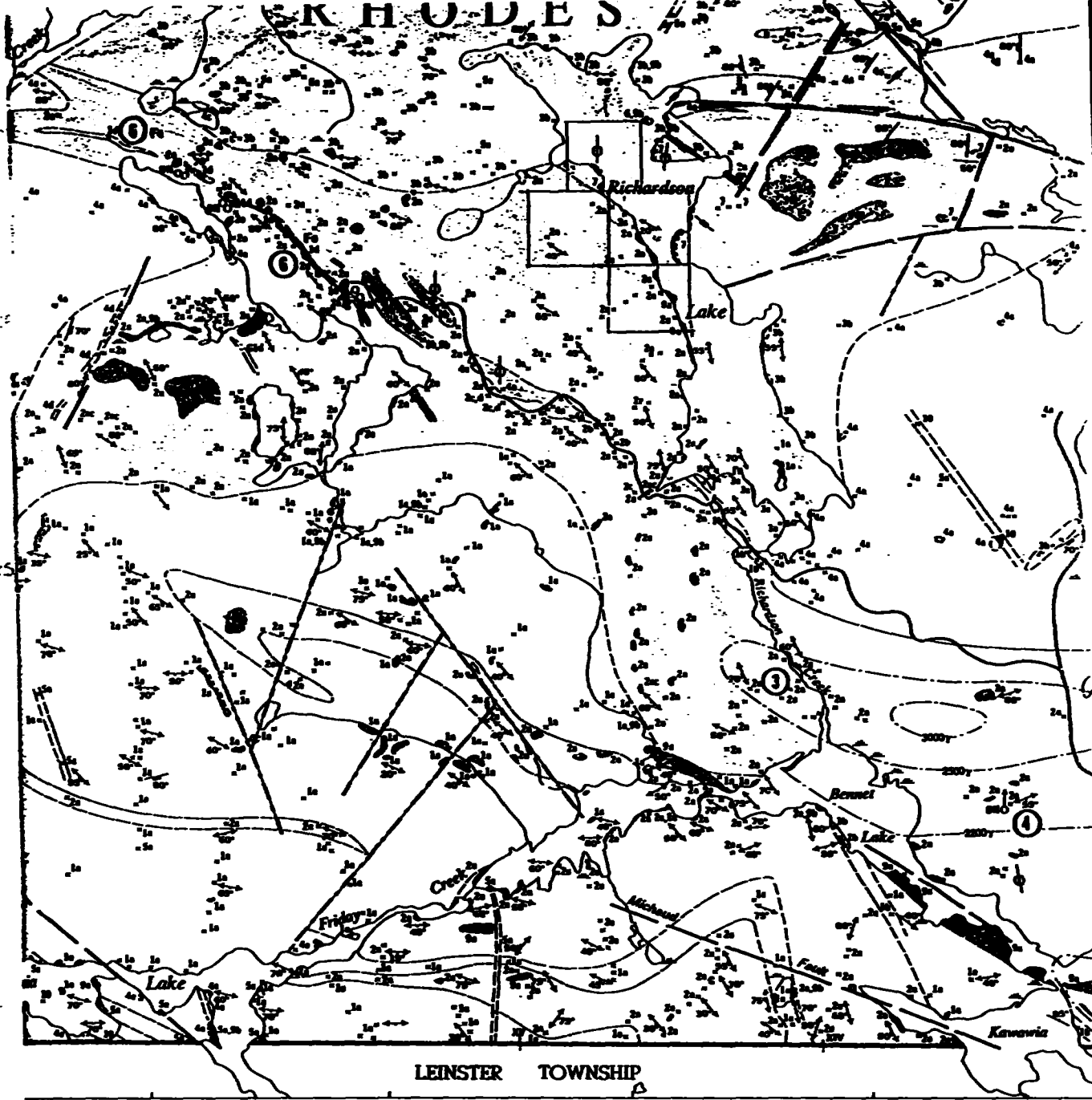
The property consists of coniferous and deciduous trees of various age and size. Small shrubs are abundant and a swamp runs across the northern portion of the claims s1095079 and s1095078 from Richardson Lake. Richardson Lake takes up the greater portion of claim s1095078.

#### REGIONAL GEOLOGY

The oldest rocks in the area are Archean gneisses, metavolcanics, metasediments, and metagabbros which are remnants of a greenstone belt. These are intruded by granitic rocks, emplaced about 2, 500 m.y. ago, during the Kenoran Orogeny. ( Fairbairn et al. 1967 )

Early Precambrian mafic dikes are numerous throughout the area. They are younger than the granitic intrusions but older than the sedimentary rocks of the Huronian Supergroup 2,200 - 2,500 m.y. which lie unconformably upon the older rocks. The Huronian sediments are remnants of a former, probably continuous sedimentary cover. Nipissing Diabase sills have intruded all older rocks. The Nipissing Diabase is approximately 2,160 m.y. old, (Fairbairn et al. 1969).

Pseudotachylites and breccias are common mainly in the southern part of the map area. They are possibly related to the Sudbury Event, which was caused by either meteorite impact or explosive volcanism. (Fairbairn and Rodson 1941).



- LEGEND**
- UPPER ONTARIO SUPERIOR
  - ERRAIN F.M.
  - FE SIC INTERIVE
  - MT VOLCANICS
  - M-FIC METAVOLCANICS
  - M-SEDIMENTS
  - FULTING

LEINSTER TOWNSHIP

Adjoins Map 2132

Ontario Geological Survey  
Map 2413

**EMO, RHODES and BOTHA TOWNSHIPS**

SUDBURY DISTRICT

REGIONAL GEOLOGY MAP  
Scale 1:31,680 or 1 Inch to 1/2 Mile

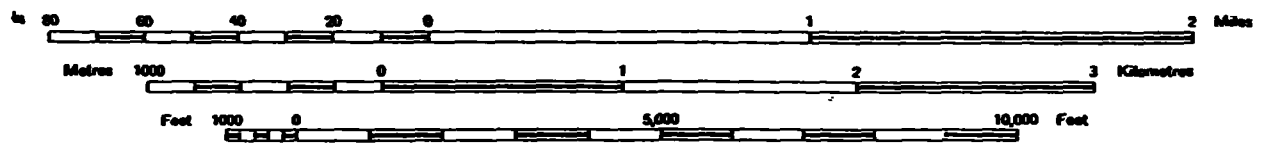


FIGURE # 3

Fig 3a

PG# 5a

Late Precambrian olivine diabase dikes are the youngest rocks in the area. ( 1,100 m.y.old ) (Fairbairn et al. 1960 )

The overburden consists of unconsolidated Cenozoic sediments which are primarily deposits of Pleistocene glaciation from 1 m.y. ago.

#### PROPERTY GEOLOGY / MINERALIZATION

Mineralization on the property consists of pyrite, galena, sphalerite, chalcopyrite, pyrrhotite, and arsenopyrite.

Mineralization appears to be associated with the contacts between felsic and mafic volcanics. The mineralization lies within carbonaceous, carbonated, silicified, and epidotized rocks in the upper sequences of the felsic metavolcanics. Base metal sulphides galena and sphalerite are present as disseminated, breccia and stringer like occurrences.

A horizon of massive to semi-massive sulphides, (perhaps a result of exhalative activity), is interbedded to form with carbonated and carbonaceous, tuffaceous sediments.

(H. Tracaneli personal communication 1992)

Mineralization and strike trend with foliation, revealing a minimum of two periods of faulting. Drag folds have also been noted leaving evidence of later folding. The general trend strikes NW-SE and bends around the property with foliation.

## WORK HISTORY

- Summer 1990 -Staking of four claim block  
-S-1095077 through S-1095080
- Spring 1991 -C-Horizon Geochem Survey
- Summer 1991 -Recon. and detailed mapping  
-Prospecting
- Fall 1991 -early -Orientation Grid cut  
-late -Recon. Electromagnetic E.M.-  
V.L.F. Survey *MAG Survey.*
- March 1991 -Val D' OR Geophysique Ltee.  
-Line cutting of:  
NS. base line  
EW. cross line  
200' line spacing  
50' sta. spacing  
13 Km. line cut
- May 1992 -Trivett Geological Explorations Corp.  
-Expansion Grid, Line cutting of:  
SE. base line  
NE. cross line  
100' line spacing  
25' station spacing  
5.77 Km. line cut
- June 1991 -Currently trenching project initiated.

## V.L.E.M (Vertical-Loop EM) Field System.

### Shoot-back Method

The transmitter and receiver are completely portable and are moved simultaneously along grid lines. Readings are taken at intervals of 50-200 ft, with the transmitter pointed vertically perpendicular to the grid line. The receiver coil, normally horizontal, is then rotated about the T-R axis to obtain a null.

The transmitter-receiver line is maintained approximately parallel to geologic strike where possible. In very hilly terrain it is difficult to maintain correct alignment of the transmitter and receiver coils. The result could cause false dip angles, especially when coil spacing is tight. (ie. >100 ft.). The Shoot-back Method requires a receiver and transmitter at each station. For this purpose the coils are convertible. The spacing is usually 200 ft and the axis, rather than the plane of the transmitter coil, is pointed towards the receiver station. In most set-ups the possibility of misalignment and of obtaining an incorrect dip angle are eliminated by the relative orientation of the two coils. The axis of the transmitter coil, rather than its plane, determines the rotation of the receiver coil about an axis normal to, rather than coaxial with, the T-R line.

In homogeneous ground the difference between the two tilt angles will be zero. This will be true regardless of the relative elevations of the two coils. However, with a conductor

present, the secondary field will affect the tilt angles at the two receiver positions in the opposite sense, as can be better seen from figure 4 (fig 7.20). The difference between the two dip angles is plotted at the midpoint of the two coils. A profile obtained over a sheet-like conductor is also illustrated in figure 4 (fig. 7.20 - c.)

The equipment used the frequency of 1800 Hz, as commonly is used for reconnaissance work. The profile in fig. 7.20 c shows the resultant ( $\alpha_2 - \alpha_1$ ) positive over the conductor. A dipping sheet results in an asymmetric profile which is positive over the upper end and crosses zero to a negative maximum down dip. Flat-lying conductors produce a negative anomaly symmetric about the midpoint. The resultant is also illustrated in the plots produced as tilt angle ( $\alpha_2 - \alpha_1$ ). (See Plots, Appendices 2.)

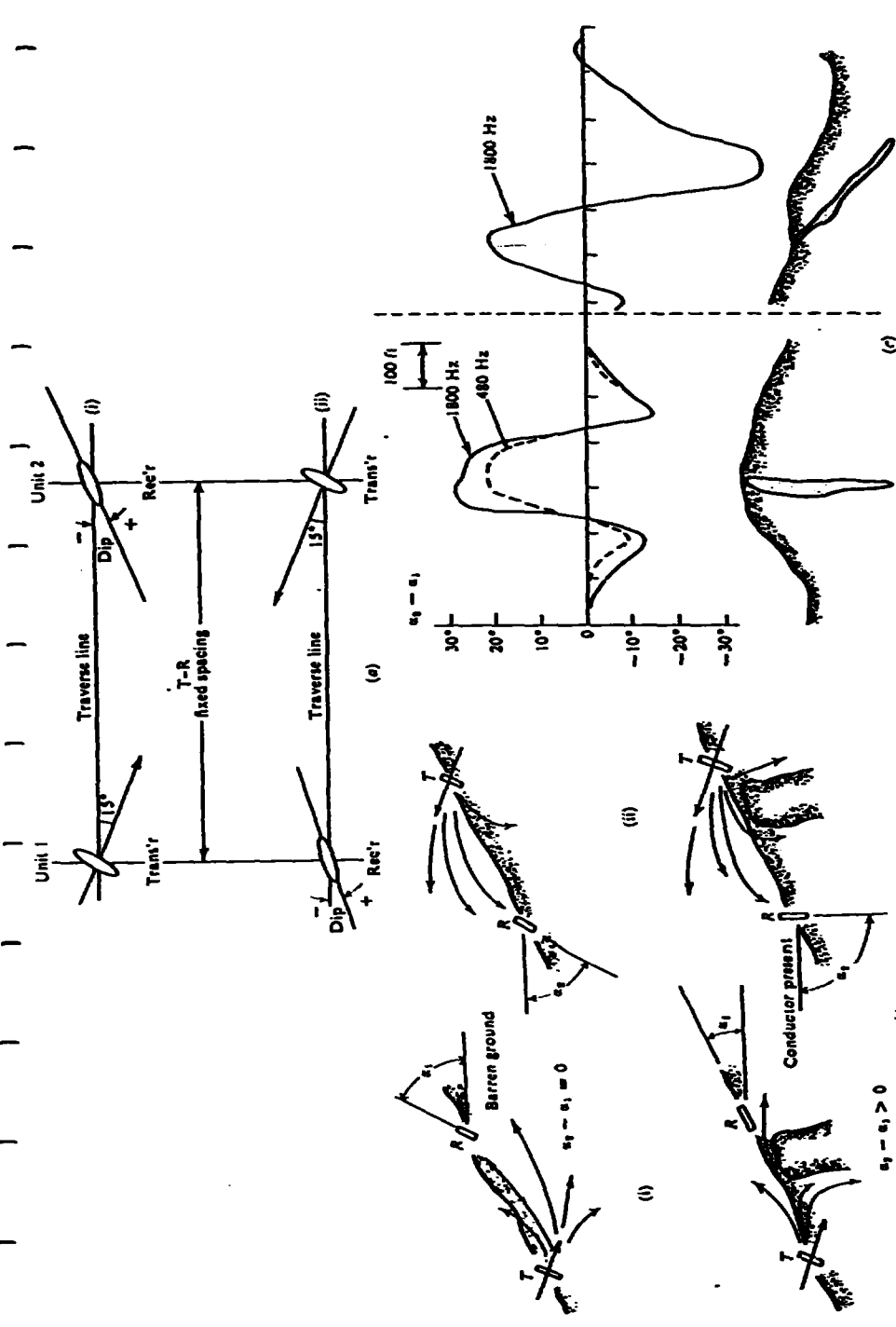


Fig. 7.20 Crone shootback system. (After Grant and West, 1965.) (a) Transmitter-receiver arrangements, (i) and (ii) representing interchanged positions of the transmitter and receiver for successive measurements at the same station; (b) operation in rugged terrain; (c) typical profiles with T-R spacing of 200 ft.

FIGURE # 41 **Fig 4a**  
CONDUCTOR RESPONSE

REF: APPLIED GEOPHYSICS  
 W.M. Telford, 1960.  
 PAGE 533.

PC # 7a

## RESULTS & INTERPRETATION

The Vertical-Loop Electromagnetic ( V.L.E.M. ) geophysical survey was performed over 6 km. ( 3.84 mi. ) of grid. The survey was conducted over the Richardson Lake property through a one week period commencing on May 11, 1992. The geophysics party consisted of Eric Stewart and the writer.

The property consists of four claims ( s1095077 - s1095080 ) See figure #2 and 2b. The southwestern claim s1095079 underwent intense examination. The northwestern corner of claim s1095080, and the southwestern corners of claims s1095077 and s1095078 were given limited attention.

Electromagnetic anomalies occurred across two main trends and appear to follow the known foliation.

### Anomaly 1

The highest crossover peak was noted on Line 3 east ( L3E ), station ( sta. ) 0+50 NE a peak tilt angle response read + 90 %. This is a bedrock anomaly of clear definition being narrow and dipping vertically. The trend of this anomaly can be traced from L12S sta. 1+25 NE. ( See grid Map - fig. 2 ) and continues northwest across claims s1095077 and s1095079. This main trend follows the lower perimeter of a cliff which traverses the property with a similar trend of northwesterly direction. It is possible that the combination of topography and tight coil spacing allowed slight interference in respect to tilt angle (+/-



6 %). The anomaly ranges from 250 to 350 feet in width and appears to break into two concentrations in the area of L3S, sta. 1+25NE. This anomaly is the high concentration of conductive material to the north. In this same location it is noted that the anomaly has a slight southwest dip which has been increasing from L8S, sta. 3+00 NE. The anomaly located at L2S sta. 1+25 NE. appears to have a very high concentration of conductive material, dips approximately 75 degrees to the southwest, and reflects the higher concentration to the north. On L1S response is subdued indicating low concentration of conductive material, indicating localized sulphide response. L2E shows the anomaly to dip at approximately 70 degrees north, response is subdued again indicating a slight concentration of conductive material, indicating localized sulphides. This anomaly remains subdued and continues with a northwesterly trend, dipping north along the northern claim boundary of s1095079 to L5W.

#### Anomaly 2

The second anomaly also trends in a north westerly direction. It too appears to roll across the property dipping shallowly to the southwest in the area of L3W sta. 6+50 SW. rolling to a north dip and splitting into two shallow, thin concentrations at L3E sta. 3+50 SW. This anomaly is tailing off to the south and appears less conductive than that to the northern anomaly along the lakeshore. The largest magnetometer

anomaly corresponds here to the V.L.E.M. survey. The V.L.E.M anomaly lies slightly above this "mag" high in the area of LOW, sta. 5+75 SW. where tilt angle is read to be about 75 %. Between L3E to L3S the anomaly is subdued and broken into two linear targets, the strongest to the north at sta. 2+25 SW., with near vertical dip. On L4S sta. 1+50 SW. the anomaly trend is dropping toward the baseline, remaining divided, strongest to the north, and dipping slightly southwest. Between L4S to L12S, along a trend which follows sta. 1+50 SW. to sta. 2+50 SW, the anomaly remains subdued, less conductive and remains divided into two small linear targets with a near vertical southwest dip.

As noted by the plots there are numerous areas where small non-continuous anomalies have been detected.

The V.L.E.M. data defines a trend in the targets which are steeply dipping and very narrow.

## CONCLUSIONS

The mineralized zones have limited surface exposure, and appear to dip steeply to the southwest and north. The V.L.E.M. data defines a trend in the targets which are steeply dipping and very narrow. (See Appendices 1. Grid Map, Appendices 2. Plots) The highest concentration of conductive material lies along the lakeshore in the area between L1S and L12S. These targets can be noted on the plots in Appendices 2. Less conductive targets are traced to trend across the southern portion of the property surveyed. (See Appendices 1. Grid Map) These less conductive anomalies lie south of the largest magnetometer anomaly found in the area of LOW sta. 2+75.

## RECOMMENDATIONS

The mineralized zones have limited surface exposure, and appear to dip steeply to the southwest and north. Geophysical data manipulation should be used to determine the depth and lateral subsurface extent of the zones.

A Horizontal-Loop survey is recommended to better define the conductor width and depth.

Further trenching, blasting and assaying should be carried out. Based on positive results from the above work, a diamond drilling program should be initiated.

## REFERENCES

1. Applied Geophysics, by W.M. Telford, 1980.  
Pages 530 - 534.
  
2. Practical Geophysics - for the Exploration Geologist, by Richard Van Blaricom, 1980
  
3. Ontario Geological Survey, Report 196, Geology of Emo, Rhodes, and Botha Townships, District of Sudbury, by Burkhard O. Dressler, 1980.

**David G. B. Trivett**  
4 - 151 Pine St.  
Sudbury, Ontario  
P3C 1X2  
Tel: (705) 675 6598

**Training:** \* academic: High School Diploma Twin Lakes Secondary  
School Orillia, Ontario

\* professional: Geological Engineering Technology Diploma  
Sept 1987 - May 1990  
Cambrian College  
Sudbury, Ontario

Mining Technician Diploma  
Sept 1990 - May 1991  
Cambrian College  
Sudbury, Ontario

**Work Experience:** Contract Work

**JAN.-FEB. 1992 Blast Monitor Technician/Engineer**  
**Consultant for TRANSCANADA PIPELINE**

Responsible for pipeline ditch, bore hole, undercut and right-of-way controlled blast design; monitoring of livelines, fibreoptics with a DS 477 Geophone and report of results to TCPL inspectors; supervising use of the EZ Det non-electric, single or double delay blast sequence plus electric cap numbered sequence with calculations to a terminal board. Safety, equipment maintenance and public relations an integral aspect of the job.

Ray Janbakhsh  
Explotech Engineering Ltd.  
200-469 Bouchard St.  
Sudbury, Ontario  
(705) 522-0585

**JULY-SEPT.1991**

**GEOLOGICAL ENGINEERING TECHNOLOGIST**

Responsible for organization and completion of a four claim mapping survey with written report for the Ministry of Northern Development & Mines OPAP program. Follow up work included geophysics, trench blasting and mineral identification of located anomalies.

Mr. Jack Rauhala  
Site 18, Box 6  
Lively, Ontario  
(705) 692 4476

**October 1990**

**GEOPHYSICS**

Responsible for organization and completion of MAG and VLF survey over a seven mile grid; data dump from OMNI PLUS to computer software with data correction and alignment.

Mr. Claude Gervais  
Tel. 682-0254  
Copper Cliff, Ontario

**May - August 1990**

**May - August 1989      Geological Field Assistant**

Responsible for reconnaissance geological mapping and claim staking; soil, rock and mineral sampling; MAG and VLF ground surveys plus computer data plotting, report writing, drilling, and blasting.

Stan Bharti  
Bharti Engineering  
1009 LaSalle Blvd.  
Sudbury, Ontario

**Parttime/Fulltime Work**

**Oct 1989 to present      Weekend Counselor**

Responsible for the supervision of handicapped clients, distribution of medication, outburst control and home maintenance.

Sudbury & District Association of  
Community Living  
Joanne Courchesne  
Sudbury, Ontario  
(705) 524 7494

**June - Sept 1986-88 Shipping and Receiving**

**Responsibilities included forklift and  
equipment operation plus freezer organization.**

**hydraulic**

**Ault Dairies  
Don Cockburn - Head Management  
10 Gary Ray Road  
Toronto, Ontario  
(416) 748-5055  
(705) 327-2789**

**Other Activities:**

**Mine Rescue Certificate  
Explosives Permit  
Principles of Safety Course  
Accident Investigation  
Prospector's Licence  
Prospectors and Developers Association  
Chief Scout's Award  
O.S.A Race Training  
Class G drivers licence  
First Aid  
Bronze Cross  
Physical fitness**

**College Activities:**

**Program Advisory Committee.  
April 1991.**

**Computer Abilities:**

**Drafting: AutoCad  
Word Processing: Word Perfect, PC Write, Dbase  
Spread Sheets: Lotus 123, VP Planner  
Geophysics: Surfer, Grid, Topo, MagMod  
Geology: Dip Plots, Geo.Map  
Use of IBM compatible home computer.**

**Personal:**

**\* Social Insurance Number: 483 565 446  
\* Health: Excellent  
\* Birthdate: Jan. 15, 1966  
\* Passport Identification**

**References:**

**Tony Insinna  
Geology/Mining Dept.  
Cambrian College  
Sudbury, Ontario  
Bus. (705) 566-8101**

**Ray Janbakhsh  
Explotech Engineering Ltd.  
200-469 Bouchard St.  
Sudbury, Ontario  
(705) 522-0585**

**Andy Bite  
Inco Exploration  
General Office  
Copper Cliff, Ontario  
Bus. (705) 682 8455**

**Randy Junnila  
Geology Department  
Cambrian College  
Sudbury, Ontario**



RICHARDSON LAKE PROJECT  
RHODES TOWNSHIP  
VLEM GEOPHYSICAL SURVEY

OPERATOR: DAVID TRIVETT  
COIL SPACING 75 FEET  
STATION SPACING 25 FEET

MAY 22-25 1992

RIVETT GEOLOGICAL EXPLORATIONS

LINE	STATION	RX	TX	READING
L12S	NE 125	-32	31	63
L12S	100	-21	21	42
L12S	75	-4	4	8
L12S	50	-2	2	4
L12S	25	-4	-1	3
L12S	0	1	-2	-3
L12S	SW 25	4	-10	-14
L12S	50	4	-10	-14
L12S	75	17	-10	-27
L12S	100	2	-6	-8
L12S	125	-2	0	2
L12S	150	-9	5	14
L12S	175	-9	10	19
L12S	200	-16	10	26
L12S	225	-18	17	35
L12S	250	-21	16	37
L12S	275	-10	10	20
L12S	300	-2	0	2
L12S	325	-11	5	16
L12S	350	-11	7	18
L12S	375	-3	-3	0
L12S	400	8	-12	-20
L12S	425	-1	-4	-3
L12S	450	-9	6	15
L12S	475	-8	8	16
L12S	500	1	3	2
L12S	525	-9	9	18
L12S	550	-8	11	19
L12S	575	-8	3	11
L12S	SW 600	-7	1	8

RICHARDSON LAKE PROJECT  
 RHODES TOWNSHIP  
 VLEM GEOPHYSICAL SURVEY  
 MAY 22-25 1992

OPERATOR: DAVID TRIVETT  
 COIL SPACING 75 FEET  
 STATION SPACING 25 FEET

RIVETT GEOLOGICAL EXPLORATIONS

LINE	STATION	RX	TX	READING
L11S	SW 600	0	-3	3
L11S	575	0	-4	4
-L11S	550	-3	2	-5
L11S	525	0	0	0
L11S	500	-2	0	-2
-L11S	475	-1	1	-2
L11S	450	2	0	2
L11S	425	-4	5	-9
L11S	400	-6	2	-8
-L11S	375	2	0	2
L11S	350	2	-4	6
L11S	325	-4	-1	-3
-L11S	300	-2	-1	-1
L11S	275	4	-8	12
L11S	250	2	-7	9
-L11S	225	12	-14	26
L11S	200	20	-23	43
L11S	175	14	-18	32
L11S	150	0	-4	4
L11S	125	1	-5	6
L11S	100	2	-5	7
L11S	75	4	-6	10
-L11S	50	0	0	0
L11S	25	-6	5	-11
L11S	0	-17	15	-32
-L11S	NE 25	-20	21	-41
L11S	50	-16	12	-28
L11S	75	-8	4	-12
L11S	100	-2	2	-4
-L11S	125	4	-9	13
L11S	150	22	-31	53
L11S	175	26	-38	64
-L11S	200	28	-32	60
L11S	225	-25	20	-45

RICHARDSON LAKE PROJECT

RHODES TOWNSHIP

- VLEM GEOPHYSICAL SURVEY

AY 22-25 1992

TRIVETT GEOLOGICAL EXPLORATIONS

OPERATOR: DAVID TRIVETT

COIL SPACING 75 FEET

STATION SPACING 25 FEET

- LINE	STATION	RX	TX	READING
L10S	NE 275	-32	29	61
L10S	250	-30	23	53
L10S	225	-18	16	34
L10S	200	-18	13	31
L10S	175	-14	11	25
L10S	150	-10	8	18
L10S	125	-11	4	15
L10S	100	-10	7	17
L10S	75	-5	4	9
L10S	50	0	-4	-4
L10S	25	4	-4	-8
L10S	0	-2	1	3
L10S	SW 25	-6	2	8
L10S	50	-11	12	23
L10S	75	-22	20	42
L10S	100	-20	14	34
L10S	125	-14	14	28
L10S	150	-20	22	42
L10S	175	-16	13	29
L10S	200	-6	4	10
L10S	225	-10	11	21
L10S	250	-11	12	23
L10S	275	-2	2	4
L10S	300	-3	0	3
L10S	325	0	0	0
L10S	350	2	-4	-6
L10S	375	2	-4	-6
L10S	400	0	-2	-2
L10S	425	-2	-2	0
L10S	450	2	-5	-7
L10S	475	0	-4	-4
L10S	500	2	-3	-5
L10S	525	6	-5	-11
L10S	550	2	-4	-6
L10S	575	-3	0	3
L10S	SW 600	-4	2	6

RICHARDSON LAKE PROJECT  
 RHODES TOWNSHIP  
 VLEM GEOPHYSICAL SURVEY

OPERATOR: DAVID TRIVETT  
 COIL SPACING 75 FEET  
 STATION SPACING 25 FEET

MAY 22-25 1992

( RIVETT GEOLOGICAL EXPLORATIONS

LINE	STATION	RX	TX	READING
L9S	SW 600	-8	4	-12
L9S	575	2	-2	4
L9S	550	6	-6	12
L9S	525	2	-2	4
L9S	500	-4	2	-6
L9S	475	-5	0	-5
L9S	450	-5	1	-6
L9S	425	-1	3	-4
L9S	400	-4	1	-5
L9S	375	-7	4	-11
L9S	350	-2	3	-5
L9S	325	-2	0	-2
L9S	300	-7	4	-11
L9S	275	-4	2	-6
L9S	250	-4	0	-4
L9S	225	-2	-1	-1
L9S	200	4	-6	10
L9S	175	6	-6	12
L9S	150	10	-12	22
L9S	125	20	-22	42
L9S	100	17	-19	36
L9S	75	10	-11	21
L9S	50	4	-2	6
L9S	25	-6	3	-9
L9S	0	-5	5	-10
L9S	NE 25	-4	4	-8
L9S	50	-1	2	-3
L9S	75	2	-3	5
L9S	100	-2	2	-4
L9S	125	-7	2	-9
L9S	150	-1	-1	0
L9S	175	4	-8	12
L9S	200	8	-12	20
L9S	225	15	-18	33
L9S	250	18	-14	32
L9S	275	16	-20	36
L9S	300	31	-34	65
L9S	325	19	-26	45
L9S	350	19	-18	37

RICHARDSON LAKE PROJECT  
 RHODES TOWNSHIP  
 VLEM GEOPHYSICAL SURVEY  
 MAY 22-25 1992

OPERATOR: DAVID TRIVETT  
 COIL SPACING 75 FEET  
 STATION SPACING 25 FEET

TRIVETT GEOLOGICAL EXPLORATIONS

-LINE	STATION	RX	TX	READING
L8S	NE 400	-18	18	36
L8S	375	-3	4	7
L8S	350	-20	13	33
L8S	325	-46	42	88
L8S	300	-36	30	66
L8S	275	-24	22	46
L8S	250	-20	12	32
L8S	225	-6	5	11
L8S	200	-12	9	21
L8S	175	-9	2	11
L8S	150	3	-6	-9
L8S	125	4	-9	-13
L8S	100	0	-6	-6
L8S	75	-4	0	4
L8S	50	4	-6	-10
L8S	25	10	-10	-20
L8S	0	5	-8	-13
L8S	SW 25	-3	-2	1
L8S	50	-6	3	9
L8S	75	-14	0	14
L8S	100	-18	18	36
L8S	125	-19	16	35
L8S	150	-4	4	8
L8S	175	4	-3	-7
L8S	200	0	-3	-3
L8S	225	-14	8	22
L8S	250	-12	10	22
L8S	275	-6	4	10
L8S	300	2	0	-2
L8S	325	7	-2	-9
L8S	350	2	-6	-8
L8S	375	2	-4	-6
L8S	400	2	-5	-7
L8S	425	0	-3	-3
L8S	450	-4	5	9
L8S	475	-8	3	11
L8S	500	0	-1	-1
L8S	SW 525	-5	5	10
L8S	550	-4	1	5
L8S	575	0	-1	-1
L8S	600	8	-8	-16

RICHARDSON LAKE PROJECT  
RHODES TOWNSHIP  
VLEM GEOPHYSICAL SURVEY  
MAY 22-25 1992

OPERATOR: DAVID TRIVETT  
COIL SPACING 75 FEET  
STATION SPACING 25 FEET

-TRIVETT GEOLOGICAL EXPLORATIONS

LINE	STATION	RX	TX	READING
- L7S	SW 600	-4	3	-7
L7S	575	-5	6	-11
L7S	550	-3	1	-4
- L7S	525	3	-3	6
L7S	500	-3	0	-3
L7S	475	-2	0	-2
L7S	450	3	-4	7
- L7S	425	-3	0	-3
L7S	400	0	0	0
L7S	375	-6	3	-9
- L7S	350	-6	0	-6
L7S	325	3	-4	7
L7S	300	3	-6	9
L7S	275	4	-7	11
- L7S	250	6	-8	14
L7S	225	6	-10	16
L7S	200	11	-14	25
L7S	175	4	-8	12
L7S	150	6	-11	17
L7S	125	10	-14	24
- L7S	100	10	-11	21
L7S	75	0	-1	1
L7S	50	-6	5	-11
L7S	25	-2	2	-4
- L7S	0	-1	-4	3
L7S	NE 25	0	2	-2
L7S	50	-2	0	-2
- L7S	75	-6	6	-12
L7S	100	-10	8	-18
L7S	125	-10	10	-20
L7S	150	0	-4	4
- L7S	175	12	-14	26
L7S	200	4	-6	10
L7S	225	10	-12	22
- L7S	250	20	-26	46
L7S	275	26	-39	65
L7S	300	34	-38	72
- L7S	325	14	-18	32
L7S	350	4	-6	10

RICHARDSON LAKE PROJECT  
RHODES TOWNSHIP  
VLEM GEOPHYSICAL SURVEY  
MAY 22-25 1992

OPERATOR: DAVID TRIVETT  
COIL SPACING 75 FEET  
STATION SPACING 25 FEET

TRIVETT GEOLOGICAL EXPLORATIONS

LINE	STATION	RX	TX	READING
L5S	NE 400	0	1	1
L5S	375	-2	0	2
L5S	350	-4	0	4
L5S	325	-5	1	6
L5S	300	-5	2	7
L5S	275	-9	6	15
L5S	250	-36	36	72
L5S	225	-48	48	96
L5S	200	-30	26	56
L5S	175	-13	10	23
L5S	150	-5	4	9
L5S	125	-6	2	8
L5S	100	-2	0	2
L5S	75	3	-4	-7
L5S	50	7	-10	-17
L5S	25	6	-8	-14
L5S	0	0	-3	-3
L5S	25	-2	0	2
L5S	50	-6	4	10
L5S	75	-13	6	19
L5S	100	-14	11	25
L5S	125	-14	10	24
L5S	150	-13	10	23
L5S	175	-11	5	16
L5S	200	-6	2	8
L5S	225	-6	2	8
L5S	250	-4	2	6
L5S	275	0	0	0
L5S	300	-4	1	5
L5S	325	-4	3	7
L5S	350	-4	0	4
L5S	375	-3	2	5
L5S	400	-4	0	4
L5S	425	-4	2	6
L5S	450	-4	4	8
L5S	475	-2	0	2
L5S	500	0	-2	-2
L5S	525	0	-3	-3
L5S	550	4	-7	-11
L5S	575	5	-8	-13
L5S	600	5	-7	-12

RICHARDSON LAKE PROJECT  
 RHODES TOWNSHIP  
 VLEM GEOPHYSICAL SURVEY  
 MAY 22-25 1992

OPERATOR: DAVID TRIVETT  
 COIL SPACING 75 FEET  
 STATION SPACING 25 FEET

RIVETT GEOLOGICAL EXPLORATIONS

LINE	STATION	RX	TX	READING
-L4S	625	0	-3	3
L4S	600	-6	6	-12
L4S	575	-9	4	-13
L4S	SW 550	-2	2	-4
-L4S	525	-2	1	-3
L4S	500	-4	0	-4
L4S	475	-2	0	-2
-L4S	450	-3	3	-6
L4S	425	-6	3	-9
L4S	400	0	-1	1
-L4S	375	2	-6	8
L4S	350	-2	-4	2
L4S	325	-6	2	-8
L4S	300	0	-3	3
-L4S	275	0	-4	4
L4S	250	6	-10	16
L4S	225	12	-16	28
L4S	200	13	-13	26
L4S	175	12	-18	30
L4S	150	19	-24	43
-L4S	125	10	-12	22
-L4S	100	4	-6	10
L4S	75	3	-5	8
L4S	50	0	-2	2
-L4S	25	-4	0	-4
L4S	0	-5	3	-8
L4S	25	0	4	-4
-L4S	50	-2	-3	1
L4S	NE 75	-2	-4	2
L4S	100	4	-5	9
L4S	125	12	-19	31
-L4S	150	22	-26	48
L4S	175	30	-30	60
L4S	200	30	-39	69
-L4S	225	16	-19	35
L4S	250	-4	-3	-1
L4S	275	-4	-3	-1
-L4S	300	-2	-3	1
L4S	325	0	-2	2
L4S	350	3	-4	7
L4S	375	2	-6	8
-L4S	400	-3	-1	-2
L4S	425	1	-2	3



RICHARDSON LAKE PROJECT  
 RHODES TOWNSHIP  
 VLEM GEOPHYSICAL SURVEY  
 MAY 22-25 1992

OPERATOR: DAVID TRIVETT  
 COIL SPACING 75 FEET  
 STATION SPACING 25 FEET

RIVETT GEOLOGICAL EXPLORATIONS

LINE	STATION	RX	TX	READING
L3S	400	-7	2	9
L3S	NE 375	-3	0	3
L3S	350	0	-2	-2
L3S	325	-2	0	2
L3S	300	-6	1	7
L3S	275	-5	2	7
L3S	250	-8	4	12
L3S	225	-8	1	9
L3S	200	-4	0	4
L3S	175	-6	1	7
L3S	150	-20	23	43
L3S	125	-30	27	57
L3S	100	-13	15	28
L3S	75	-16	15	31
L3S	50	-16	14	30
L3S	25	-8	5	13
L3S	0	-2	1	3
L3S	25	3	0	-3
L3S	50	6	-10	-16
L3S	75	2	-2	-4
L3S	100	0	-2	-2
L3S	125	-2	-4	-2
L3S	150	-3	0	3
L3S	175	0	0	0
L3S	SW 200	-15	12	27
L3S	225	-20	22	42
L3S	250	-21	16	37
L3S	275	-14	10	24
L3S	300	-4	2	6
L3S	325	-6	1	7
L3S	350	-5	0	5
L3S	375	-8	2	10
L3S	400	-9	6	15
L3S	425	-6	5	11
L3S	450	-2	0	2
L3S	475	2	-5	-7
L3S	500	2	-10	-12
L3S	525	7	-9	-16
L3S	550	0	-3	-3
L3S	575	0	0	0
L3S	600	-1	-4	-3
L3S	625	-2	-4	-2

RICHARDSON LAKE PROJECT  
 RHODES TOWNSHIP  
 EM GEOPHYSICAL SURVEY  
 MAY 22-25 1992  
 TRIVETT GEOLOGICAL EXPLORATIONS

OPERATOR: DAVID TRIVETT  
 COIL SPACING 75 FEET  
 STATION SPACING 25 FEET

LINE		STATION	RX	TX	READING
L2S	SW	325	8	-14	22
-L2S		300	13	-18	31
L2S		275	14	-18	32
L2S		250	11	-16	27
-L2S		225	5	-5	10
L2S		200	-4	0	-4
L2S		175	-1	0	-1
L2S		150	-14	8	-22
-L2S		125	-9	7	-16
L2S		100	-6	4	-10
L2S		75	-9	6	-15
-L2S		50	-12	3	-15
L2S		25	2	-6	8
L2S		0	5	-9	14
-L2S		25	14	-17	31
L2S		50	18	-21	39
L2S		75	14	-18	32
L2S		100	25	-30	55
L2S		125	34	-37	71
L2S		150	24	-27	51
L2S	NE	175	6	-10	16
-L2S		200	-1	-4	3
L2S		225	0	-4	4
L2S		250	-1	-6	5
-L2S		275	0	-7	7
L2S		300	3	-7	10
L2S		325	-2	-4	2
L2S		350	2	-4	6
-L2S		375	3	-4	7
L2S		400	0	-1	1
L2S		425	-3	-3	0
-L2S		450	0	0	0
L2S		475	0	-2	2

RICHARDSON LAKE PROJECT  
RHODES TOWNSHIP  
MLEM GEOPHYSICAL SURVEY  
MAY 22-25 1992

OPERATOR: DAVID TRIVETT  
COIL SPACING 75 FEET  
STATION SPACING 25 FEET

TRIVETT GEOLOGICAL EXPLORATIONS

LINE	STATION	RX	TX	READING
_1S	575	-8	3	11
_1S	NE 550	-5	2	7
L1S	525	-6	5	11
_1S	500	-6	4	10
_1S	475	-8	3	11
L1S	450	-9	5	14
L1S	425	-7	2	9
_1S	400	-3	0	3
L1S	375	0	-2	-2
L1S	350	-3	1	4
L1S	325	-7	2	9
_1S	300	-5	2	7
L1S	275	-5	2	7
_1S	250	-8	4	12
L1S	225	-6	3	9
L1S	200	-2	0	2
L1S	175	-3	1	4
L1S	150	5	-2	-7
L1S	125	3	-1	-4
_1S	100	4	0	-4
L1S	75	-14	12	26
L1S	50	-15	13	28
L1S	25	-9	6	15
_1S	0	-4	2	6
L1S	25	3	0	-3
L1S	50	0	2	2
L1S	SW 75	-5	1	6
L1S	100	-12	9	21
L1S	125	-4	1	5
L1S	150	-6	4	10

RICHARDSON LAKE PROJECT  
RHODES TOWNSHIP  
VLEM GEOPHYSICAL SURVEY  
MAY 22-25 1992

OPERATOR: DAVID TRIVETT  
COIL SPACING 75 FEET  
STATION SPACING 25 FEET

TRIVETT GEOLOGICAL EXPLORATIONS

LINE	STATION	RX	TX	READING
LOS	600	-10	9	19
LOS	575	-10	10	20
LOS	550	-17	14	31
LOS	525	-18	14	32
LOS	NE 500	-11	9	20
LOS	475	-6	2	8
LOS	450	-2	1	3
LOS	425	3	-10	-13
LOS	400	9	-16	-25
LOS	375	0	-8	-8
LOS	350	-4	0	4
LOS	325	0	-8	-8
LOS	300	20	-21	-41
LOS	275	7	-14	-21
LOS	250	0	-3	-3
LOS	225	0	-1	-1
LOS	200	-4	0	4
LOS	175	-4	0	4
LOS	150	-10	8	18
LOS	125	-15	14	29
LOS	100	-28	29	57
LOS	75	-38	36	74
LOS	50	-39	40	79
LOS	25	-19	23	42

RICHARDSON LAKE PROJECT  
 JODES TOWNSHIP  
 VLEM GEOPHYSICAL SURVEY  
 MAY 22-25 1992

OPERATOR: DAVID TRIVETT  
 COIL SPACING 75 FEET  
 STATION SPACING 25 FEET

TRIVETT GEOLOGICAL EXPLORATIONS

LINE	STATION	RX	TX	READING
L3E	375	-3	0	3
L3E	350	4	-5	-9
L3E	325	6	-10	-16
L3E	300	19	-20	-39
L3E	275	16	-21	-37
L3E	250	9	-14	-23
L3E	225	11	-13	-24
L3E	200	10	-11	-21
L3E	175	3	-7	-10
L3E	150	-6	2	8
L3E	125	-6	6	12
L3E	100	-14	11	25
L3E	75	-25	24	49
L3E	50	-46	44	90
L3E	25	-41	35	76
L3E	0	-22	22	44
L3E	25	-18	10	28
L3E	50	-1	-3	-2
L3E	75	-6	-1	5
L3E	100	2	-6	-8
L3E	125	4	-7	-11
L3E	150	8	-9	-17
L3E	175	12	-11	-23
L3E	200	11	-14	-25
L3E	225	15	-19	-34
L3E	250	4	-13	-17
L3E	275	2	6	4
L3E	300	-5	3	8
L3E	325	-21	20	41
L3E	350	-27	22	49
L3E	375	-10	10	20
L3E	400	-8	5	13
L3E	425	-9	8	17
L3E	450	-9	7	16
L3E	475	-8	5	13
L3E	500	-7	4	11
L3E	525	-4	4	8
L3E	550	-7	1	8
L3E	575	-8	1	9
L3E	600	-3	0	3
L3E	625	3	-6	-9
L3E	650	2	-4	-6
L3E	675	4	-1	-5
L3E	700	2	-1	-3
L3E	725	9	-12	-21
L3E	750	3	-5	-8
L3E	775	2	-4	-6

L2E

RICHARDSON LAKE PROJECT  
RHODES TOWNSHIP  
VLEM GEOPHYSICAL SURVEY  
MAY 22-25 1992

OPERATOR: DAVID TRIVETT  
COIL SPACING 75 FEET  
STATION SPACING 25 FEET

RIVETT GEOLOGICAL EXPLORATIONS

LINE	STATION	RX	TX	READING
L2E	775	-2	0	-2
L2E	750	0	-2	2
L2E	725	8	-10	18
L2E	700	7	-10	17
L2E	S 675	0	-2	2
L2E	650	-3	0	-3
L2E	625	2	-12	14
L2E	600	17	-21	38
L2E	575	4	-11	15
L2E	550	-10	8	-18
L2E	525	-20	17	-37
L2E	500	-6	5	-11
L2E	475	4	-8	12
L2E	450	9	-11	20
L2E	425	11	-14	25
L2E	400	16	-18	34
L2E	375	11	-15	26
L2E	350	4	-9	13
L2E	325	10	-12	22
L2E	300	11	-17	28
L2E	275	2	-6	8
L2E	250	-5	0	-5
L2E	225	-13	6	-19
L2E	200	-10	8	-18
L2E	175	-6	2	-8
L2E	150	-9	5	-14
L2E	125	-8	4	-12
L2E	100	-4	2	-6
L2E	75	-6	4	-10
L2E	50	-2	-2	0
L2E	25	3	-12	15
L2E	0	8	-16	24
L2E	25	13	-18	31
L2E	50	22	-27	49
L2E	75	14	-18	32
L2E	100	2	-6	8
L2E	125	1	-3	4
L2E	150	-3	0	-3
L2E	N 175	-3	0	-3
L2E	200	-4	2	-6
L2E	225	-8	5	-13
L2E	250	-12	10	-22
L2E	275	-22	16	-38
L2E	300	-18	14	-32
L2E	325	-9	9	-18
L2E	350	-5	4	-9
L2E	375	0	-3	3

RICHARDSON LAKE PROJECT  
 RHODES TOWNSHIP  
 VLEM GEOPHYSICAL SURVEY  
 MAY 22-25 1992  
 TRIVETT GEOLOGICAL EXPLORATIONS

OPERATOR: DAVID TRIVETT  
 COIL SPACING 75 FEET  
 STATION SPACING 25 FEET

LIE

LINE	STATION	RX	TX	READING
-L1E	375	0	-2	-2
L1E	350	2	0	-2
L1E	325	-3	0	3
-L1E	N 300	0	-5	-5
-L1E	275	6	-12	-18
L1E	250	6	-9	-15
L1E	225	6	-7	-13
-L1E	200	2	-4	-6
L1E	175	2	-7	-9
L1E	150	2	-7	-9
-L1E	125	0	-2	-2
L1E	100	-4	1	5
L1E	75	-10	8	18
L1E	50	-10	7	17
-L1E	25	-5	4	9
L1E	0	-5	3	6
L1E	25	-6	3	9
L1E	50	-6	3	9
L1E	75	-3	1	4
L1E	100	0	-2	-2
-L1E	125	4	-4	-8
-L1E	150	0	-4	-4
L1E	S 175	-1	-2	-1

RICHARDSON LAKE PROJECT  
 RHODES TOWNSHIP  
 VLEM GEOPHYSICAL SURVEY  
 MAY 22-25 1992

OPERATOR: DAVID TRIVETT  
 COIL SPACING 75 FEET  
 STATION SPACING 25 FEET

LU

TRIVETT GEOLOGICAL EXPLORATIONS

LINE	STATION	RX	TX	READING
LOW	300	5	-10	-15
LOW	275	11	-12	-23
LOW	250	8	-13	-21
LOW	N 225	6	-8	-14
LOW	200	-2	-2	0
LOW	175	-3	-2	1
LOW	150	4	-8	-12
LOW	125	2	-6	-8
LOW	100	-3	-2	1
LOW	75	-10	5	15
LOW	50	-10	6	16
LOW	25	-12	8	20
LOW	0	-16	12	28
LOW	25	-13	6	19
LOW	50	-4	2	6
LOW	75	1	-4	-5
LOW	100	4	-8	-12
LOW	125	4	-7	-11
LOW	150	6	-11	-17
LOW	175	4	-7	-11
LOW	200	-2	-3	-1
LOW	225	-2	0	2
LOW	250	-3	1	4
LOW	275	-8	5	13
LOW	300	-14	7	21
LOW	325	-10	6	16
LOW	350	-6	6	12
LOW	375	-4	-1	3
LOW	400	-4	0	4
LOW	425	-8	3	11
LOW	450	-7	2	9
LOW	475	-6	2	8
LOW	500	-6	1	7
LOW	525	-7	5	12
LOW	550	-18	14	32
LOW	575	-38	33	71
LOW	600	-32	27	59
LOW	625	-16	12	28
LOW	S 650	-15	10	25
LOW	675	-13	7	20
LOW	700	-5	1	6
LOW	725	-4	-1	3
LOW	750	-2	-3	-1
LOW	775	0	-4	-4



RICHARDSON LAKE PROJECT  
 RHODES TOWNSHIP  
 VLEM GEOPHYSICAL SURVEY  
 MAY 22-25 1992  
 TRIVETT GEOLOGICAL EXPLORATIONS

OPERATOR: DAVID TRIVETT  
 COIL SPACING 75 FEET  
 STATION SPACING 25 FEET

L1W

LINE	STATION	RX	TX	READING
L1W	775	-1	-2	1
L1W	750	-4	-2	-2
L1W	725	-4	-1	-3
L1W	700	0	-4	4
L1W	675	0	-6	6
L1W	650	10	-14	24
L1W	625	17	-22	39
L1W	600	10	-17	27
L1W	S 575	4	-9	13
L1W	550	0	-2	2
L1W	525	4	-4	8
L1W	500	10	-10	20
L1W	475	7	-9	16
L1W	450	5	-7	12
L1W	425	5	-12	17
L1W	400	8	-10	18
L1W	375	10	-10	20
L1W	350	7	-10	17
L1W	325	4	-5	9
L1W	300	3	-3	6
L1W	275	6	-7	13
L1W	250	4	-3	7
L1W	225	0	0	0
L1W	200	-5	3	-8
L1W	175	-13	11	-24
L1W	150	-9	6	-15
L1W	125	2	-7	9
L1W	100	7	-12	19
L1W	75	10	-13	23
L1W	50	9	-11	20
L1W	25	6	-8	14
L1W	0	1	-5	6
L1W	25	0	-4	4
L1W	50	0	-5	5
L1W	75	3	-6	9
L1W	100	0	-4	4
L1W	125	0	-3	3
L1W	150	-4	-2	-2
L1W	N 175	-5	-3	-2
L1W	200	-2	-2	0
L1W	225	-2	-1	-1
L1W	250	-5	4	-9
L1W	275	-8	6	-14
L1W	300	-5	2	-7
L1W	325	-5	1	-6
L1W	350	-6	3	-9
L1W	375	-6	3	-9
L1W	400	-1	-1	0
L1W	425	0	5	-5
L1W	450	-2	-4	2

RICHARDSON LAKE PROJECT  
 RHODES TOWNSHIP  
 VLEM GEOPHYSICAL SURVEY  
 MAY 22-25 1992  
 TRIVETT GEOLOGICAL EXPLORATIONS

OPERATOR: DAVID TRIVETT  
 COIL SPACING 75 FEET  
 STATION SPACING 25 FEET

LINE	STATION	RX	TX	READING
L2W	375	-2	-1	1
L2W	350	-5	2	7
L2W	325	-4	2	6
L2W	300	2	-1	-3
L2W	275	0	-2	-2
L2W	250	0	-2	-2
L2W	225	2	-4	-6
L2W	200	-2	0	2
L2W	175	-2	0	2
L2W	150	-6	3	9
L2W	125	-7	4	11
L2W	100	-9	6	15
L2W	75	-8	4	12
L2W	50	-4	3	7
L2W	25	-4	3	7
L2W	0	-8	5	13
L2W	25	-8	3	11
L2W	50	-3	0	3
L2W	75	-10	7	17
L2W	100	-6	5	11
L2W	125	-5	2	7
L2W	150	-7	3	10
L2W	175	-2	-1	1
L2W	200	0	1	1
L2W	225	0	-2	-2
L2W	250	3	-7	-10
L2W	275	-7	1	8
L2W	300	-12	10	22
L2W	325	-20	18	38
L2W	350	-19	20	39
L2W	375	-13	11	24
L2W	400	-6	2	8
L2W	425	-1	-1	0
L2W	450	-2	0	2
L2W	475	-9	7	16
L2W	500	-11	10	21
L2W	525	-11	11	22
L2W	550	0	1	1
L2W	575	-9	4	13
L2W	600	-12	10	22
L2W	625	-17	10	27
L2W	650	-22	17	39
L2W	675	-12	11	23
L2W	700	-6	2	8
L2W	725	0	-4	-4
L2W	750	-3	-1	2
L2W	775	-1	0	1

RICHARDSON LAKE PROJECT  
 RHODES TOWNSHIP  
 VLEM GEOPHYSICAL SURVEY  
 MAY 22-25 1992

OPERATOR: DAVID TRIVETT  
 COIL SPACING 75 FEET  
 STATION SPACING 25 FEET

RIVETT GEOLOGICAL EXPLORATIONS

LINE	STATION	RX	TX	READING
L3W	775	-3	0	-3
L3W	750	-4	-2	-2
L3W	725	-2	0	-2
L3W	700	0	-3	3
L3W	675	10	-15	25
L3W	S 650	16	-20	36
L3W	625	10	-15	25
L3W	600	9	-14	23
L3W	575	7	-6	13
L3W	550	8	-12	20
L3W	525	8	-9	17
L3W	500	3	-5	8
L3W	475	4	-7	11
L3W	450	1	-3	4
L3W	425	0	-2	2
L3W	400	1	-3	4
L3W	375	2	-6	8
L3W	350	-2	-4	2
L3W	325	4	-7	11
L3W	300	4	-8	12
L3W	275	4	-8	12
L3W	250	2	-9	11
L3W	225	5	-7	12
L3W	200	-2	-2	0
L3W	175	-2	-1	-1
L3W	150	2	-1	3
L3W	125	2	-4	6
L3W	100	1	-6	7
L3W	75	0	-5	5
L3W	50	2	-2	4
L3W	25	2	-4	6
L3W	0	3	-5	8
L3W	25	2	-5	7
L3W	50	1	-2	3
L3W	75	-3	0	-3
L3W	100	-4	1	-5
L3W	125	-5	5	-10
L3W	150	-12	5	-17
L3W	175	-11	8	-19
L3W	200	0	-3	3
L3W	225	-4	3	-7
L3W	250	-7	5	-12
L3W	N 275	-2	0	-2
L3W	300	-2	0	-2
L3W	325	3	-4	7
L3W	350	12	-10	22
L3W	375	8	-10	18
L3W	400	7	-9	16
L3W	425	6	-9	15
L3W	450	5	-8	13
L3W	475	5	-8	13

L4W

RICHARDSON LAKE PROJECT  
HODES TOWNSHIP  
LEM GEOPHYSICAL SURVEY  
MAY 22-25 1992  
TRIVETT GEOLOGICAL EXPLORATIONS

OPERATOR: DAVID TRIVETT  
COIL SPACING 75 FEET  
STATION SPACING 25 FEET

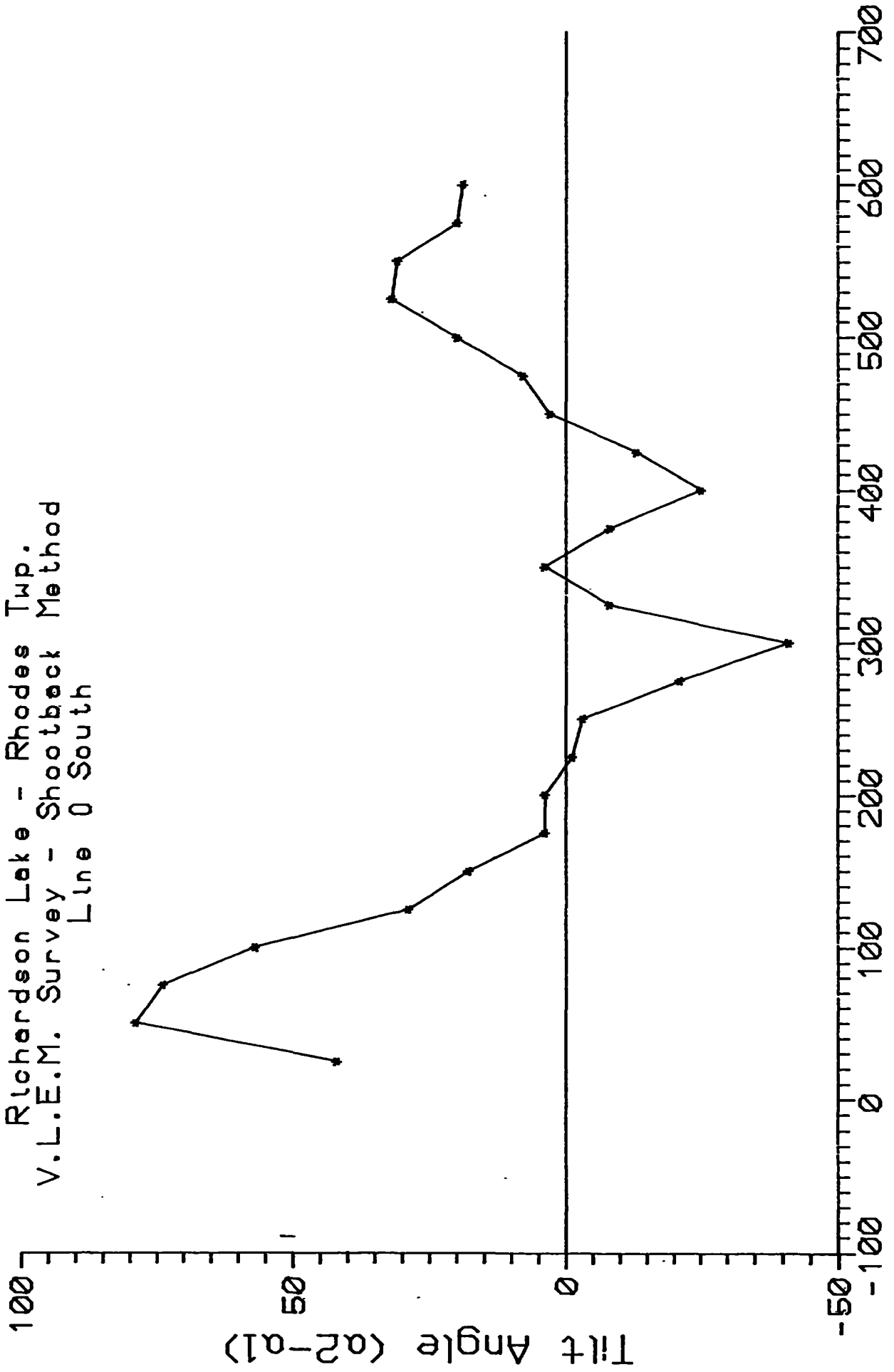
LINE	STATION	RX	TX	READING
L4W	475	-8	8	16
L4W	450	-3	0	3
L4W	425	-2	0	2
L4W	400	6	-8	-14
L4W	375	11	-2	-13
L4W	350	10	-8	-18
L4W	325	4	-6	-10
L4W	300	10	-8	-18
L4W	275	9	-10	-19
L4W	250	2	-3	-5
L4W	225	-2	-2	0
L4W	200	-2	-2	0
L4W	175	0	-2	-2
L4W	150	-4	3	7
L4W	125	-10	5	15
L4W	100	-10	6	16
L4W	75	-2	0	2
L4W	50	-2	-2	0
L4W	25	-2	3	5
L4W	0	-8	4	12
L4W	25	-9	9	18
L4W	50	0	3	3
L4W	75	-1	0	1
L4W	100	-6	5	11
L4W	125	0	2	2
L4W	150	-3	2	5
L4W	175	-6	4	10
L4W	200	-8	9	17
L4W	225	0	-2	-2
L4W	250	1	-2	-3
L4W	275	3	-4	-7
L4W	300	2	-2	-4
L4W	325	7	-8	-15
L4W	350	-3	1	4
L4W	375	0	2	2

RICHARDSON LAKE PROJECT  
RHODES TOWNSHIP  
LEM GEOPHYSICAL SURVEY  
MAY 22-25 1992  
TRIVETT GEOLOGICAL EXPLORATIONS

OPERATOR: DAVID TRIVETT  
COIL SPACING 75 FEET  
STATION SPACING 25 FEET

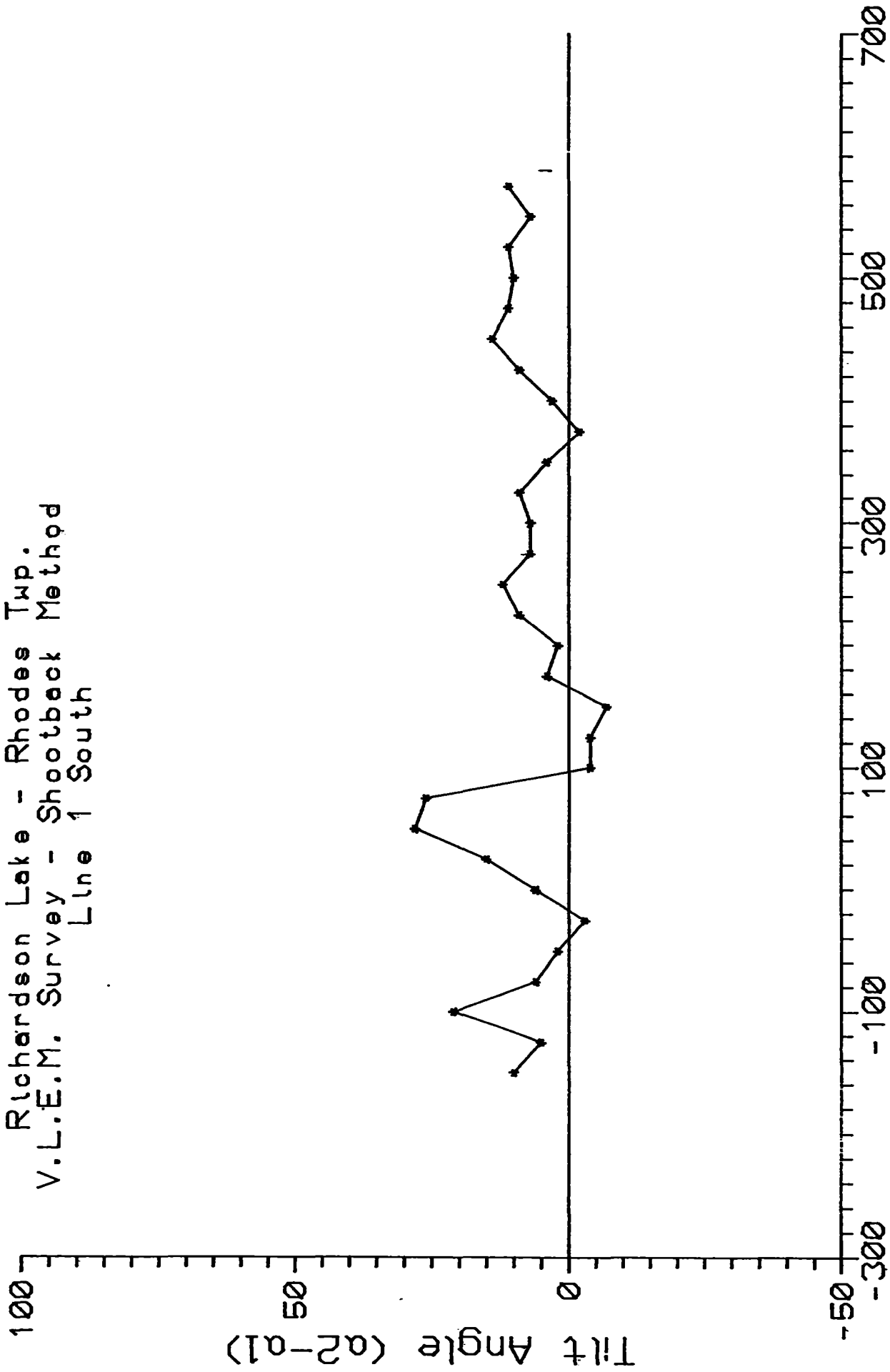
LINE	STATION	RX	TX	READING
L5W	25	2	-3	5
L5W	50	3	-1	4
L5W	75	1	0	1
L5W	100	3	-4	7
L5W	125	4	-7	11
L5W	150	4	-9	13
L5W	175	5	-8	13
L5W	200	1	-3	4
L5W	225	0	-1	1
L5W	250	-10	8	-18
L5W	275	-9	6	-15
L5W	300	-6	3	-9
L5W	325	-3	0	-3
L5W	350	-4	1	-5
L5W	375	3	-1	4
L5W	400	5	-3	8
L5W	425	7	-4	11

Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 0 South



Station

Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 1 South



Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 2 South

100.00

50.00

0.00

-50.00

Tilt Angle ( $\alpha 2 - \alpha 1$ )

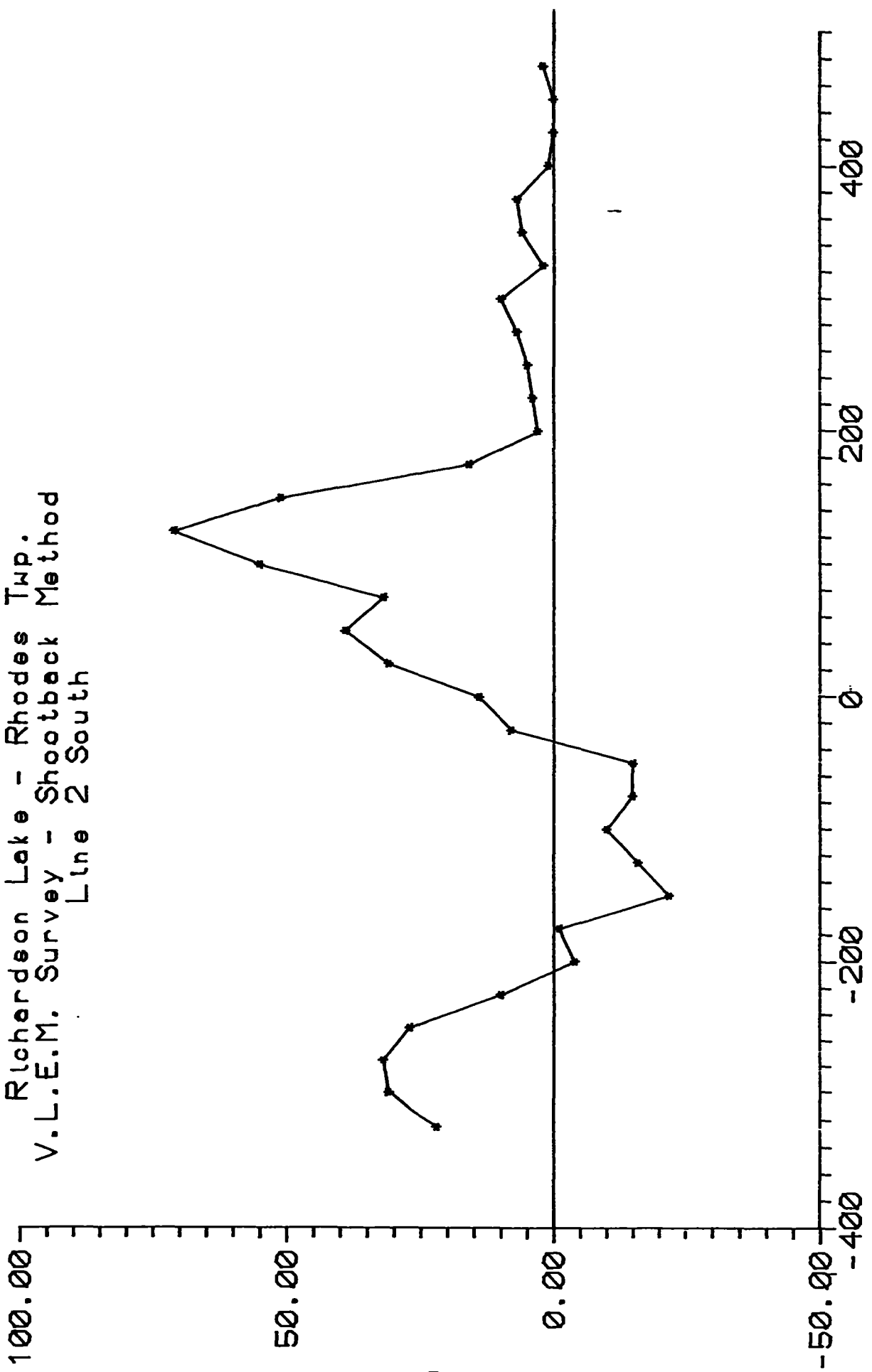
-200

0

200

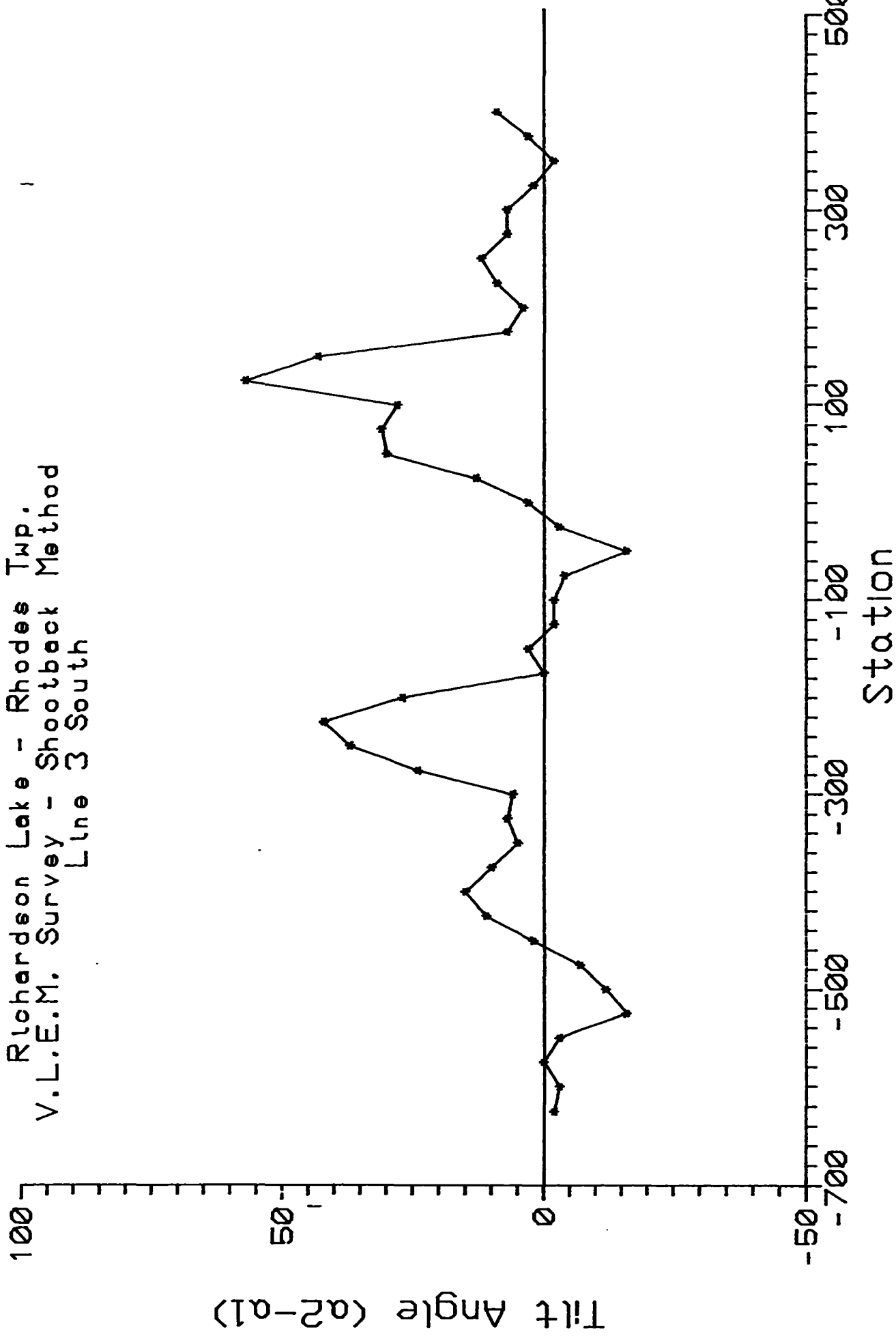
400

Station

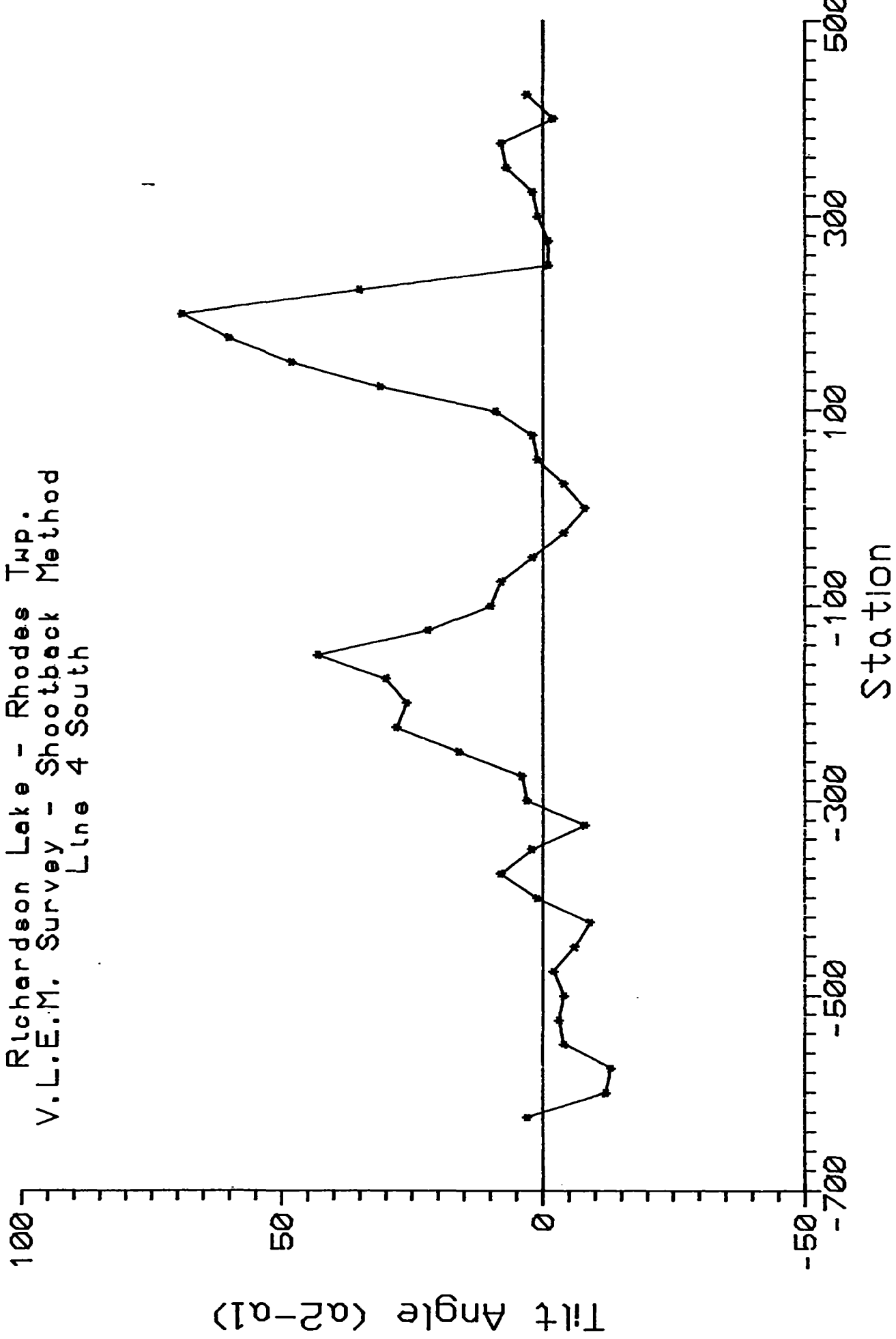




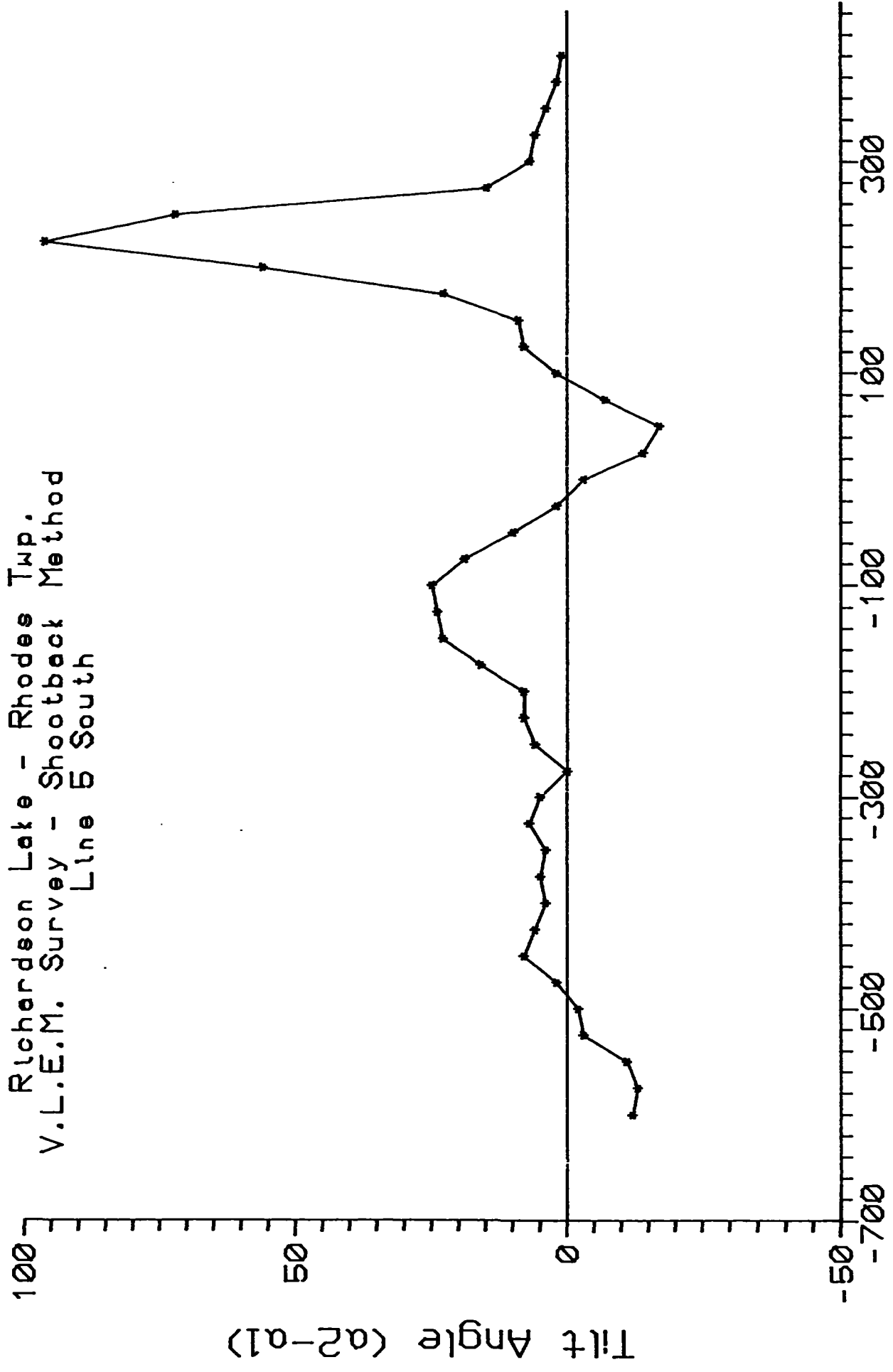
Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 3 South



Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 4 South



Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line B South



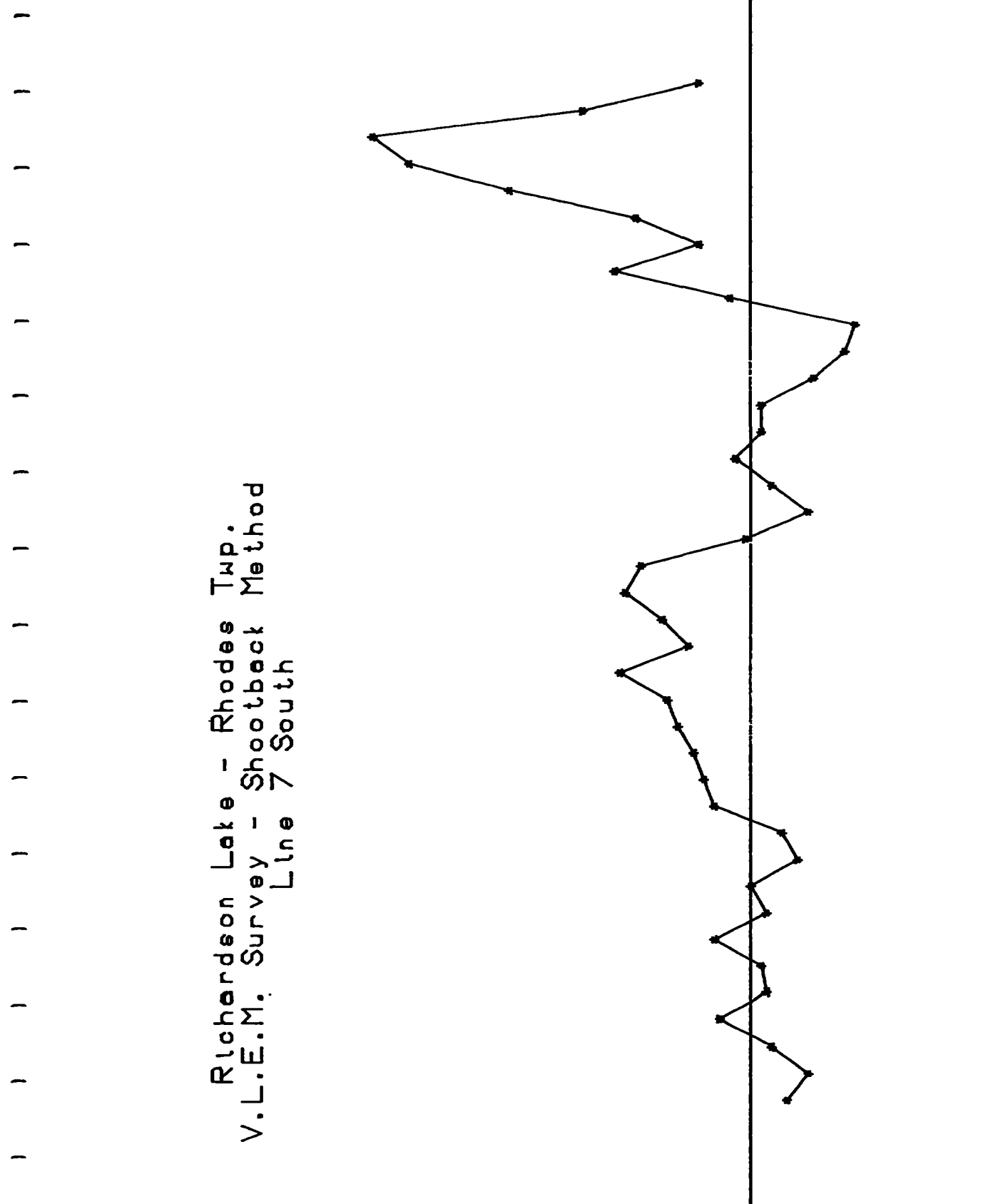
Station

Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 7 South

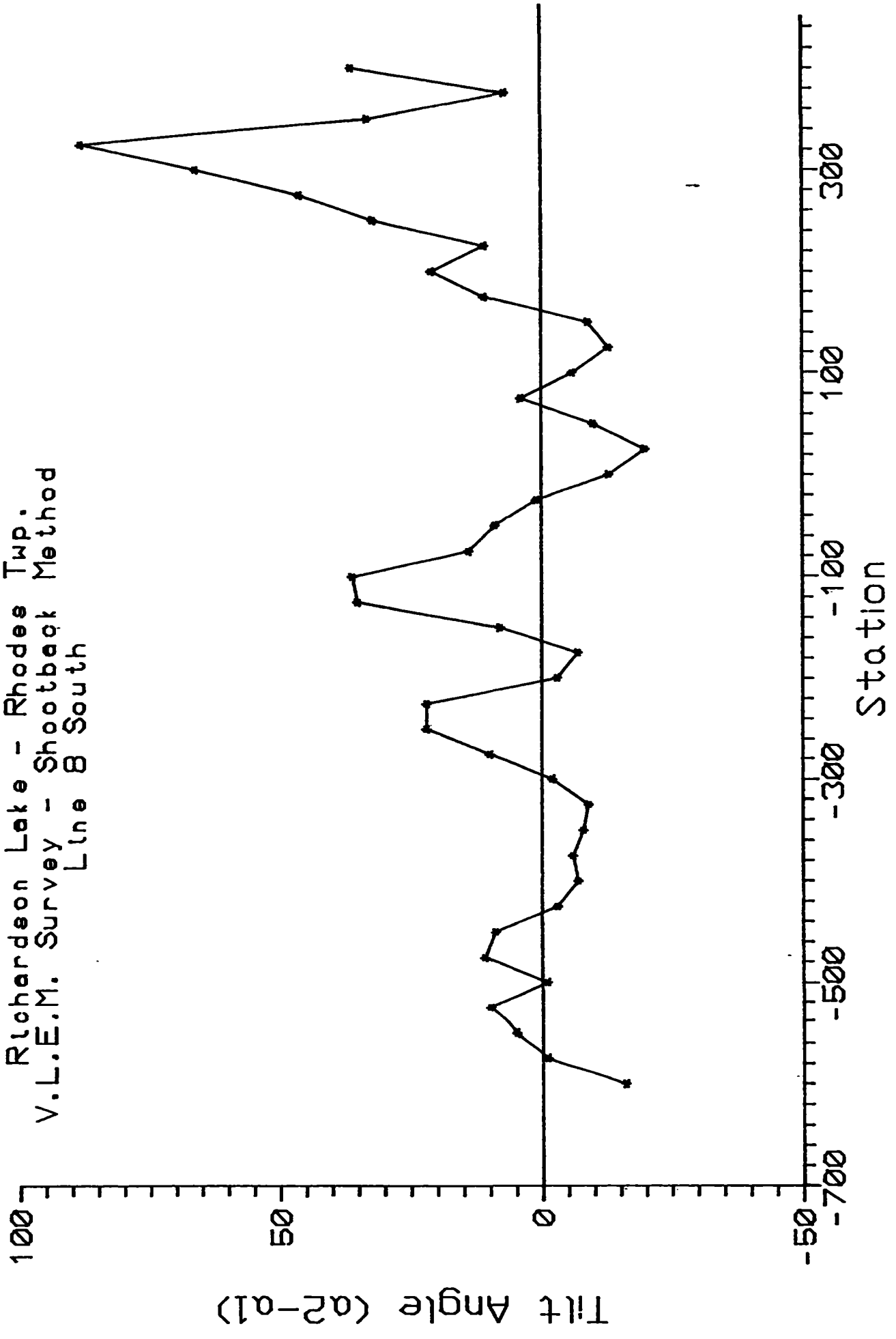
Tilt Angle (° 2-01)

Station

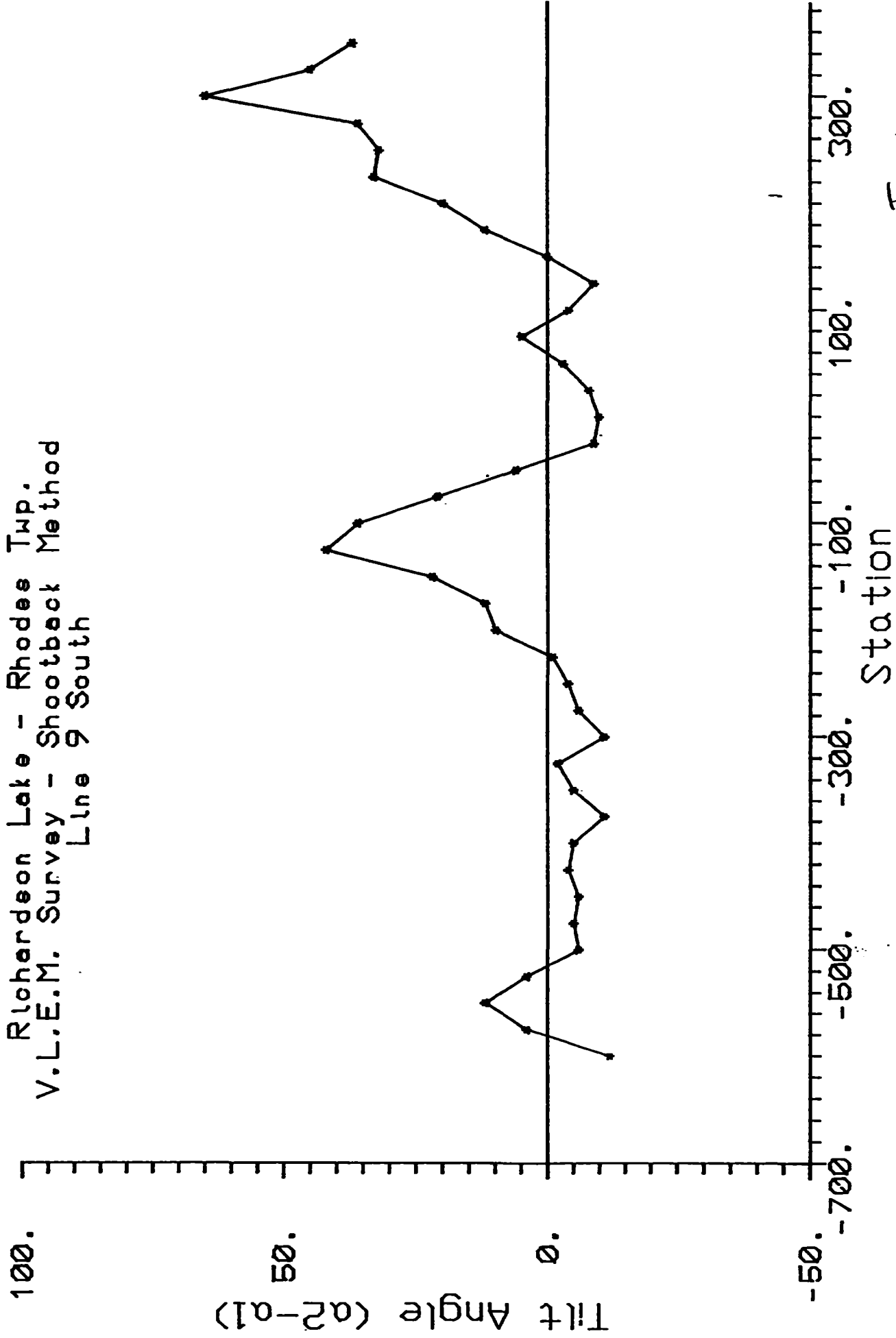
Fig 1a



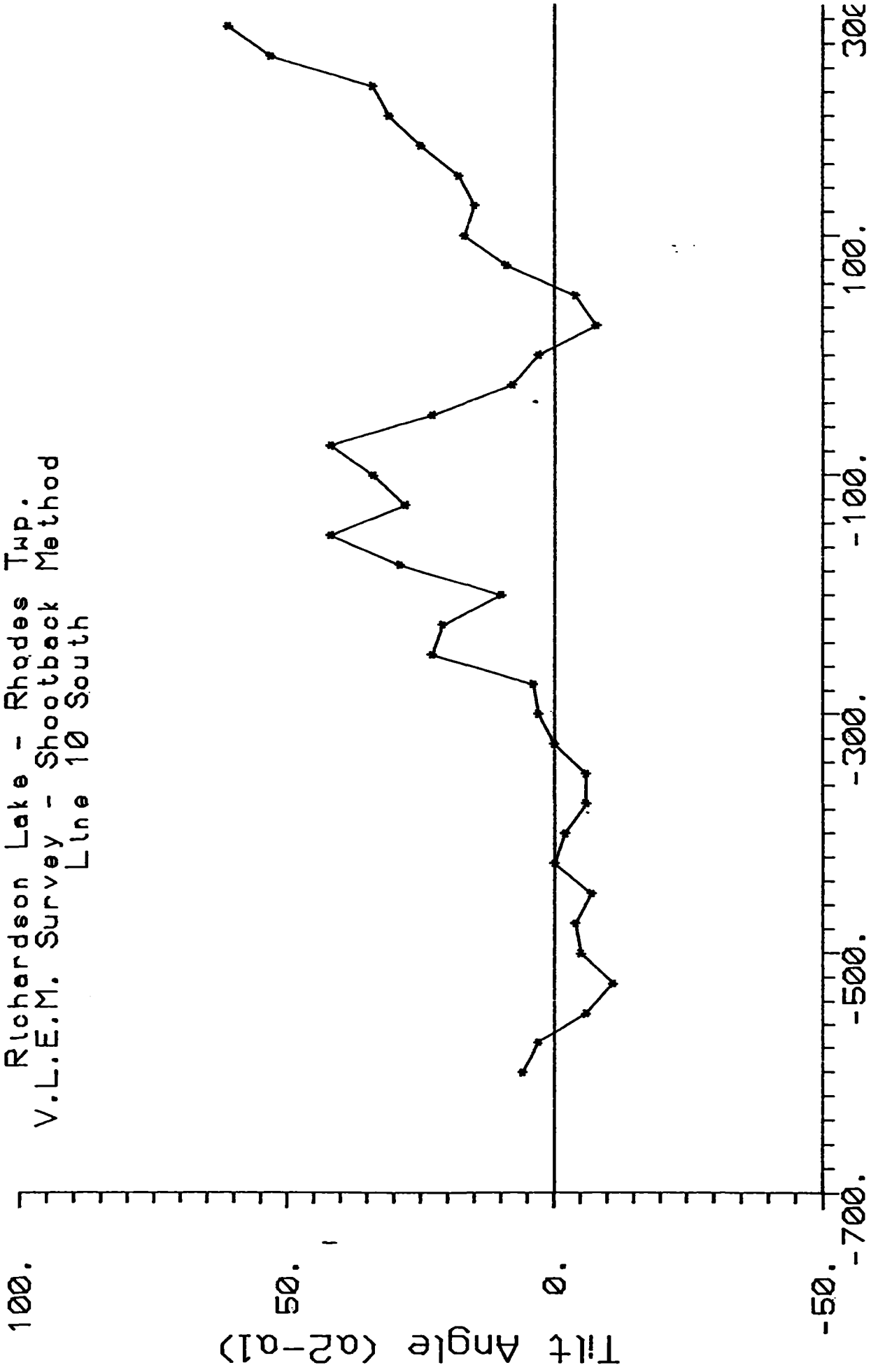
Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line B South



Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 9 South



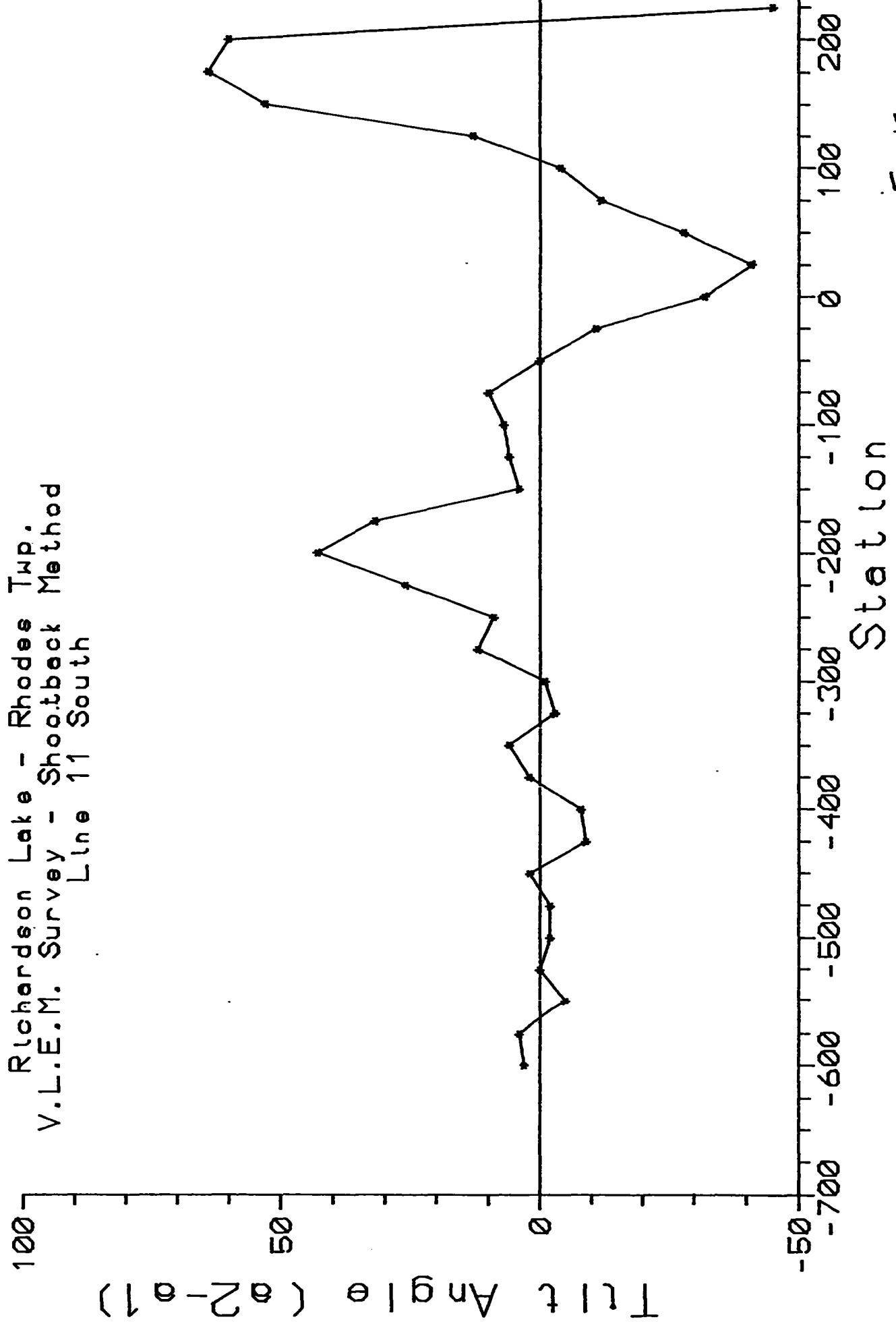
Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 10 South



Station

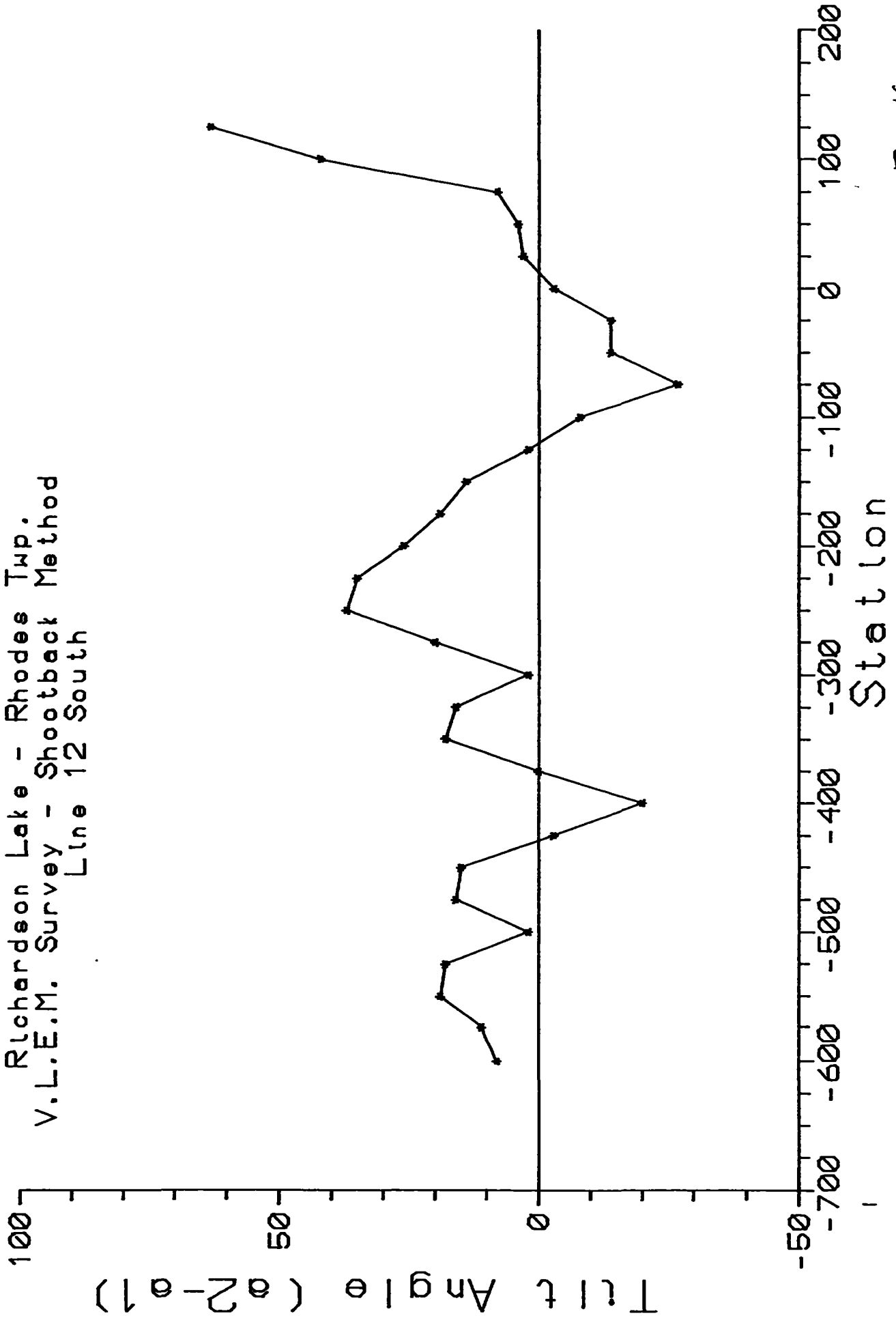
Field

Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 11 South

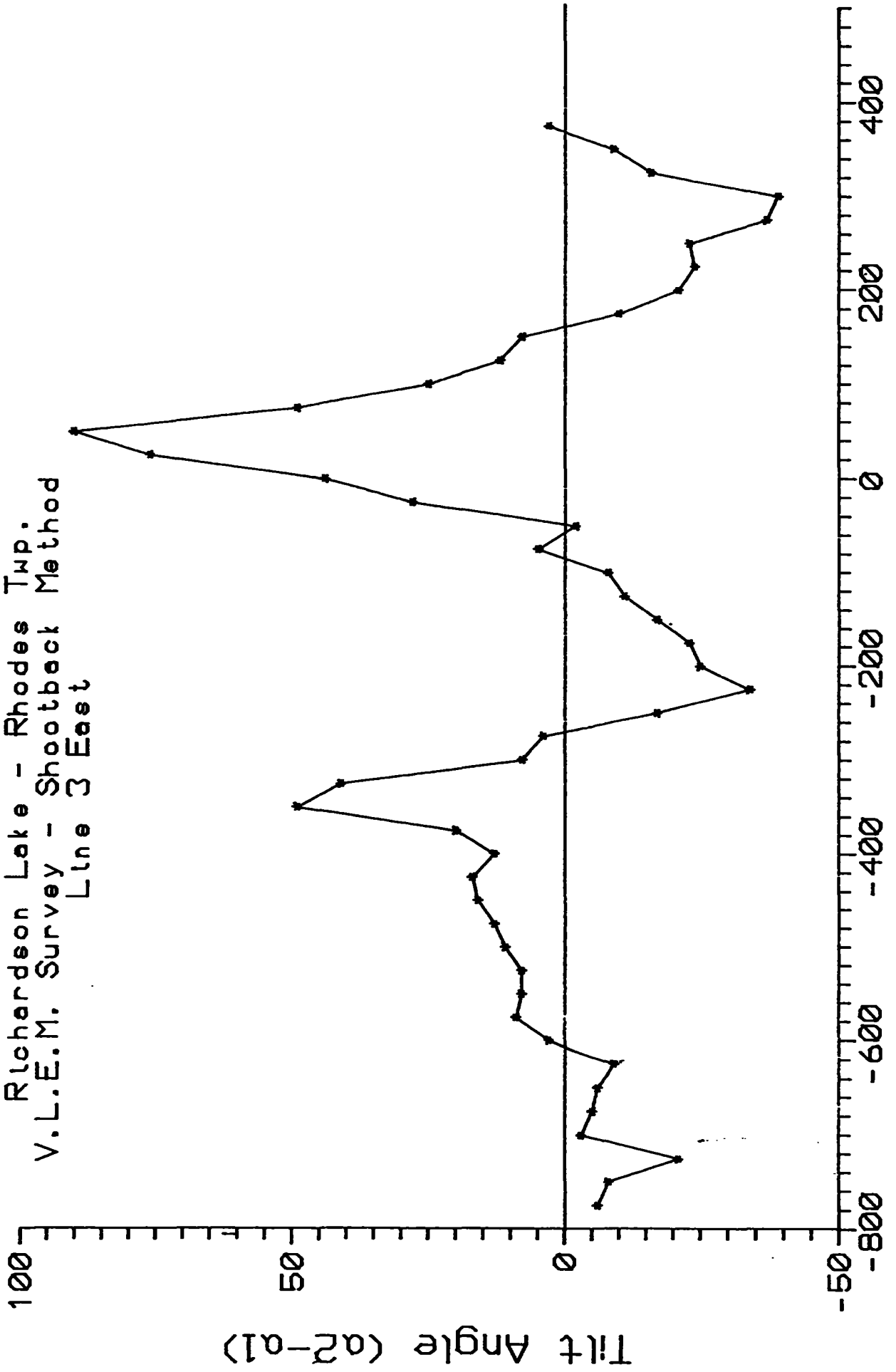




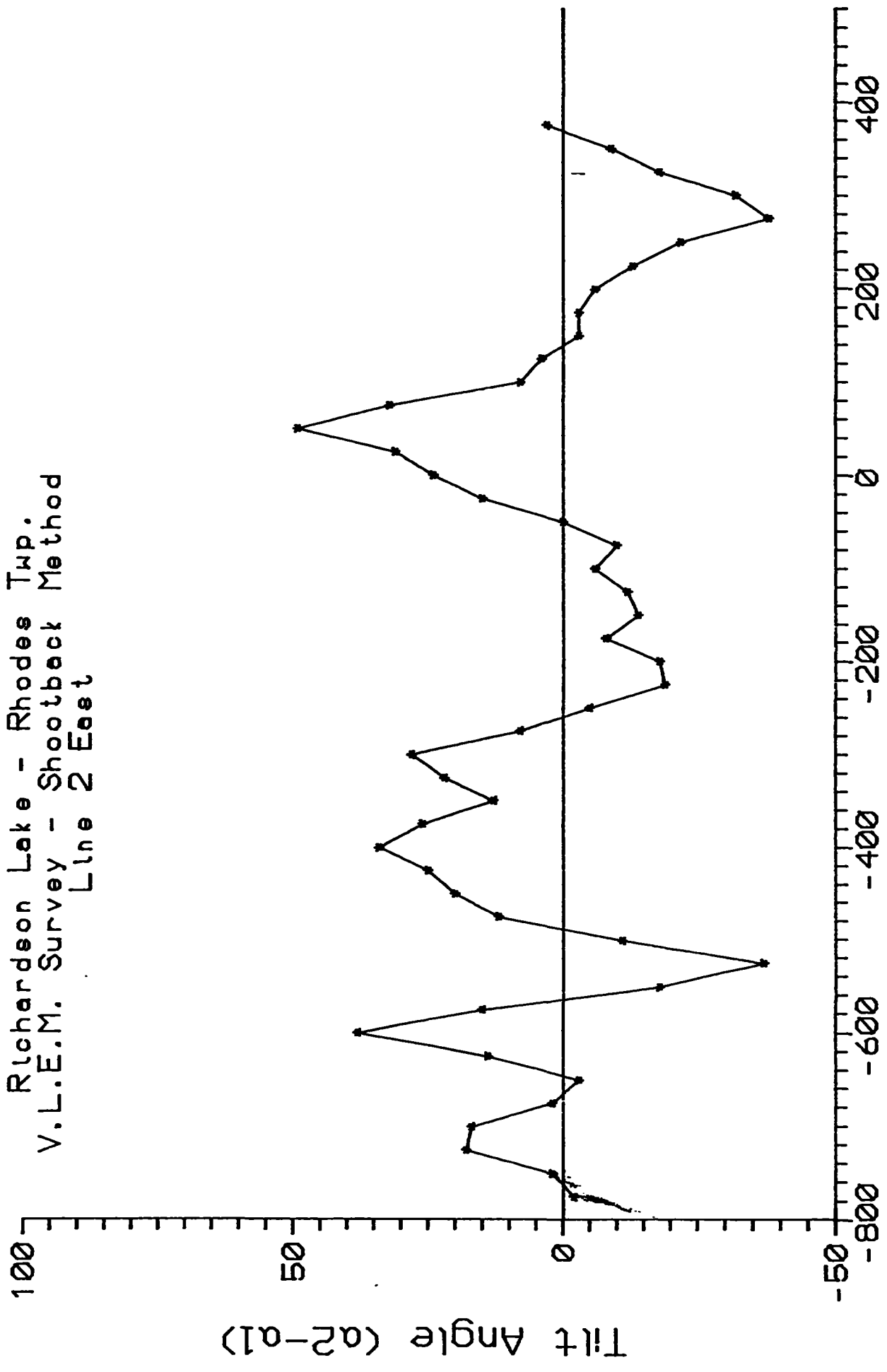
Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 12 South



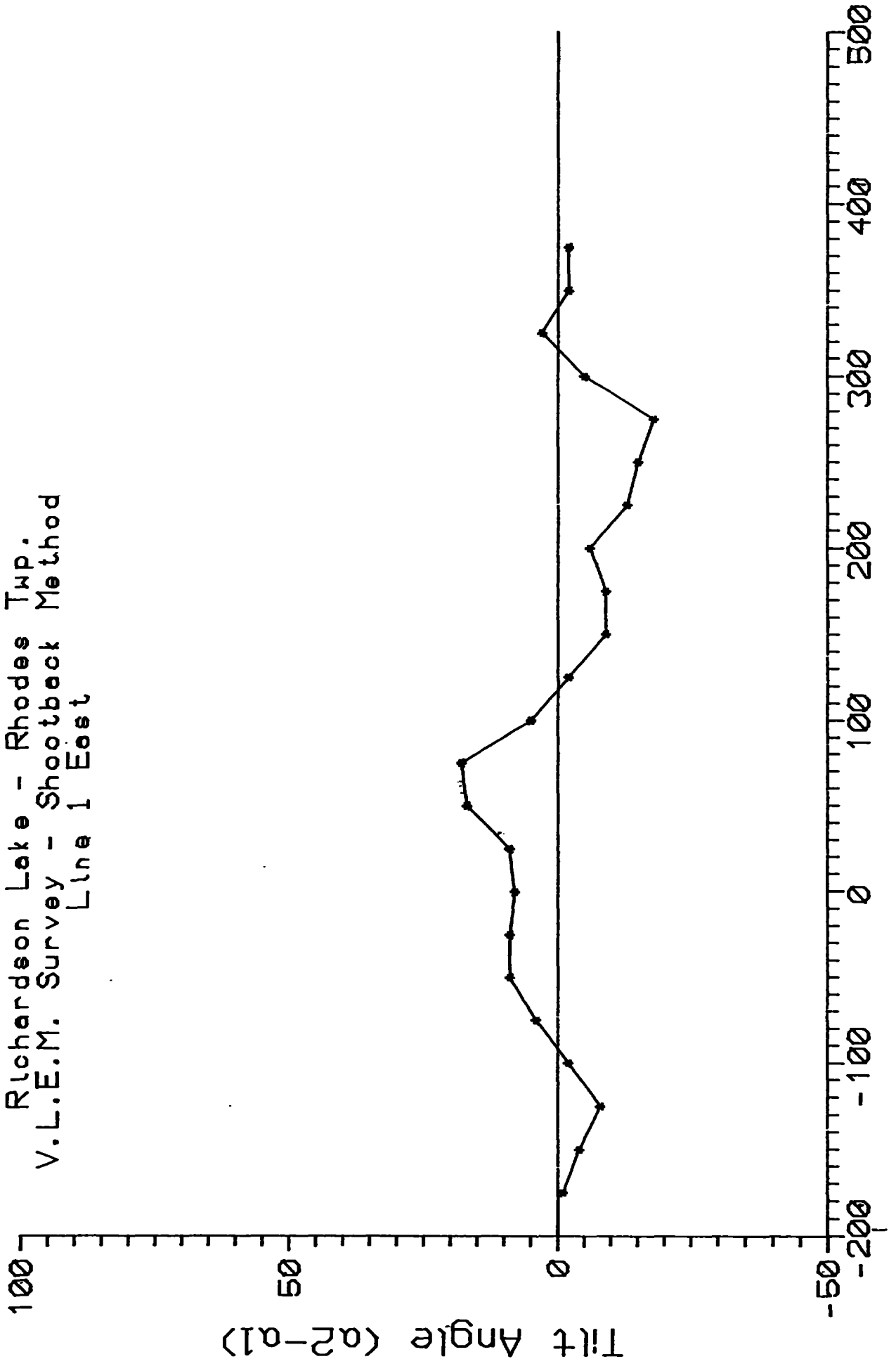
Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 3 East



Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 2 East



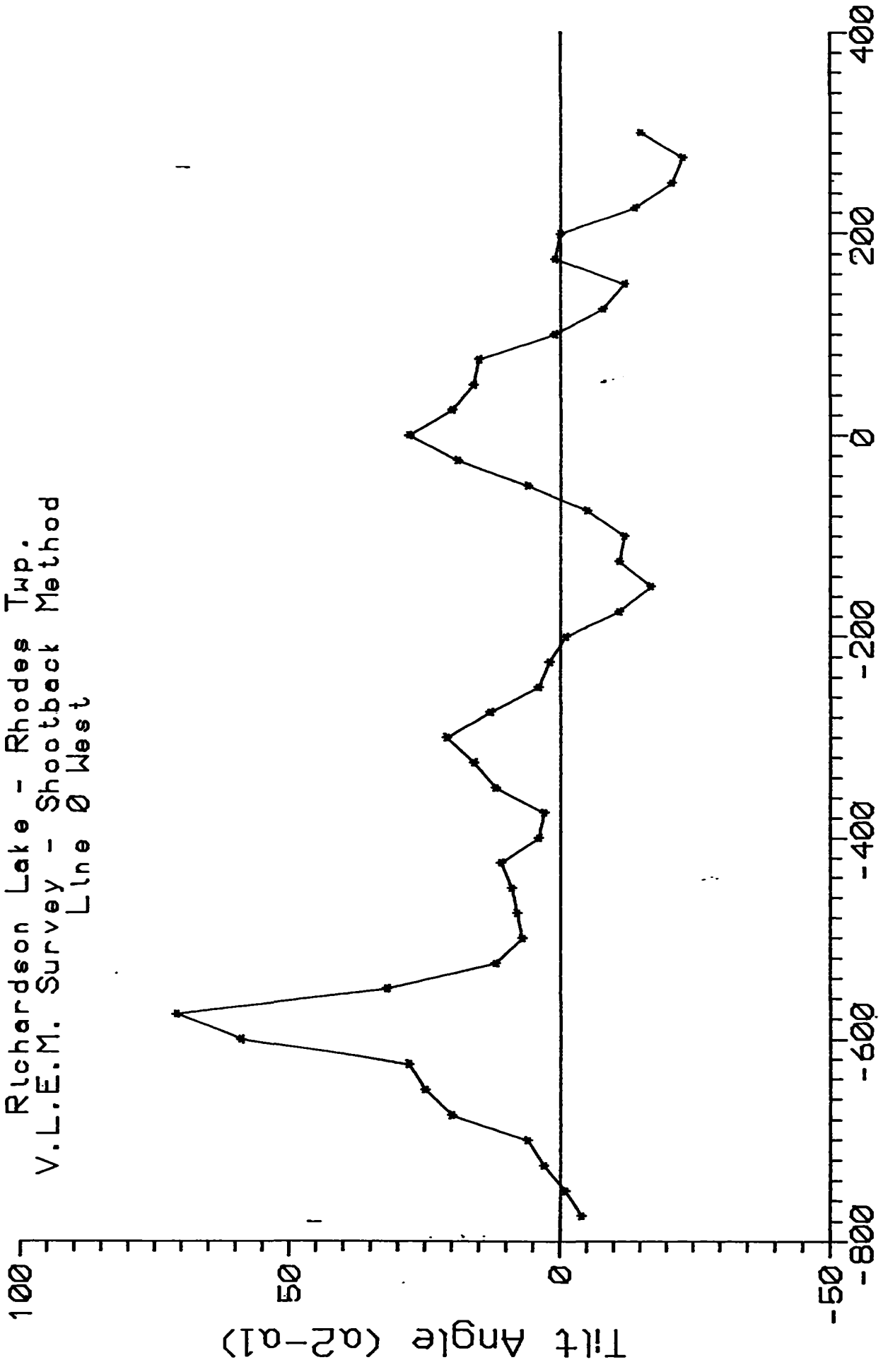
Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 1 East



Station

Fig 19a

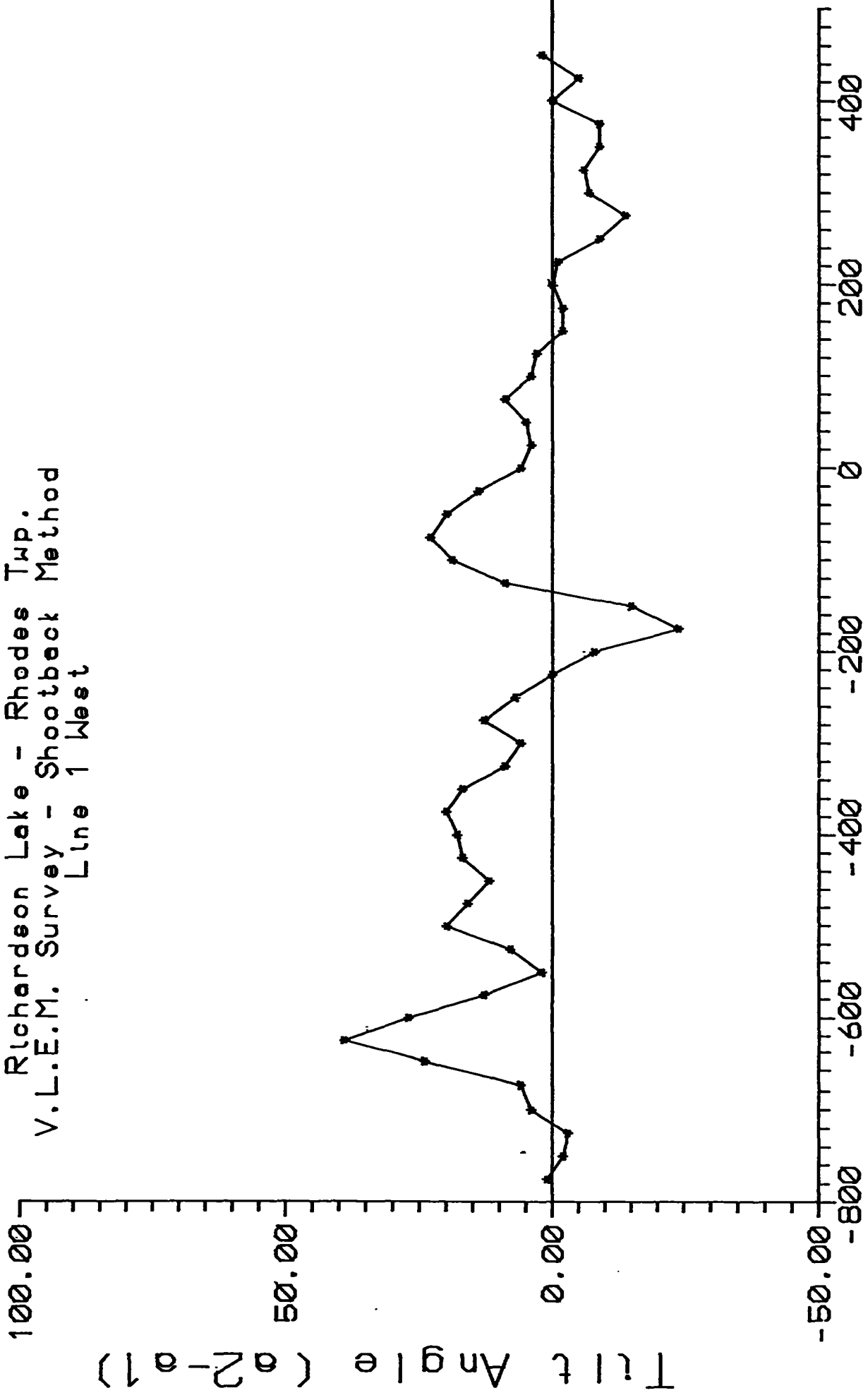
Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 0 West



Station

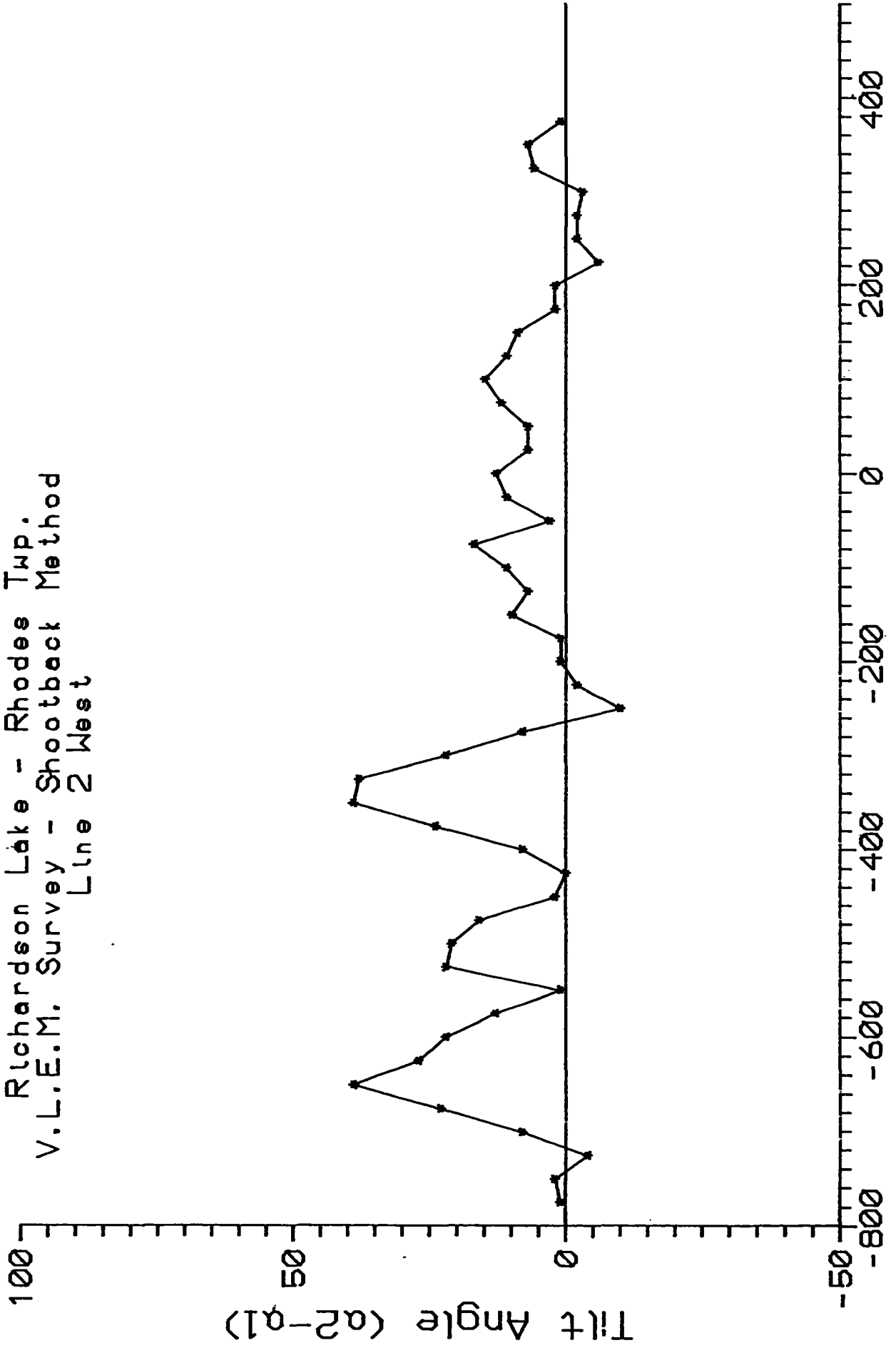
Fig 20a

Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 1 West



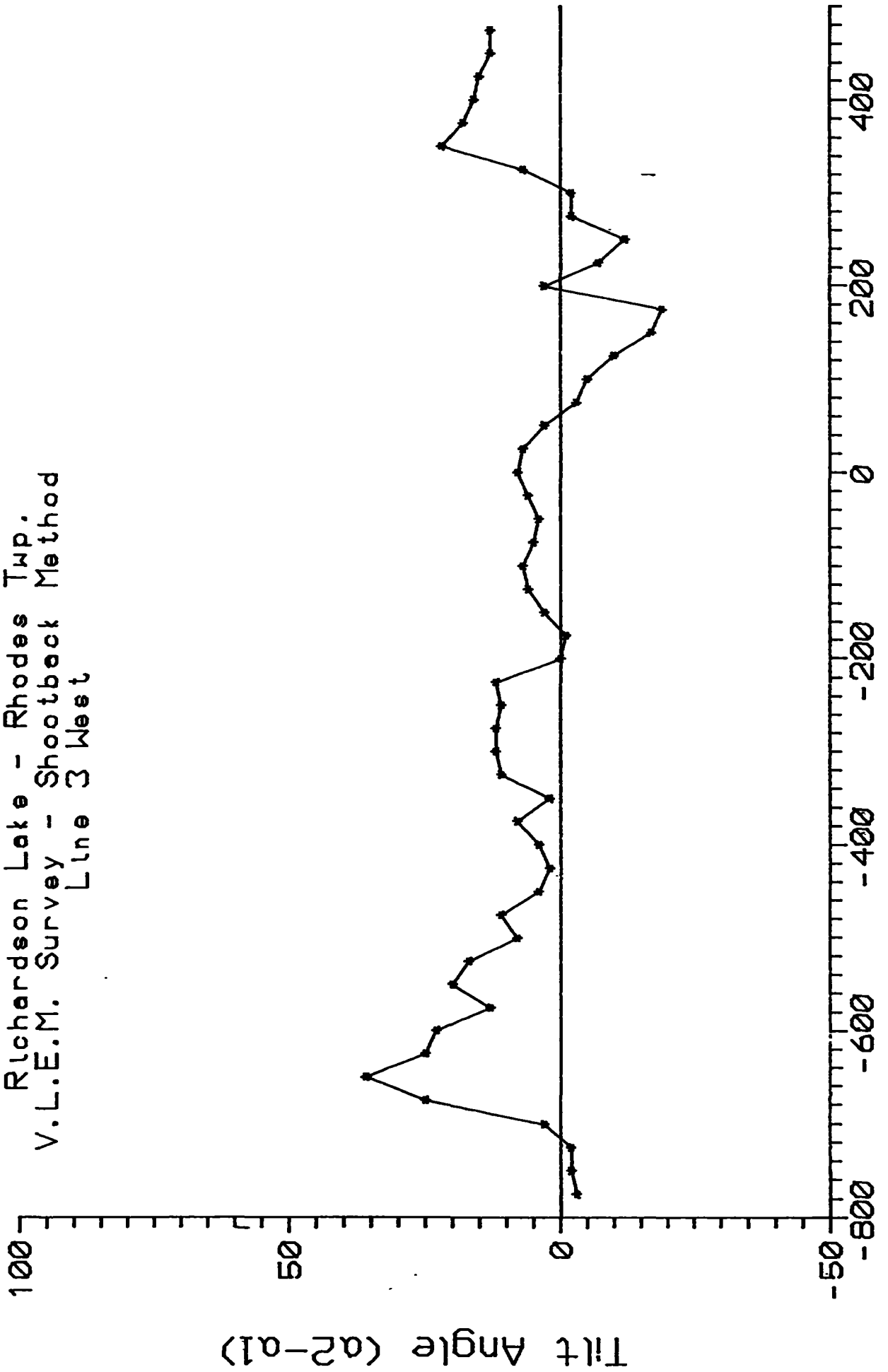
Station

Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 2 West



Station

Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 3 West

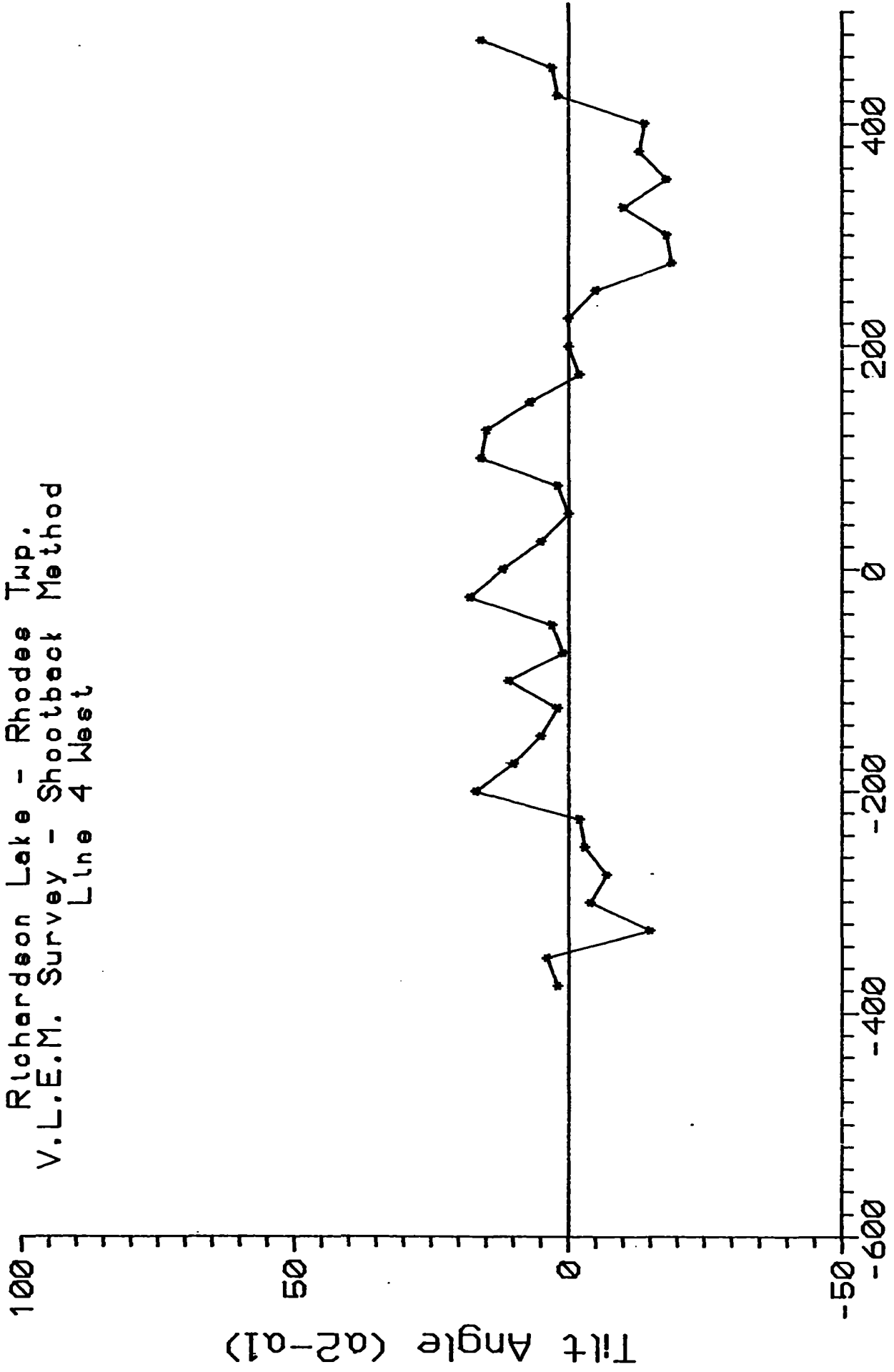


Station

Fig 23a



Richardson Lake - Rhodes Twp.  
V.L.E.M. Survey - Shootback Method  
Line 4 West



Station

Fig 24 a

Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 5 West

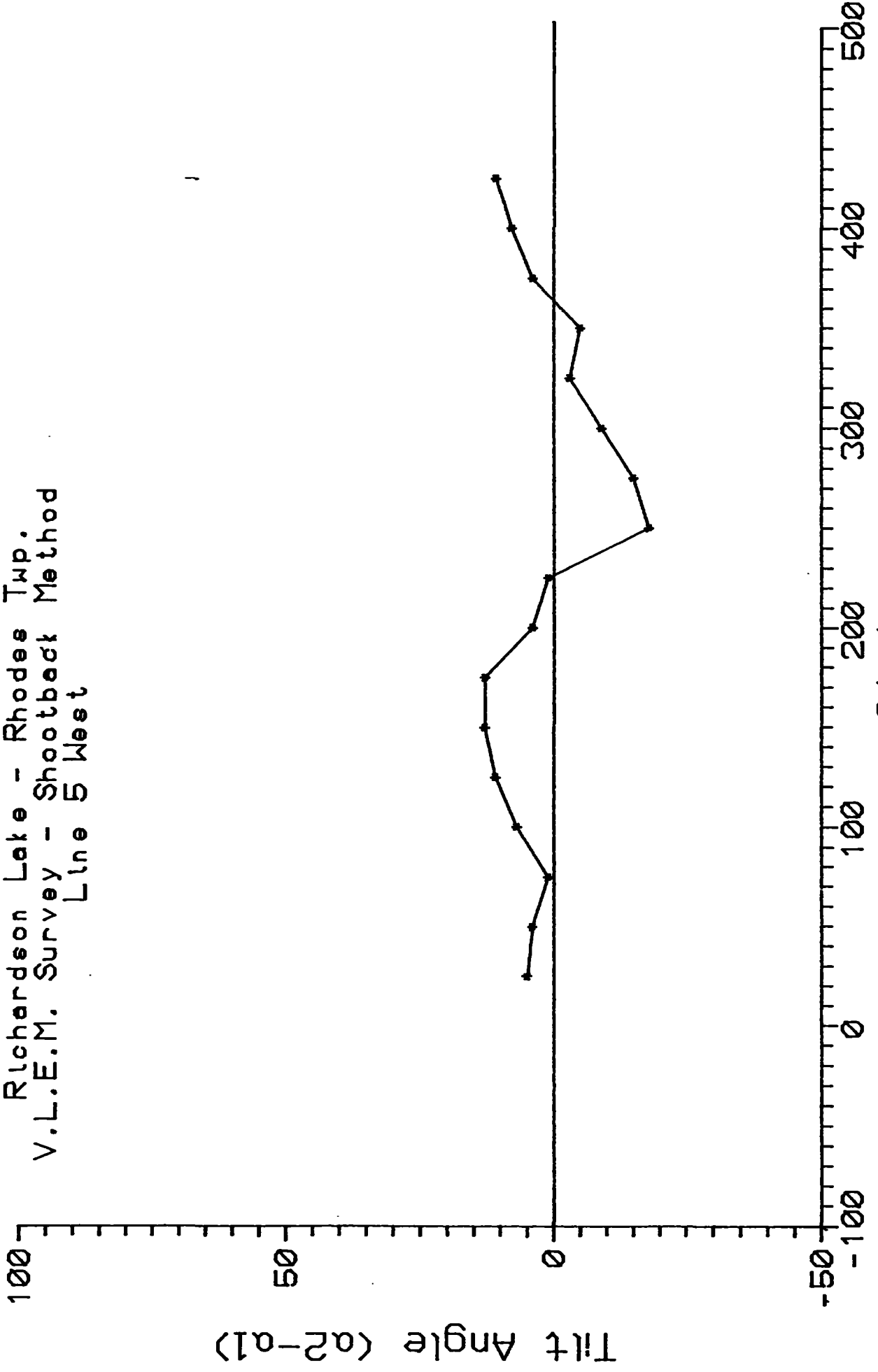


Fig 25 a

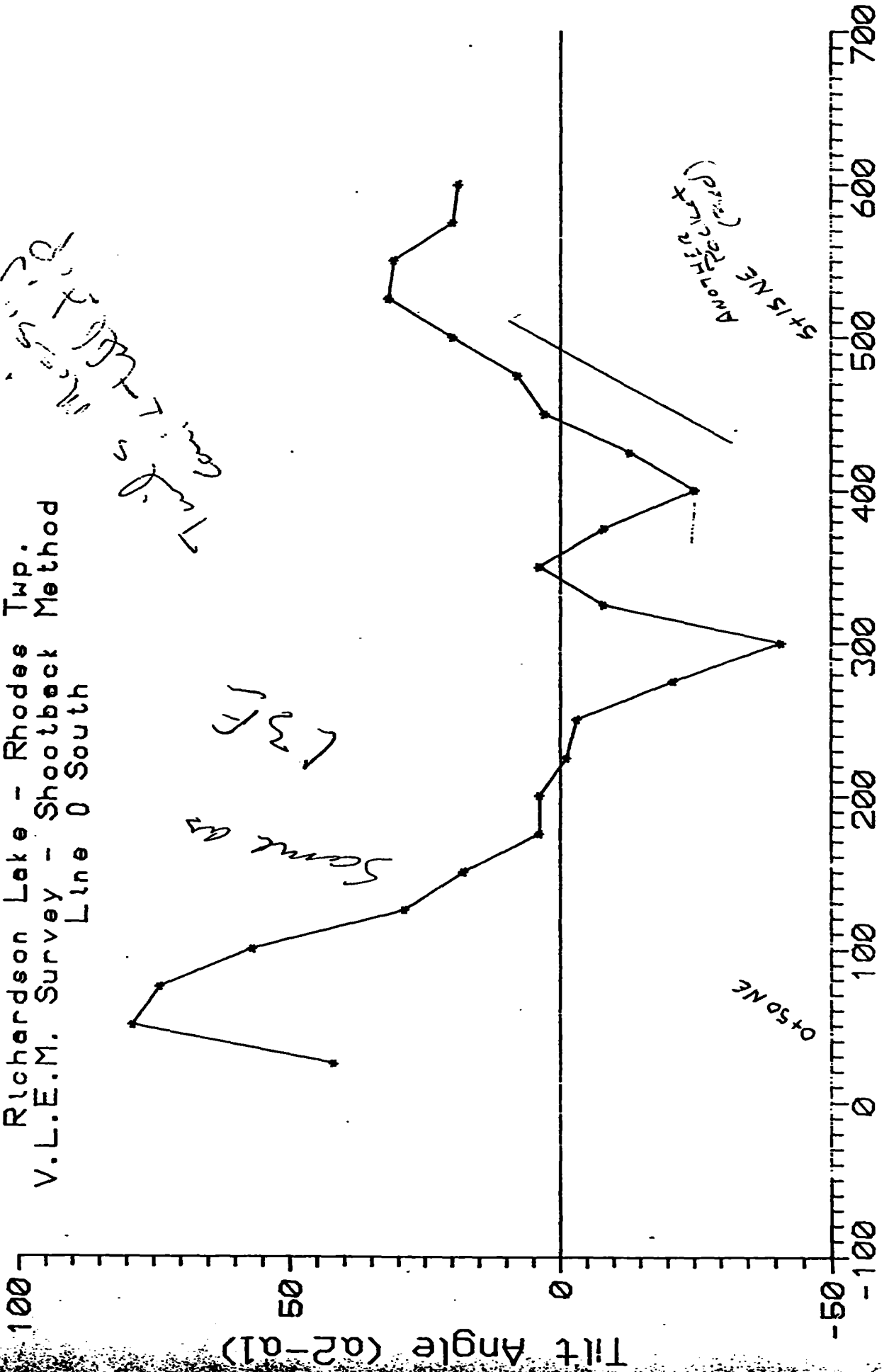
---

The following is a series of originally generated VLEM profiles that were used for interpretation purposes during the generation of the Trivett Geological Exploration report to Bharti Engineering Associates Inc.

The various profiles were originally studied by David G.B. Trivett and then carefully scrutinized by Tony Insinna, a staff geophysicist with the Geology/Mining Department at Cambrian College of Applied Arts and Technology in Sudbury, Ontario.

At this time it is not possible to determine the validity of the interpretations, but the information notations may certainly be useful in further future more detailed geophysical type investigations.

Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 0 South



Station

Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 1 South

Tilt Angle (a2-a1)

-50  
-300

-100

100

300

500

700

Station

Subbed.  
 very localized  
 over lines  
 low grade.

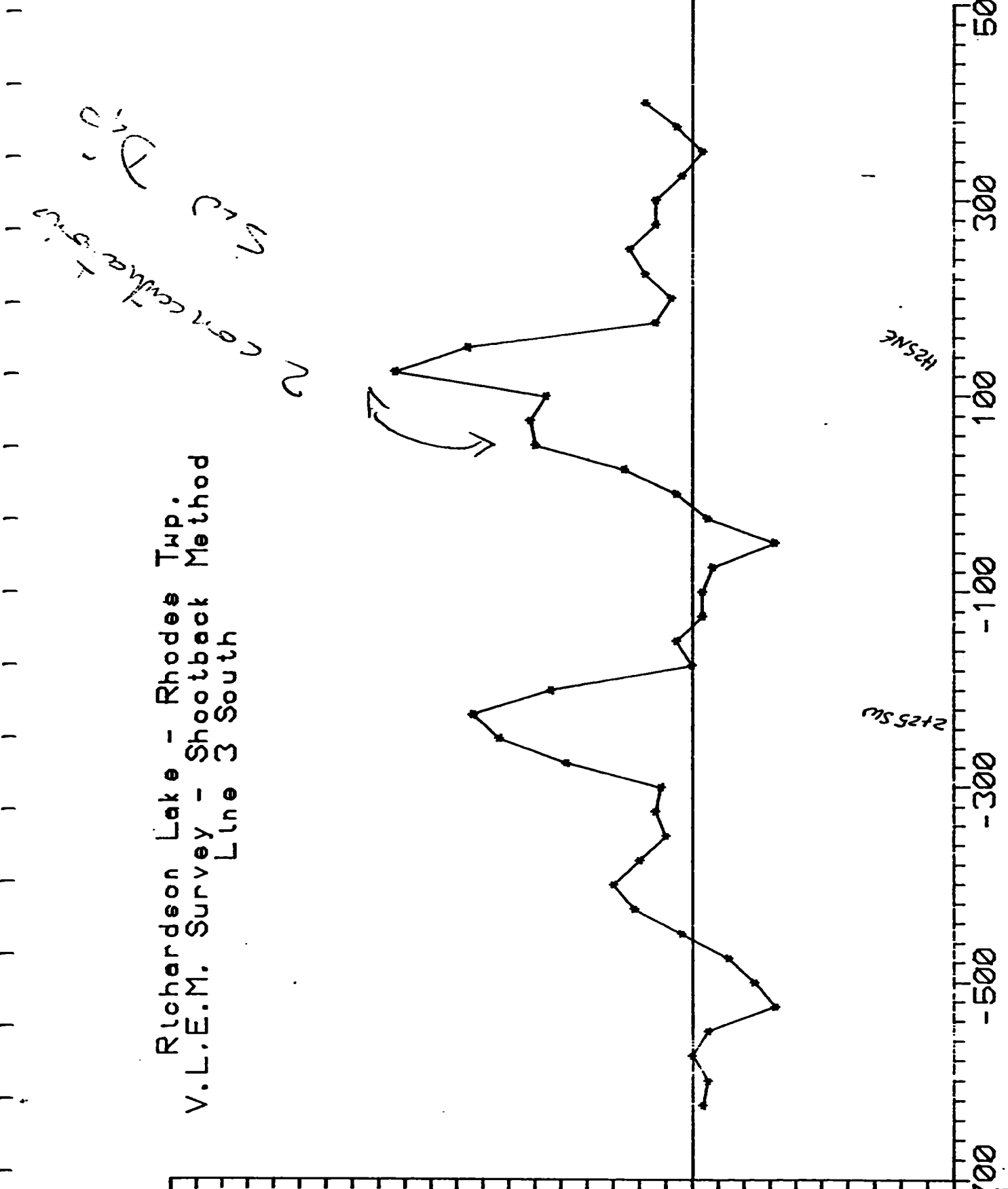
Handwritten notes and scribbles at the top of the page, including "V.L.E.M. Survey" and "Richardson Lake".



Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 3 South

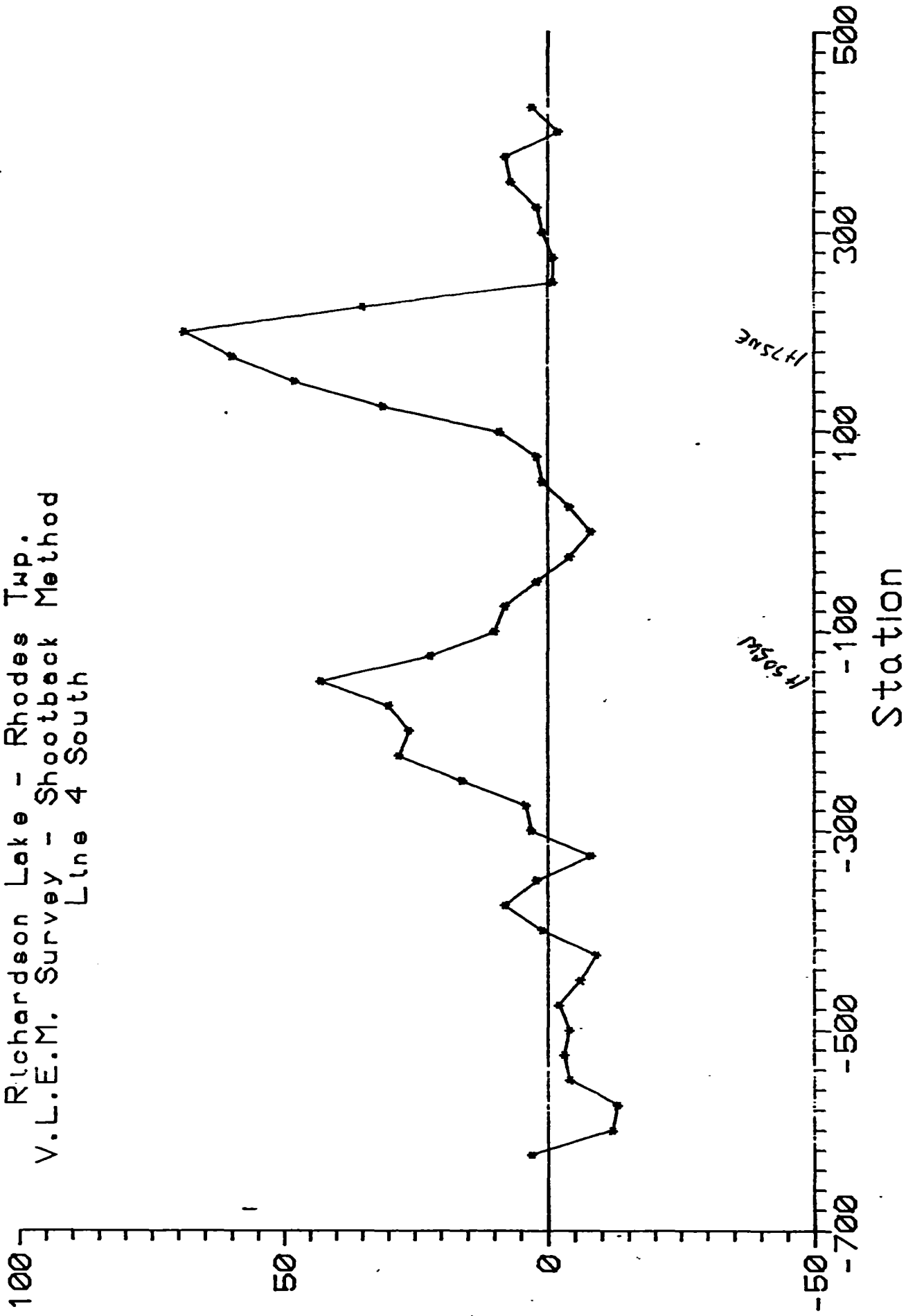
Tilt Angle (a2-a1)

100  
 50  
 0  
 -50  
 -700



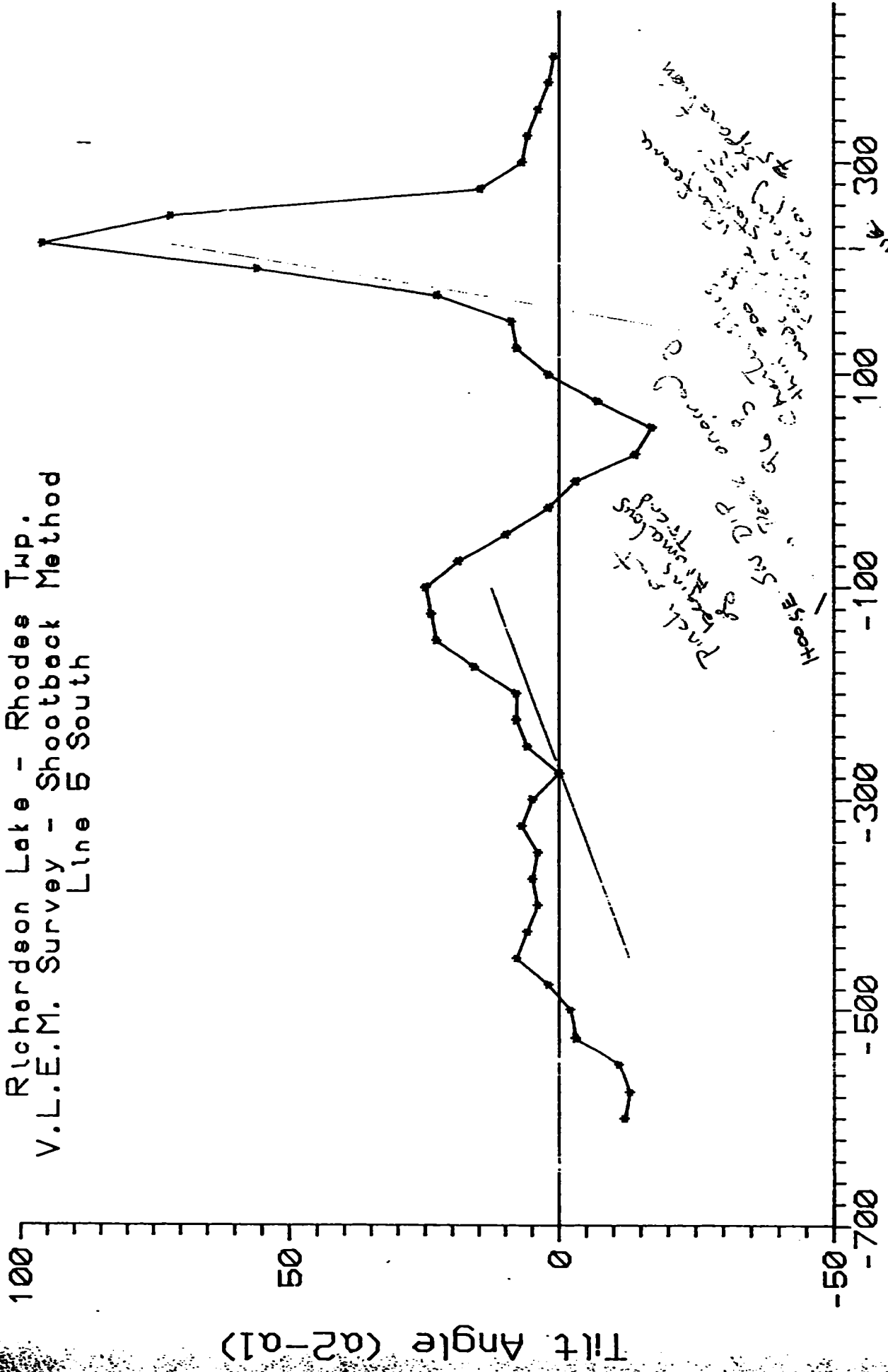
Station

Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 4 South





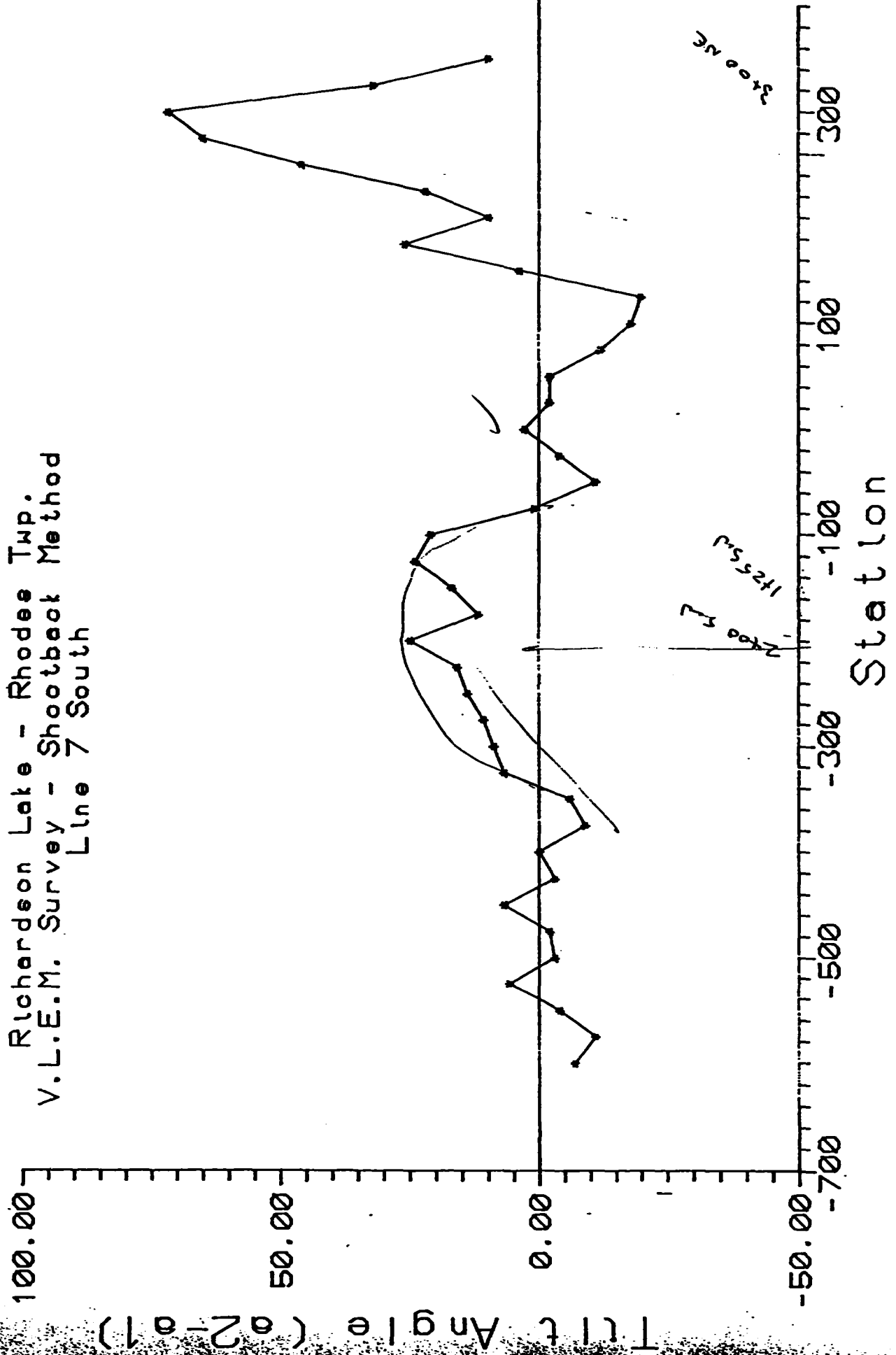
Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 5 South



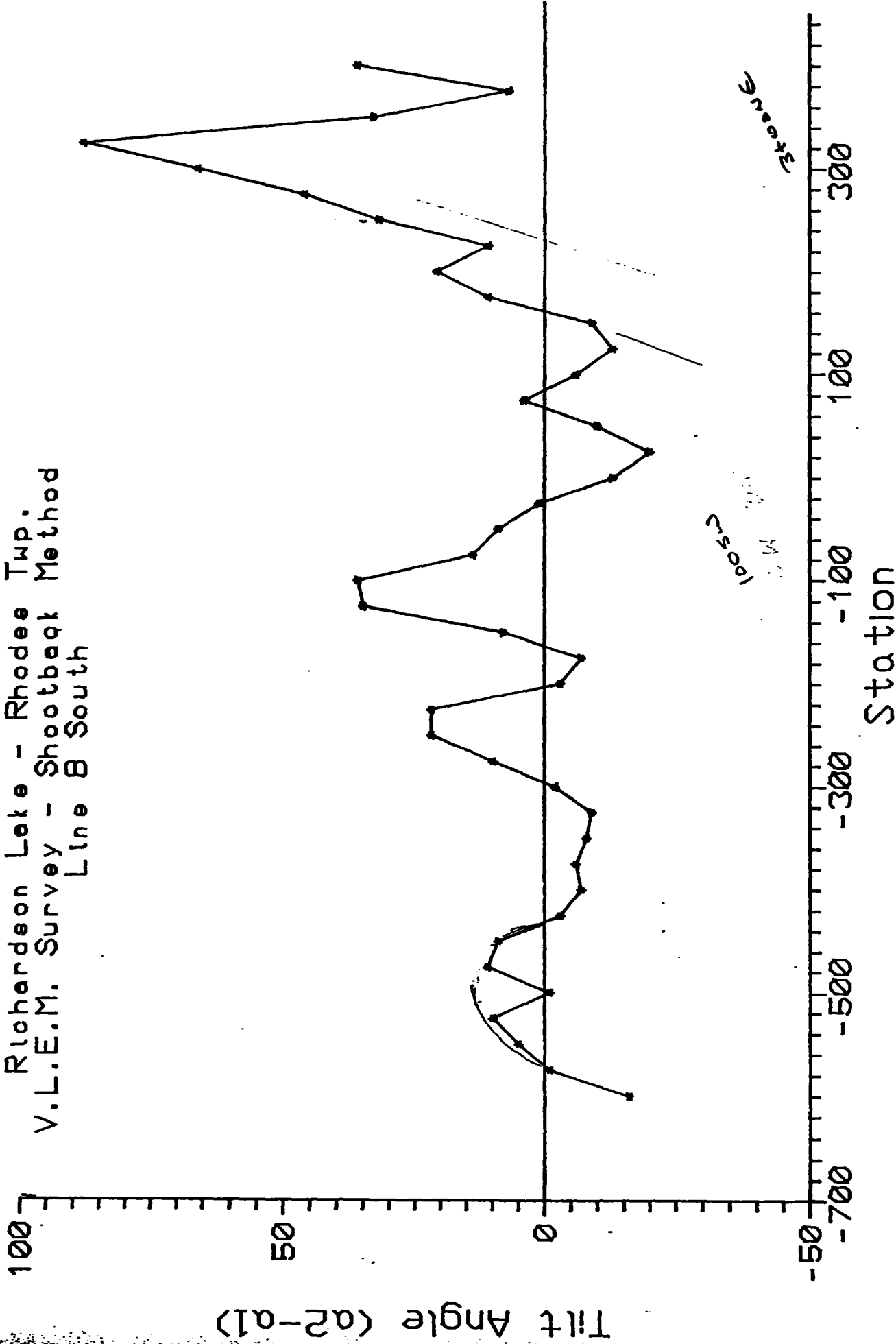
Station

Fig 31a

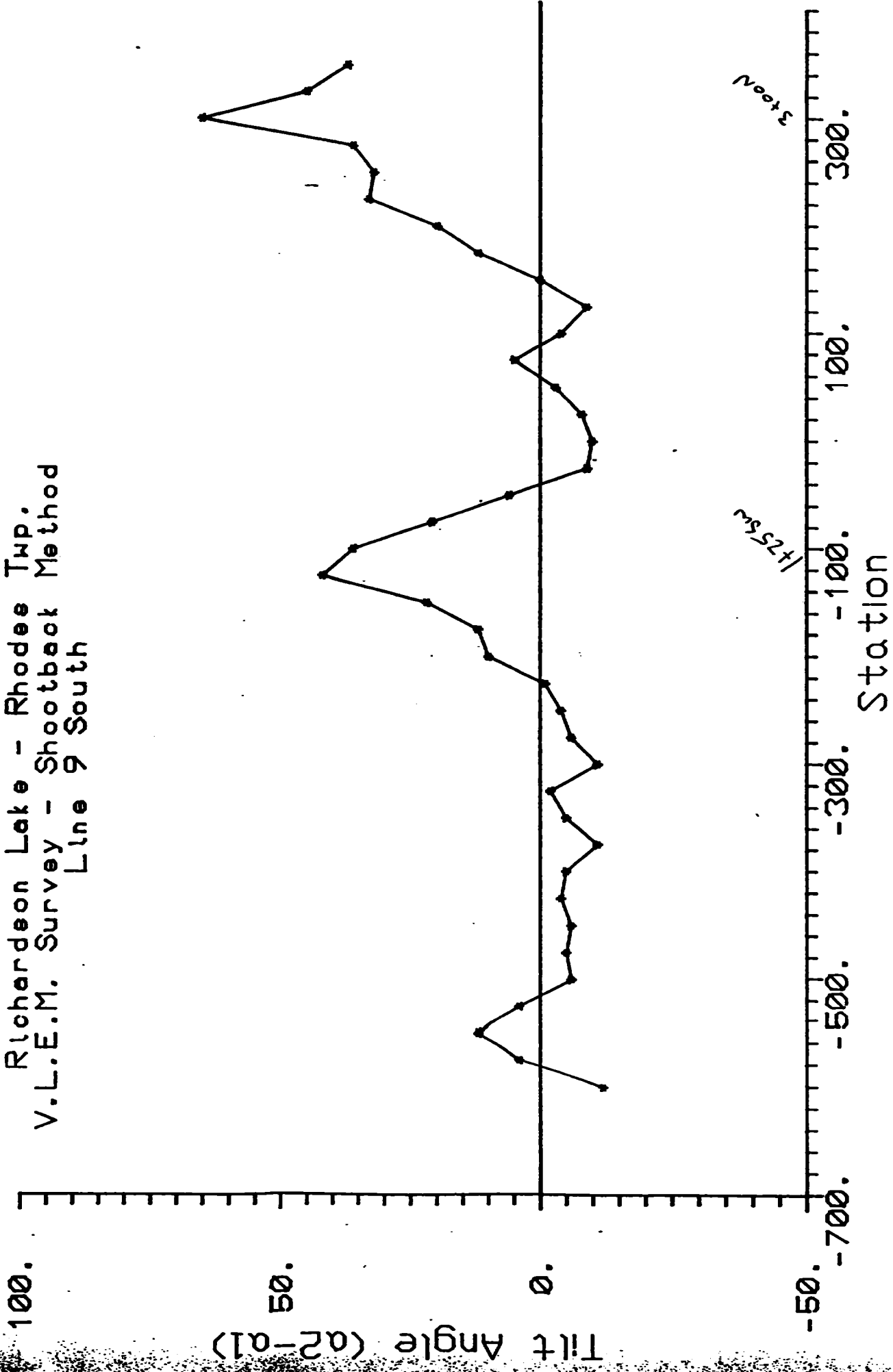
Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 7 South



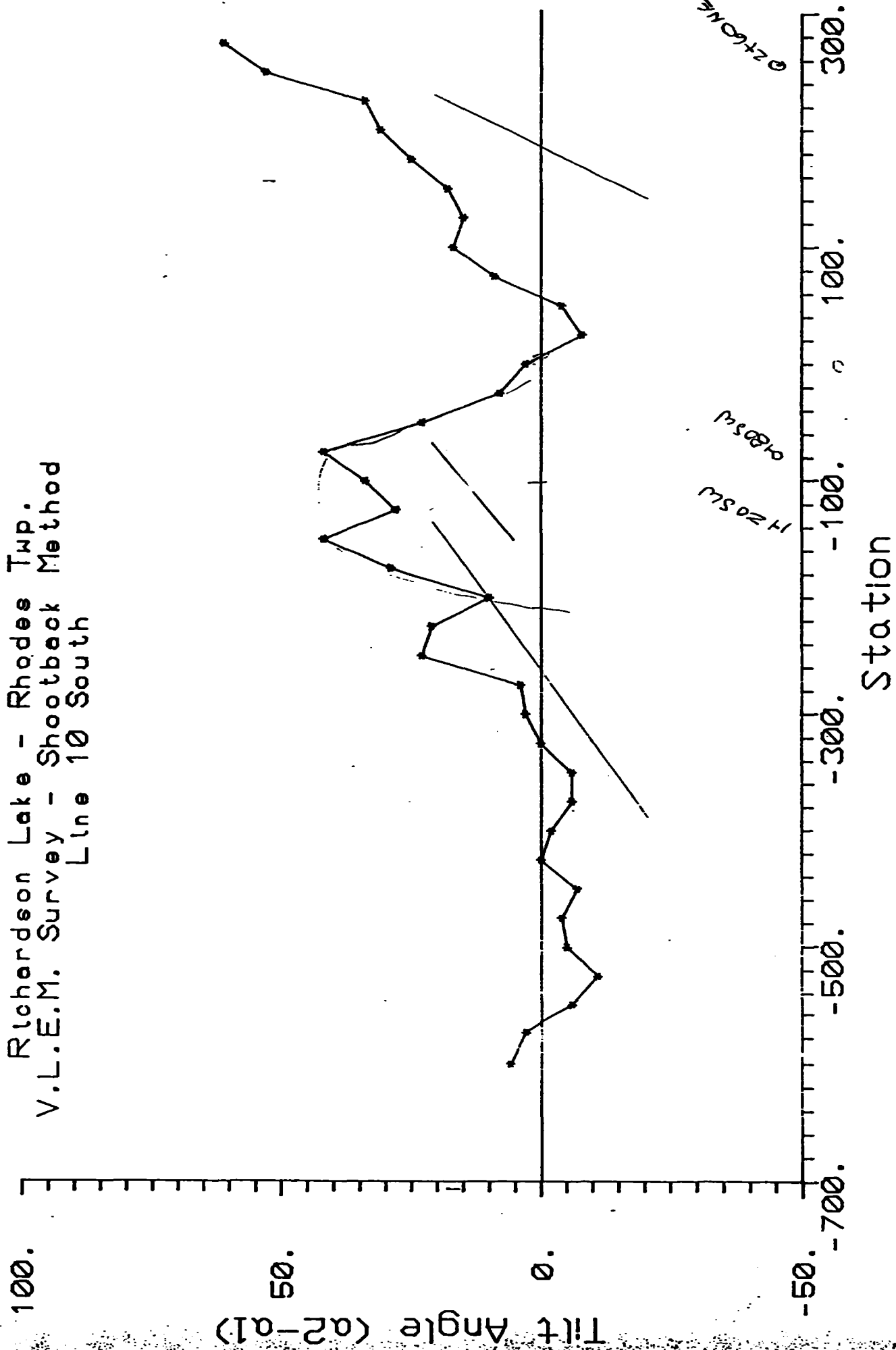
Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line B South



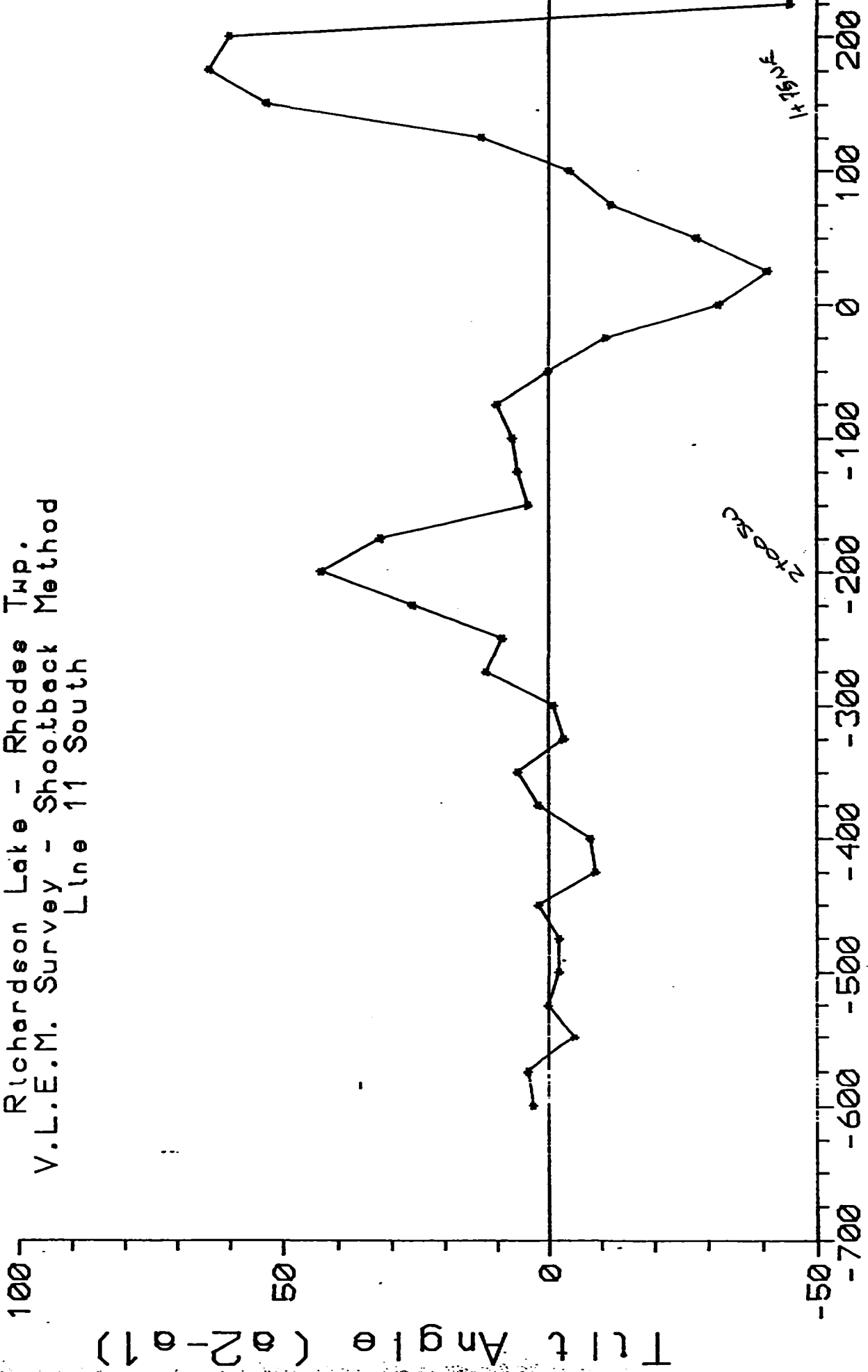
Richardson Lake - Rhodex Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 9 South



Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 10 South

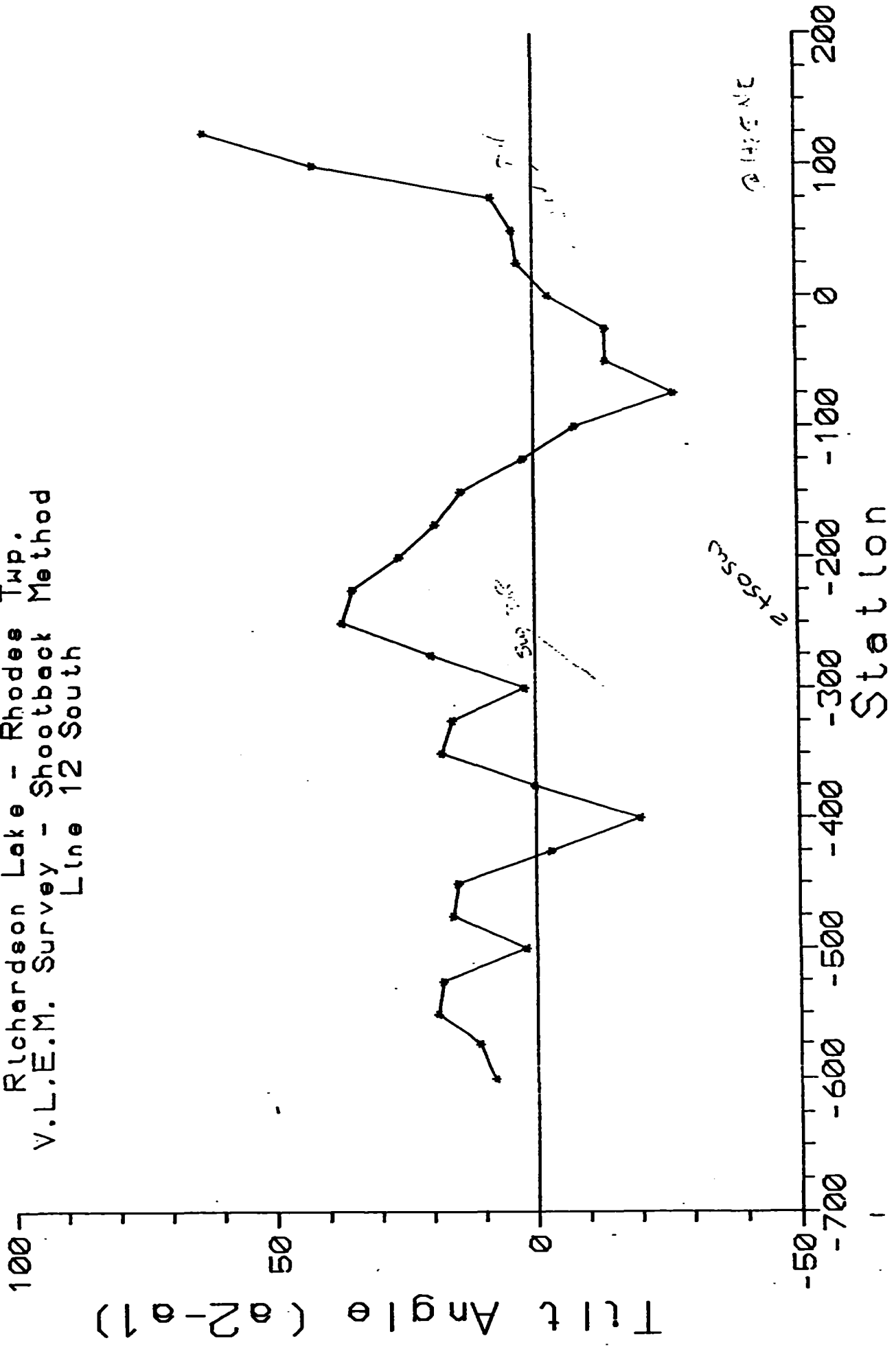


Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 11 South



Station

Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 12 South

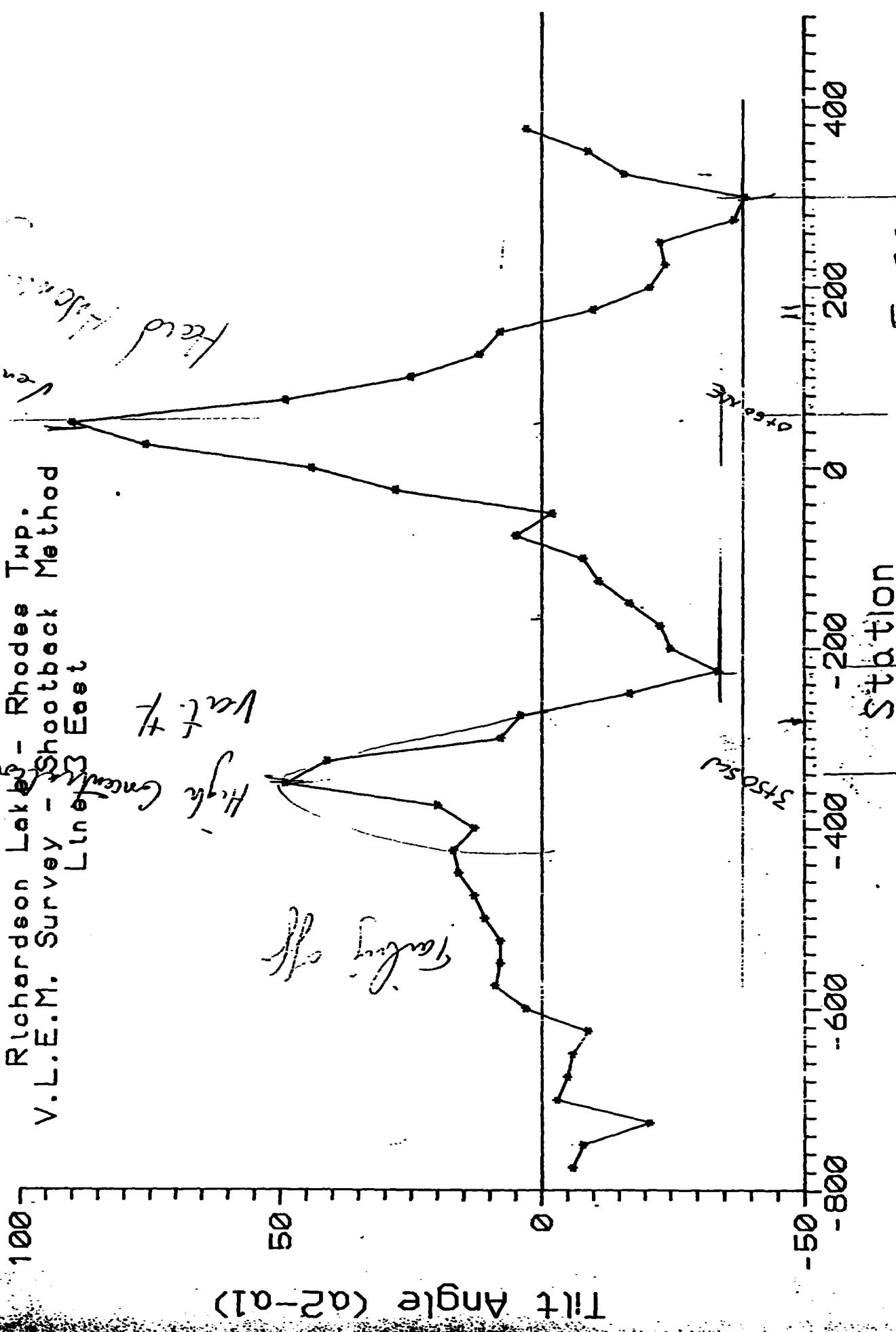


Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 33 East

*Hand*  
*Station*

*High Center*  
*Valley*

*Peaking off*



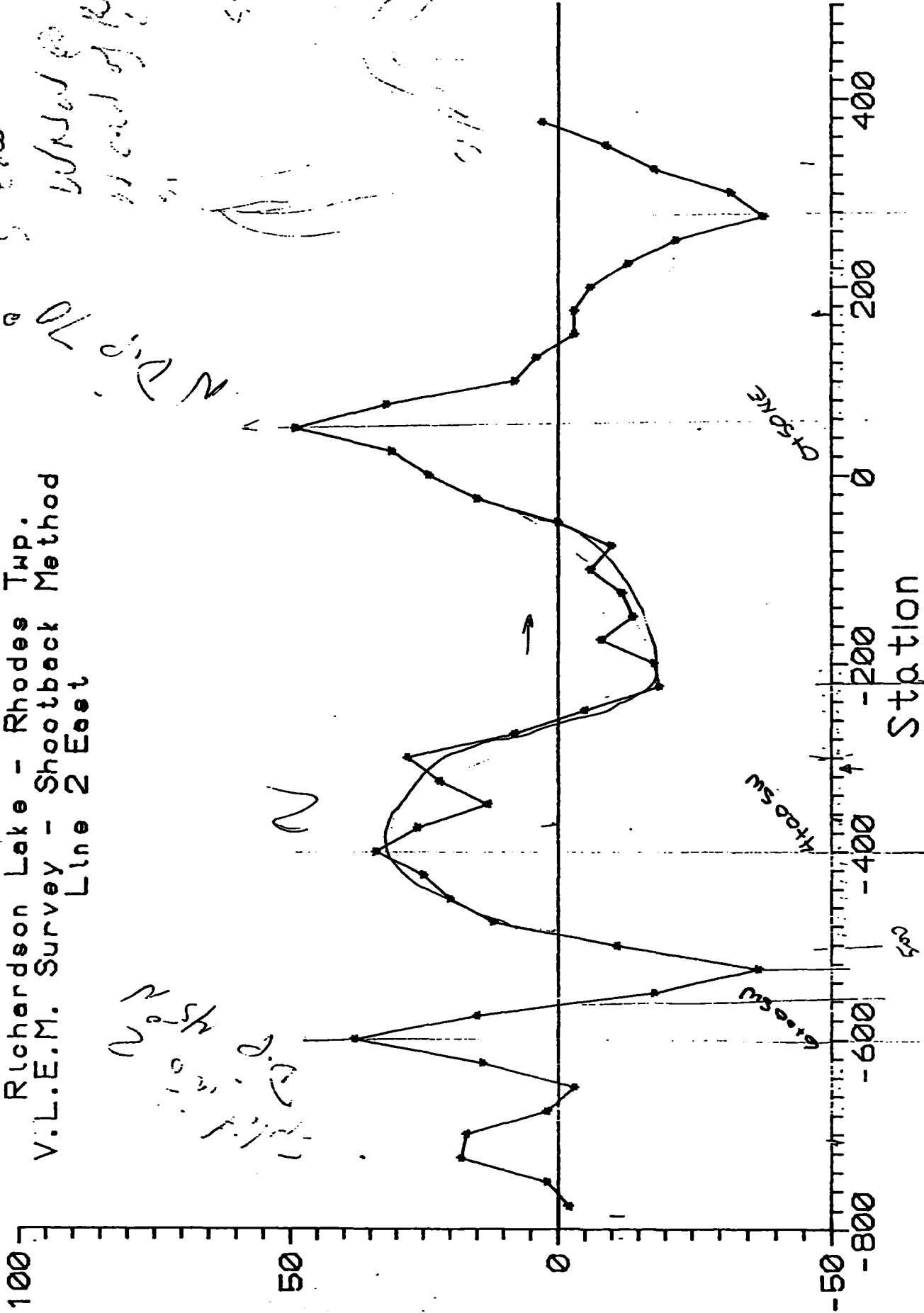
F1033a



Tilt Angle (arc-min)

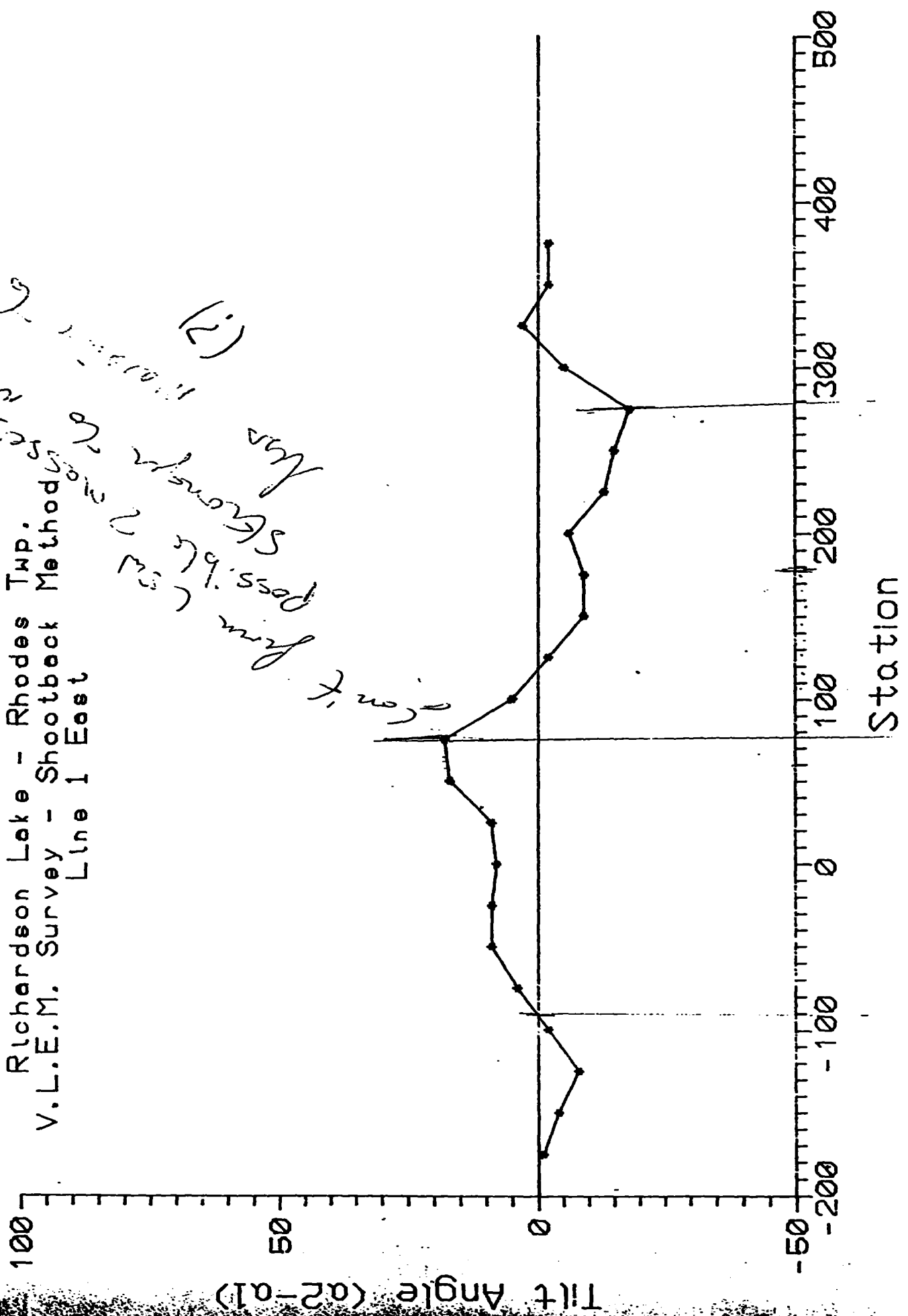
Richardson Lake - Rhodes Twp.  
V.L.E.M. Survey - Shootback Method  
Line 2 East

Dredging Polyphosphate  
fertilizer  
trend  
in  
the  
vicinity  
of  
the  
lake  
and  
the  
road.  
Washed  
to  
end  
of  
lake.



Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 1 East

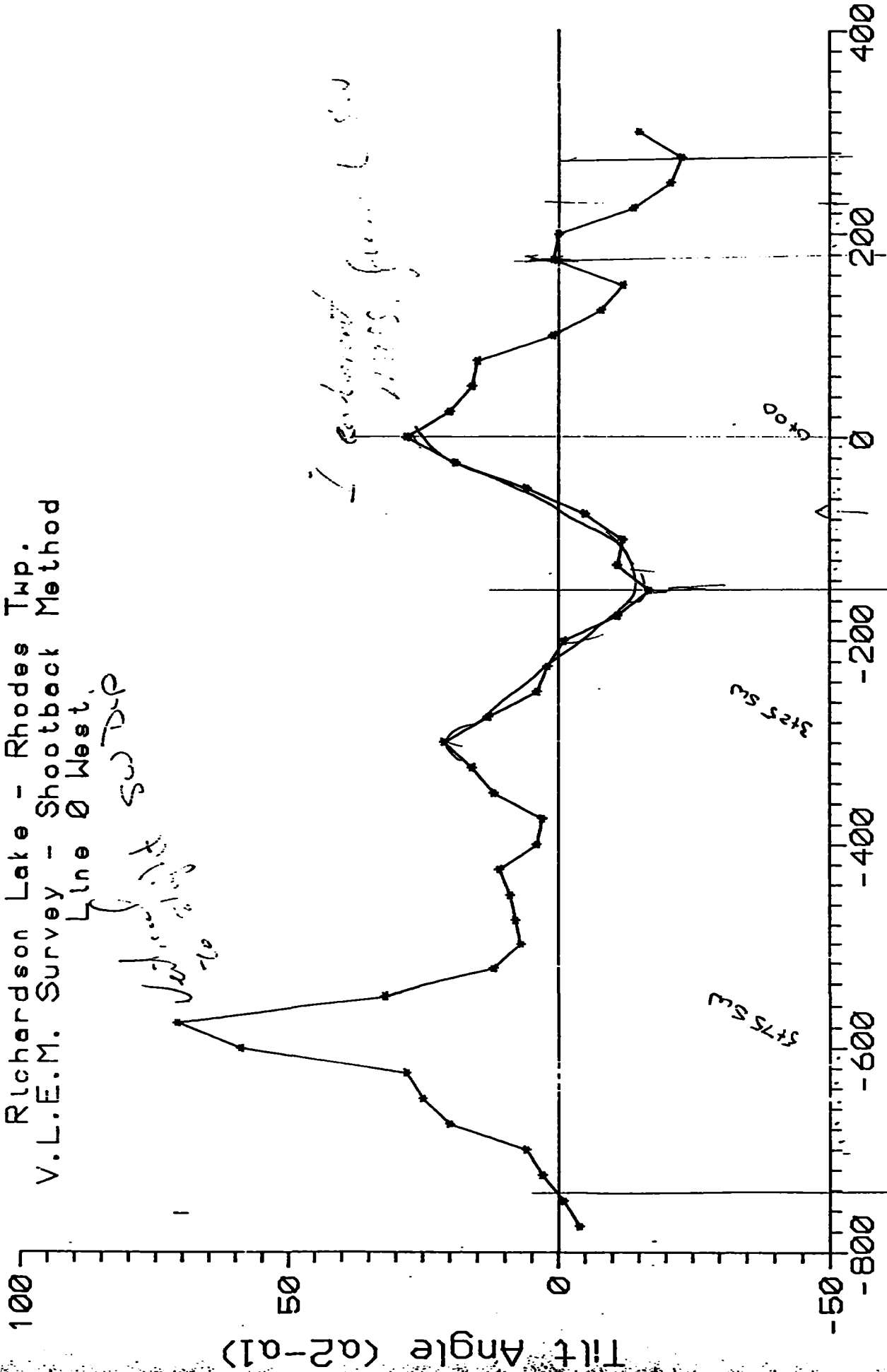
*Can't find possible  
 station (see 2 pages)  
 Strength was  
 11.000000 (2)*



Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 0 West.

*Vertical Dip*

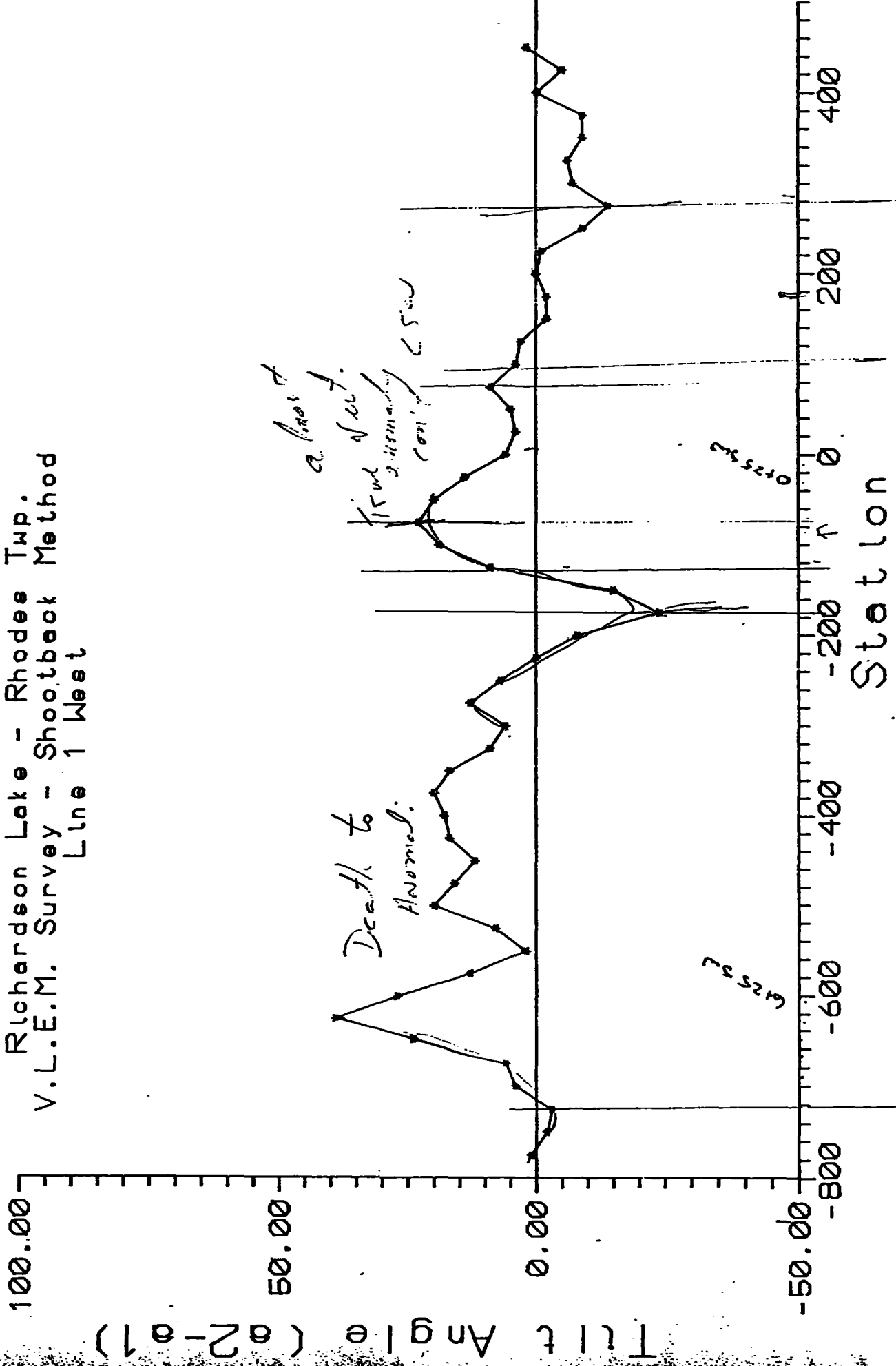
*Horizontal from 0 SW*



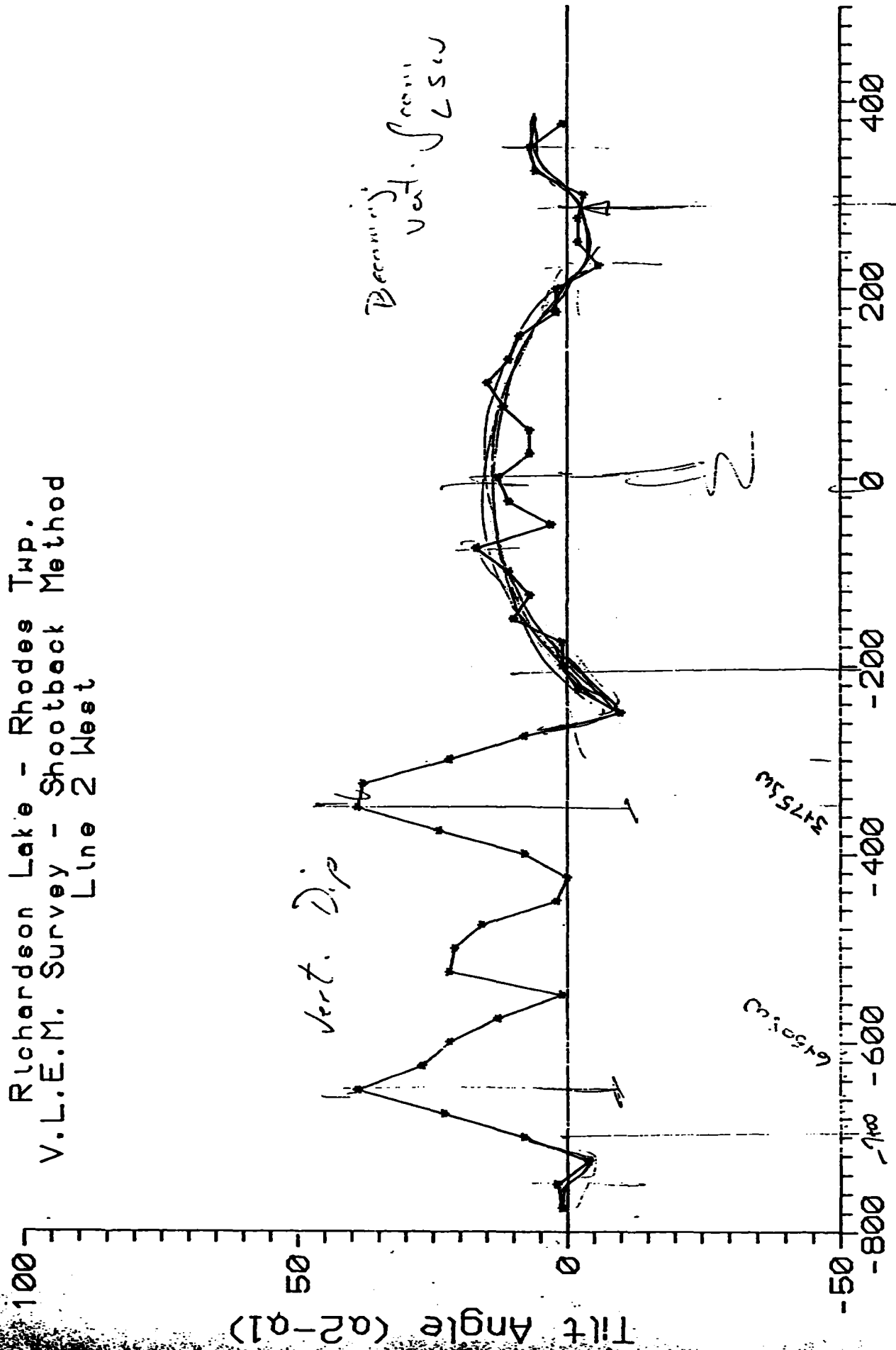
Station

Fr 41a

Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 1 West



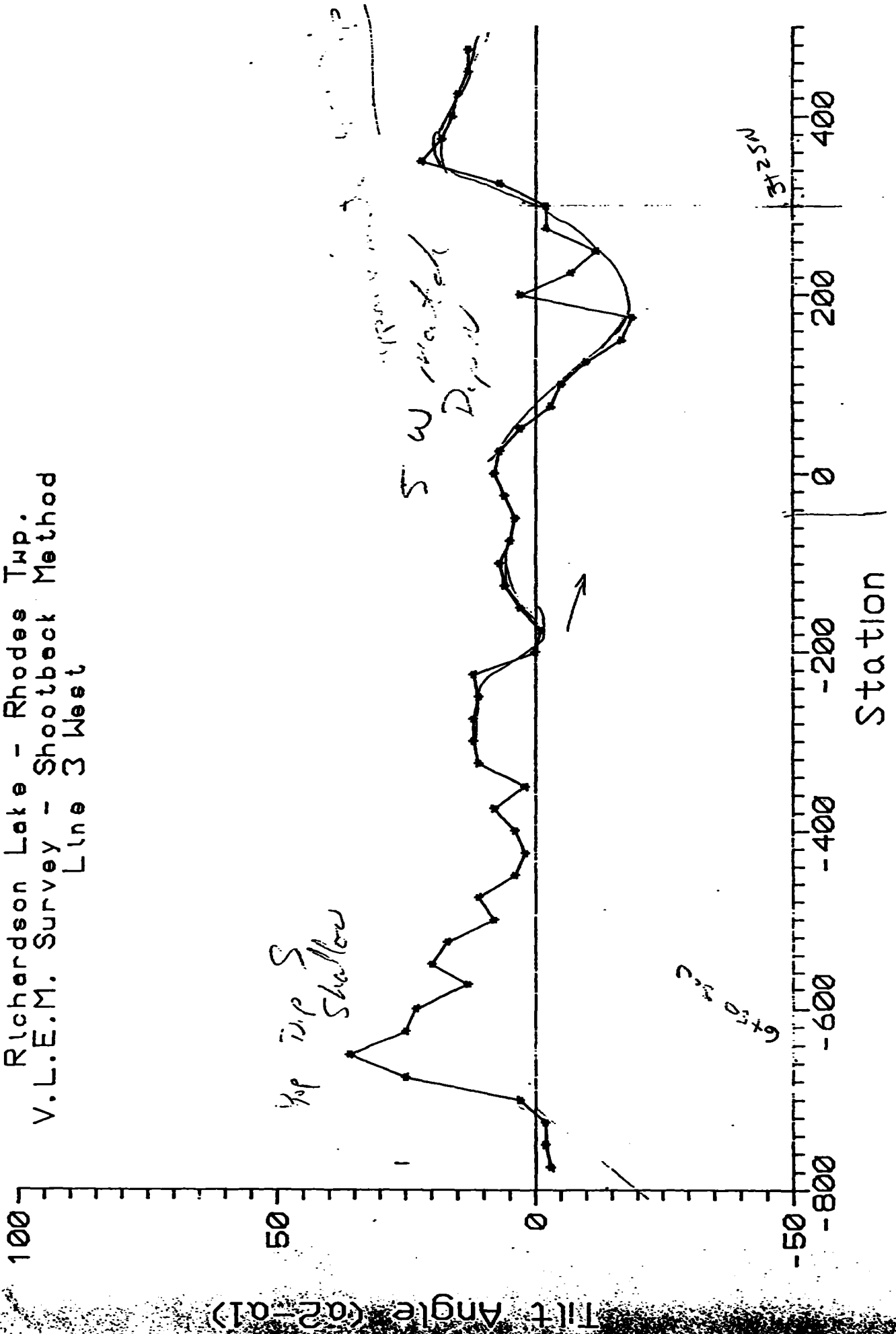
Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 2 West



Station

Fig 43a

Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 3 West



Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 4 West

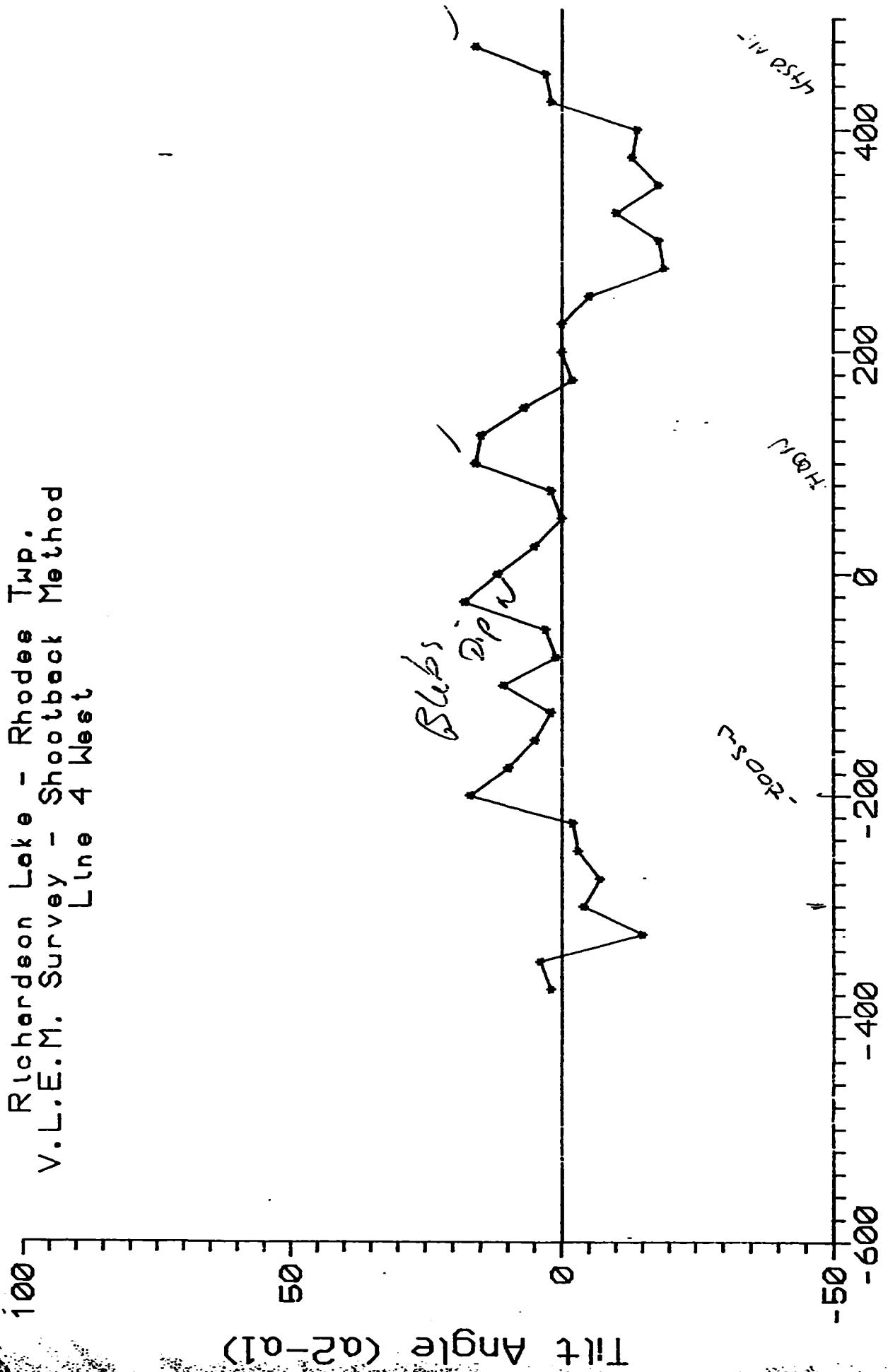
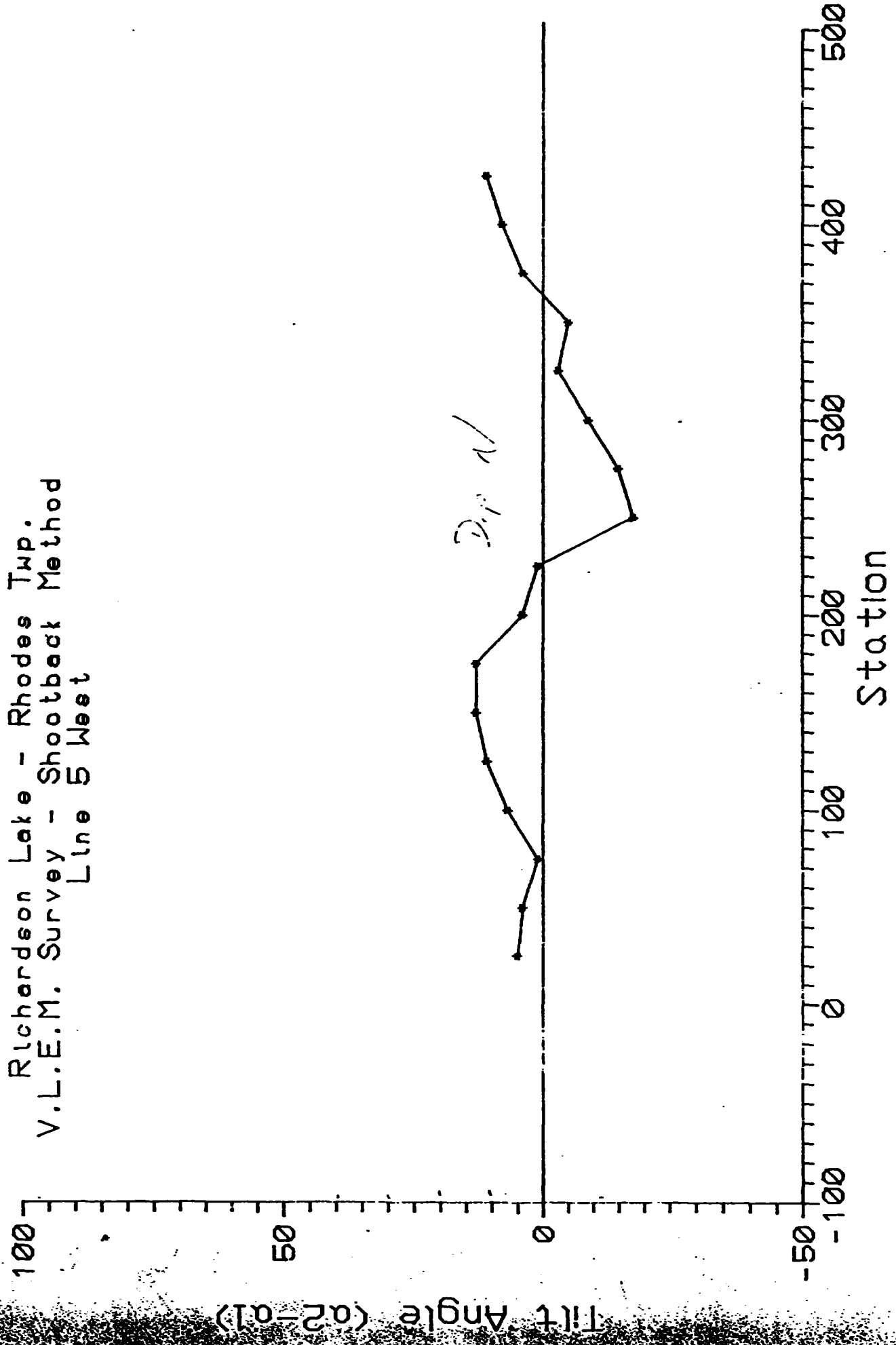


Fig 45 a.

Richardson Lake - Rhodes Twp.  
 V.L.E.M. Survey - Shootback Method  
 Line 5 West





The following is a number of brief comments on the findings of the recent Vertical Loop Electromagnetic Survey (VLEM) put together by utilizing new information that was generated by means of carrying out exploration endeavours such as trenching and diamond drilling after the VLEM survey had been undertaken.

Obviously the information collected as a result of the trenching, diamond drilling, prospecting - geological investigations, rock sampling, etc. would certainly allow for a more definitive interpretation of the geophysical responses, not only in the case of the electromagnetics, but also for the magnetics.

Without a thorough understanding of the geology of the property, a quick scanning of the data, tilt angle profiles, would probably result in some confusion.

The strongest and most obvious tilt angle peaks or anomalies can be seen from about L 3 W down through L 0 SE to about L 12 SE. In the Trivett report there has been some thought that the anomalies may have been in part caused by some coil interference due to the localized steepness of the terrain. Most often the steepest terrain was found to occur at the contacts between the mafic-intermediate amphibolites and the predominantly felsic rocks. The amphibolite metavolcanic rocks are composed mainly of hornblendes with or without metamorphic pyroxenes, with some chlorite alteration, plagioclase feldspars with minor accessory quartz and sulphides. These rocks appear to be quite resistive to weathering and occur as prominent hills or scarp cliffs.

The underlying felsic metavolcanics are made up of a highly complex arrangement of volcanogenetic epigenetic rocks which have undergone weak to very severe forms of carbonate, siliceous, epidote and sulphide alterations. Faulting and folding episodes have also rendered the rocks more susceptible to weathering and therefore allowing for the clearly observed lower relief.

In attempting to interpret the results of the geophysics, it is important to keep in mind that there is little or no doubt that all of the layered, laminated and foliated rocks are dipping towards the south and southwest, having dip angles generally ranging from about 30° to 60° +/-.

Geophysically responsive sources, bodies, sheets, etc. which occur concordantly or subconcordant to the primary geological depositional fabric, such as volcanogenetic massive sulphides, should generally have geophysical responses that show the characteristic developed peak or cross-over, with the gradual roll off or weakening of the response in the down dip direction. The faulting and/or folding of any primary fabric related conductive or magnetic source may result in a response more characteristic of a vertical or subvertical sheet or plain.

Certain intrusive type rocks such as quartz, feldspar, porphyries, metadiabase and metagabbro dykes may have variable intrusive dip direction components. Both surface and diamond drill core examinations have shown that these rocks have been locally sheared and contain a limited amount of sulphides with carbonate minerals and often a considerable amount of chlorite as a product of hydrothermal alteration solutions in shears, etc. It is quite possible that these features have characteristic responses but may be very difficult to identify and interpret. The geophysical responses observed across the survey grid area may be an obscure combination of both primary and secondary sources.

From the various types of field work carried out over the last few years, it is possible to draw a few conclusions that may help in identifying potential exploration targets.

The amphibolite rocks do not host, as yet, any appreciable sulphide horizons. The more mafic the rocks, i.e., primarily hornblende and plagioclase, the less abundant the sulphide content appears to be. In certain areas where the amphibolites appear to have a more intermediate composition, i.e. less hornblende, with plagioclase and possibly quartz, the rock may host disseminated sulphides or thin < 1 cm wide sulphide stringers, which are often associated with quartz carbonate and epidote bearing minerals.

These concentrations of disseminated to stringers of sulphides do not appear, or are not likely to show very strong geophysical responses.

Narrow magmatic or metasedimentary origin banded siliceous iron formation is known to occur with some minor sulphides within the amphibolites. It is thought that the iron formation generally has a thickness of less than 10 feet and there is some early evidence to suggest that the iron formation may have developed near the bottom of the more typical looking amphibolites, overlying amphibolites rocks that have a more intermediate composition. This iron formation appears to have a characteristic response which is quite traceable.

It is between the occurrences of the banded iron formation and the contact of the amphibolite felsic rocks to the north and northeast that there occurs the suspected intermediate rocks which host the sulphide stringers and some weak sphalerite-galena and chalcopyrite mineralization such as found at the "Langdon Showing". These mineralized rocks do not form in large enough concentrations with grain-grain connections to be very responsive. It is strongly suspected that any appreciable iron formation response would probably overprint any weak adjacent responses.

The iron formation-geophysical response may be useful as a possible subdividing marker horizon within

the amphibolites.

Although various structural elements such as faulting and folding are known to occur within the amphibolites, their overall positions would appear to be difficult to interpret at this time using the EM techniques.

The underlying felsic rocks are known to host disseminated to massive-semi-massive sulphides, occurring concordantly to the primary fabric and as well as within faults and have been shown to have the characteristic responses of highly peaked anomalies. Many of the strong VLEM responses were found to occur somewhat removed from the cliff - hilly areas at the amphibolite-felsic contact, suggesting that topographic interference may not be a concerning problem. The surveyed portions of the felsic metavolcanics with sulphides etc. occur within a more or less topographically flat area, being only a few feet above the lake level of Richardson Lake.

The anomalies detected have discernable lengths and are thought to have a bedrock source as opposed to a conductive wet swamp source.

The strong VLEM responses detected over the known felsic metavolcanic rocks were found to correspond well with the VLF-EM responses detected in the 1991 Val d'Or Geophysics Ltee survey as well as with the Falconbridge Ltd. moderate priority R-8 airborne Mag and EM anomaly. The R-8 anomaly is known to trend for several hundreds of meters from the Falconbridge ground on to the BLM ground.

The Falconbridge Ltd. interpretation of their R-8 anomaly was that is possibly caused by sulphides occurring along a geological contact. The work so far clearly shows that sulphide mineralization does occur at or near a geological contact between amphibolites and altered felsic metavolcanics.

It is generally expected that those geophysical responses related to, or originating from within or closely associated with the felsic or mafic intrusive rocks will most likely be found on the surface north and northeast of the grid base line.

Although some synvolcanic to metadiabase intrusives occur within the amphibolites, it is thought that the vast majority of the intrusive rocks being quartz feldspar porphyry masses and thick metagabbro dykes or sills occur within the felsic metavolcanic rocks.

There is little doubt that these rocks occur at depth, but it is most likely that the best responses related to these geological features are likely to occur near the surface. The down dip continuation of these

rocks would most likely be too weak to detect utilizing the VLEM survey methods.

By examining the VLEM data profiles and studying the profile map on a broad scale, it is very easily seen that there are two quite discernable parallel response trends that were detected, beginning near the centre of the grid and being traceable towards the southeast, trending off of the grid. The two parallel trends in the southeast portion of the grid are conformable with the general geological trend.

The strongest response trend is detectable from as far west at L 0 + 00 and is clearly traceable down to L 12 SE and is known to correlate with the felsic metavolcanic rocks generally occurring north and northeast of the base line.

The second parallel, weaker response trend occurs well south of the base line and is traceable from L 0 + 00 to L 12 SE and occurs primarily within the amphibolite rocks.

The VLEM responses within the felsic rocks ranges from a mere 28% to a high of 96%. The majority of the responses appear to indicate a narrow source with moderate dips towards the southwest. The response profiles on lines L 0 + 00 to L 1 E may indicate a weak or deeply buried source with a shallow dip towards the south.

Strongly disseminated to semi-massive pyrite with pyrrhotite and massive magnetite occurs within the felsic rocks at the "Long and Pine Tree" Trench somewhat corresponding with the response profiles.

Further west from L 0 + 100 the response appears to have been cut off and possibly separated about 600 feet to the south, reoccurring on L 0 + 00.

The separated response of 71% on L 0 + 00 gradually decreases to 36% about 400 feet west on line L 3 W. The strongest, most persistent responses over the felsic rocks can be found on lines L 3 E and from L 0 SE to L 8 SE. The response values range from the low 70% range to a high of 96%. South eastwards from L 8 SE the profiles and readings are terminated due to the presence of Richardson Lake. It is conceivable that the total values for L 9 SE to L 12 SE could be in the 70 - 80% range.

The nature of the response would appear to suggest a single conductive source which dips towards the southwest. Near the southern limits of the grid, the conductive feature would appear to have a noticeably shallower dip. A couple of the semi twin peak responses may be indicative of two closely spaced parallel sources both having a shallow dip.

Due to some on ground technical problems, line L 6 SE was not surveyed utilizing the VLEM

equipment, so it is not possible to determine response characteristics within the particular area. The response profile observed on line L 1 SE appears to have been highly subdued in comparison to the adjacent line profiles and may be indicative of a suspected northeast trending fault cross cutting the conductive source materials.

It is strongly suspected that the VLEM responses which correspond over the felsic metavolcanic rocks are caused by highly disseminated to massive-semi massive sulphides.

Sulphide mineralization, mainly consisting of pyrite with minor pyrrhotite, sphalerite, galena and chalcopyrite has been observed in surface trenches. The sulphides generally have an estimated thickness ranging from about 6 inches to a maximum of 8 to 10 feet.

At the present time the thickest portion of sulphides was found at the former "Holmstrom Trench" near the end of L 8 SE. At the "Holmstrom Trench" there are at least three distinctive pyrite horizons known to occur. These sulphide horizons range from < 1 foot thick to a maximum 8 - 10 feet thick, and are associated with bedded carbonaceous metasediments with thin rusty cherty and quartz materials. The VLFM response in this area was 88%. Interestingly, the actual response-profile peak is situated about 50 ft. south of the surface exposure of the sulphide horizons at the showing.

During the 1992 trenching portion of the summer program, some attempts were made to investigate the cause of the VLEM anomalies. Surface backhoe trenching along the anomaly trend commenced on line L 0 + 00 and progressed east and then south eastward, stopping in between lines L 1 SE and L 2 SE. Beyond L 23 E it was not possible to excavate trenches due to the thickness of the overburden debris.

For the most part only about 1/4 or approximately 600 feet of the anomaly trend has been tested by backhoe trenching and diamond drilling. Unfortunately the anomalies tested were not the strongest known to have been detected within the gridded area. The ultimate location of the trenches was highly dependant on the overburden, water table depths, etc.

So far the trenching and diamond drilling endeavours have shown that the VLEM responses appear to be due to appreciable concentrations of pyrite with minor base metal concentrations occurring within highly altered and deformed felsic metavolcanics overlain by amphibolite rocks.

This mafic-felsic geological configuration is considered favourable as a potential base metal environment. Although at this time the base metal values obtained from surface and diamond drill hole rock and mineral samples have not been ore grade, some of the metal values obtained from the

samplings are considered anomalous.

The results obtained from various types of ground and airborne surveys including Mag, VLF-E, VLEM, soil geochemistry etc. would appear to indicate that there is a potential base metal bearing conductive-magnetic zone trending across the grid area, much of which has remained truly untested.

The second weaker parallel VLEM trend occurring south of the base line, as previously mentioned, is believed to be caused by the banded-siliceous magnetite iron formation with some minor pyrite-pyrrhotite etc.

The narrow iron formation was excavated in the "Fault Trench" and was cut by drill hole RL-92-02 located about 400 feet to the east. The position of the iron formation appears to occur at a specific horizon or stratigraphy level within the amphibolites and appears to be located a consistent distance outwards from the felsic metavolcanics and the associated anomalies, etc.

It would appear that the overall responses widen towards the southeast along strike and may be indicative of a thickening or the intercalating of one or more sequences of iron formation within the amphibolites. No such responses were located on lines from L 0 + 00 to L 4 W because line lengths were not sufficient enough.

In conclusion, the results of the VLEM survey did well to compliment the results of the former survey work carried out on various parts of the BLMI property over the last couple of years. So far the work has only turned up strong pyrite-pyrrhotite with minor base metal mineralization, occurring within some very complex highly altered and deformed felsic metavolcanics. A large number, including some of the strongest responses have yet to be thoroughly explored, which may ultimately reveal the presence of base metals of ore grade concentrations.

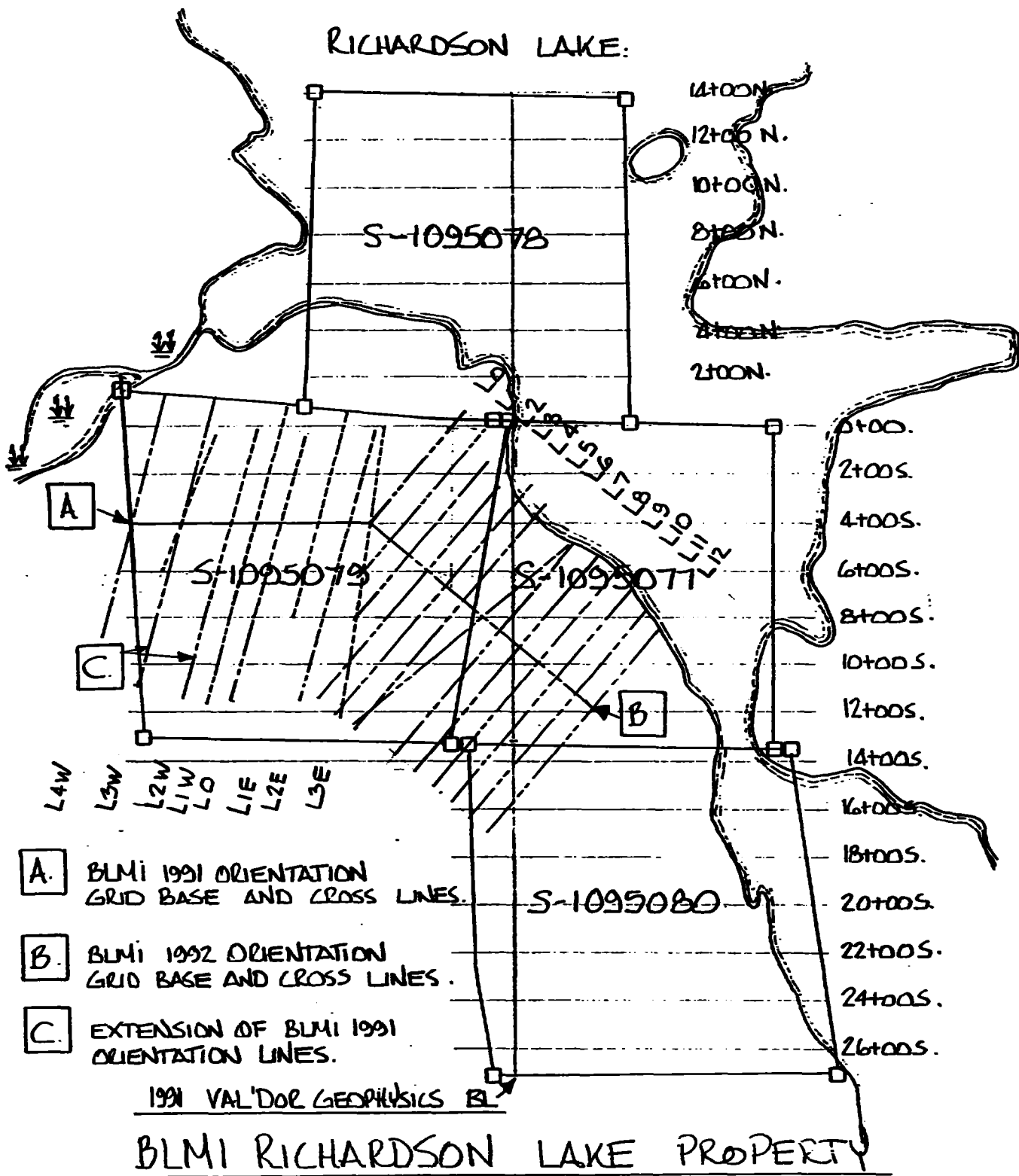
It cannot be said that the work was totally unsuccessful. About 75% of the favourable strike length has yet to be tested. Any further work that would have to be carried over the existing geophysical anomalies would have to consist of more sophisticated and expensive exploration methods such as EM 37, frequency domain horizontal loop and more extensive diamond drilling.

Please refer to Figures 10 and 11 which depict the positions of the various grid lines and also show the location of the VLEM profile peak plots and anomaly trends.

Please note that all of the grid lines and the VLEM data profiles have been plotted on a large format 1 inch = 50 feet scale map located at the back of this report. Please refer to Map 2.

# GRID LINE INDEX MAP

\_\_\_\_\_ 1991 VALDOR GEOPHYSICS LTEE.      0'      600'      1200'  
 - - - - - 1991 BLMi      1" = 600 Ft.  
 - · - · - 1992 BLMi / TRIVETT GEOLOGICAL EXPLORATIONS

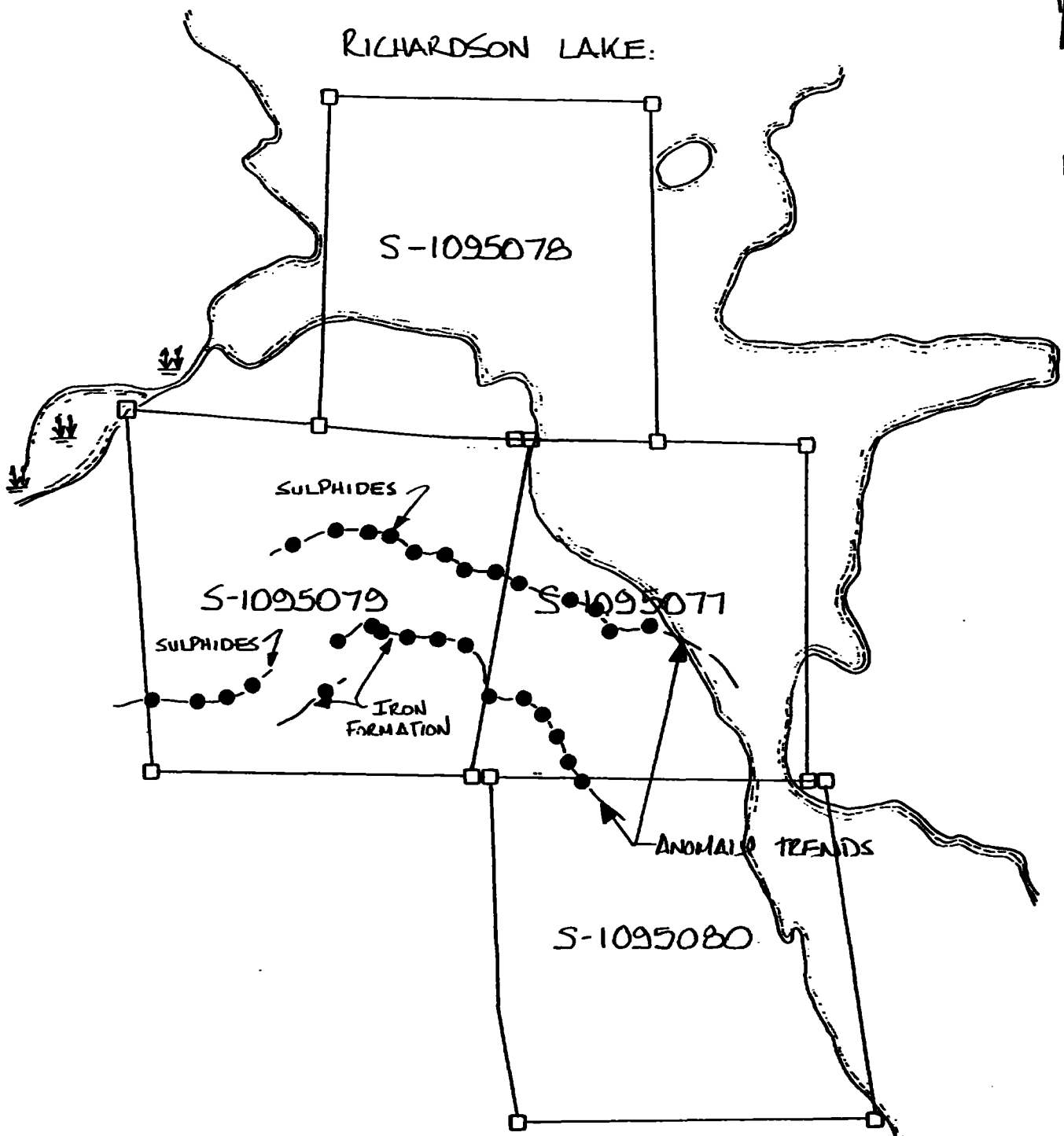
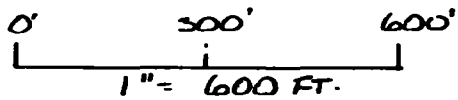


- A.** BLMi 1991 ORIENTATION GRID BASE AND CROSS LINES.
- B.** BLMi 1992 ORIENTATION GRID BASE AND CROSS LINES.
- C.** EXTENSION OF BLMi 1991 ORIENTATION LINES.

RHODES TOWNSHIP.  
SCALE 1" = 600 Ft.

FIGURE 10

VLEM PROFILE PEAK PLOTS.



BLMI RICHARDSON LAKE PROPERTY

RHODES TOWNSHIP.  
SCALE 1" = 600 FT.

FIGURE 11



### 8.3 SURFACE TRENCH EXCAVATING

During the period between mid May of 1992 and mid June of 1992 Bharti Laamanen Mining Inc. hired Laamanen Construction Limited to excavate a series of trenches at a number of predetermined locations along the strike of a potentially favourable metal bearing volcanogenetic horizon that had been identified by earlier exploration work.

Laamanen Construction provided the required manpower, equipment and support services required to carry out the excavating operations. Bharti Engineering Associates Inc. provided geological supervision necessary when excavating trenches to provide direction to the ongoing digging, etc.

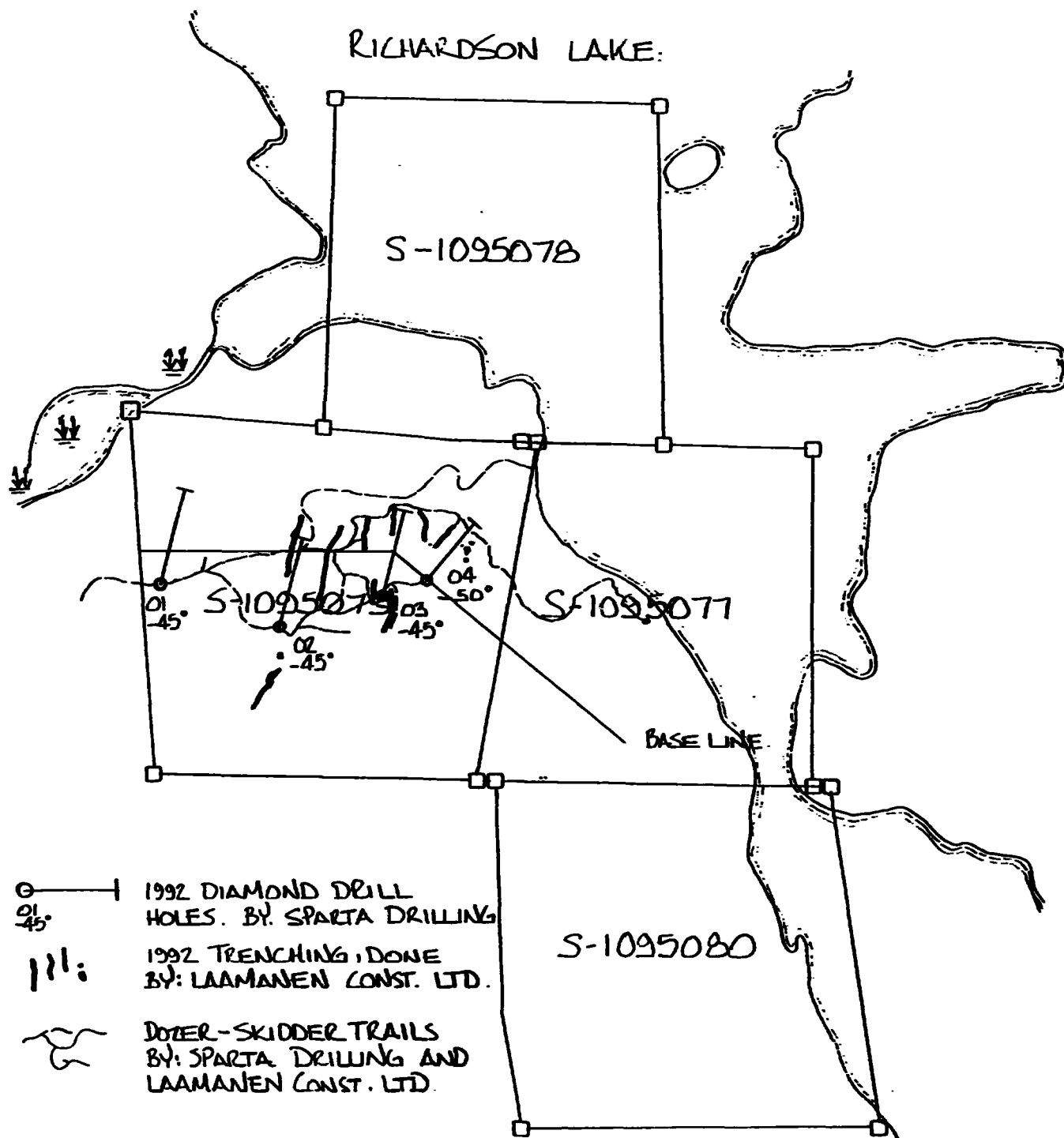
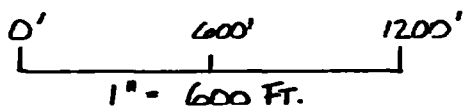
A total of twelve (12) large trenches were excavated, generally orientated in the northeast to southwest direction and covering an estimated strike length of 700 feet +/-.

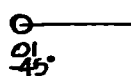
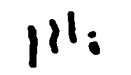

The trenches that were excavated and mapped are identified as such.

	Trench Name	Mapped By	Scale
1.	Black Hole Trench	Harold J. Tracanelli	1":20'
2.	Fault Trench	Harold J. Tracanelli	1":20'
3.	Dead Bird Trench	Harold J. Tracanelli	1":20'
4.	Hidden Trench	Harold J. Tracanelli	1":20'
5.	Swamp View Trench	Harold J. Tracanelli	1":20'
6.	Last Trench	Harold J. Tracanelli	1":20'
7.	Pine Tree Trench - North Part	Harold J. Tracanelli	1":20'
8.	Small Trench	David A. Langdon	1":25'
9.	Pine Tree Trench - South Part	David A. Langdon	1":25'
10.	Hill Trench	David A. Langdon	1":25'
11.	Ridge Trench	David A. Langdon	1":25'
12.	Dog Leg Trench	David A. Langdon	1":25'
13.	Long Trench - North Part	David A. Langdon	1":25'
14.	Long Trench - South Part	David A. Langdon	1":25'

Please refer to Figures 12 through 28 showing the various trench plans, sample locations, etc.

# 1992 TRENCHING AND DIAMOND DRILLING INDEX MAP.



-  1992 DIAMOND DRILL HOLES. BY: SPARTA DRILLING
-  1992 TRENCHING, DONE BY: LAAMANEN CONST. LTD.
-  DOZER-SKIDDER TRAILS BY: SPARTA DRILLING AND LAAMANEN CONST. LTD.

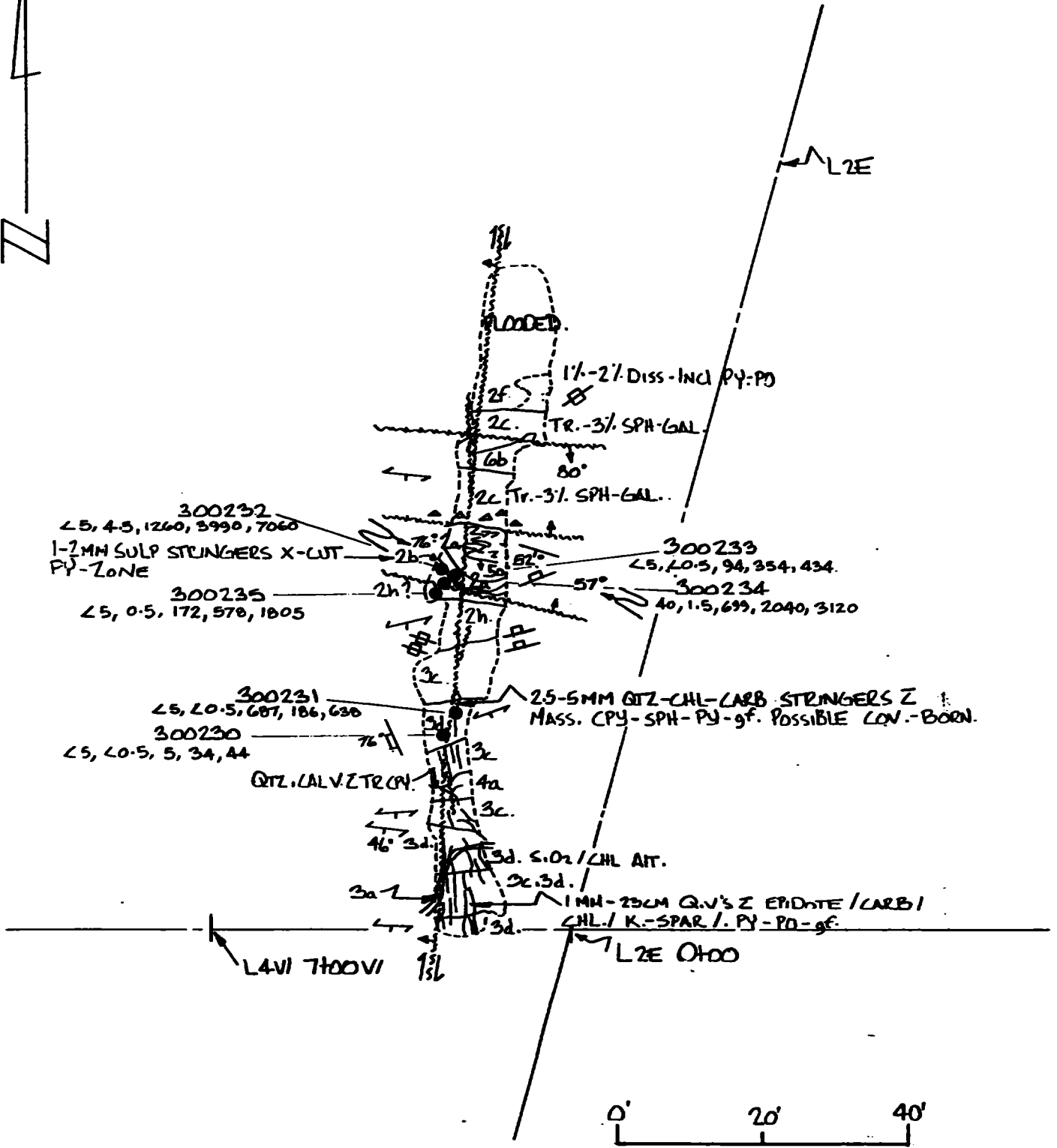
BLM RICHARDSON LAKE PROPERTY

RHODES TOWNSHIP  
SCALE 1" = 600 FT.

Figure 12

# BLACK HOLE TRENCH

SCALE 1" = 20 FE.

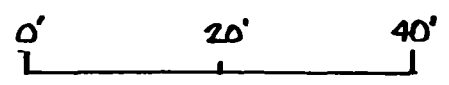
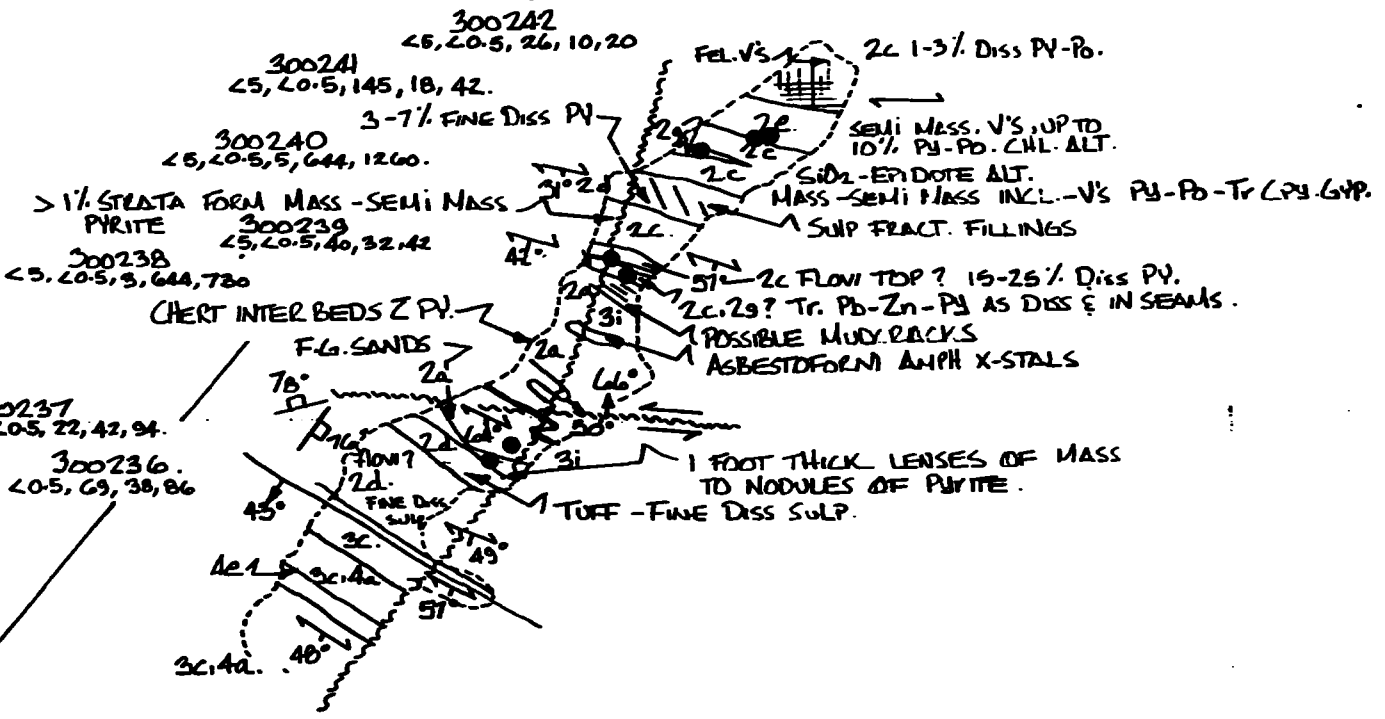
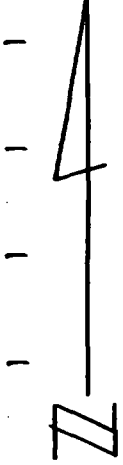


MAPPED BY: H. TRACANELLI  
 JULY 09 1992.  
 FIGURE B

# DEAD BIRD TRENCH

SCALE: 1" = 20 FE.

LOIS ZONE



MAPPED BY: H. TRACANELLI  
JULY 09 1992.  
FIGURE 14.

DEAD BIRD TRENCH.

DETAILED SKETCH.

NOT TO SCALE.

SE.

NW.

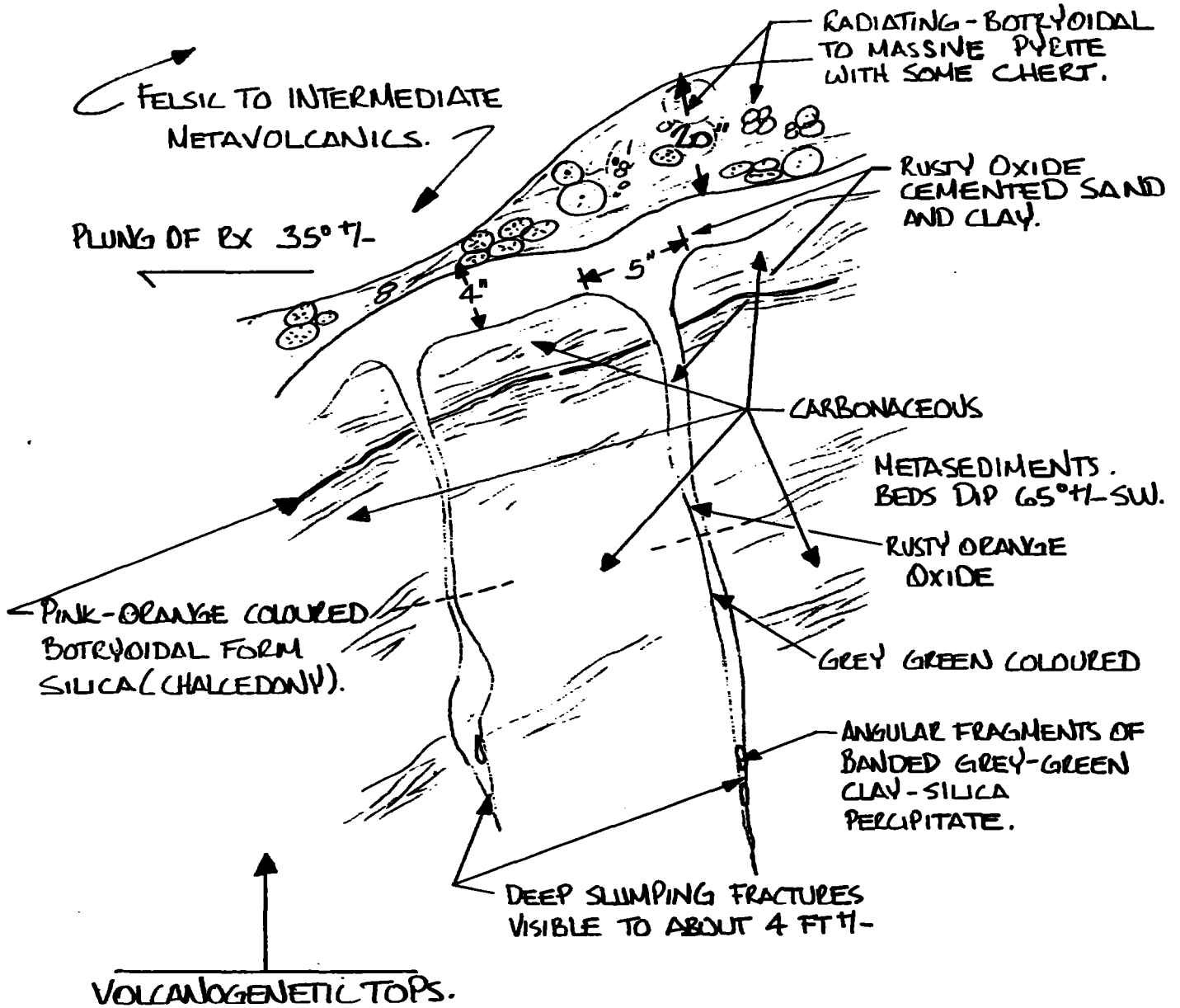
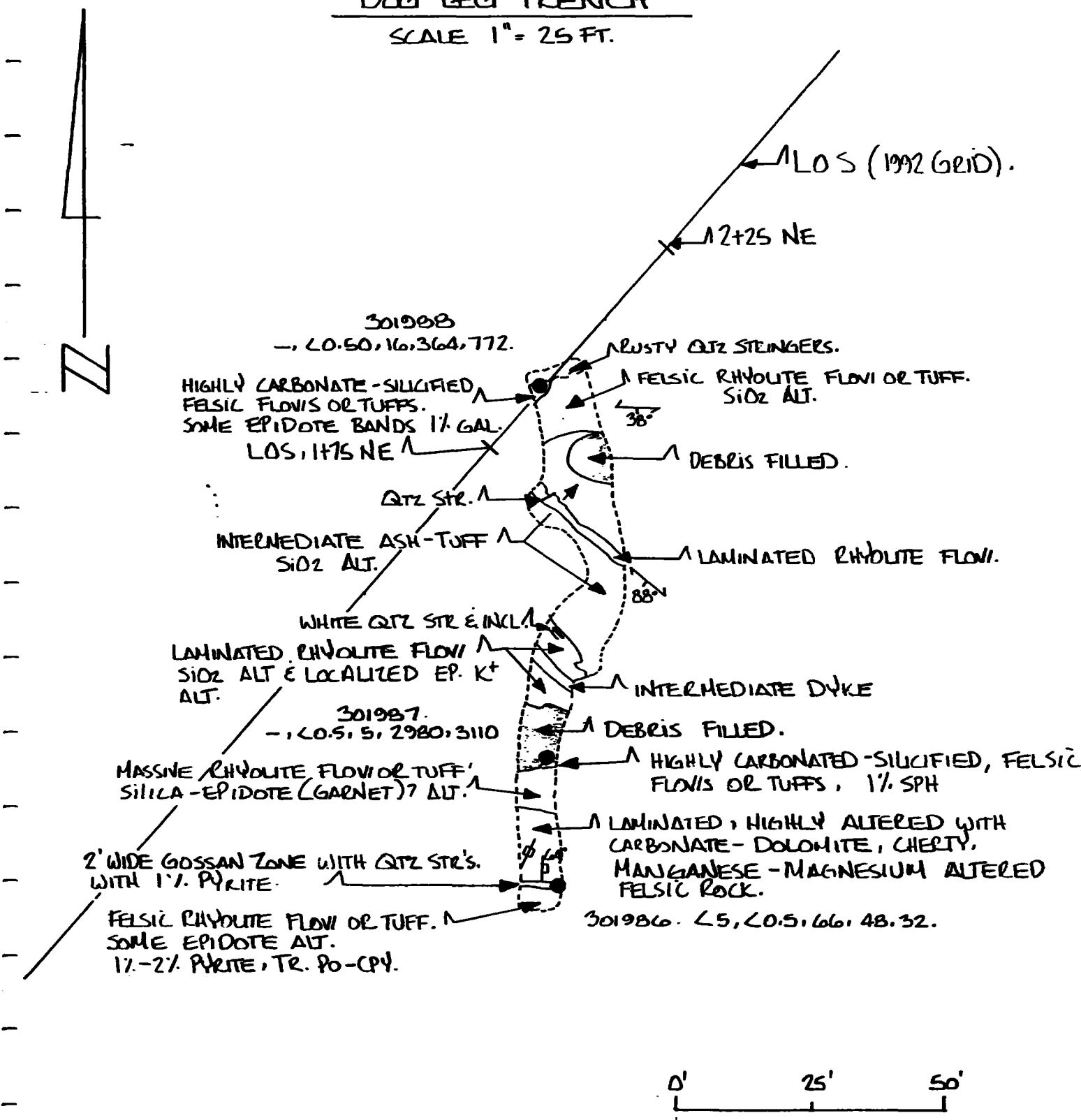


FIGURE 15

# DOG LEG TRENCH

SCALE 1" = 25 FT.

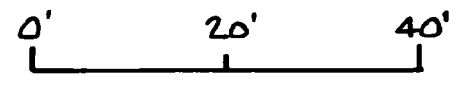
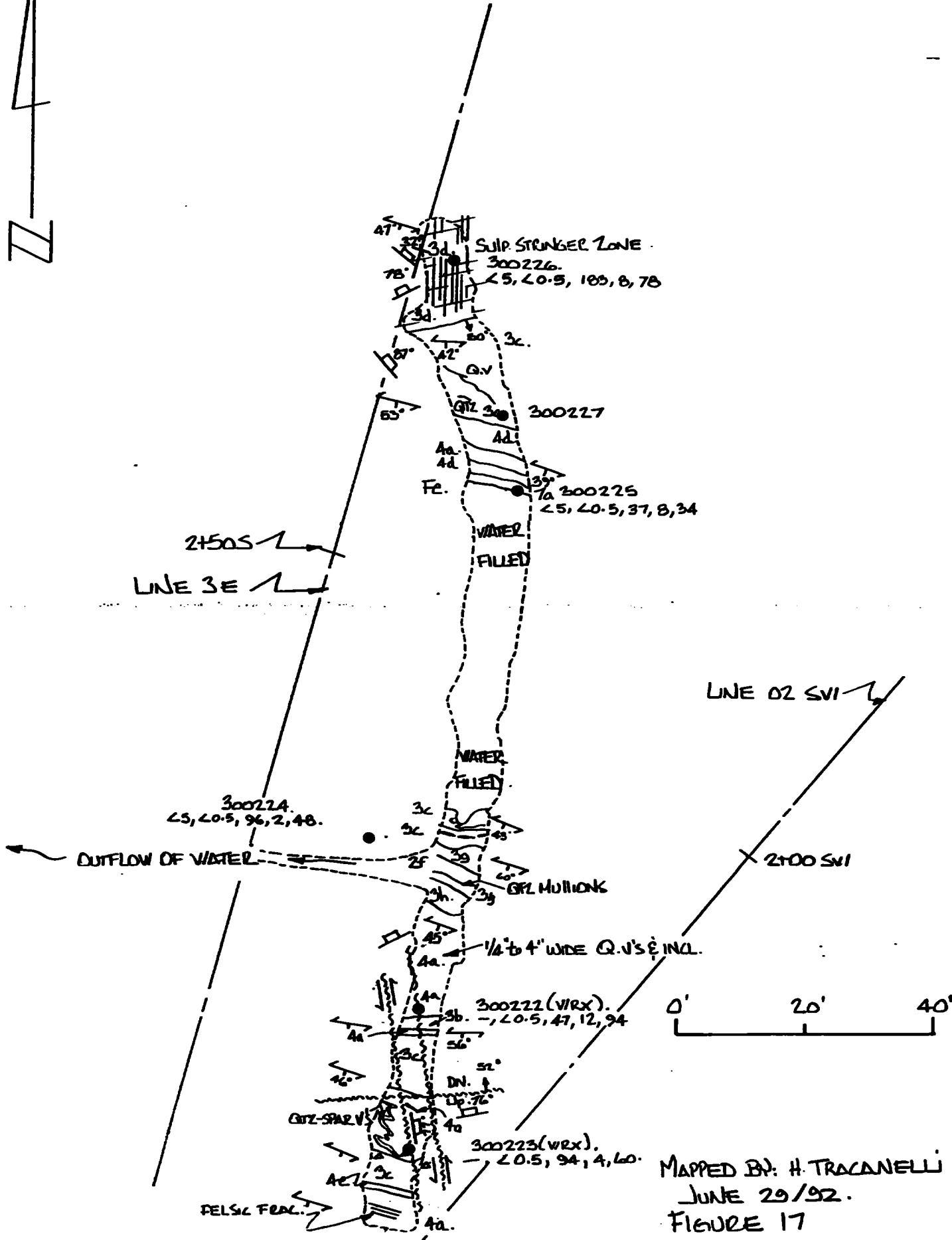


MAPPED BY DAVID A LANGDON.  
JULY 16 1992.

FIGURE 16

# FAULT TRENCH

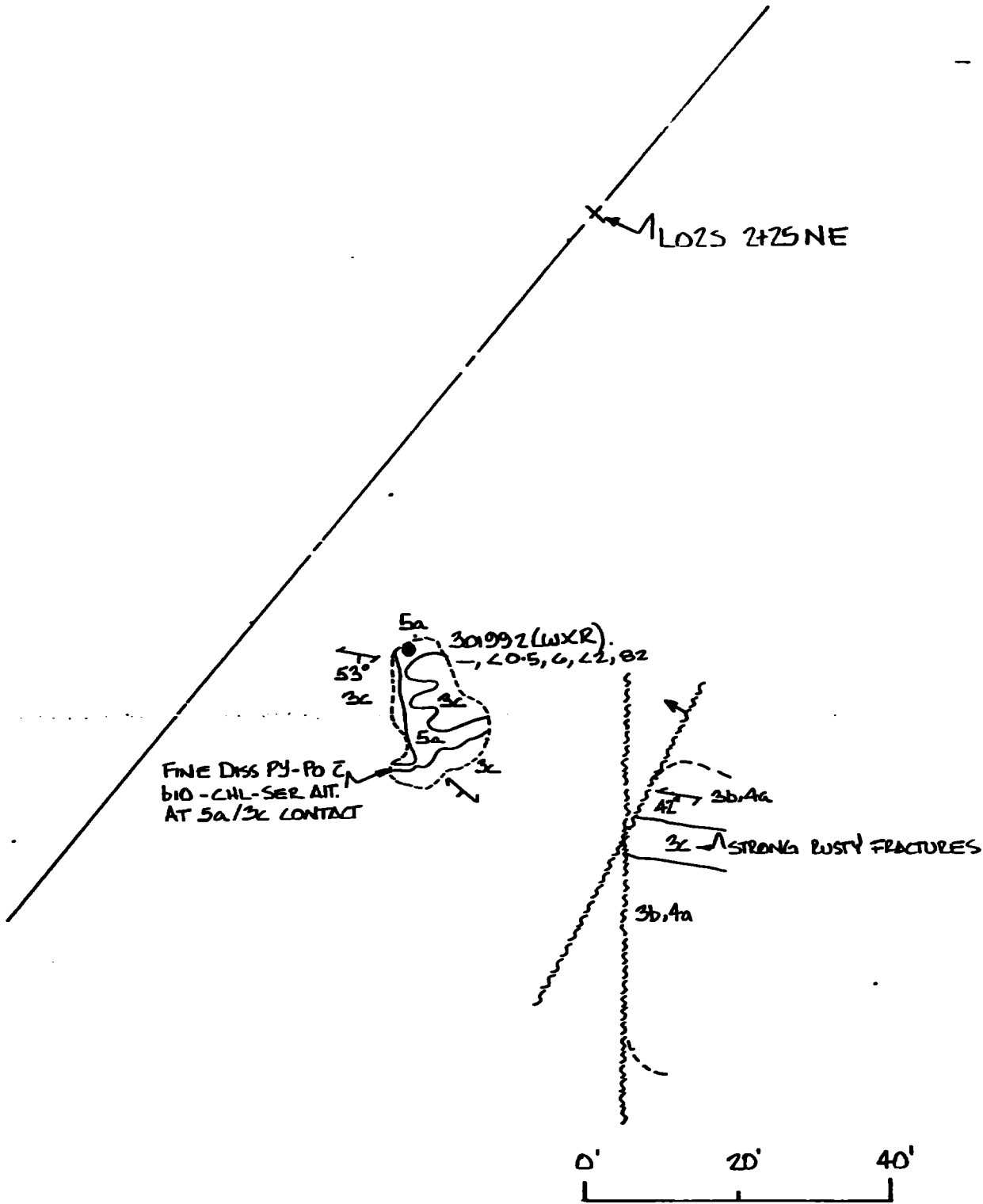
SCALE 1" = 20 FT.



MAPPED BY: H. TRACANELLI  
JUNE 29/92.  
FIGURE 17

# HIDDEN TRENCH

SCALE 1" = 20 FE.

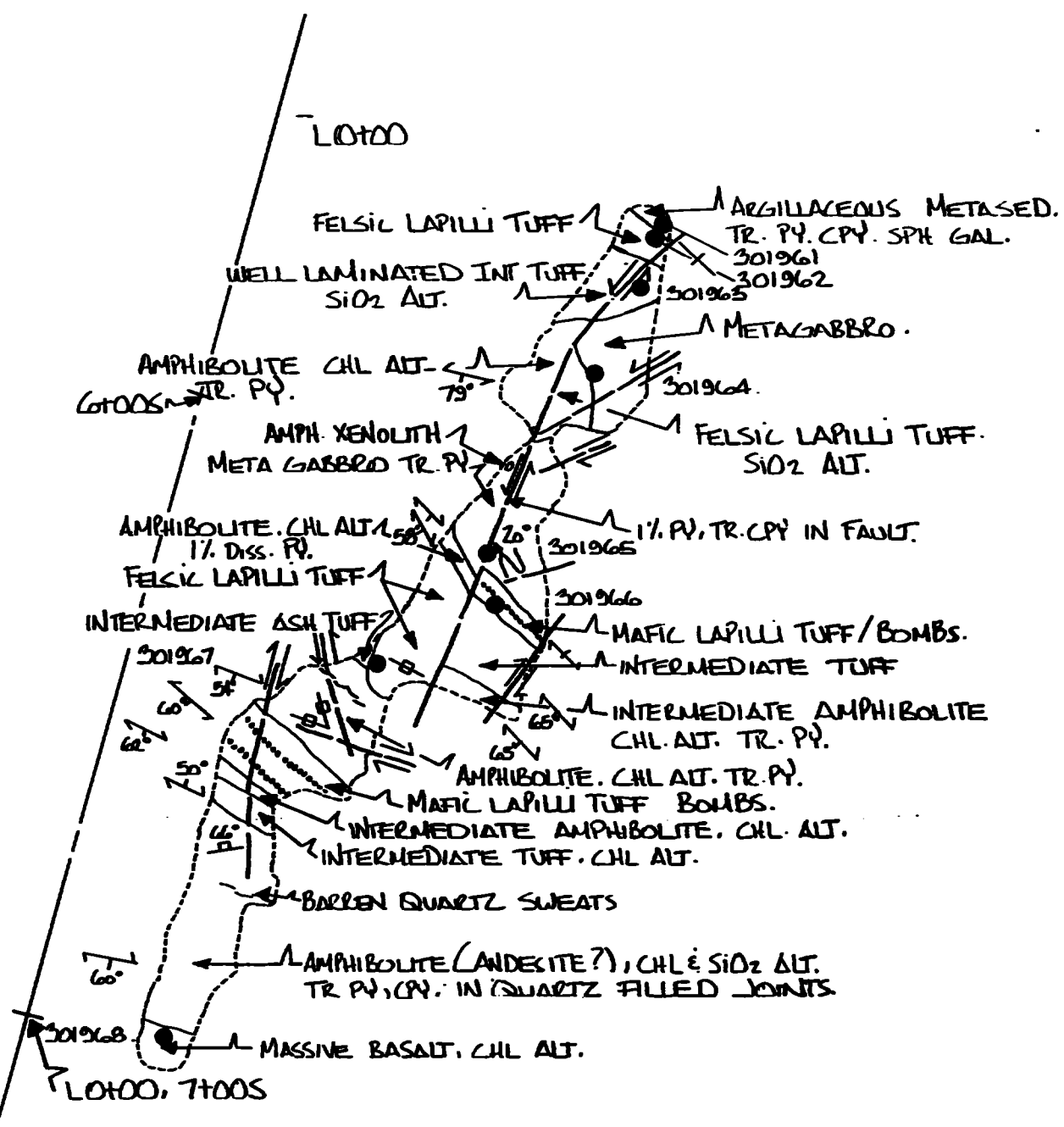
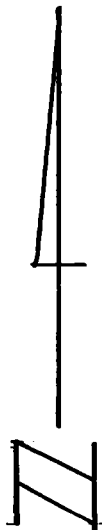


MAPPED BY: H. TRACANELLI  
JULY 07 1992.  
FIGURE 18.



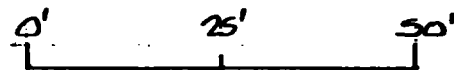
# HILL TRENCH

SCALE: 1" = 25' FT.



## SAMPLE RESULTS:

301961	W. RX.
301962	W. RX.
301963	W. RX.
301964	W. RX.
301965	<5, <0.5, 93, 26, 114.
301966	W. RX.
301967	<5, <0.5, 202, 312, 126.
301968	W. RX.

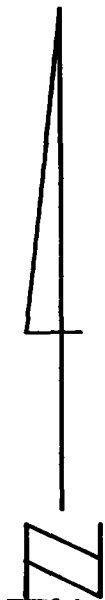


MAPPED BY DAVID A. LANGDON  
JULY 15, 1982.

FIGURE 19

LAST TRENCH.

SCALE 1" = 20 FT.



THICK SAND AND GRAVEL AREA

L02S

M2+25 NE

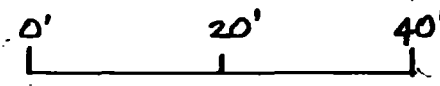
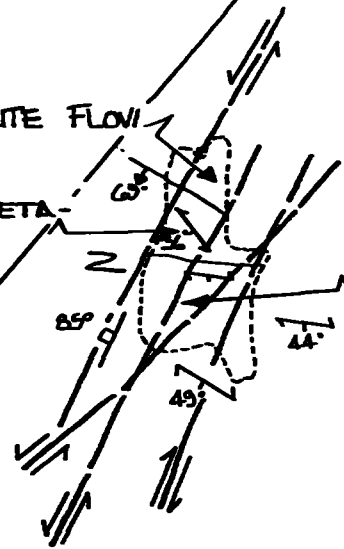
TEST PIT. NO ROCK FOUND.

LAMINATED RHYOLITE FLOW

TR-1% CPY +/-

INTERMEDIATE META-  
VOL. EX.

AMPHIBOLITES, FLOWS AND TUFFS.  
MINOR FELSIC BANDS.

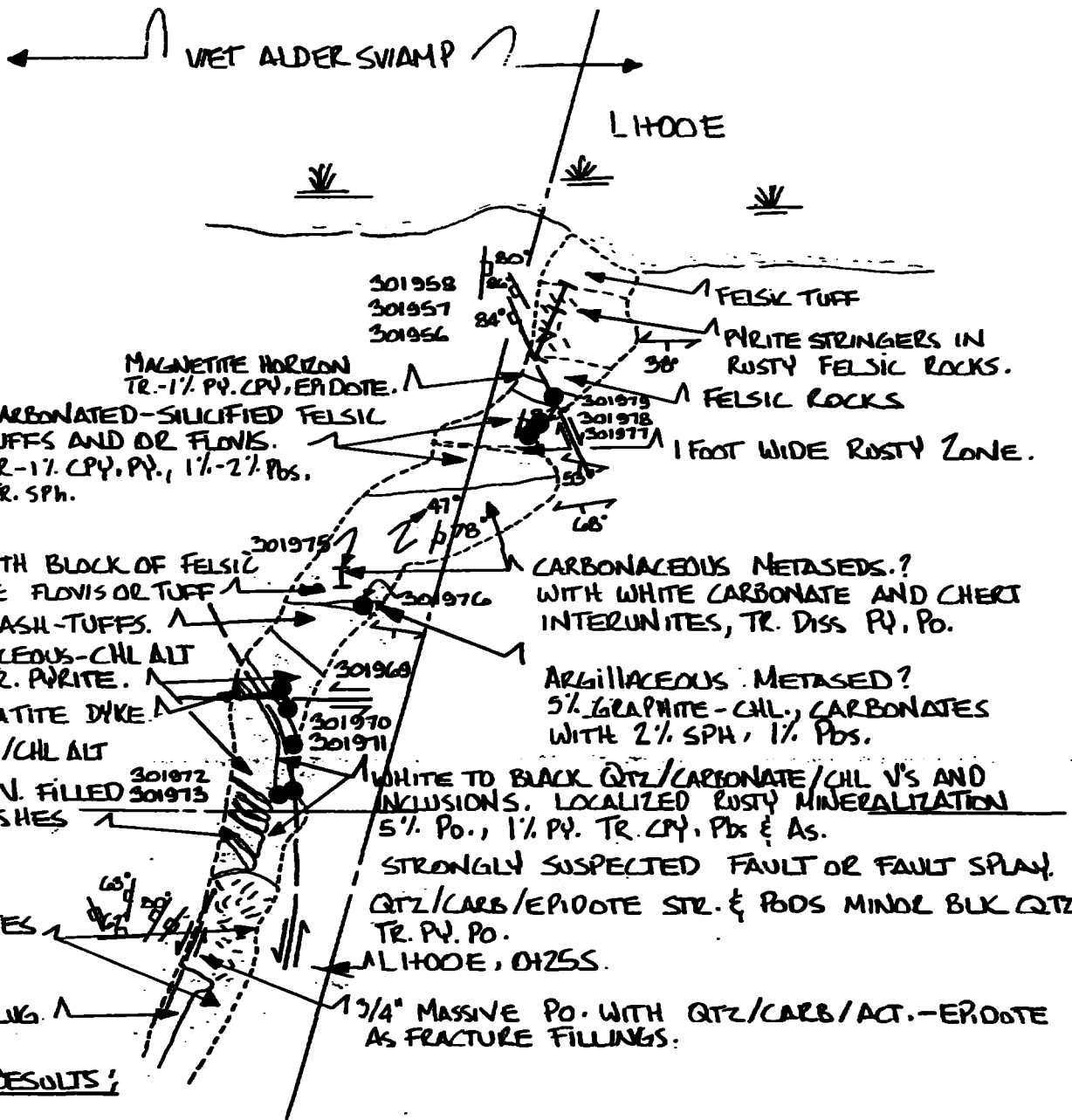


MAPPED BY: HAROLD J. TRACANELLI  
JULY 07 1992.

FIGURE 20

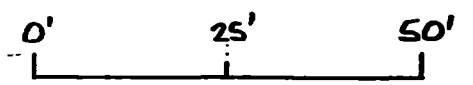
# LONG TRENCH NORTH PART

SCALE: 1" = 25'



## SAMPLING RESULTS:

301958 4'-1'	LS, LO.S, 32, 10, 9B.
301957 4'	LS, LO.S, 32, 12, 62.
301956 4'-4'	< 5, < 0.05, 68, 12, 32.
301969	LS, LO.S, 206, 190, 424.
301970	LS, < 0.05, 164, 56, 58.
301971	— < 0.05, 183, 92, 218.
301972	— < 0.05, 420, 72, 172.
301973	— < 0.05, 23, 6, 9B.
301975	— < 0.05, 10, 6, 24.
301976	— < 0.05, 1, 762, 2080.
301977	— < 0.05, 1, 420, 484.
301978	— < 0.05, 156, 66, 92.
301979	— < 0.05, 867, 18, 26.



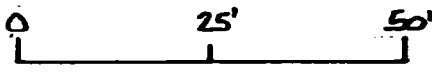
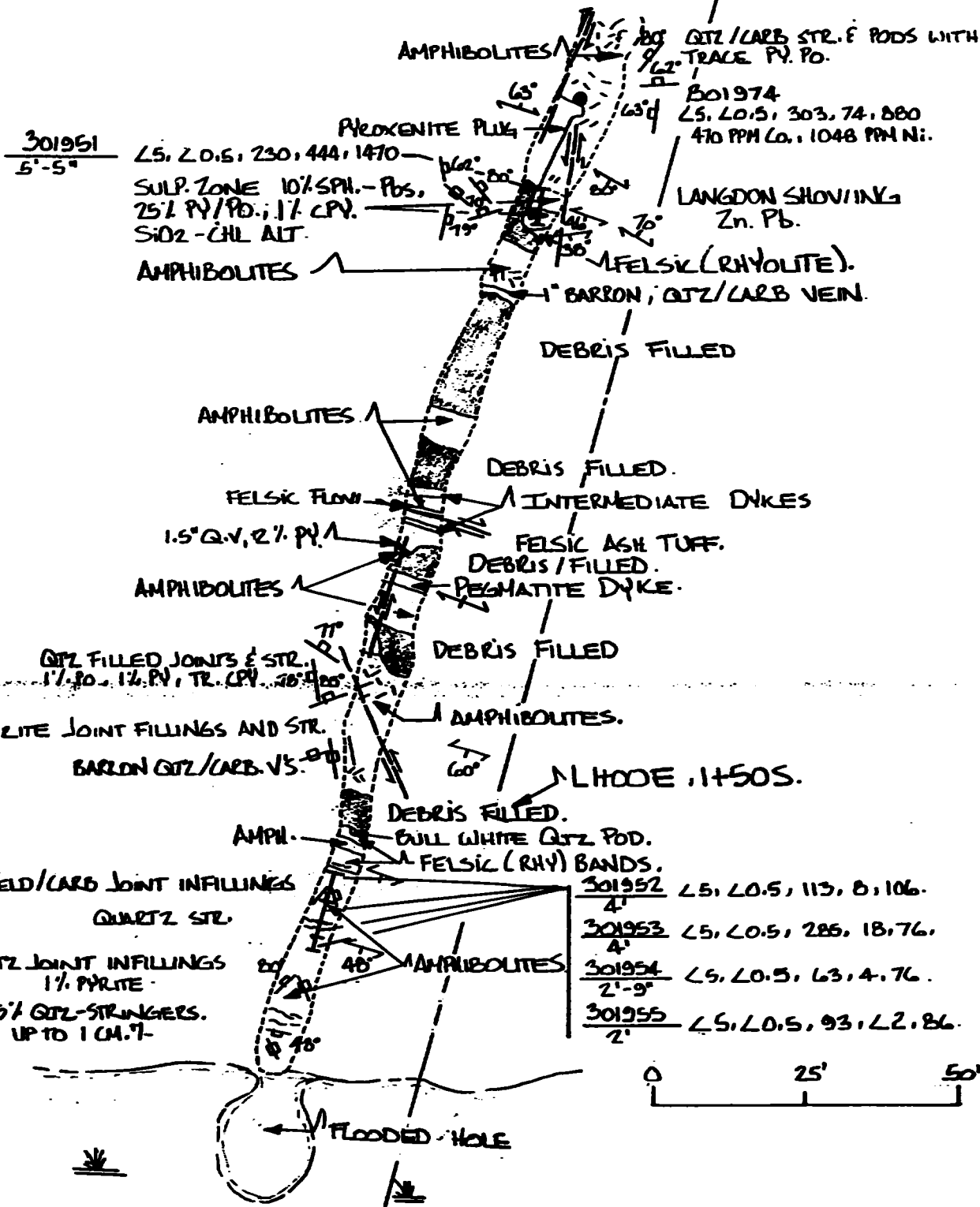
MAPPED BY: DAVID A LANGDON  
JULY 14, 1992.

FIGURE 21

LONG TRENCH.  
SOUTH PART  
SCALE 1" = 25 FT.

BL 0100 N

N 110° E 0100



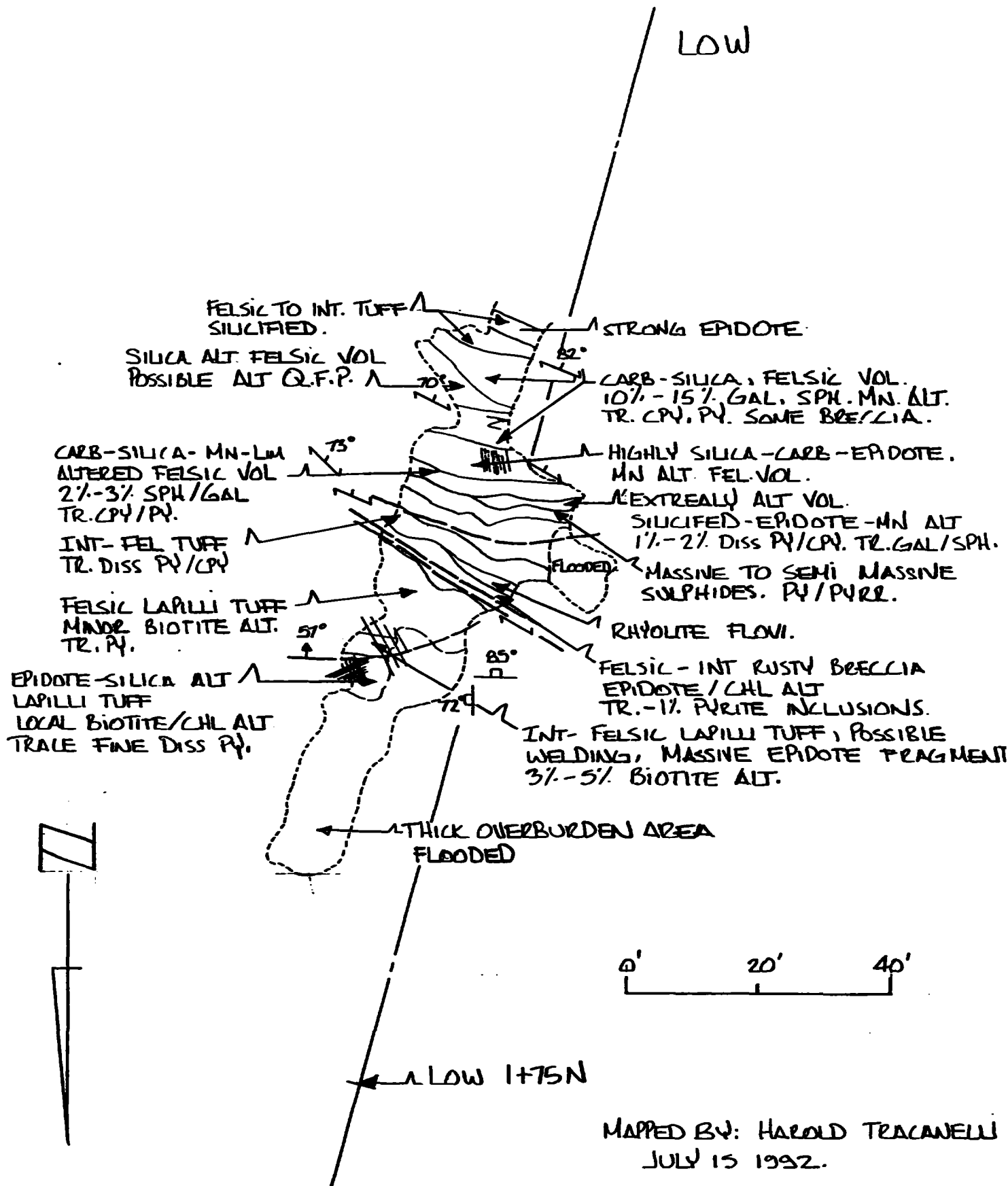
MAPPED BY: DAVID A. LANGDON  
JULY 14, 1992

FIGURE 22

# PINE TREE TRENCH

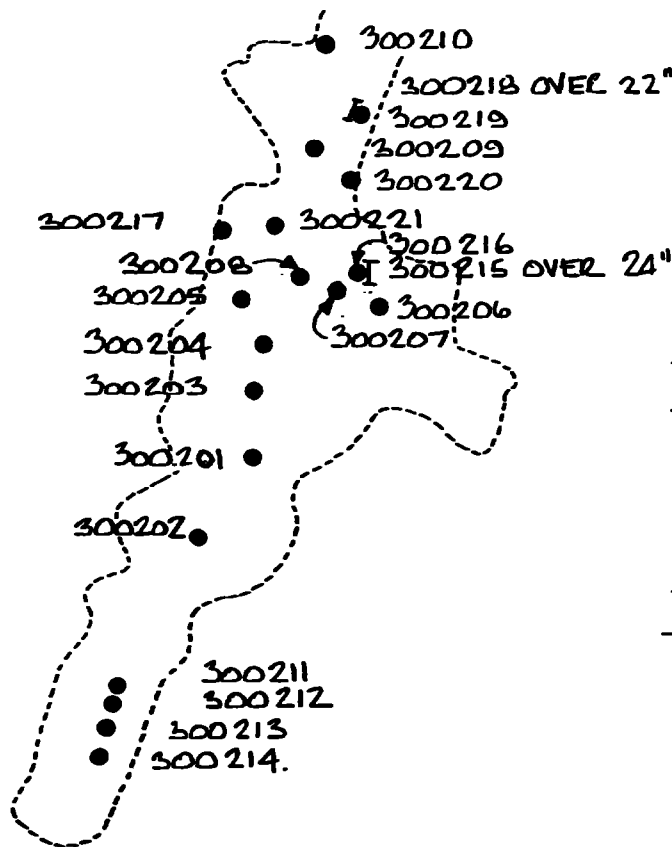
## NORTH PART

SCALE: 1" = 20 FT.



# PINE TREE TRENCH NORTH PART SAMPLE INDEX MAP

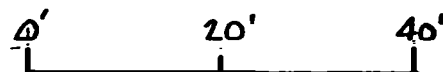
SCALE 1" TO 20 FT.



	Au.	Ag	Cu.	Pb	Zn.
300201	-	<0.5	27	12	34
300202	<5	<0.5	11	2	14
300203	10	<0.5	159	2	58
300204	-	<0.5	6	<2	38
300205		<0.5	2	<2	8
300206	10	<0.5	534	428	450
300207	<5	<0.5	78	22	14
300208	-	<0.5	9	74	42
300209	<5	<0.5	1	24	16
300210	-	<0.5	8	20	22
300211	<5	<0.5	106	2	38
300212	<5	<0.5	66	4	88
300213	<5	<0.5	109	4	118
300214	<5	<0.5	84	10	94
300215	-	<0.5	4	1040	956.
300216	-	<0.5	21	926	860
300217	-	<0.5	28	858	4350
300218	-	<0.5	9	1780	1520
300219	<5	<0.5	3	4230	9660
300220	-	<0.5	1	50	112
300221	<5	<0.5	8	8	12

**NOTE:**

300206 218 PPM COBALT.

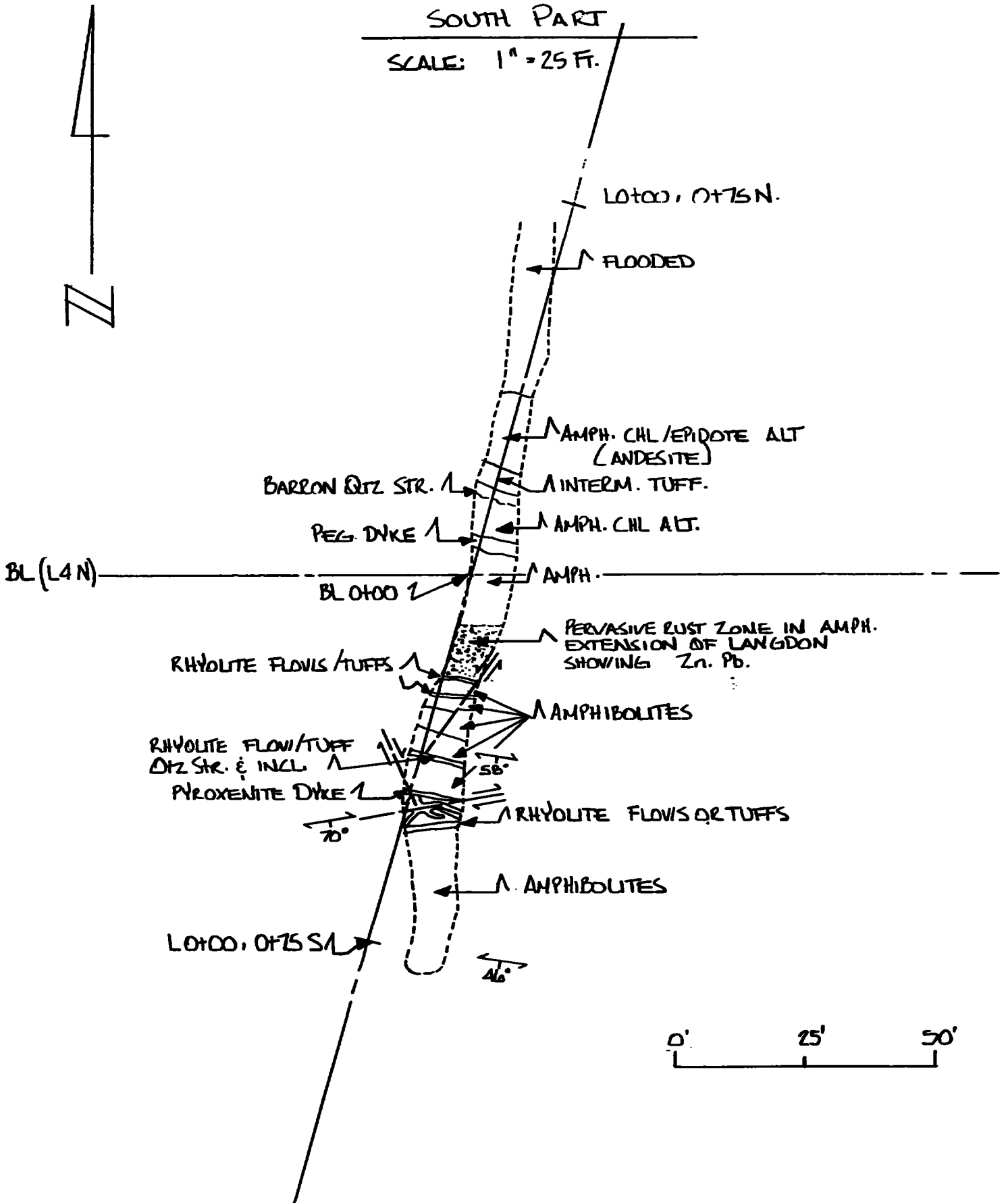


Au ≡ P.P.B.  
Ag, Cu, Pb, Zn. ≡ P.P.M

FIGURE 24

PINE TREE TRENCH  
SOUTH PART

SCALE: 1" = 25 FT.

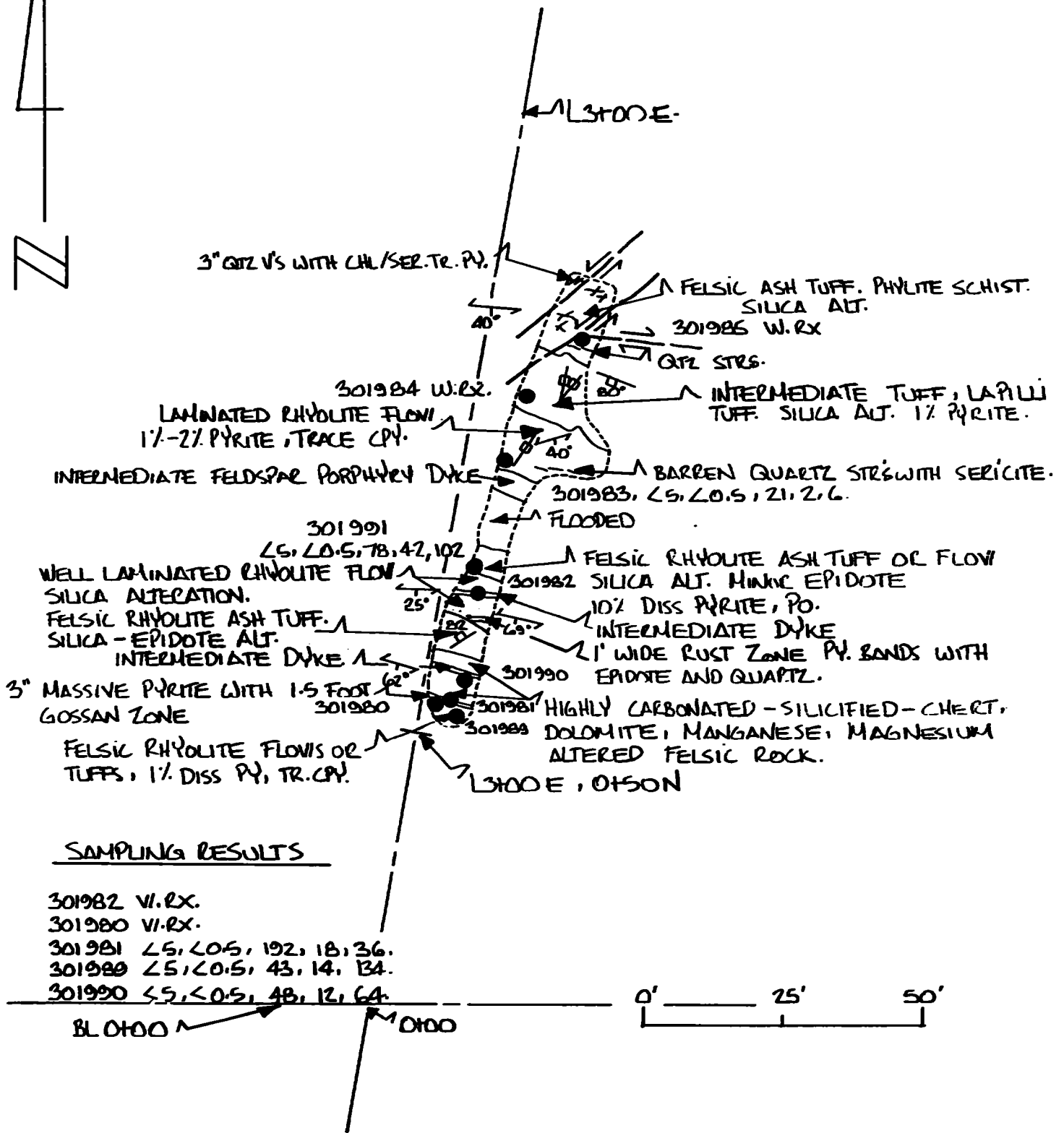


MAPPED BY: DAVID A. LANGDON  
JUNE OR JULY 1992.

FIGURE 25

# RIDGE TRENCH

SCALE: 1" = 25 FT.



### SAMPLING RESULTS

- 301982 VI.RX.
- 301980 VI.RX.
- 301981 5, 0.5, 192, 18, 36.
- 301988 5, 0.5, 43, 14, 134.
- 301990 5, 0.5, 48, 12, 64.

MAPPED BY: DAVID A LANGDON  
JULY 16, 1992.

FIGURE 26.



SMALL TRENCH

SCALE 1" = 25 FT.

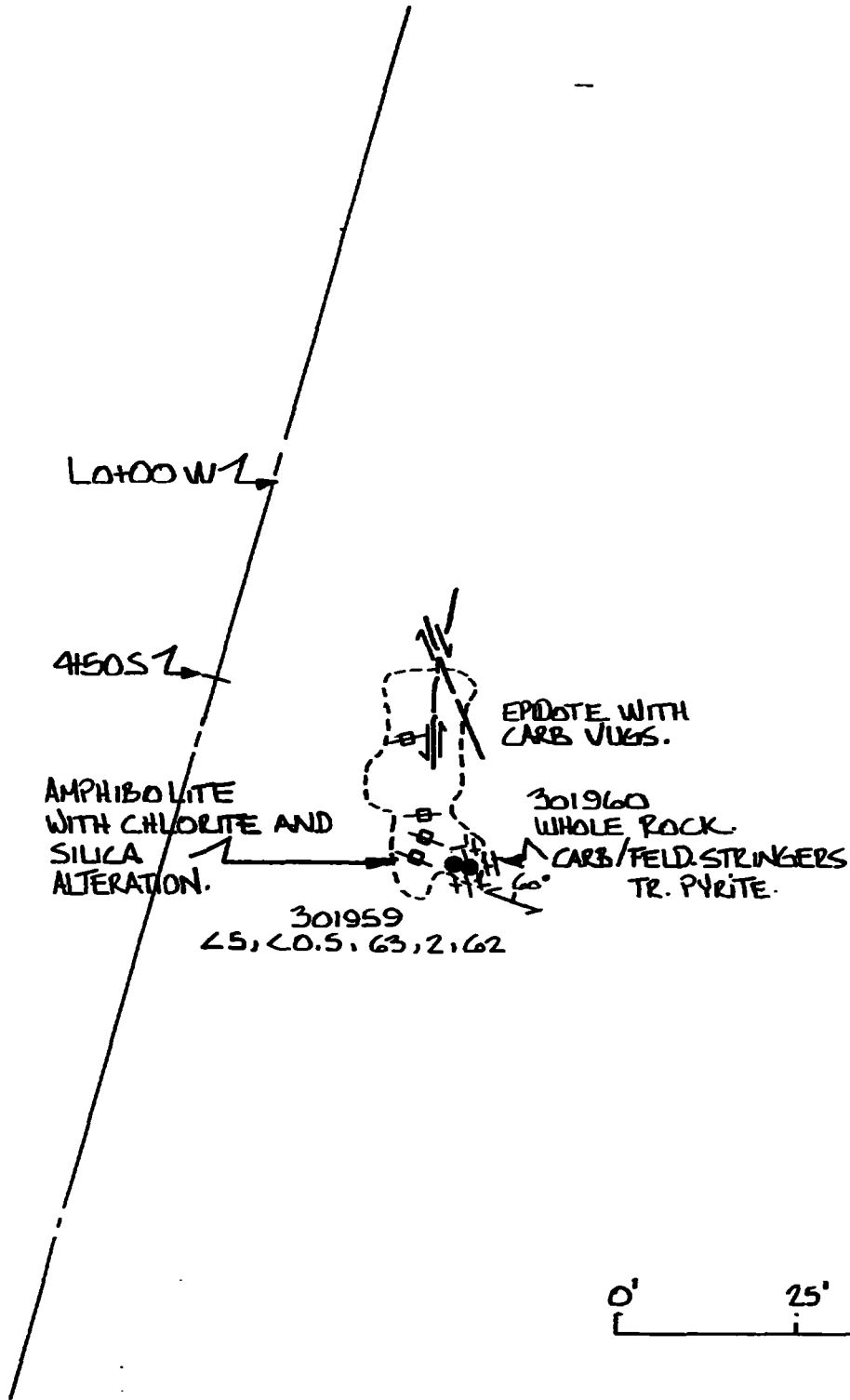
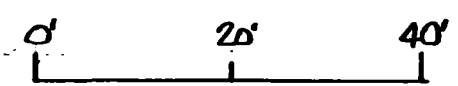
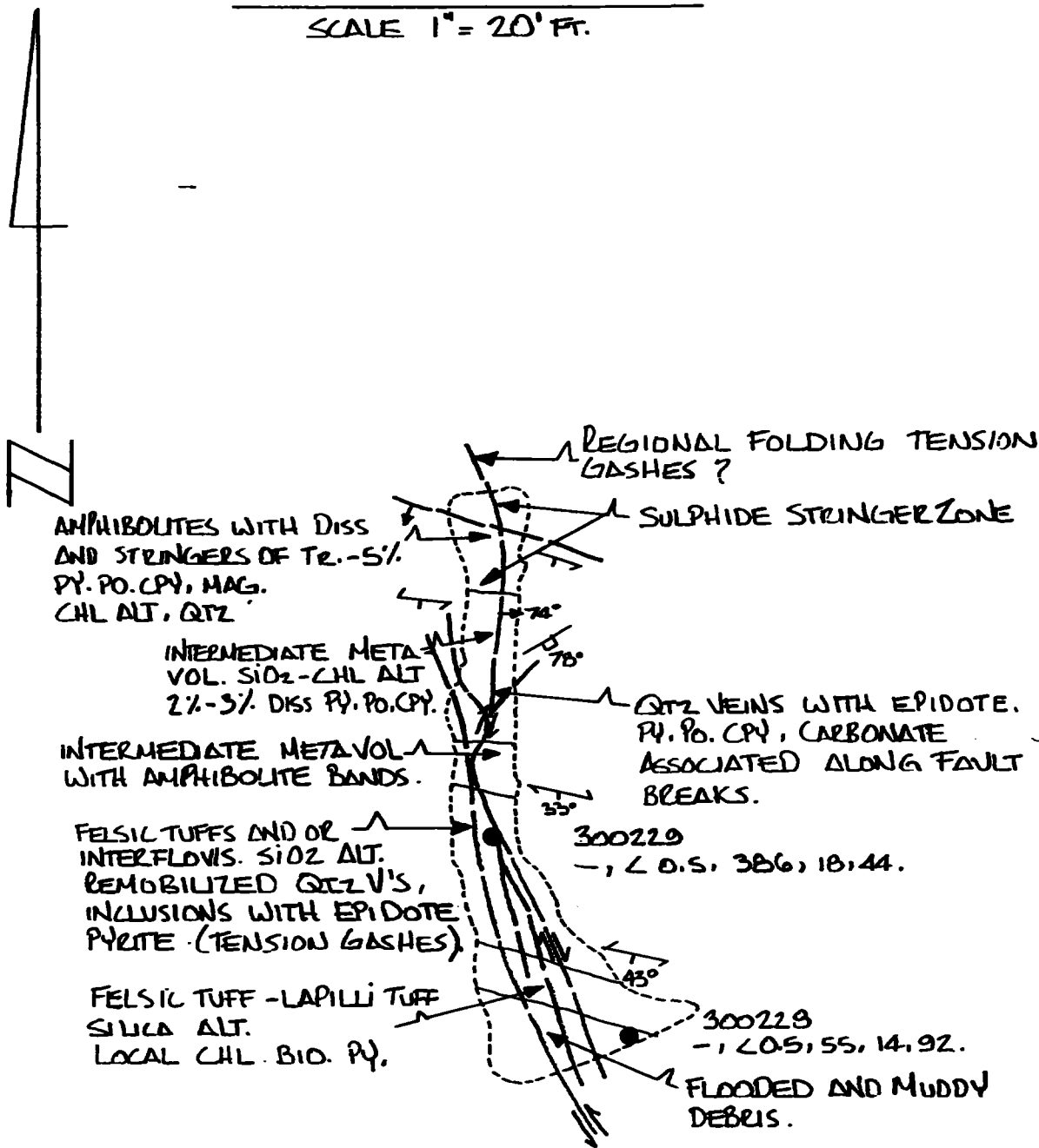


FIGURE 27.

MAPPED BY: DAVID A LANGDON.  
JULY 04, 1992.

# SWAMP VIEW TRENCH

SCALE 1" = 20' FT.



MAPPED BY: HAROLD J. TRACANELLI  
JUNE 1992.

FIGURE 2B.

All of the trenching was carried out on mining claim S-1095079. Please refer to Figure 12. Each of the twelve trenches were washed off and mapped at a scale of 1 inch to 20 feet and 1 inch to 25 feet. The geological mapping of the trenches was carried out by Harold J. Tracanelli and David A. Langdon. At each trench various rock and mineral samples were collected, some of which were assayed for gold, multi-element ICP or whole rock major oxide analysis.

Each of the sample locations has been plotted onto the various trench plans, identified by a dot and a sample number. Where multi-element assaying has taken place on a sample, the results of the Au, Ag, Cu, Pb and Zn in that particular order have been noted directly on the drawing. The sample results for materials subject to whole rock analysis have not been listed due to space restrictions.

For most of the trenches, the various rock types encountered have been noted directly on the trench plan. Various geological features such as alteration products, sulphide contents, structures, etc. were plotted on the trench plans.

For three of the trenches mapped, the rock type-lithologies were denoted by a number followed by a letter. Originally it was thought that this method of identifying the various rock types would work very effectively. As it turned out, the method proved very cumbersome due to the overall complicated nature of the rocks, the number and letter system quickly went into disuse. New findings and a realization of the complex nature of the rock relegated the need for a simple identification scheme. When more is learned of a particular rock type, etc., more detailed refinements can be made. In order to identify the various rock types by the number, letter rock identification codes, found on the trench plans for "Fault Trench", "Black Hole Trench" and the "Dead Bird Trench", a listing of the original geological legend developed for the purposes of identifying rock types, etc. on drafted plans, sketch, drill hole section, etc. has been provided.

As mentioned previously, the legend went into disuse. Because of the time that would have been involved in redrafting the three trench plans, it was decided they would remain as is and that the legend would be included within this section. The former geological legend immediately follows this page.

For trench location references, grid lines and cross line stations have been plotted onto each plan.

For most of the samples collected in the trenches, a series of sample descriptions identifying the sample number, location name, occasionally the grid co-ordinates and a brief discussion on the various components of the particular sample has been provided within this section. Unfortunately, over time some of the samples have gone missing. Following the sample identifications, the "Certificates of Analysis" from the trench samples has also been included within this section.

## FORMER GEOLOGICAL LEGEND

2.

### Felsic Metavolcanic Unit

- Flows
  - Volcanoclastics
- 2a. Bedded - Carbonate Metasediment?
- 2b. Massive - Semi-massive pyrite mineralization
- 2c. Strongly altered, somewhat visibly laminated rhyolite flows and/or tuff deposits. Rock unit can be highly siliceous - carbonated epidote and manganese altered.
- 2d. Laminated flows, probably intercalated with tuffaceous rocks.
- 2e. Very coarse grained rhyolite fragmental rock (lapilli tuff)? locally silica-carbonate altered.
- 2f. Rhyolite/crystal tuff with muscovite.
- 2g. Carbonate-silicate altered amygdaloidal lava flows (recently determined to be an oolitic textured rock Feb. 1/92)

3.

### Intermediate Metavolcanic Unit

- 3a. Massive to porphyritic dyke.
- 3b. Medium grained tuffs.
- 3c. Massive to visibly laminate-foliated flows and/or tuffs, noticeable chlorite alteration.
- 3d. Moderately to well laminated-foliated flows and/or tuffs which may host numerous thin stringers of sulphides (chalcopyrite, pyrite, zinc, lead, pyrrhotite) with notable quartz, chlorite, epidote and carbonate
- 3e. Interdispersed disseminated to semi-massive lenses or concordant seams of sphalerite associated with visible pyrite and chalcopyrite. Zn mineralization appears to have developed with quartz-carbonate-chlorite rusting brown surface weathering.
- 3f. Andesite porphyry/andesite tuff?
- 3g. Coarse rhyolite lapilli tuff with lesser rhyolite crystal tuff.
- 3h. Crystal tuff with visible quartz eyes

4.

**Mafic Metavolcanics**

- Possible subunit

4a. Massive to notably foliated flows and/or tuffs, amphibolites.

4b. Siliceous banded - magnetite iron formation, minor disseminated pyrite visible.

4c. Extrapolated contact between intermediate and mafic rocks.

5.

**Mafic Intrusive Rocks**

- Synvolcanic

5a. Metadiabase/Metabasalts

5b. Metagabbro

6.

**Felsic Intrusive Rocks**

6a. Pink quartz feldspar porphyry

6b. Visibly altered Q.F.P. dyke - sill or stock.

7.

**Undifferentiated Igneous Intrusive Rocks**

Sudbury Breccia

In conclusion, the surface trenching was successful in allowing the geologist to examine the favourable geological contact areas between the intermediate-mafic and felsic metavolcanics. In almost all of the instances the trenching progressed from the intermediate to mafic amphibolite rocks into the highly altered and deformed carbonate - siliceous - epidote - manganese and sulphide bearing felsic metavolcanic rocks. All of the rocks generally trend northwest to west and dip at moderate to shallow angles to the southwest. Sulphide mineralization of pyrite-pyrrhotite, sphalerite, galena and chalcopyrite were found to occur in both the intermediate amphibolites as well as the altered and deformed felsic flows, tuffs and metasedimentary rocks. Many sulphide bearing rock samples were collected for analysis. Various rock type samples collected were analyzed for the major whole rock oxides. This whole rock data will be very useful for future, more detailed studies yet to be undertaken.

The results of the numerous samples were somewhat disappointing. None of the samples collected returned any values that might be considered ore grade.

The highest gold value returned was 40 ppb, obtained from a sample collected at the "Black Hole Trench". Almost all of the gold values were found to be a low < 5 ppb.

The silver values generally occurred at the < 0.5 ppm range (0.0146 oz/ton Ag) to a rare high of 4.5 ppm (0.1314 oz/ton Ag).

The best copper value obtained was 1260 ppm (0.1260 % Cu) which was obtained from the "Black Hole Trench". The copper values appear to be quite variable, generally occurring within the low to mid hundreds of ppm range.

The highest lead and zinc values obtained were 4230 ppm Pb, (0.4230% Pb) and 9660 ppm Zn (0.9660 % Zn) obtained from a grab sample of a highly mineralized altered felsic rock. The corresponding copper value for this particular sample was a very low 3 ppm. This sample was collected from the "Pine Tree Trench". An immediately adjacent chip sample across 22" +/- ran 1780 ppm Pb (0.1780% Pb) and 1520 ppm Zn (0.1520 % Zn). An additional mineralized sample ran 4350 ppm Pb (0.4350 % Pb) and 858 ppm Zn (0.0858 % Zn). Most interesting is the fact that the copper values are very low.

A short distance to the east at the "Black Hole Trench" some high lead values of 2040 and 3990 ppm (0.2040 and 0.3990% Pb) and 3120 and 7060 ppm Zn (0.3120 and 0.7060% Zn), were also found to contain 699 and 1260 ppm copper (0.0699 and 0.1260% Cu) were found within and adjacent to the massive sulphide horizon immediately above the bedded carbonaceous metasediments.

---

Most of the significant metal values were found to occur at or near the altered felsic and intermediate amphibolite contact.

A more thorough detailed review will have to be carried out in order to determine the true significance of the assay returns.

Although no ore grade values were obtained, these are some of the reported values that are without question anomalous. Since such a small portion of the favourable potentially mineral bearing horizon has yet to be explored, both along strike and depth, there remains a strong possibility that mineral deposits could yet be discovered on the BLM I Richardson Lake Property.

The following is a complete listing and descriptions of various rock and mineral samplings that were collected from the excavated trenches that were mapped by Harold J. Tracanelli, Project Supervisor-Exploration Geologist.

The various sample locations have been plotted on the 1" - 20 feet trench drawings. Please note that within the sample descriptions there somehow occurs a couple of duplicate numbers. Number duplication may have unknowingly occurred in the field and went undetected until just recently.

Because with the sample descriptions, the general location of the sample was given, it is expected that this accidental number duplication should not pose any great problems. All of the field assay tags and the assay data can be found within this report for future reference and study.

Please note that the sample description format for samples 300212, 300212A, 3001212, 300213 and 300214 is somewhat different the majority of the samples. This was done in order to accommodate a certain discussion format that can be quite lengthy, and would not be appropriate for all the samples in this listing.



**Sample 300201****Rock Type: Rhyolite lapilli tuff-breccia****The sample was collected at the "Pine Trench"**

The specimen on a whole is a massive jumble of felsic rock fragments. On the weathered surface the rock has undergone bleaching to an off-white colour. On the freshly broken surface the overall rock is light green to grey coloured.

Generally the felsic rock is made up of a series of poorly sorted laminated or bedded flow or tuffaceous fragments which appear to have undergone some compaction and stretching, similar to the agglomerate deposits in the Benny Greenstone Belt. The fragments range in size from a fraction of an inch to several inches long and wide. The majority of the fragments are probably greater than about 2" long. For the most part the fragments appear to be aligned along a preferred axis or alignment. Almost all of the fragments appear to be composed of a fine grained very thinly laminated or bedded felsic rock. The lapilli fragments are set in a subaphanitic grey-green highly silicified ground mass matrix.

A considerable amount of silica has been remobilized into the rock in the form of sharply contacting semi-sinuuous light grey quartz veins cross cutting the various sized fragments. Some of the smaller fragments have actually been incorporated within some of these veins. For the most part the veining appears to be aligned along the former long axis alignment of the lapilli fragments. Some of the veins do cross into fragments at acute angles to the general rock alignment. Most of the veining is discontinuous and have thicknesses ranging from 0.10" to about 1" wide. Most of the veins range from 0.10" to 0.20". Overall the rock host traces of finely disseminated sulphide minerals.

This lapilli tuff-breccia occurs stratigraphically below the strongly carbonate-siliceous and epidote altered felsic rocks which are known to host various quantities of iron and base metal sulphides.

When the Sudbury Resident Geologist visited this particular sample site, he proclaimed that the rocks looked the same as those found on the Kidd Creek discovery outcropping.

There is little doubt of the significance of such a rock type, particularly as many important base metal sulphide deposits in the archean terrains are associated with coarse grained felsic pyroclastic rocks.

**Sample 300202****Rock Type: Highly altered and deformed metavolcanic rock.****This sample was derived from the northern most bedrock exposure of the "Pine Trench".**

North of this sample location the rock drops off into thick overburden. The obviously intense alteration etc. observed at this outcrop edge would clearly suggest that the rocks could easily be similarly altered immediately to the north and presently covered with overburden.

The rock is fine to medium grained, massive, light to medium apple green in colour. The original rock has been subject to very intense epidotization and silicification. The overall rock has been highly riddled with a series of closely spaced parallel dilatant fractures which appear to be trending in one general direction. Some weak localized brecciation and recementation appears to have taken place where a series of fractures converged or became so closely spaced that it was not possible for the rock to continue to support itself. Overall the altered rock was found to host very fine traces of chalcopyrite, sphalerite and pyrite.

Some thin red hematite oxide strainings associated with mottled spots to poorly formed dendritic forms of magnesium - manganese oxides have formed on fractures which cross cut the intense fracture network at acute angles. This would suggest at least two periods of fracturing or a single period of multiple orientation fracturing. Minor light blue coloured oxides appear to be associated with the

hematite staining and may be indicative of the breakdown of the very minor lead minerals within the rocks.

**Sample 300203**

**Rock Type: Altered intermediate metavolcanic rock**  
**This sample was obtained from the "Pine Trench"**

The rock is a heterogeneous massive dark green to black in colour and being made up of light to dark green epidote with black visibly altered ferromagnesium minerals, probably amphiboles. The rock also hosts minor amounts of dark coloured quartz, 2% to 3% fine grained inclusions of pyrrhotite with pyrite. The rock appears to have undergone silicification and some of the ferromagnesium minerals appear to be altered to fine grained dark grey chlorite. Fracture surfaces throughout the rock sample have been coated with a blue hued dark brown rusty oxide which is a typical product of the breakdown of the pyrrhotite. The rock sample for its size appears to be quite dense.

**Sample 300204**

**Rock Type: Felsic tuff or flow**  
**The sample has been collected from the "Pine Trench"**

The rock is medium to fine grained light grey green to pink coloured, very thinly but very consistently laminated or bedded. Many of the laminations or beds range in thickness of a mere fraction of an inch to less commonly about 0.10". Most of the layers appear to be made up of an aggregate of aphanitic to subaphanitic quartz and feldspar grains. Most layers do not appear to show the glassy appearances common with thinly laminated rhyolite flows. Much of this material may be made up of fine grained tuff fragments, although there are some very minor grey-green glassy layers which may represent very thin, very fluid flows or thin ignimbrites.

*Within various layers a considerable amount of blue green to olive green amphibole needles occur in randomly orientated masses. The development of the amphibole minerals may be indicative of the effects of amphibolite grade metamorphism. The rock appears to host very fine grained disseminated sulphides, some of which appear to have been altered showing some rusting formed along irregular joint surfaces.*

Micro-fine grained very thin vitreous grey sharp quartz stringers cross cut the primary fabric of the rock in at least two distinctive directions.

**Sample 300204A**

**Rock Type: Felsic tuff or flow**  
**This sample was taken from the "Pine Trench"**

Sample 300204A is the same materials as described for sample 300204. The minor exception is that 300204A appears to host more dark black, very fine grained ferromagnesium or biotite minerals occurring as alternating layers.

**Sample 300205****Rock Type: Felsic to intermediate thinly bedded tuff**

This sample was taken from the "Pine Trench" only a short distance to the south of the coarse grained felsic pyroclastic, lapilli tuff breccia as described in Sample 300201.

The rock is medium grained, light green to yellow in colour, is very thinly but visibly bedded and/or foliated. The visibly structured rock appears to be primarily made up of about 60% equigranular felsic minerals with 40% metamorphic dark green amphibole minerals irregularly dispersed throughout the rock.

Very thin portions of the apparently bedded rocks show what appears to be very thin < 1 mm pink to cream coloured glassy laminations which may be indicative of a thin very fluid flow or a thin contact-glassy layer at the bottom of an ignimbrite unit. Some of the green colour in the felsic component of the rock may be due to the presence of chlorite and/or epidote. For the most part it would appear that the light green waxy coloured amphiboles are probably actinolite. The amphibole minerals have developed somewhat compact, often overlapping rosettes, which are often aligned parallel to the general fabric of the rock.

It would appear that in some places the amphibole minerals probably replaced most of the original country rock. Some of the felsic portions of the rock were found to host trace amounts of disseminated inclusions of chalcopyrite, pyrite and pyrrhotite.

Minor folding of the rocks is evident. Grey to white coloured, sometimes rusty quartz, eye-shaped inclusions or mullions, have developed in the high stress areas of the folding. The quartz materials are enechelon lensoid shaped and are generally difficult to predict their position and overall concentrations.

A number of fractures which have developed concordant to the rock fabric and cross cutting the rock fabric are often coated with thin iron oxide rusting due to the breakdown of the sulphides and the amphibole minerals. Trace amounts of a light blue-white staining on a fracture surfaces may be indicative of traces of very fine lead minerals within the rock.

Since these fine grained rocks occur to the south of the lapilli rocks, it may be possible to speculate that the coarse pyroclastic rocks were deposited followed by the deposition of ash after the initial explosion and fallout of the coarse fractions. Because the rocks are currently dipping to the south, it is conceivable that the rocks are younging towards the south. It is expected that there will be considerable future debate with respect to the matter of younging direction in the near future.

**Sample 300205A****Rock Type: Amphibole altered felsic to intermediate tuffaceous rock**

This particular sample is the companion sample to 300205 as previously described.

Sample 300205A contains a considerable amount of light to dark coloured amphibole minerals associated with light green epidote.

Light grey coloured unstriated feldspars appear to have locally crystallized out of the amphibole - epidote rich rock which may be due to an increase in metamorphic grade. There would appear to be very little doubt that the rock has been subjected to at least amphibolite grade metamorphism.

**Sample 300206****Rock Type: Highly altered intermediate or felsic metavolcanic rock****The sample was derived from the "Pine Trench"**

The rock is a medium to fine grained light green to dark grey, very similar to samples 300205 and 300205A. This rock was found to host from 1% to irregular sections of granular-like massive pyrite with possible trace amounts of pyrrhotite, chalcopyrite, sphalerite and magnetite.

Upon the exposure to the atmosphere the sulphide minerals quickly break down to form white encrustations to tabular subvitreous gypsum and/or anhydrite. The host rock of the sulphides appears to be made up of silica-epidote and dark coloured amphibole minerals. This sulphide mineralization may represent the along strike continuation of the massive magnetite, minor sulphide horizon observed at the north end of the "Long Trench" Both the massive sulphides and magnetite occur within similar rock types which may be indicative of a facies change along strike. The surface weathering of the sulphides at the "Pine Trench" has resulted in the development of a strong easily distinguishable gossan-sulphide burn. The thickness of the sulphides has been measured at approximately 24" +/-.

**Sample 300207****Rock Type: Highly altered felsic metavolcanic rock.****This sample was obtained from the "Pine Trench"**

The rock is medium to fine grained, massive, light green, Granny Smith apple green coloured. The rock has been highly silicified, epidotized and carbonated. The green coloration of the rock is primarily due to the presence of the intense epidote mineralization.

The rock was found to host from trace to 10% inclusions of fine to medium grained granular like crystals of pyrite, similar to the sulphides observed within sample 300211. Some minor silica remobilization appears to have taken place within the rock. Fractures developed within the rock have been coated within brown rusty oxides and sometimes show smearings of pyrite. This material is part of a larger intense alteration assemblage that has developed within the felsic metavolcanic rocks found on the BLMi Richardson Lake property.

**Sample 300208****Rock Type: Highly altered and deformed felsic? metavolcanic rock****This sample was derived from the "Pine Trench"**

The rock is medium to coarse grained, reddish brown to light green-grey in colour and appears to be made up of somewhat alternating layers or bands of green-grey carbonate minerals, followed by reddish brown garnet-silica minerals. Within this particular sample approximately two-thirds of the materials appear to be made up of the garnet altered rock. The sample is noticeably very dense. Crude layers of a highly leached out material now consisting of mainly quartz, can be locally found, alternating or separating the carbonate-garnet altered portions of the rock. Carbonate minerals with a minor amount of sulphide minerals within the alternating layers were leached out, allowing for the development of the numerous voids and limonitic weathering. Very fine grained oval shaped inclusions of galena were observed within these thin bands, which may have been representative of a thin veneer of quartz-carbonate/feldspar rich tuff or metasediment, being deposited upon notably thicker successions of rhyolitic flows or calcareous muds.

The presence of the garnet alteration may be suggestive of a rock which was carbonate mineral rich prior to the various periods of deformation. In general many of the felsic looking carbonate-siliceous altered rocks in the alteration zone horizon may be representative of former metasediments.

In addition to some highly obvious signs of alteration, the rock shows signs of being highly fractured, both concordant and across the fabric of the rock. Many of these thin fractures were infilled with white to grey quartz which may also contain minor carbonate minerals. Occasionally fine cubes of galena may be present within these thin infillings and may have come about as a result of the collection-remobilization and recrystallization of sulphides from the adjacent host rock.

Larger, easily visible, elongated inclusions of grey to white quartz formed concordant to the rock fabric, may be indicative of one or more periods of silicification-remobilization. A number of the thin veins observed concordant to the fabric show very distinctive contact zoning suggesting that the host rock was cold when the silica was emplaced or that vein materials partially digested the adjacent rocks, allowing for the vein contact areas to have slightly different chemical composition than the original vein matter.

It is possible to suggest that both primary and secondary alteration has taken place within the geology of the area. Trace amounts of light grey galena and light coloured resinous sphalerite are present within the particular sample. Due to the presence of the minor sulphides, in conjunction with the alteration of the carbonate minerals, rusty limonite with dark brown to black mottled spots to poorly formed dendritic patterns of magnesium-manganese coatings are commonly observed on exposed fracture surfaces.

Light cream coloured carbonate minerals are commonly observed along fracture surfaces associated with the intense fracturing as described previously.

#### **Sample 300208**

**Rock Type: Highly altered and deformed metavolcanic**  
**This sample has been collected from the "Pine Trench"**

The sample is somewhat massive looking, fine to medium grained light brown to pink in colour. For the most part the rock has been highly carbonated with siliceous and garnet alterations. Small pieces of this particular rock tend to feel quite dense and this is thought to be due to the presence of the garnet. The garnet mineral alteration, which was identified in 1991 and forms as massive aggregate with almost little or no actual crystal faces being developed.

Overall the rock appears to exhibit a crude fabric-layering with somewhat alternating carbonate, silica-carbonate-garnet segregations having been developed. Carbonate minerals that have been leached out of the rock leave behind silica relics.

A series of tight fractures have developed, some of which have been infilled with subvitreous light grey quartz. The fracture filled veins generally appear to cross cut the crude fabric, but veins also, although rarely follow parallel to the fabric. Occasionally these thin quartz veins will host minor galena mineralization. Many tight fractures have developed within the rock but don't appear to have any veining associated with them. It is strongly suspected that several movement events have taken place in the general area. The rock shows limonite with black fine globules of manganese oxides developed along fracture surfaces.

#### **Sample 300209**

**Rock Type: Highly altered and deformed felsic metavolcanic**  
**This sample was collected from the "Pine Tree Trench"**

The rock is very massive, fine to medium grained fleshy pink to rarer light grey-green in colour. The rock is both carbonated and silicified. It would appear that the original rock was initially carbonated followed by silicification which altered the rock in the form of an emplacement - flooding of silica or as in thin veins intruding the carbonate rich rock. It would appear that as a result of the silica

alteration, some of the carbonate minerals may have been leached out to form vug-like features which have been infilled with hexagonal stubby multi-facet quartz crystals. Thin coatings of bright orange, highly reactive carbonate minerals are commonly observed on fracture surfaces. It is possible that this rock may be representative of some type of a felsic intrusive that was emplaced into the felsic metavolcanic rock.

**Sample 300210**

**Rock Type: Laminated felsic metavolcanic flow**

**This rock sample was obtained from the "Pine Trench"**

The rock is fine grained, well laminated and/or foliated, pink to light green in colour. The rock is made up of a series of thin < 1 mm to 1 mm glassy visibly stretched out felsic bands which may represent a former felsic flow. Very minor amounts of dark coloured ferromagnesium minerals may be present within certain laminations - layers which impart a slightly darker colour.

For the most part the rock has been very highly silicified which makes it very difficult to break off a piece from the outcropping. Very tight localized fractures cross cutting the fabric of the rock are often coated with thin yellow-orange limonite and light grey-green chlorite or serpentinite. The rock generally hosts trace amounts of finely disseminated pyrite.

**Sample 300211**

**Rock Type: Rhyolite Tuff**

**This sample was collected from near the north end of the "Pine Trench"**

The sample was derived from a large angular float that had been brought up while excavating in the thick overburden. As it turned out, it was not possible to penetrate the overburden and the work to extend the trench any further northwards was halted. Due to the overall shape of the boulder and the rock type, it was strongly suspected that the source of the float is probably directly below where it had been uncovered.

The rock is massive, equigranular fine grained, light grey in colour and appears to be made up of numerous rounded light coloured felsic fragments with lesser ferromagnesium mineral components.

The rock is very massive and shows no obvious signs of having plainer depositional features. The rock appears to be well sorted and compacted, if it is in fact a tuffaceous material.

Occurring within the equigranular rocks are a number of angular to subangular fragments of massive amorphous pyrite which measure from about 0.20" to 0.70" wide by 0.6" to at least 1.0" or greater in length.

It is possible to speculate that these chunks of massive pyrite were derived from a larger source of sulphide mineralization, but became dislodged from the main mass during a volcanic explosion. The incredibly fresh looking, knife sharp edged fragments appear to have been encapsulated within a material which contained no oxygen and therefore did not allow oxidation etc. to occur. For the most part the sulphide fragment host rock appears to have undergone some silicification. It is possible that during silicification the outer edges of some of the sulphide fragments may have been partially digested as can be observed.

A number of white to light grey cryptocrystalline irregular contact silica veins have intruded the tuffaceous rocks in various directions. The irregular shaped veins measure from < 0.10" to a maximum of 0.40" wide. In a number of instances these narrow veins were responsible for dislocating and relocating small pieces of the original sulphide fragments. It would appear that the remobilized pyrite became coarser grained if it was incorporated within the silica vein.

It would be very interesting to know precisely where the massive sulphides originated. Although there are no base metal sulphides present, it should be kept in mind that most major base metal deposits and areas contain certain horizons which host barren massive pyrite or pyrrhotite. If the location of the massive sulphides from the sample can be located, then it may be very possible to pinpoint the location of a base metal rich deposit.

**Sample 300212**

**Rock Type: Metaargillite, Metasiltstone**

**This sample was derived from the "Pine Trench"**

The sample is made up of a massive, fine grained medium green coloured metasediment. The vast majority of the rock mass is too fine grained to distinguish the precise mineral content. The largest detrital fragments observed within the sample measure up to 2/60th of an inch and are made up of about 1% rounded to subrounded jet black quartz (obsidian glass) with minor lighter coloured quartz-glass. Also, the rock hosts traces of highly angular light coloured striated plagioclase crystal fragments.

It is strongly suspected that the rock is generally composed of quartz-glass fragments with much lesser feldspar components. The metasediment rock breaks along shatter-like splintery-subconchoidal plains clearly suggesting that the rock consists of numerous quartz grains, or as been subject to some silicification alteration. Some minor chlorite alteration has been observed, imparting the green colour of the rock.

The metasedimentary rock has also been subjected to some tight-sharp fracturing which have been infilled with white to pink rhombic to granular-like calcite, associated with blue-green platy chlorite and a fine grained light brown brittle silicate? mineral and very minor limonite.

The fractures appear to form in a pinch and swell fashion, being somewhat discontinuous over any lengths. The fracture filling features do not appear to exceed about 0.075" thick. Micro fine grained inclusions of carbonate, chlorite and chalcopryrite including rare micro-thin stringers of chalcopryrite have been observed. The rock shows crude orthogonal jointing patterns which is somewhat typical for metasedimentary rocks.

It is important to note that this sample, including a few others, were derived from the unearthed glacial debris, while excavating was being carried out at the northern end of the "Pine Trench". The sampled material was derived from a large subrounded, chattermarked glacial boulder near what is believed to be the lower most debris horizon of the excavation.

It is estimated that the material was brought up from 10 t 12 feet below the surface. At the very north end of the "Pine Trench" the excavating did not reach the bedrock surface due to significant thickness of overburden, water inflow and extremely difficult to rip apart, white clay-sand hard pan. It is believed that the outcrop was only one or two feet below the hardpan, but quickly became beyond the reach of the backhoe machine. In the meantime several such metasediment boulders were brought up, broken open and carefully examined.

It was not until the same type of metasediments were found insitu on the "Hill Trench" that the significance of the original samples unearthed at the "Pine Trench" were realized.

What was found most unusual at the "Hill Trench" was that well rounded metasedimentary boulders were unearthed before the actual outcrop was exposed. The materials examined within the boulders and the outcrop were found to be identical in modal composition, structures, etc. and clearly demonstrates the grinding and rounding of a boulder does not necessarily signify significant transport distances down ice, etc. In both the "Pine Trench" and the "Hill Trench" the metasediment boulders were found on the north side of significant north facing outcrops. It is conceivable that rocks were plucked from the insitu outcrops by the glaciers and then forced against, rolled around and ground down, without being able to cross over the steeply included obstruction.

It has been shown that there exists an metaargillaceous unit occurring below the amphibolites and intercalated felsic metavolcanics at the "Hill Trench". As of yet, no such argillaceous unit has been identified at the "Pine Trench" although it is strongly suspected that one such unit may exist.

It is quite possible that one continuous unit exists between the two above mentioned trenches, but have been broken apart by faulting and/or folding. It is also possible that two separate units may exist while on the other hand no such unit may be present below the northern part of "Pine Trench" excavations. It is possible that various metasediment chunks may have been dragged northwards upon the retreat of the glaciers.

An important fact that may support a single continuous unit along strike between the two trenches is the presence of coarse grained fragmental rocks occurring directly above the insitu outcrop of the metasediments at the "Hill Trench". The fragmental rocks at the north end of the "Hill Trench" are dark coloured and are probably intermediate or even mafic in composition.

Near the northern extent of the exposed outcropping at the "Pine Trench", coarse grained felsic fragmental rocks occur and are positioned south or above where the original argillite boulders were encountered. From a field observation point of view it may be fairly easy to visualize a former continuous or semi-continuous unit of metaargillite occurring within or below the known felsic metavolcanics in the area.

It is important to note that at least certain parts of the metasediment, as has been depicted with several other samples, have undergone noticeable alterations which include minor pervasive chlorite alteration throughout the rock to a various degree of intensity of carbonate minerals with chlorite and copper sulphides.

In sample 300212 the rock hosts a few narrow carbonate-chlorite-chalcopyrite fracture fillings. In sample 300212A the rock hosts abundant scattered very fine grained chalcopyrite with dark brown chlorite with little or no carbonate minerals along sharp fracture surfaces. Isolated feather-edged fracture fillings or inclusions of carbonate-chlorite-chalcopyrite and traces of light coloured quartz are known to occur in this sample although significantly less abundant than the former description.

Sample 3001212 shows very little evidence of fracture filling or sulphides, etc. with the exception of a couple of very minor rusting inclusions within the metasediment. The rock does contain a rare pear-shaped dropstone of granite, being made up of pink orthoclase, grey quartz and altered green mica or chlorite. The dropstone measures about 1" long by 0.5" wide.

Sample 3001212 shows noticeably more chlorite alteration than sample 300212, but shows about the same degree as that for sample 300212A.

Sample 300212 shows some of the most intense forms of alteration of all of the samplings so far collected for the argillaceous rocks. This rock has been highly riddled with numerous irregularly shaped white to cream coloured massive to rhombic calcite associated with numerous microfine grained black to dark green chlorite occurring within the carbonates, or on its own or associated with grey quartz.

The most abundant fracture infillings are carbonate with chlorite and considerably less quartz. The carbonate may contain microscopic sulphide minerals, while the chlorite altered host rock was found to contain small (0.15" x 0.075") angular to subangular inclusions of possible detrital fragments of fine grained pyrite.



Due to the intensity of the fracturing and subsequent mineral infillings, the material shows very strong deep weathering propagating from the network of fractures. The weathering has resulted in the development of dark brown to black manganese/magnesium alteration oxide minerals.

Sample 300214 consists of what appears to be a highly brecciated argillite which appears to have been flooded by a light pink to light green glassy chert material. Visible remnants of argillite reveal the presence of carbonates-chlorite and chalcopyrite as so clearly observed within the above described samples. Sharp fracture surfaces have been coated with crude, very thin dendritic forms of magnesium or manganese minerals. One such fracture surface examined revealed the presence of dark coloured sulphides and a light blue oxide staining often observed around lead (galena) mineralization.

#### **Sample 300215**

**Rock Type: Highly altered and deformed felsic metavolcanic rock**  
**The sample was derived from the "Pine Trench"**

The rock is generally fine to medium grained, very light green to light brown in colour. The rock appears to have a somewhat crude depositional layering. For the most part each of the visible layers or units has been very strongly carbonate altered. The carbonate minerals are highly reactive to HCl acid. Some of the alternating layers have been very strongly leached out to develop a fine grained brown magnesium-manganese coated sand material which is sometimes quite irregular in shape, between each of the more competent layers.

It would appear that the rock materials were deposited, contorted and/or broken apart prior to the development of the oxidized sandy materials. A large number of very thin, slightly dilated parallel fractures appear to cross cut the rock fabric. It would appear at this time that the fractures were developed prior to the breakdown-oxidization of the rock. Throughout the more competent sections the rock shows traces of fine grained light blue-grey galena. Thin films of light coloured grey to orange carbonate with irregular shaped mottled spots of dark brown to black magnesium or manganese oxides are present along irregular surfaced fractures which have been exposed to the weather processes.

It is not yet possible to determine the original composition of the rock due to the extreme alteration.

#### **Sample 300216**

**Rock Type: Highly altered and deformed metavolcanic rock**  
**This sample was derived from the "Pine Trench"**

The rock is medium to coarse grained light buff to cream coloured and is made up almost entirely of carbonate minerals. The highly carbonated rock appears to have been intruded by numerous micro thin hairline veinlets of silica minerals. Most of these veinlets measure less than 0.01 mm +/- . Some of the thicker visibly altered bands or more weathered out portions of the rock appear to have been originally made up of very fine grained brown to white laminated clay minerals. It appears as if these apparent clay laminations have been folded and broken apart.

Some deep weathering of the rock in localized areas within the sample has resulted in the development of medium to dark brown magnesium-manganese oxide minerals. It would appear that the least competent rocks possibly of metasedimentary origin were the first to be subjected to the effects of weathering. It is possible to speculate that more or less consistent calcareous muds were buried by thin veneers of clay. Unconsolidated clay minerals would be most vulnerable to weathering. The carbonate rich portions of the rock hosts trace amounts of finely disseminated light blue-grey galena. Minor limonite rusting is present on some of the fracture surfaces.

**Sample 300217****Rock Type: Highly altered - deformed felsic metavolcanic****This sample was collected from the "Pine Trench"**

The rock specimen is medium to fine grained, light green to apple green, to minor grey, totally carbonate altered, possibly a former felsic metavolcanic rock. The rock appears to be very crudely layered with the different green coloured carbonate more or less defining such layers. Each of these apparent layers is made up of massive equigranular carbonate minerals. Each layer is rather thin and does not appear to be any thicker than 0.5" +/-.

Within the highly carbonate rock there occurs minor amounts of fine grained light to dark brown quartz with darker coloured garnets and sphalerite. The sphalerite within these types of rock tends to be very light coloured due to the low iron content of the sulphide and the low iron content of the country rock, hydrothermal fluids, etc. Light brown or red coloured garnets have also been found within the rocks and may be indicative of amphibolite grade metamorphism.

The rock shows very obvious signs of deep weathering and carbonate dissolution-leaching. Very finely developed magnesium-manganese dendritic patterns with some minor yellow rusting can commonly be observed on irregular feature surfaces. Generally this rock material is part of the main carbonate-siliceous-epidote alterations zone within the felsic rocks on the BLM Richardson Lake property.

**Sample 300219****Rock Type: Highly altered and contorted felsic metavolcanic - metasedimentary rock****This sample was derived from the "Pine Trench"**

This very altered and contorted rock appears to have originally been massive, fine grained, very light grey-green in colour.

It would appear that the original rock was very strongly carbonated, but also contained some minor silica components. The rock has been intensely fractured, which has allowed for the development of small scale brecciation within the rock. Due to the large number of openings developed within the rock, the rock has undergone intense deep weathering alterations resulting in the leaching out of the minerals and the development of dark brown to black magnesium-manganese oxides with lesser yellow to brown orange limonite. Some clay minerals appear to have developed. Locally the rock hosts from 1% to 10% maximum of fine grained irregularly shaped inclusions of steel blue galena and light purple sphalerite. The base metal mineralization is most evident in the least altered portions of the rock.

**Sample 300220****Rock Type: Highly altered and contorted felsic metavolcanic rock (possible rhyolite)****This sample was obtained from the "Pine Trench"**

The rock is fine grained, fleshy to light grey in colour and exhibits a highly deformed linear fabric. The rock has been highly silicified, but has also been subjected to some carbonatization.

For the most part the rock is very fine grained to cryptocrystalline. The crudely layered rock has been fractured and subsequently infilled with quartz. This particular rock may be indicative of a highly altered rhyolite flow or flow top, being deposited on top of a calcareous metasediment. The highly friable weathered rock on either size of the sample examined is very similar to the weathered carbonate metasedimentary rocks examined in other samples. The deeply weathered and leached rock can have coatings of dark brown to black magnesium - manganese oxides. The rock has been highly fractured, which has without question aided in the weathering of the rock. The rock was found to host trace amounts of sulphides.

**Sample 300221****Rock Type: Highly altered metavolcanic rock****This sample was derived from the "Pine Trench"**

The rock is massive equigranular, medium to fine grained, light to medium Granny Smith green coloured, highly altered former metavolcanic rock.

The former rock has been altered with silica-carbonate, strongly altered with fine grained epidote minerals which have given the rock its characteristic green colour. The rock has been intruded by a few small quartz inclusions which are most likely due to some silica remobilization. The carbonate content within the rock seems to be variable, ranging from only trace to 20 - 25%. Some of the carbonate minerals have been leached out and a light brown residue has developed.

The highly altered rock has a large number of single direction parallel dilatant fractures, some of which appear to have remained opened, while others have been infilled with very fine grained carbonate minerals. At certain locations where a number of fractures have converged, very crude shaped quartz crystals were allowed to develop where space permitted.

Similar type vuggy quartz crystals were observed in some of the rocks in the immediate area of sample 300201. Quartz crystal vugs in the lapilli tuff - tuff unit in the 300201 area may be directly related to the quartz vugs observed within sample 300221.

Numerous dilatant cross cutting fractures being open or infilled with secondary minerals are commonly observed within most of the highly altered rocks within the felsic metavolcanic sequences on the BLM Richardson Lake property.

Fractures developed within the overlying amphibolites with a similar orientation to the felsic fracture systems may be directly related and of the same age. The development of these intense fractures are thought to be related to certain tectonic events that occurred within the local and regional geological terrain.

**Sample 300221****Rock Type: Highly altered and deformed felsic metavolcanic****The sample was collected from the "Pine Trench"**

The specimen is quite massive, medium to lesser fine grained, Granny Smith apple green to light grey-green to lesser white grey where free quartz is present. The rock appears to have been highly silicified and exhibits the green coloration due to the presence of very finely disseminated epidote.

The overall rock appears to show the remnants of a former crude fabric or an alignment of mineral crystals or grains. Very fine grained cherty-like grey green wispy inclusions have been observed, appearing to be stretched out along a preferred orientation. The siliceous altered rock has been fractured and the fractures were infilled with grey vitreous quartz. Some of the quartz infilling has spread out into irregular shaped inclusions. Minor carbonate minerals appear to have been incorporated at the same time as the quartz. The quartz fracture fillings criss cross each other in all directions.

Very thin coatings of bright orange coloured carbonate (possibly ankerite) associated with hematite and magnesium-manganese staining can be observed on the surfaces of irregular fractures. The rock shows some voids developed in the rock, probably due to surface weathering and leaching. The rock hosts little or no visible sulphide minerals.

**Sample 300222****Rock Type: Mafic amphibolite****The sample was collected from the "Fault Trench"**

The rock sample generally consists of a medium fine grained dark green to black amphibole rich rock with a well developed linear fabric. This amphibolite rich rock quite possibly represents a former basaltic rock. Well developed foliation plains appear to have developed parallel to the linear mineral fabric. The foliation surfaces show some minor evidence of thin smearing of chlorite, associated with fine grained thin smearings of pyrite, and often associated with limonite coatings.

This rock type is believed to occur some distance above the not very well defined limits of the intermediate composition amphibolitic type rocks.

**Sample 300223****Rock Type: Mafic amphibolite****The sample was collected from the "Fault Trench"**

This specimen is very much similar to sample 300222 previously described. Sample 300223 is predominantly fine to medium grained amphibole rich, but the amphiboles show the obvious pale green effects of chlorite alteration. The rock has well developed fracture plains parallel to the linear mineral fabric. These fractures probably represent the foliation stress lines.

Thin remobilized ribbons of vitreous grey quartz have developed concordantly to the general rock fabric. In sample 300222 no remobilized quartz was observed. The presence of quartz and chlorite in sample 300223 may indicate a local or regional increase in alteration from north to south, in the mafic metavolcanic rocks.

Well developed two directional sharp fractures cross cut the rock fabric. These fractures or joints have been coated with a rather thick coating of friable limonite rust. Overall the amphibolite rock was found to host only trace amounts of disseminated sulphides.

**Sample 300224****Rock Type: Felsic (Rhyolite) Breccia****The rock sample was obtained from a large round to subrounded boulder - float, discovered beneath a fallen down pine tree, adjacent to the "Fault Trench"**

The original felsic rock has been highly brecciated, is very light green and is made up primarily of numerous highly angular multiple sized felsic, aphanitic fragments which appear to have been highly compacted. The fragments appear to measure from a fraction of an inch to several inches across. The fragments are made up of massive aphanitic felsic minerals suspected as being rhyolitic. The voids between the compacted fragments have been infilled with quartz-chlorite-possible serpentine, with lesser minor carbonates and trace amounts of fine grained chalcopyrite. It is difficult to determine with any degree of certainty where this particular material was derived. The overall mineralogy of the sample could easily place the origin of the materials in close proximity to where the sample was previously collected. In the "Fault Trench" immediately adjacent to the sample site, a section of about 40 - 60 ft. of the trench did not reach the subcrop due to the thickness of the overburden. It is strongly suspected that a fault occupies this low depression area which may also accommodate various brecciated rocks. It is possible that sample 300224 originated from the overburden filled depression area found at the "Fault Trench".

**Sample 300225****Rock Type: Banded siliceous iron formation****The sample was taken from the "Fault Trench"**

The sample is generally made up of a series of thin < 0.10" thick alternating bands of dark grey vitreous quartz with fine grained aggregate like magnetite minerals which is associated with a very fine grained aphanitic light apple green hard mineral, possibly an iron silicate.

The banded iron formation is believed to have been developed within mafic amphibolite rich rocks. There appears to be some evidence of remobilized quartz and rare thin pink-orange coloured pinching out ribbons of feldspars with or without quartz. Minor chlorite alteration is present.

Within this particular specimen there appears to have been some gentle folding of the bands.

Along some of the observed bands, fine grained light tan coloured carbonate minerals have developed. Some differential weathering or leaching along or between specific bands appears evident which might suggest the weathering of carbonate minerals.

The rock is occasionally cross cut by sharp fractures which may host minor thin films or smearings of sulphides. Traces of fine disseminated sulphides may be randomly scattered throughout the rock.

For some time there has been considerable debate on the possible origin of the banded siliceous iron formations.

Burkhard O. Dressler, 1980, was not able to clearly differentiate a magmatic or sedimentary origin for the iron formations known to occur a short distance to the southwest. Some of the alternating bands of quartz almost appear to have a clastic-like texture with the quartz grains appearing to be fused together due to metamorphism.

An important question arises to the fact that, can an alternating magnetite (S.G. 5.2) quartz (s.G. 2.65) be magmatically segregated - layered within an intrusive or extrusive melt? At this time there has not been enough work carried out on studying the iron formations to determine their origins.

**Sample 300225A****Rock Type: Banded siliceous iron formation****This is a substitute sample collected from the same sample location on the iron formation as for sample 300225 at the "Fault Trench"**

The sample is essentially the same as sample 300225 except that it shows a very well developed recumbent fold.

There does not appear to be any dislocating or fracturing of the magnetite and siliceous rich bands which might suggest ductile deformation. Both the magnetite rich and quartz rich bands are folded together suggesting that the quartz is primary and/or the rock has somehow been ductile folded following metamorphism. It is also possible that two or more periods of metamorphism could have also taken place.

**Sample 300226****Rock Type: Amphibolite**

This sample was collected from the north end of the "Fault Trench" over amphibolite rocks which are thought to have a more or less intermediate composition.

The rock is a crudely foliated medium to coarse grained black amphibolite. The amphibole minerals show some weak chlorite alterations. The amphibolite has been intruded by thin 0.2" to 0.50" lenticular quartz with minor chlorite.

Both the amphibolite rock and the quartz inclusions host trace to 1% pyrite, pyrrhotite and minor isolated chalcopyrite. Narrow 0.05" to 0.20" marcasite-pyrite stringers cross cut the amphibolite fabric in one general direction. Most of these stringers run parallel to each other and may occur in concentrations of 3 to 5 per foot, possibly constituting a "Stringer Zone". Since the stringers at this location are made up of primarily marcasite, this is indicative of a low temperature environment which is somewhat contradictory temperature-wise to the sphalerite-chalcopyrite stringers found at the "Black Hole and the Long Trenches".

It is possible that two phases or pulses of hydrothermal sulphide solutions infilled fractures developed by whatever means within the country rocks.

If it were possible to show that the marcasite-pyrite and the sphalerite-chalcopyrite were genetically related, it may be possible to demonstrate or determine the directions in which fluids moved and relative ages of the various rocks that were being intruded.

Assuming that the mafic amphibolites exposed in the area were flat lying and resting upon the intermediate composition amphibolites, propagating hydrothermal fluids may have pushed up from below into fractures, etc. which could allow that the chalcopyrite-sphalerite-galena-pyrite would have crystallized first, following upwards to crystallize out the marcasite. This is by no means conclusive proof as to the younging direction, but would add more food for thought.

**Sample 300227****Rock Type: Silicified intermediate to felsic tuff**

The sample was collected from the "Fault Trench"

The rock sample is fine to very fine grained light grey to light green equigranular textured intermediate to felsic rock being made up of primarily light coloured feldspars with possible quartz and finely scattered dark black ferromagnesium minerals making up the dark components. The minerals are often too fine grained to determine the species.

In the field the rock appears to be well but thinly bedded - laminated, to more massive looking, particularly where some structural or chemical alterations have taken place. The rock shows a more equigranular - granoblastic texture as opposed to a linear or foliated fabric, possibly suggesting a higher grade of metamorphism or noticeably different effects of the amphibolite grade metamorphism.

Overall, the rock appears to have been highly silicified, locally tightly brecciated and cross cut by narrow irregularly shaped - unidirectional light grey cryptocrystalline pseudotachylite veins.

Some minor remobilized quartz inclusions and stringers with traces of pyrrhotite and chalcopyrite are known to occur within the rock type. This particular rock shows some large blocky jointing which is somewhat common for highly silicified rocks of such consistent grain size, etc.

**Sample 300228****Rock Type: Silicified metasediment**

This sample was obtained from an angular to subangular glacial float that was brought up while excavating at the south end of the "Swamp View Trench".

At this location the thickness of the overburden did not allow for the exposure of the subcrop and therefore did not allow for the determination of the possible origin of the material. As was clearly determined at the "Hill Trench" to the southwest, the metasedimentary boulders were only moved a very short distance from their source. In most instances the metasedimentary rocks were found in depressions and could not be moved out. These metasediments were plucked from their original outcroppings, but were trapped in the depression which ultimately lead to the milling and rounding of chunks during glaciation.

The rock is massive, fine grained, blue-green in colour and is made up of 10% to 15% highly angular to well rounded light to dark grey quartz fragments set within an aphanitic light blue green ground mass of felsic looking minerals. The largest fragment observed measured about 0.005" wide to 0.10" +/- long. Most of the visible fragments were found to measure from 0.0025 to < 0.005".

The rock was found to host trace amounts of finely disseminated chalcopyrite and lesser pyrite. Yellow to blue hued dark brown rusty oxides have developed on irregular fracture surfaces. Please refer to samples 300212, 300212A, 300213 and 300214 for further discussions on the metasedimentary rocks studied on the BLMI Richardson Lake Property.

**Sample 300229****Rock Type: Altered and deformed intermediate metavolcanic rock.**

This sample was obtained from the "Swamp View Trench", very near where a series of strong fracture fillings of quartz-epidote and sulphides is known to occur.

The rock is generally fine to medium grained, grey to light green in colour and appears to be weakly but visibly foliated -bedded or laminated? The rock type appears to be composed of primarily quartz, feldspars and ferromagnesium minerals. The rock appears to have undergone some silicification.

Narrow primary lenticular bands of fine grained semimassive pyrite measuring from 0.10" to 0.20" wide with trace to 1% disseminated bornite-covelite with chalcopyrite are commonly observed. The texture - grain size, etc. of the lenticular pyrite is very similar to the apparent pyrite fragments studied within sample 300211. Within sample 300229 irregular grey quartz inclusions with some minor green chlorite have been introduced into the rock which has resulted in additional alterations to have taken place. Remobilized sulphide minerals such as chalcopyrite, bornite, covelite, sphalerite and possibly pyrrhotite appear to be associated with the quartz inclusions. The presence of the sulphide minerals are commonly observed with yellow orange or brown limonitic weathering. The quartz inclusions with sulphides is believed to have developed concordantly to the original rock fabric. Most of the fractures within the rock are well coated with dark brown limonite rust.

**Sample 300230****Rock Type: Consolidated mylonite fault rock****Grab sample from the "Black Hole Trench"**

This sample is made up of numerous fine grained to coarse grained light to dark coloured rock fragments with secondary remobilized minerals. This mylonitic rock has developed within a narrow nearly north-south strike slip normal fault. The mylonite fault rock ranges in thickness of less than 1" to a maximum of 10" - 12" +/-.

As a result of this fault cross cutting the amphibolites and adjacent felsic metavolcanics, the rocks in the immediate fault area have become highly brecciated and often ground into a light grey to green coloured rock flour with occasional sand size fractions being present. Subsequent to the original faulting episode, pink orthoclase feldspar and quartz rich materials were emplaced into the fault zone plains. The felsic replacement minerals consist primarily of quartz and feldspars and may represent a former narrow quartz feldspar porphyry dyke which was emplaced along a former plain of weakness. It appears evident that a second movement event took place, allowing for further mylonitization to take place. As a result of various movements, the quartz-feldspar minerals were somewhat altered to a porous tan-rusty clay-like material.

The overall mylonite rock appears to host very finely disseminated sulphides. Although the rock does not contain any acid reactive carbonate minerals, when subjected to HCl, a light green-curry yellow coloured precipitate results, particularly in the presence of the altered feldspar fraction of the mylonite rock.

**Sample 300231**

**Rock Type: Intermediate amphibolite**

**The sample was collected from the "Black Hole Trench"**

The sample generally consists of a foliated arrangement of primarily linear to subacicular hornblende needles with alternating layers of thin granoblastic textured light green to grey plagioclase, with lesser fleshy pink orthoclase feldspars and minor quartz.

Some of the hornblende needles appear to have undergone some limited chlorite alteration. Some of the lighter green amphibole minerals resemble actinolite.

Locally the rock in the sample area has been cross cut by narrow 2.5 mm to 5.0 mm maximum quartz-chlorite and carbonate stringers which sometimes host chalcopyrite, sphalerite, pyrite, graphite with possible covellite and/or bornite. Within this particular sample no such stringers were observed but the rock specimen does host from 3% to 5% +/- fine disseminations to inclusions of pyrrhotite-pyrite with minor chalcopyrite and black jack sphalerite. The sulphide minerals can often be found in the presence of limonite associated with fracturing of the rock.

Some of the mineralization would appear to be primary, while cross cutting stringer veins are obviously secondary.

Evidence from the past field work would appear to suggest that there is a marked base metal enrichment in the intermediate compositional amphibolite rocks located above the amphibolite-felsic metavolcanic contact area. Most noteworthy of this is the "Langdon Showing" located a short distance to the west at the "Long Trench" and just south of the geologic contact. Some geochemical assaying information obtained from a couple of the recently drilled holes, particularly RL-92-02 and RL-92-03, would possibly suggest that the underlying altered felsic metavolcanic rocks are depleted in the base metal elements while the overlying amphibolites may in fact be enriched in metals.

**Sample 300232**

**Rock Type: Semi-massive pyrite**

**This sample was obtained from a narrow massive to semi-massive south dipping sulphide horizon found immediately above the bedded carbonaceous metasediments at the "Black Hole Trench"**

The sulphide zone ranges in thickness from 1" to a maximum of 6" wide.

The sample is made up of medium to fine grained semi-massive pyrite with much lesser irregular inclusions of chalcopyrite, sphalerite, bornite and hematite. Much of the sphalerite and galena appear to be closely associated with the pyrite and can be difficult to observe. The sulphide minerals generally



occur within a fine to medium grained granular like felsic material which may represent a former felsic ash deposit, altered flow top, etc. Some parts of the hot rock appears to contain some minor carbonate and gypsum-anhydrite minerals, primarily as fine disseminations. Irregular shaped grey quartz inclusions or fragments occur within the sulphide mineralization. The quartz may host minor inclusions of sphalerite, chalcopyrite and specular hematite. At this location a microthin pyrite stringer-veinlet was noted cross cutting the sulphide mineralization. Some weathering of the mineralization horizon has resulted in the generation of strong yellow limonite with dark brown to black goethite. The oxidized rusting materials commonly propagate along the many fractures developed within the rock.

**Sample 300238**

**Rock Type: Bedded Oolite**

**This sample was derived from "Dead Bird Trench"**

The rock is somewhat poorly bedded, fine grained, light grey-buff to bands of light aquamarine colour. The rock clearly exhibits a well developed oolitic texture throughout and consists primarily of carbonate minerals as opposed to that described for sample 300240.

The spaces between the carbonate oolitic nodules appears to be light grey to clear in colour and may represent silica cement. Within some parts of the rock, some leaching has taken place, leaving behind non-acid reactive minerals. In general the rock hosts from trace to 3% disseminated inclusions to wisps of light blue galena and light brown resinous sphalerite. Minor hairline grey silica veinlets are known to cross cut the bedded fabric of the rock. The surface weathering and weathering along open fractures has resulted in the development of brown coatings of magnesium-manganese oxides. The presence of both the oolites and the bedded carbonaceous metasediments in close stratigraphic proximity would suggest a shallow water deposition environment on a continental shelf behind some forms of barriers, which would have reduced the forces of wave actions, etc.

**Sample 300239**

**Rock Type: Highly altered rhyolite tuff?**

**This material was obtained from the "Dead Bird Trench"**

The rock is medium to fine grained, light green to rarer light grey in colour, being made up primarily of equigranular quartz grains, taking on a kind of sugary-granular texture. The materials show crude bedding or layering, suggesting a tuffaceous origin. The green coloration of the rock may be due to the presence of microfine grained epidote minerals. Minor fine grained grey, remobilized silica appears to have developed concordantly to the bedded fabric of the rock. Throughout the sample there are numerous voids which have developed which may be indicative of the leaching out of carbonate or feldspar minerals within the rock. The rock also hosts 10% to 20%, 0.5 mm to 1.0 mm well developed striated pyrite cubes with traces of chalcopyrite. The sulphide mineralization appears to have developed concordant to the rock fabric, forming into more or less alternating concentrated layers. A number of very thin grey quartz veinlets cross cut the rock fabric. As a result of the breakdown of the sulphide minerals, thin coatings of limonite and tan to creamy coloured gypsum or anhydrite has developed on fracture surfaces.

**Sample 300240**

**Rock Type: Highly altered former calcareous metasediment**

**The sample was collected from the "Dead Bird Trench"**

The rock is medium fine grained, medium to light green in colour and exhibits what appears to be thin up to 3 mm alternating light and dark coloured beds. At first glance the individual beds or layers appear to be quite massive, but upon closer examination it was shown that the rock has an oolitic

texture made up of many rounded to subrounded spheres which measure < 1 mm across. These spherical shapes appear for the most part to have been highly compacted. Most of the oolites observed were very light green in colour and have massive cryptocrystalline texture.

The spaces in between the oolites have been infilled with a light green to dark grey glassy siliceous material. The presence of the oolitic texture would suggest that the rock represents a former calcareous mud or siltstone metasedimentary rock. Following the deposition of such metasediments, the carbonate rich rock has almost totally been replaced by silica. This silica altered rock was found to host from trace to 2% light coloured to light purple irregular inclusions of sphalerite associated with traces of galena, chalcopyrite and pyrite.

The host rock has been riddled with numerous parallel single direction fractures that cross cut the bedded fabric. These very tight fractures have been infilled with acid reactive carbonate minerals and minor quartz. Some of these fractures may also be coated with iron-magnesium or manganese oxides.

Some of the visible fractures were found to converge or cross cut each other at acute angles, but all generally following along a common trend.

Although the rock has been highly silicified, the surface of the outcropping shows the adverse effects of weathering. The surface of the outcropping appears to have undergone leaching. The leaching of surface rock has resulted in the development of dark brown to black magnesium or manganese oxides with lesser amounts of limonite. These mineral oxides followed down along some of the parallel fractures that had previously developed. This downwards propagation may have also contributed in the alteration of the surface rock.

The mapping of the surface geology within the trench would indicate that the oolitic rocks (calcareous) metasediments were intercalated within an altered felsic laminated or bedded flow or tuffaceous rock. The combination of fine grained muds being deposited with coarser grained ash volcanoclastics may be indicative of an aqueous to subaqueous environment.

#### **Sample 300242**

**Rock Type: Highly altered felsic lapilli tuff**

**This sample was collected from the northeast end of the "Dead Bird Trench"**

This sample is made up of a number of light pink fine grained aphanitic felsic rock (rhyolite) lapilli sized fragments measuring from 0.2" - 0.8" wide to greater than 5" long. The felsic fragments appear to have been flattened and stretched out but do not appear to have been compacted together.

The fragments are set within a dark grey vitreous quartz rich ground mass which shows some evidence of hosting light green amphibole minerals. It is evident that the original lapilli fragment ground mass has been significantly silicified. Much of the rock including the fragments hosts from trace to a maximum of 5% disseminated irregular inclusions of pyrite, pyrrhotite with considerably lesser chalcopyrite, possibly bornite or covelite.

Irregular shaped quartz inclusions commonly intrude the lapilli tuff. A number of 1 mm x 3 mm long grey unstriated feldspar crystals appear to be associated with the quartz inclusions along their outer edges. In one instance it appears as if the feldspar crystal had intergrown with the quartz. Secondary alteration appears most evident within the quartz inclusions. Numerous open fractures have developed allowing for the emplacement of white yellow clay minerals associated with pyrite or marcasite, and dark sooty black chalcocite or altered pyrrhotite. Many of the rock fracture surfaces have been coated with dark brown rusting oxides.

**Sample 300900****Rock Type: Chlorite schist**

**This sample was derived from the extreme north end of the "Hill Trench" No analytical work was carried out on this particular sample.**

The rock is fine to medium grained, earthy grey-green to dark brown in colour, highly friable chlorite schist rock. The schist is made up of primarily fine grained chlorite which appears to have been derived from the strong alteration of former amphibole bearing rocks. Dark brown to black coatings of magnesium oxides occurs with the remnant amphibole crystals, within somewhat open void-like features within the schist. Minor grey quartz and minor limonite inclusions occur within the schist and may be reminiscent of the components of the former rock. The minor quartz-rust inclusions appear to be aligned along the schistosity plains. At this particular sample site the trench was excavated within this chloritic schist material which has been weathered into a deep topographic gouge. This topographic low area at the north end of the "Hill Trench" may represent the trace of a known northwest trending fault which parallels the west shore of Richardson Lake. It was not possible to examine the whole width of the schistose rock due to the thickness of the overburden debris and a significant inflow of water.

The rocks which occur above or to the south of the chlorite schist are argillaceous metasediments, which in turn are overlain by coarse grained volcanoclastic metavolcanic rocks. It is not possible to determine the size fractions of the original host rock from which the chlorite schist was derived.

For the most part it is believed that the original rock was amphibole rich, although the schist could have also developed within the argillite rocks. Amphibole minerals could have somehow developed during the hydrothermal processes required to develop chlorite. Subsequent alteration of the amphiboles may have resulted during additional alteration periods associated with the faulting-schistose zone.

Very little exploration work has been carried out along this fault line which was identified on the ground by David A. Langdon, on claim S-1095080 and has ultimately been traced northwestwards to at least the end of the "Hill Trench" on claim S-1095079.

This evidently strong structure may have the potential of hosting potential gold mineralization and should be considered as a future exploration target.

The samples which appear missing within the sample descriptions are listed as follows. Some basic information on the sample and rock type was taken directly from the field notes.

In all of the instances the entire sample was submitted to the lab for analysis and no portions were retained for future study.

**300218** - A 22" chip sample was collected across a highly altered and contorted carbonated silicified weathered felsic metavolcanic - metasedimentary rock which was found to host from 10% to 15% fine grained inclusions of blue galena, brown purple sphalerite with traces of chalcopyrite and pyrite at the "Pine Trench".

**300233** - A short channel sample was cut out of the fine grained deeply weathered chocolate brown bedded carbonaceous metasedimentary rock immediately below the massive - semi-massive sulphide horizon at the "Black Hole Trench".

**300234** - A sample of the rusty clay ochre material immediately below the sulphides was collected at the "Black Hole Trench".

**300235** - A 43" channel sample was collected in the hanging wall rock above the massive to semi-massive sulphide horizon at the "Black Hole Trench". The hanging wall rock consisted of highly faulted fractured sericite-chlorite altered felsic to intermediate metavolcanic rock with fine grained inclusions of pyrrhotite, pyrite with fine disseminated sphalerite and galena.

**300236** - A 10" chip channel sample was collected from the massive to semi-massive pyrite horizon immediately above the carbonaceous metasedimentary rocks found at the "Dead Bird Trench".

**300237** - A representative sample was taken of the light brown clays which have infilled the tension gashes that developed within the carbonaceous metasediments immediately below the sulphide horizon at the "Dead Bird Trench".

**300241** - A 29" chip sample across highly altered felsic metavolcanic rocks with coarsely disseminated pyrite with traces of pyrrhotite and chalcopyrite was taken from the northeast end of the "Dead Bird Trench".

### 8.3.1 SAMPLE DESCRIPTIONS FROM GEOLOGICAL MAPPING OF TRENCHES BY DAVID A. LANGDON

The following is a series of sample descriptions that were taken from the field notes of David A. Langdon. A group of rock and mineral samples were collected during routine prospecting and geological mapping of some newly excavated trenches on the property in the early summer of 1992.

David Langdon was responsible for mapping and collecting representative samplings from the "Pine Trench, the Long Trench, the Hill Trench, the Small Trench, the Ridge Trench and the Dog Leg Trench".

All of the rock and mineral samplings were subsequently submitted to Chemex Labs Ltd. in Toronto, Ontario and Vancouver, B.C. for single and multi-elemental analysis work including some selective whole rock major oxide element analysis. The complete listing of the analytical results can be found within the appendices of this report.

The samples have been listed in numerical order and wherever possible the grid co-ordinates and the trench name or area has been stated. The sample descriptions were ultimately compiled from the original notes and sketches collected from David Langdon's files shortly before his death in early August of 1992.

When compiling and finalizing the descriptions, a certain amount of editing was necessary. Wherever possible, all attempts were made to maintain the true meanings of the descriptions, etc.

At certain times the meanings or interpretations were unclear and because it is not possible to reconsult on what was observed, etc, a certain amount of speculation or conjecture may have been required. At times it was possible to fill in the missing or questionable gaps due to this Writer's intimate knowledge of a particular outcrop, trench sample, geological relationship, etc.

Immediately following some of the sample descriptions a series of comments have been made by this Writer and have been presented in *an italicized type form* for quick reference. Although some of the comments may not be directly applicable or totally necessary within the sample descriptions, it was felt that they may be useful as a friendly reminder to the reader of the various geological, structures, mineralogical aspects, etc.

It is quite probable that future, more detailed investigations such as thin sectioning, utilizing rock and mineral samplings taken from the field, will have to be carried out.

**Sample 301951**

**0 + 81E, 0 + 435 at the "Long Trench" and Langdon Showing.**

**Diamond saws channel sample cut across 5.5 feet +/-.**

The sample was taken across a sulphide zone showing (Langdon Showing). The overall rusty-like rocks across the zone generally carry 1% pyrite, trace pyrrhotite, trace chalcopyrite, 1% sphalerite and 1% galena. The sulphide mineralization appears to be associated with intense silica and chlorite alteration of the host amphibolite rocks.

The most intense sulphide mineralization occurs over random inechelon, widths of up to 6" and consists of 10% - 15% sulphides, the majority being sphalerite. The estimated sulphides contained are 8% - 10% sphalerite, 1% - 2.5% galena, trace - 1% chalcopyrite, 1% pyrite and trace to 1% pyrrhotite. The sphalerite-galena mineralization is associated with concordant (primary) narrow quartz stringers 1/8" to 1/4" wide within an intensely chlorite altered amphibolite groundmass.

These basemetal bearing rocks occur above the felsic alteration zone, known to occur from 75 to 80 ft. to the south.

**Sample 301952**

**0 + 75E, 1 + 69S at the "Long Trench"**

**Diamond saw channel sample cut across 4.0 feet +/-.**

Sulphide and non-sulphide bearing stringer zone. The sample was cut across an area of intense quartz-carbonate joint infillings and narrow 1/8" - 1/4" quartz-carbonate stringers associated with 1% pyrite, 1% pyrrhotite, trace chalcopyrite, occurring within an intensely chloride altered amphibolite.

**Sample 301953**

**0 + 75E, 1 + 71 S at the "Long Trench"**

**Diamond saw channel sample cut across 4.0 feet +/-.**

This sample consists of material very similar to that described in sample 301952. The major exception appears to be that the pyrite mineralization takes the form of exclusive massive stringers 1/8" wide or as discontinuous mineralization found within quartz stringers.

Sample 301953 is a continuation across strike and is connected with sample 301952 immediately to the north.

**Sample 301954**

**0 + 75E, 1 + 75S at the "Long Trench"**

**Diamond saw channel sample cut across 2'-9" +/-**

The materials samples are the same as those sampled from 301952 and 301953.

**Sample 301955**

**0 + 75E, 1 + 72S at the "Long Trench"**

**Diamond saw channel sample cut across 2.0 feet +/-.**

The materials sampled are the same as from 301954 being made up of intensely chlorite altered amphibolite. The noted difference is that sample 301955 contains 1% pyrite and 1% pyrrhotite occurring as fine < 1/8" massive but discontinuous stringers. The sulphide mineralization can also be associated with quartz stringers.

**Sample 301956****1 + 25E, 0 + 76N at the "Long Trench"****Diamond saw channel sample cut across 4'-4" +/-.**

The sample consists of an intensely silicified felsic rock (possibly a rhyolite ash tuff) with 2% to 3% pyrite occurring as fine narrow stringers 1/8" +/- wide and as discontinuous lensoid features with trace pyrrhotite occurring within the pyrite mineralization.

**Sample 301957****1 + 27E, 0 + 78N at the "Long Trench"****Diamond saw channel sample cut across 4.0 feet +/-.**

The materials sampled are similar to 301956 except that sample 301957 contains no pyrrhotite and no more than 2% pyrite. The sulphides occur as individual mineral grains associated with narrow quartz stringers up to 1/8" wide, in addition to occurring within the intensely silicified country rocks.

**Sample 301958****1 + 29E, 0 + 80N at the "Long Trench"****Diamond saw channel sample cut across 4'-1" +/-.**

This sample generally consists of the same materials described for 301956 and 301957. The intensely silicified felsic rock (possibly a fine grained rhyolite ash tuff) contains 3% massive stringers up to 1/8" wide to disseminations of epidote and 2% pyrite. Individual narrow massive pyrite stringers are known to occur within the host rocks.

**Sample 301959****0 + 49E(?), 4 + 64S at the "Small Trench"****Composite grab sample.**

The sample consists of a well foliated, intensely chlorite, moderately silicified amphibolite, with 3% fine hair-like carbonate and/or feldspar stringers. Associated with the stringers are trace -1% pyrite. Pyrite mineralization was also found to occur within the amphibolite rocks hosting the stringers.

*It is possible that the iron sulphides were remobilized from the amphibolites into narrow open fractures which may be initially associated with the mobilization event.*

**Sample 301960****0 + 40E, 4 + 64S at the "Small Trench"****Composite grab sample.**

This sample consists of an intensely chlorite altered amphibolite, (possibly an andesite). The rock has well defined foliation exhibited by aligned chlorite laths and tagles(?). Some portions of the rock may have a massive appearance due to the interlocking nature of the chlorite minerals. Trace pyrite occurs as disseminations throughout the rock.

*The interlocking appearance of the chlorite minerals may be simply a manifestation of the interlocking nature of former amphibole minerals which have since undergone chlorite alterations.*

**Sample 301961****0 + 62E, 5 + 60S at the "Hill Trench"****Composite grab sample.**

This sample consists of a green to black aphanitic (greywacke) and was found to contain traces of disseminated pyrite specks with the odd spec of angular shaped quartz. When struck with a hammer, the rock can be broken into sharp edged pieces displaying subconchoidal-like fracturing.

*Further, much more thorough study has been undertaken with the sampled materials, which have shown that the materials can be most likely classified as meta-argillaceous mudstones-siltstones. These rocks are at this time the only exposed insitu Archean metasediments known to occur on the BLMi Richardson Lake Property.*

*It was also noted that besides containing pyrite, the rock also hosts trace amounts of chalcopyrite, galena and less obvious sphalerite, which appears to be most notably associated with inclusions or micro veinlets of rhombic-like carbonate minerals. The base metals may have been deposit during certain fracturing metal infusion episodes cutting through the metasediments. The finely disseminated pyrite does not seem to be associated with fracturing and therefore may be primary, being possibly indicative of sulphide minerals being developed under anaerobic conditions within the metasedimentary rock.*

*The contact between the metasediment and the overlying rocks is quite sharp. A large north-west trending structure cross cutting through the general sample region has resulted in places in the total alteration of the metasediment to a highly fusal green-brown chlorite schistose rock.*

**Sample 301962****0 + 62E, 5 + 60S at the "Hill Trench"****Composite grab sample.**

This sample consists of a sedimentary breccia (possibly conglomeritic), which is green in colour and has undergone moderate to chlorite and siliceous alteration. The rock was found to host 2% subangular to rounded quartz fragments up to 1 cm wide, which are set within an aphanitic ground mass. The rock also hosts 1% disseminated pyrite and trace disseminated chalcopyrite.

*It is strongly suspected that the described rock is representative of a volcanoclastic-pyroclastic type rock, being made up of both mafic and felsic fractions.*

**Sample 301963****0 + 62E, 5 \_ 75S, at the "Hill Trench"****Composite grab sample**

This sample consists of massive medium grained equigranular gabbro (metagabbro). The rock is made up of 10% to 15% interlocking feldspars with the remainder of the minerals being pyroxenes and amphiboles. The rock has also been moderately siliceously altered.

**Sample 301964****0 + 64E, 5 + 74S at the "Hill Trench"****Composite grab sample**

This sample is believed to be a felsic metavolcanic, (possibly a rhyolite or dacite tuff). The rock is grey-green in colour and has been intensely silicified. The surface weathering of the rock allows for the clear observations and displaying of light green angular fragments (glass shards), set within a white-grey differentially weathered aphanitic ground mass.



*These felsic rocks examined are suspected as being the dislocated continuation of or remnants of those felsic metavolcanic rocks clearly identified towards the northeast and being of the altered felsic zone, currently under study. It is yet unknown how such similar felsic rocks could occur so far south of the main contact zone. It is suspected that these rocks were dislocated due to faulting and/or folding.*

*As a result of this deduction, a number of concerns in the future might have to be addressed.*

*It is possible that the meta-argillaceous rocks (member) may be useful in part as a marker bed. It would appear at this time that these metasediments occur stratigraphically below the felsic assemblages. The contact between the metasediments and the overlying felsic and mafic rocks is sharp and probably represents a parallel or heterolithic unconformity. The apparent complicated arrangement of felsic to amphibolites, to mafic intrusives are due to post sedimentary depositional faulting episodes.*

*Of significant interest is the fact that no such argillaceous rocks were encountered in the four recent drill holes drilled from amphibolites through into felsic rocks to the north and north east in 1992.*

*Because three of the four holes drilled did not completely cut through the felsic unit, it was not possible to determine if a mudstone-siltstone occurs at the bottom of the unit. It is possible that the felsic rocks etc. observed at the "Hill Trench" may represent a totally separate felsic unit. This would seem highly unlikely since detail mapping in the area to the east and west has not conclusively identified any such separately thick unit.*

*The identification of a thickening sequence of felsic volcanoclastic and epiclastic rocks to the north and north west lends to the theory that the felsic rocks observed in the "Hill Trench" are one in the same, but have been faulted or folded into their present position.*

**Sample 301965**

**0 + 51E, 6 + 12S at the "Hill Trench"**

**Composite grab sample**

Sample taken from a sulphide bearing fault zone. The fault rock shows obvious signs of crushing or mylonitization. The rock is green with massive moderate chlorite and siliceous alterations with 5% pyrite occurring as individual grains and trace disseminated chalcopyrite has been observed. It is thought that the fault zone may have incorporated blocks of metagabbro.

*The fault zone which has been noted cross cut all of the rocks in the immediate area.*

**Sample 301966**

**0 + 53E, 6 + 20S, in the "Hill Trench" area**

**Composite grab sample**

This rock sample consists of a massive to poorly foliated fine grained to aphanitic amphibolite rock (possibly being a flow top of an andesite or basaltic rock). The rock generally hosts 1% disseminated pyrite throughout.

**Sample 301967**

**0 + 28E, 6 + 13S, at the "Hill Trench" area**

**Composite grab sample**

This rock is an aphanitic grey-white, intensely silicified (possibly rhyolite-amphibolite-andesite), at a geological contact. The rocks show obvious signs of alteration with narrow 3 mm discontinuous dark grey bands, possibly representing flow structures. The rock hosts 3% pyrite developed within fractures or as concordant bands, parallel to the original fabric of the rock.

**Sample 301968****0 + 23E, 6 + 98S, at the "Hill Trench"****Composite grab sample**

This rock sample consists of a somewhat massive, medium grained, poorly foliated, green, intensely chlorite altered basalt? The rock hosts 7% fine grained feldspars, set within an aphanitic amphibole rich ground mass.

**Sample 301969****0 + 89E, 0 + 17N, at the "Long Trench"****Composite grab sample**

This sample consists of black quartz. The black colour of the quartz may in part be due to possible irradiation or also as a result of the incorporation of dark coloured micro-fine grained minerals such as chlorite or biotite. The dark coloured quartz has numerous irregularly shaped voids as a result of the leaching out of carbonates and chlorites. It was noted that the rock hosted traces of pyrite and 2% chlorite within the vugs.

*Close examination of several pieces of this unusually dark coloured quartz has shown that the quartz intruded into the surrounding metavolcanic rocks through a series of sharp edged but unidirectional set of fractures. The quartz masses are known to contain numerous inclusions of fine grained dark green chlorite and coarse grained white to cream coloured rhombic calcite.*

*At certain locations where the quartz is black, it would appear that a considerable amount of the chlorite and carbonate minerals have been leached out leaving large voids. Very fine grained irregular inclusions and possible micro veins of pyrite-pyrrhotite, chalcopyrite-galena and arsenopyrite are known to occur, although their concentrations can be quite erratic. Evidence of leaching of the sulphide minerals is evident in the form of rusty limonite-gossan patches where exposed on the surface.*

*Where the quartz is white, it would appear that very little or no leaching of the chlorite or carbonate mineral inclusions has taken place. Narrow quartz fracture fillings may carry light coloured epidote crystals with localized highly altered sooty pyrrhotite. Rusting surface patches are less evident in the white quartz areas obviously due to the reduced sulphide contents.*

*It has been noted that inclusions to narrow veins of grey to white quartz have been intruded into the black quartz suggesting two quartz emplacement events have taken place. It may also be possible to suggest that dark coloration of the quartz is simply a result of the partial alteration of the primary white quartz intrusion.*

*The secondary alteration of the original white quartz may also explain the leaching of the inclusions within the black quartz and not in the white quartz. Sulphide minerals may have remobilized and reconcentrated during the alteration process.*

*The numerous quartz veins with inclusions of chlorite and carbonates and the "so-called" sulphides stringers which often contain substantial quantities of quartz-carbonate or epidote are probably for the most part secondary and almost always cross cut the local geological fabric.*

*An interesting question arises as from where the sulphide minerals were derived from. It is quite possible that the sulphides within the quartz were derived from the adjacent host rocks. Due to the potentially favourable base metal environment contact between felsic metavolcanics and mafic-intermediate metavolcanics located to the north and updip of the secondary veins, it is certainly possible to speculate that the sulphides could have been derived from mineral rich rocks from below or possibly from above.*

**Sample 301970****0 + 90E, 0 + 14N at the "Long Trench"****Composite grab sample taken from the same vein material as described for sample 301969**

At this location on the vein the quartz is white and rusty. The quartz hosts 1% pyrite, trace pyrrhotite and chalcopyrite occurring along fractures within the quartz.

**Sample 301971****0 + 82E, 0 + 08N, at the "Long Trench"****Composite grab sample taken from the same vein materials as has been described for sample 301969**

The sample consists of white rusty quartz with carbonate with 2% pyrrhotite and trace chalcopyrite occurring as infillings within vugs developed in the quartz. Very fine grained localized chlorite also occurs within the vugs.

*For the most part it would appear that the minerals that were found to occur within the vugs have not undergone any appreciable leaching or alteration.*

**Sample 301972****0 + 91E, 0 + 00 at the "Long Trench"****Composite grab sample taken from the same vein materials as described for sample 301969**

The sample consists of a white rusty quartz-carbonate vein with 1% chalcopyrite, 1% pyrite and 1% pyrrhotite. 2% fine grained chlorite occurs within weathered out carbonate vugs.

**Sample 301973****0 + 91E, 0 + 00 at the "Long Trench"****Composite grab sample**

The sample was taken off of a stringer zone associated with the main quartz body or intrusion. The quartz-carbonate stringers have been intruded into what is now an intensely chlorite altered amphibolite rock. Some parts of the exposed veins-stringers show mottled surface weathering due to the leaching of the carbonate minerals. The veins-stringers host trace pyrite-pyrrhotite and chalcopyrite.

**Sample 301974****0 + 80E, 0 + 27S at the "Long Trench"****Composite grab sample**

The sample is made up of a massive 1" wide pyrrhotite vein intruding into an amphibolite host rock. The sulphide mineralization is associated with gypsum (or anhydride). The contacts between the sulphides and host rock contain actinolite (or epidote).

*The development of gypsum and/or anhydride minerals are most likely due to weathering, resulting in the generation of sulphuric acid and sulphate minerals. The development of actinolite or epidote minerals at the contacts would have come about as a result of calcium rich hydrothermal fluids. These fluids were obviously rich in iron and sulphur, resulting in the crystallisation of the pyrrhotite. It would appear that the calcium minerals were deposited first followed by the sulphides.*

**Sample 301975****0 + 98E, 0 + 32N at the "Long Trench"****Diamond saw channel sample cut across 2'-2" +/-.**

The sample is a fine grained bedded carbonaceous mud or sand material. The carbonate rich metasedimentary rock is made up of numerous thin 2 mm +/- alternating white to grey-black coloured layers which may represent former depositional beds. These layers or beds have undergone tight crenulated folding. The rock was found to host trace disseminated pyrite with lesser amounts of chalcopyrite.

*The carbonaceous metasediments observed at this location were found to be quite continuous along strike, particularly towards the east and southeast. Immediately towards the west of this sample location, these bedded rocks somehow were truncated, cut off possibly by a fault. The quartz veins and masses described previously (samples 301969 to 301973 inclusive) are thought to occupy the suspected cross cutting fault. The apparent continuation of these carbonaceous rocks has been identified approximately 3/4 of a mile towards the west, south-west.*

*Highly similar bedded carbonaceous rocks have been observed with massive pyrite-pyrrhotite-sphalerite and galena on the Stromsholm showing in Botha Township, located approximately 5 miles east of the BLMI Richardson Lake property.*

*The crenulated folds observed within the rocks are thought to be related to soft sediment slumping or sloughing features. Currently it is thought that the geologic pile-paleoslope faces more or less south. The now carbonaceous metasediments were deposited upon this paleoslope and subsequently slumped causing the semi or unconsolidated materials to become contorted and subsequently show exhibiting features like folding.*

*While the slumping took place, the sediments often incorporated chunks of the underlying country rocks. The layers or beds would become contorted and conform to the shape of the terrestrial block of rock. A number of structure measurements taken off of the folds would appear to indicate that the sediments might have slumped down into at least two parallel troughs that would have developed somewhat perpendicular to the depositional layering. These possible troughs may have developed as a result of a series of parallel faults cross cutting the soft sediments which allowed for gravity settling to take place. The observed doubly plunging folding-slumping may have also been caused by a localized doming effect of the rocks below etc.*

**Sample 301976****1 + 01E, 0 + 30N at the "Long Trench"****Composite grab sample**

The sample consists of a well foliated chlorite-graphite bearing mud. The foliation within the altered rock has been defined by the alignment of chlorite with 5% +/- graphite also occurring along the foliation. 2% sphalerite with 1% galena occurs as fine disseminations primarily associated within white carbonate xenoliths or inclusions within the chlorite-graphite rich rock.

**Sample 301977**  
**1 + 24E, 0 + 56N at the "Long Trench"**  
**Composite grab sample**

This sample consists of a white carbonated-silicified with 1% - 1.5% very fine grained disseminated galena.

*The materials sampled occur to the north or stratigraphically below the carbonaceous metasedimentary rocks previously described for sample 301975. Sample 301977 rocks are thought to represent felsic metavolcanic flows and/or tuffaceous rocks which have undergone severe forms of alteration by carbonate and silica minerals. Minor constituents of epidote and white striated feldspars (possibly albite) randomly occur in the general immediate area or unit. The rocks show signs of being contorted and folded. Alternating differentially weathered carbonate rich then silica rich layers or partings occur across the width of the unit.*

*Near the apparent bottom of the unit a very fine grained aphanitic carbonate rock resembling a carbonaceous mud has incorporated within its shards or chunks of the adjacent country rocks. It is possible that this rock is representative of a tuff mud slide - landslide like feature. More competent flows or tuff may have been laid down on top of this finer grained material. Rock fragments found within the finer grained carbonated materials were probably picked up during the initial movement stages, although rock fragments from above could also have been incorporated into soft unsupported unconsolidated materials below.*

**Sample 301978**  
**1 + 27E, 0 + 60 Ni at the "Long Trench"**  
**Composite grab sample**

The sample consists of an epidote altered felsic metavolcanic rock (possibly a rhyolite). The rock has undergone intense siliceous and epidote alterations with trace to 1% chalcopyrite, 1% pyrite as disseminations in addition to 3% gypsum or anhydride flakes developed as apparent stringer-like forms.

*The rock type examined above usually shows remnants of foliations or primary laminations. Only in the extremely epidote altered portions of the rock does the fabric become totally obscured.*

*At the BLM Richardson Lake property the epidote-siliceous altered felsic metavolcanics appear to always occur below the highly altered carbonate-siliceous felsic metavolcanics and the carbonaceous metasedimentary rocks.*

*In all of the known instances, the rocks were found to dip towards the south at angles usually in the range from 40° to 60° +/-.*

**Sample 301979**  
**1 + 27E, 0 + 63N at the "Long Trench"**  
**Composite grab sample**

This sample was collected at the contact between a narrow band (6" - 7") wide massive magnetite mineralization occurring within the epidote altered felsic metavolcanics. The rocks were found to be massive light green in colour and had been intensely siliceously altered with moderate epidote alterations. These contact rocks carry 1% pyrite and trace to 1% chalcopyrite.

*Thin bands of magnetite mineralization often associated with manganese appear to be common within the foliated or laminated felsic metavolcanics below the carbonate altered rocks, etc.*

*There is some preliminary field evidence to suggest that the magnetite can grade into iron sulphide mineralization, suggesting a potential facies change. It is not yet possible to determine if the iron oxide and sulphide mineralization are magmatic or of sedimentary original. Both the magnetite and pyrite mineralization host accessory minerals such as epidote-silica and abundant secondary gypsum or anhydrite. As a whole the magnetite hosts little or no sulphides, while the sulphides host little or no magnetite or pyrrhotite. The sulphides were also found to carry minor chalcopyrite. It may be important to note that there does not appear to be any relationship between magnetite-sulphide mineralization within the felsic metavolcanics and the massive-semi massive sulphides known to occur within the carbonaceous metasediments stratigraphically above.*

**Sample 301990**

**3 + 03E, 0 + 55N at the "Ridge Trench"**

**Composite grab sample**

The sample consists of a massive aphanitic, grey coloured intensely silicified (rhyolite/dacite) which shows apparent flow banding (laminations). The rock hosts 1% disseminated pyrite.

*The flow banding which may also be metamorphic foliation features is said to measure about 2 mm +/- thick. The highly glassy nature of the bands of the rock might suggest flow rocks. The overall thickness of these banded rocks in the field probably does not exceed 50 ft. in thickness.*

**Sample 301981**

**3 + 05E, 0 + 75N at the "Ridge Trench"**

**Composite grab sample**

The sample was taken off of narrow 3" wide massive pyrite zone associated with quartz stringers. The zone hosts 75% to 80% pyrite with quartz and minor amounts of chlorite. On the surface the sulphide minerals have weathered to a 1.5 ft. wide oxidized gossan patch.

*The massive sulphide mineralization was found to occur between foliated or laminated felsic metavolcanics (rhyolites) above and carbonated-silicified felsic flows and/or tuffs below. The sulphide mineralization correlates to the sulphides at or near the top of the bedded carbonaceous metasediments clearly observed at the "Black Hole, Dog Leg, Dead Bird and the former Holmstrom Trench".*

*It is quite evident that the carbonaceous metasediments and sulphide mineral zone pinch and swell along their strike lengths. At one location the sulphides have been pinched out while the carbonaceous member remained a constant thickness.*

*At the "Long Trench" no massive sulphides occur at the top of the carbonaceous metasediments while a short distance to the west of the "Big Pine Trench" the member was not found and thought to have been truncated by faulting or folding.*

*The carbonaceous metasediments, thin to almost nothing at the "Ridge and Dog Leg Trenches" to the east but still the massive sulphides are found. At the "Dead Bird Trench" the metasediments thicken considerably and also hosts a massive sulphide horizon. The pinching and swelling effects are probably due to folding.*

**Sample 301982**  
**3 + 04E, 0 + 76N**  
**Composite grab sample**

This sample consists of a massive lime green coloured (epidote bearing) intensely silicified intermediate-dyke.

*This apparent intermediate composition dyke was found to concordantly intrude a well laminated and intensely silicified rhyolite flow.*

*There are some indications that there are chilled margins along the contacts of the dyke, apparently having appreciable quantities of epidote and silica. This intrusive rock may be similar or related to a similar but less altered intermediate composition dyke and/or sill found within the carbonaceous metasediments at the "Dead Bird Trench". These small scaled dykes or sills may be genetically related to a series of mafic to intermediate synvolcanic extrusive dykes or flow located in the southwest portion of the property noted on mining claim S-1095079.*

**Sample 301983**  
**3 + 05E, 1 + 02N at the "Ridge Trench"**  
**Composite grab sample**

The sample was taken from and consists of light grey well laminated rhyolite flow with intense silica and localized epidote alteration. Laminations of silica were observed. The rock hosts 1% disseminated pyrite.

*Some very tight drag folding of the laminated or foliated felsic rocks have been observed.*

*Barren quartz stringers with minor sericite, probably due to silica remobilization, have been noted. A number of joint features perpendicular to the rock fabric were found to host up to 2% pyrite with trace amounts of chalcopyrite. The rusty surface exposures are quite common due to the weathering of the sulphide minerals.*

**Sample 301984**  
**3 + 05E, 1 + 12N at the "Ridge Trench"**  
**Composite grab sample**

The sample consists of a somewhat massive, grey-green coloured, medium grained equigranular intermediate tuff. The matrix of the rock appears to contain rounded glassy fragments of quartz. Some chlorite is present in the rock.

*Within the finer grained matrix materials the rock was found to host approximately 7% angular to rounded fragments measuring up to 1.5 cm across. Some of the observed fragments are made up of fine grained amphibolites. The tuffaceous materials are quite massive looking and do not appear to have been moved about. The rock has been highly orthogonally jointed and was found to host 1% disseminated granular pyrite.*

*Only a short distance to the west, near the north end of the "Pine Trench", a unit of very coarse rhyolite lapilli tuff or tuff breccia was observed. The presence of nearly undisturbed intermediate tuffs occurring near the same stratigraphic position as the coarse felsic tuffs might suggest at least two or more volcanic sources.*

**Sample 301985****1 + 12E, 1 + 76N at the "Ridge Trench"****Composite grab sample**

The sample is a fine to medium grained grey coloured well laminated felsic ash tuff. The rock is primarily composed of rounded glassy quartz fragments with long black amphibole needles. The amphibolite needles are thought to occur in alternating layers which would clearly exhibit a planar fabric in the rock. The rock hosts trace amounts of disseminated pyrite.

*The felsic rocks observed appear to have undergone a certain degree of foliation which has resulted in the development of a weak but evident phyllite schistose texture. The schistosity planes appear to show localized kink bands. The kinking would have likely occurred contemporaneously with folding of the adjacent rocks.*

*Because these rocks occupy a topographic low within a wet swampy area, it is thought that faulting may have caused some structural deformation within the rocks. The development of concordant quartz stringers or boudins may help to enforce the fault theory. No doubt if a fault did occupy this topographically low area, then other more distance but adjacent rocks should have been affected.*

**Sample 301986****1 + 20 NE, 0 + 63S at the "Dog Leg Trench"****Composite grab sample**

The sample consists of a bull white quartz vein intruding a silicified rhyolite flow rock. The quartz vein was found to host 1% pyrite, trace pyrrhotite and 3% black-green wisps of chlorite. The rhyolite wall rocks have been intensely silicified (bleached) and host trace pyrite and trace chalcopyrite, occur as disseminations along microthin fractures.

*The quartz vein with the rusting sulphides occur at the same stratigraphic position as the massive sulphides observed at the "Ridge Trench", etc.*

**Sample 301987****1 + 20NE, 0 + 63S at the "Dog Leg Trench"****Composite grab sample**

The sampled material consists of a milky white to lime green (fresh surface) carbonate altered felsic metavolcanic rock, contacting a massive rhyolite. The carbonate rock was found to host 3% fine cubes of galena measuring < 1 mm, associated with 1% to 2% light "honey coloured" sphalerite. Some areas of this rock show localized green-like malachite staining possibly due to the leaching out of various copper complexes.

*Much of this unit was buried by mud and rock debris while attempting to wash down soils from the hillside portions of this trench. It is thought that the mineralization is somewhat more extensive than has been depicted.*

**Sample 301988****1 + 88NE, LO + 00S at the "Dog Leg Trench"****Composite grab sample**

The sampled material consists of either a large fragment of, or an intercalated finger of the highly carbonated altered felsic metavolcanics within an intensely silicified laminated or foliated rhyolite flow or tuff.



The altered felsic rock is white to light green in colour and is both carbonate and siliceously altered. The rock also contains some minor bands of epidote. Sulphide minerals observed within the rock include 1% disseminated pyrite, 1% fine grained disseminated galena and traces of sphalerite.

These rocks described above may correlate with some very coarse grained fragmental mega block rocks observed at the northeast end of the "Dead Bird Trench" which is immediately southeast along strike from the "Dog Leg Trench".

**Sample 301989**

**1 + 05E, 0 + 54N at the "Ridge Trench"**  
**Composite grab sample**

This sample is made up of felsic metavolcanic rhyolite rocks adjacent to the thin massive sulphides noted at the southwest end of the "Ridge Trench".

Generally the rock is fine grained black-grey in colour, crudely laminated (possibly foliated) to massive. The rock hosts 1% finely disseminated pyrite.

**Sample 301990**

**1 + 06E, 0 + 54N at the "Ridge Trench"**  
**Composite grab sample**

This sample was made up of a red rusty ochre coloured soil or highly disintegrated rock which is known to occur immediately below and contacting the massive sulphide mineralization that is associated with carbonaceous metasediments.

*At a number of locations, particularly at the "Dead Bird and Black Hole Trenches", a limonitic to hematitic very fine grained soil (possible regolith?) has developed immediately below the massive sulphides. This iron-rich material has a fine sandy texture and may also contain some clay fractions. It would appear at this time that these sandy materials were deposited on the carbonaceous rocks prior to the deposition of the sulphides. The field studies have shown that the metasediments slumped down slope towards the south-southwest, at which time tensional gashes were developed in what is believed to have been a semi-consolidated metasediment.*

*The already deposited and slumped layer of sandy clay materials were allowed to infill the tension gashes. Some of these openings extend outwards for lengths of 4 to 6 ft. +/- and were infilled with yellow sand with minor clay or almost exclusively clay with minor sand fractions. The sulphides mineralization was thought to have been deposited upon the sand layer after the slumping and void infillings had taken place. No sulphide fragments were observed within the infilled voids which commenced with around bevel and terminated at a point some feet below the surface.*

*This type of feature may support the idea that the volcanic rocks in the area young towards the south, as many would believe. Without question, there is plenty of room for debate with respect to this matter.*

**Sample 301991**

**1 + 03E, 0 + 80N at the "Ridge Trench"**  
**Composite grab sample across approximately 9 ft. of rock**

This sample consists of a massive grey intensely silicified rhyolite as tuff or flow, with up to 10% pyrite scattered throughout the rock.

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*These highly sulphide bearing felsic metavolcanic rocks occur below the calcareous metasediments and the carbonate-siliceous-epidote altered felsic rocks and may correlate with the magnetite-sulphide horizons noted at the "Long and Pine Trench".*

**Sample 301992**

The sample description could not be located within the available information on file.



# Chemex Labs Ltd.

Analytical Chemists • Geometrists • Registered Assayers  
 5175 Timberlea Blvd., Mississauga,  
 Ontario, Canada L4W 2S3  
 PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING, INC.  
 131 FIELDING RD., P.O. BOX 700  
 LIVELY, ON  
 POM 2E0

Page Number : 1  
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 Certificate Date: 17-AUG-92  
 Invoice No. : 19219139  
 P.O. Number : 1761  
 Account : KDU

Project: 92-5000-004  
 Comments: ATTN: HAROLD TRACANELLI

## CERTIFICATE OF ANALYSIS A9219139

SAMPLE	PREP CODE	Ag ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm
300201	205 274	< 0.5	9	27	1.47	295	22	57	12	34
300202	205 274	< 0.5	6	11	3.17	460	16	27	2	14
300203	205 274	< 0.5	23	159	5.14	1500	1	42	2	58
300204	205 274	< 0.5	6	6	2.44	610	7	37	< 2	38
300205	205 274	< 0.5	5	28	1.61	230	26	49	< 2	8
300206	205 274	< 0.5	218	534	>15.00	380	1	183	428	450
300207	205 274	< 0.5	27	78	2.48	660	18	23	22	14
300208	205 274	< 0.5	9	6	5.33	2400	1	10	74	42
300209	205 274	< 0.5	5	1	0.60	4930	2	6	24	16
300210	205 274	< 0.5	3	8	0.83	225	< 1	9	20	22
300211	205 274	< 0.5	23	106	4.03	550	< 1	39	2	38
300212	205 274	< 0.5	22	66	4.57	560	< 1	68	4	88
300213	205 274	< 0.5	50	108	8.51	2630	< 1	32	4	118
300214	205 274	< 0.5	19	84	3.48	750	< 1	38	10	94
300215	205 274	< 0.5	9	4	2.18	4480	< 1	8	1040	956
300216	205 274	< 0.5	3	< 1	0.72	2840	2	2	926	860
300217	205 274	< 0.5	19	28	3.88	2670	16	21	858	4350
300218	205 274	< 0.5	17	9	1.05	>10000	< 1	13	1780	1520
300219	205 274	< 0.5	17	3	0.52	4110	< 1	5	4230	9660
300220	205 274	< 0.5	7	1	0.37	1240	< 1	9	50	112
300221	205 274	< 0.5	3	8	1.67	715	< 1	9	8	12
300222	205 274	< 0.5	25	47	6.58	775	< 1	6	12	94
300223	205 274	< 0.5	20	94	4.50	500	< 1	19	4	60
300224	205 274	< 0.5	22	95	3.43	575	< 1	46	2	48
300225	205 274	< 0.5	< 1	37	>15.00	165	< 1	5	8	34
300226	205 274	< 0.5	22	183	6.17	705	< 1	20	8	78
300228	205 274	< 0.5	30	55	6.95	710	< 1	26	14	92
300229	205 274	< 0.5	32	386	2.97	270	< 1	28	18	44
300230	205 274	< 0.5	13	5	2.05	415	< 4	17	34	44
300231	205 274	< 0.5	113	687	4.99	380	36	186	42	638
300232	205 274	4.5	64	1260	14.15	390	< 1	108	3990	7060
300233	205 274	< 0.5	448	94	2.38	6530	4	135	354	434
300234	205 274	1.5	932	699	>15.00	2830	21	331	2040	3120
300235	205 274	< 0.5	25	172	3.59	745	< 1	24	578	1805
300236	205 274	< 0.5	28	69	>15.00	155	< 1	78	38	86
300237	205 274	< 0.5	19	23	2.24	405	< 1	32	42	94
300238	205 274	< 0.5	8	3	1.30	3620	< 1	16	644	730
300239	205 274	< 0.5	59	40	3.78	175	3	32	32	42
300240	205 274	< 0.5	9	5	4.53	5150	7	11	644	1260
300241	205 274	< 0.5	25	145	12.95	1875	16	53	18	42

CERTIFICATION: *Harold Tracanelli*

# Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers  
 5175 Timberlea Blvd., Mississauga,  
 Ontario, Canada L4W 2S3  
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SAMPLE	PREP CODE	Ag ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm
301951	205 274	< 0.5	11	26	3.09	235	< 1	33	10	20
301952	205 274	< 0.5	36	230	4.90	890	< 1	43	444	1470
301953	205 274	< 0.5	31	113	4.95	650	< 1	26	8	106
301954	205 274	< 0.5	29	63	5.52	595	3	38	18	76
301955	205 274	< 0.5	30	93	5.17	695	< 1	26	< 2	86
301956	205 274	< 0.5	25	68	3.92	220	< 1	35	12	32
301957	205 274	< 0.5	20	32	3.26	445	1	27	12	62
301958	205 274	< 0.5	24	32	4.23	555	4	28	10	98
301959	205 274	< 0.5	31	63	4.32	565	< 1	55	10	62
301965	205 274	< 0.5	45	98	5.52	910	< 1	38	26	114
301967	205 274	< 0.5	34	202	4.81	355	< 1	31	312	126
301969	205 274	< 0.5	21	205	6.47	920	< 1	55	190	424
301970	205 274	< 0.5	7	164	2.34	225	< 1	18	56	58
301971	205 274	< 0.5	57	183	3.25	445	< 1	176	92	218
301972	205 274	< 0.5	29	420	8.30	1100	< 1	60	72	172
301973	205 274	< 0.5	20	23	5.02	945	< 1	46	6	98
301974	205 274	< 0.5	471	303	>15.00	515	< 1	1080	74	880
301975	205 274	< 0.5	13	10	0.77	4220	< 1	23	6	24
301976	205 274	< 0.5	26	1	4.40	2610	3	236	762	2080
301977	205 274	< 0.5	9	1	0.44	1890	3	11	420	484
301978	205 274	< 0.5	17	156	4.35	2180	5	39	66	92
301979	205 274	< 0.5	27	857	9.20	2990	< 1	67	18	26
301981	205 274	< 0.5	34	192	>15.00	265	< 1	53	18	36
301983	205 274	< 0.5	4	21	1.89	100	< 1	14	2	6
301986	205 274	< 0.5	8	66	2.29	325	2	15	48	32
301987	205 274	< 0.5	6	5	1.97	3200	50	3	2980	3110
301988	205 274	< 0.5	6	15	1.30	1795	4	4	364	772
301989	205 274	< 0.5	17	43	3.33	355	1	32	14	134
301990	205 274	< 0.5	15	48	11.15	1145	2	21	12	64
301991	205 274	< 0.5	19	78	3.58	200	16	35	42	102
301992	205 274	< 0.5	14	6	3.52	600	< 1	137	< 2	82

CERTIFICATION: *Harold M*



**Chemex Labs Ltd.**  
 Analytical Chemists • Geochemists • Registered Assayers  
 5175 Timberlea Blvd., Mississauga,  
 Ontario, Canada L4W 2S3  
 PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING, INC.  
 191 FIELDING RD., P.O. BOX 700  
 LIVELY, ON  
 POM 2E0

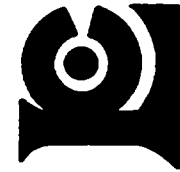
Project: 92-5000-004  
 Comments: ATTN: HAROLD TRACANELLI

Page Number : 1  
 Total Pages : 2  
 Certificate Date: 17-AUG-92  
 Invoice No. : 19219139  
 P.O. Number : 1761  
 Account : KDU

**CERTIFICATE OF ANALYSIS A9219139**

SAMPLE	PREP CODE	AG ppm	CO ppm	CU ppm	Fe %	Mn ppm	Mo ppm	NI ppm	Pb ppm	Zn ppm
300201	205 274	< 0.5	9	27	1.47	298	22	57	12	24
300202	205 274	< 0.5	6	11	3.17	460	16	27	2	14
300203	205 274	< 0.5	23	159	5.14	1500	7	42	2	58
300204	205 274	< 0.5	6	6	2.44	610	26	37	< 2	38
300205	205 274	< 0.5	5	28	1.61	230	< 1	49	< 2	8
300206	205 274	< 0.5	218	534	>15.00	380	1	183	428	450
300207	205 274	< 0.5	27	78	2.48	660	18	23	22	14
300208	205 274	< 0.5	9	6	5.33	2400	2	10	74	42
300209	205 274	< 0.5	5	1	0.60	4930	< 1	6	24	16
300210	205 274	< 0.5	3	8	0.83	225	< 1	9	20	22
300211	205 274	< 0.5	23	106	4.03	550	< 1	39	2	38
300212	205 274	< 0.5	22	66	4.57	660	< 1	68	4	88
300213	205 274	< 0.5	50	108	8.51	2630	< 1	32	4	118
300214	205 274	< 0.5	19	84	3.48	750	< 1	38	10	94
300215	205 274	< 0.5	9	4	2.18	4480	< 1	8	1040	986
300216	205 274	< 0.5	3	< 1	0.72	2840	2	2	226	860
300217	205 274	< 0.5	19	28	3.88	2670	16	21	898	4380
300218	205 274	< 0.5	17	9	1.05	>10000	< 1	13	1780	1520
300219	205 274	< 0.5	17	3	0.52	4110	< 1	5	4230	9660
300220	205 274	< 0.5	7	1	0.37	1240	< 1	9	50	112
300221	205 274	< 0.5	2	8	1.67	715	< 1	9	8	12
300222	205 274	< 0.5	25	47	6.58	775	< 1	6	12	94
300223	205 274	< 0.5	20	94	4.50	500	< 1	19	4	60
300224	205 274	< 0.5	22	96	3.43	575	< 1	45	2	48
300225	205 274	< 0.5	< 1	37	>15.00	165	< 1	5	8	34
300226	205 274	< 0.5	22	183	6.17	705	< 1	20	8	78
300228	205 274	< 0.5	30	55	6.95	710	< 1	26	14	92
300229	205 274	< 0.5	32	386	2.97	270	< 1	28	18	44
300230	205 274	< 0.5	12	5	2.05	415	< 1	17	34	44
300231	205 274	< 0.5	113	687	4.99	380	36	186	42	638
300232	205 274	4.5	64	1260	14.15	390	< 1	108	3990	7060
300233	205 274	< 1.5	448	94	2.38	6530	4	135	354	434
300234	205 274	0.5	932	699	>15.00	2830	21	331	2040	3120
300235	205 274	0.5	25	172	3.59	745	< 1	24	578	1805
300236	205 274	< 0.5	28	69	>15.00	155	< 1	78	38	86
300237	205 274	< 0.5	19	22	2.24	405	< 1	32	42	94
300238	205 274	< 0.5	8	3	1.30	3620	< 1	16	644	730
300239	205 274	< 0.5	59	40	3.78	175	3	44	32	42
300240	205 274	< 0.5	9	5	4.53	5150	7	11	644	1260
300241	205 274	< 0.5	25	145	12.95	1875	16	53	18	42

CERTIFICATION: *Bharti D. Ma*



# Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers  
 5175 Timberlea Blvd., Mississauga,  
 Ontario, Canada L4W 2B3  
 PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING, INC.  
 131 FIELDING RD., P.O. BOX 700  
 LIVELY, ON  
 P0M 2E0

Project: 92-5000-004  
 Comments: ATTN: HAROLD TRACANELLI

Page Number : 2  
 Total Pages : 2  
 Certificate Date: 17-AUG-92  
 Invoice No. : 19219139  
 P/O. Number : 1761  
 Account : KDU

## CERTIFICATE OF ANALYSIS A9219139

SAMPLE	PREP CODE	Ag ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm
301951	205 274	< 0.5	11	26	3.09	235	< 1	33	10	20
301952	205 274	< 0.5	36	230	4.90	890	< 1	43	444	1470
301953	205 274	< 0.5	31	113	4.26	650	< 1	26	8	106
301954	205 274	< 0.5	29	63	5.82	595	< 1	38	18	76
301955	205 274	< 0.5	30	93	5.17	695	< 1	26	< 2	86
301956	205 274	< 0.5	25	68	2.92	230	< 1	35	12	32
301957	205 274	< 0.5	20	32	3.26	445	< 1	27	12	62
301958	205 274	< 0.5	24	32	4.23	595	< 1	25	10	98
301959	205 274	< 0.5	31	63	4.32	565	< 1	55	2	62
301965	205 274	< 0.5	45	98	5.52	910	< 1	38	26	114
301967	205 274	< 0.5	34	202	4.81	355	< 1	31	312	126
301969	205 274	< 0.5	21	206	6.47	920	< 1	55	190	424
301970	205 274	< 0.5	7	164	2.34	225	< 1	18	56	58
301971	205 274	< 0.5	57	193	3.25	445	< 1	176	92	216
301972	205 274	< 0.5	29	420	8.30	1100	< 1	60	72	172
301973	205 274	< 0.5	20	23	5.02	945	< 1	46	6	98
301974	205 274	< 0.5	471	303	>15.00	515	< 1	1080	74	880
301975	205 274	< 0.5	13	10	0.77	4220	< 1	23	6	24
301976	205 274	< 0.5	26	1	4.40	2610	< 3	236	762	2080
301977	205 274	< 0.5	9	1	0.44	1880	3	11	420	484
301978	205 274	< 0.5	17	156	4.35	2180	5	39	66	92
301979	205 274	< 0.5	27	857	9.20	2990	< 1	67	18	26
301981	205 274	< 0.5	34	192	>15.00	265	< 1	53	18	36
301983	205 274	< 0.5	4	21	1.89	100	< 1	14	2	6
301986	205 274	< 0.5	8	66	2.29	325	2	15	48	32
301987	205 274	< 0.5	6	5	1.97	3200	50	3	2980	3110
301988	205 274	< 0.5	6	16	1.30	1795	4	4	364	772
301989	205 274	< 0.5	17	43	3.33	355	1	32	14	134
301990	205 274	< 0.5	15	48	11.15	1145	2	21	12	64
301991	205 274	< 0.5	19	78	3.58	200	16	35	42	102
301992	205 274	< 0.5	14	6	3.52	600	< 1	137	< 2	82

CERTIFICATION: *Phai D Mo*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 5175 Timberlea Blvd., Mississauga,  
 Ontario, Canada L4W 2S3  
 PHONE: 416-624-2808

To: BHARTI LAAMANEN MINING, INC.  
 131 FIELDING RD., P.O. BOX 700  
 LIVELY, ON  
 P0M 2E0

Project: 92-5000-004  
 Comments: ATTN: HAROLD TRACANELLI

Page Number : 1  
 Total Pages : 1  
 Certificate Date: 19-AUG-92  
 Invoice No. : 19219140  
 P.O. Number : 1761  
 Account : KDU

## CERTIFICATE OF ANALYSIS A9219140

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %
30201	299 200	7.52	3.73	0.03	3.17	1.41	0.77	0.05	0.99	0.09	80.51	0.41	0.60	99.28
30204	299 200	9.84	4.71	0.02	4.71	1.48	1.46	0.10	1.27	0.12	73.95	0.55	1.39	99.59
30209	299 200	19.26	27.18	0.01	2.82	0.03	0.25	2.21	<	0.01	45.24	0.08	0.94	98.03
30222	299 200	13.68	5.98	<	18.00	0.60	3.04	0.23	3.30	0.10	52.80	2.22	1.20	101.15
30223	299 200	13.77	8.45	<	18.26	0.51	4.41	0.22	2.47	0.07	48.02	2.24	1.07	99.49
301992	299 200	9.20	9.03	0.19	9.79	0.46	14.42	0.22	1.32	0.20	50.18	0.54	3.00	98.54

CERTIFICATION: *John D. Ma*



# Chemex Labs Ltd.

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 5175 Timberlea Blvd., Mississauga,  
 Ontario, Canada L4W 2S3  
 PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING, INC.  
 131 FIELDING RD., P.O. BOX 700  
 LIVELY, ON  
 POM 2E0

Page Number : 1  
 Total Pages : 1  
 Certificate Date : 19-AUG-02  
 Invoice No. : 19219140  
 P.O. Number : 1781  
 Account : KDU

Project : 92-5000-004  
 Comments: ATTN: HAROLD TRACANELLI

## CERTIFICATE OF ANALYSIS A9219140

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %
309201	299 200	7.52	3.73	0.03	3.17	1.41	0.77	0.05	0.99	0.09	80.51	0.41	0.60	99.28
309204	299 200	9.84	4.71	0.02	4.71	1.48	1.46	0.10	1.27	0.12	73.95	0.55	1.39	99.59
309209	299 200	19.26	27.18	0.01	2.82	0.03	0.25	2.31	< 0.01	< 0.01	45.24	0.08	0.94	98.03
309222	299 200	13.68	5.98	< 0.01	18.00	0.60	3.04	0.23	3.30	0.10	52.80	2.22	1.20	101.15
309223	299 200	13.77	8.45	< 0.01	18.26	0.51	4.41	0.22	2.47	0.07	49.02	2.24	1.07	99.49
301992	299 200	9.20	9.03	0.19	9.79	0.46	14.43	0.22	1.32	0.20	50.18	0.54	3.00	98.54

CERTIFICATION:

*Bharti Laamanen*





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 Ontario, Canada L4W 2S3  
 PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING, INC.  
 131 FIELDING RD., P.O. BOX 700  
 LIVELY, ON  
 POM 2E0

Project: 92-5000-004  
 Comments: ATTN: HAROLD TRACANELLI

Page Number : 1  
 Total Pages : 2  
 Certificate Date: 16-AUG-92  
 Invoice No. : 19219141  
 P.O. Number : 1761  
 Account : KDU

## CERTIFICATE OF ANALYSIS A9219141

SAMPLE	PREP CODE	Au ppb FA+AA								
300202	299	< 5								
300203	299	10								
300206	299	10								
300207	299	< 5								
300209	299	< 5								
300211	299	< 5								
300212	299	< 5								
300213	299	< 5								
300214	299	< 5								
300219	299	< 5								
300221	299	< 5								
300224	299	< 5								
300225	299	< 5								
300226	299	< 5								
300230	299	< 5								
300231	299	< 5								
300232	299	< 5								
300233	299	< 5								
300234	299	40								
300235	299	< 5								
300236	299	< 5								
300237	299	< 5								
300238	299	< 5								
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300242	299	< 5								
301951	299	< 5								
301952	299	< 5								
301953	299	< 5								
301954	299	< 5								
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301956	299	< 5								
301957	299	< 5								
301958	299	< 5								
301959	299	< 5								
301965	299	< 5								
301967	299	< 5								
301969	299	< 5								
301970	299	< 5								

CERTIFICATION: *Mark Vrabl*



# Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers  
5175 Timberlea Blvd., Mississauga,  
Ontario, Canada L4W 2S3  
PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING, INC.  
131 FIELDING RD., P.O. BOX 700  
LIVELY, ON  
P0M 2E0

Project: 92-5000-004  
Comments: ATTN: HAROLD TRACANELLI

Page Number : 2  
Total Pages : 2  
Certificate Date: 18-AUG-92  
Invoice No. : 19219141  
P.O. Number : 1761  
Account : KDU

## CERTIFICATE OF ANALYSIS A9219141

SAMPLE	PREP CODE	Au Ppb 7A+AA																			
301971	299	< 5																			
301972	299	< 5																			
301973	299	< 5																			
301974	299	< 5																			
301975	299	< 5																			
301981	299	< 5																			
301983	299	< 5																			
301986	299	< 5																			
301989	299	< 5																			
301990	299	< 5																			
301991	299	< 5																			

CERTIFICATION: *[Signature]*



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 5175 Timberlea Blvd., Mississauga,  
 Ontario, Canada L4W 2S3  
 PHONE: 416-624-2808

To: BHARTI LAAMANEN MINING, INC.  
 131 FIELDING RD., P.O. BOX 700  
 LIVELY, ON  
 P0M 2E0

Project: 92-5000-004  
 Comments: ATTN: HAROLD TRACANELLI

Page Number : 1  
 Total Pages : 2  
 Certificate Date: 18-AUG-92  
 Invoice No. : 18218141  
 P.O. Number : 1761  
 Account : KDU

## CERTIFICATE OF ANALYSIS A9219141

SAMPLE	PREP CODE	AU PPB 7A+AA																		
300202	299	< 5																		
300203	299	10																		
300206	299	10																		
300207	299	< 5																		
300209	299	< 5																		
300211	299	< 5																		
300212	299	< 5																		
300213	299	< 5																		
300214	299	< 5																		
300219	299	< 5																		
300221	299	< 5																		
300224	299	< 5																		
300225	299	< 5																		
300226	299	< 5																		
300230	299	< 5																		
300231	299	< 5																		
300232	299	< 5																		
300233	299	< 5																		
300234	299	40																		
300235	299	< 5																		
300236	299	< 5																		
300237	299	< 5																		
300238	299	< 5																		
300239	299	< 5																		
300240	299	< 5																		
300241	299	< 5																		
300242	299	< 5																		
301981	299	< 5																		
301982	299	< 5																		
301983	299	< 5																		
301984	299	< 5																		
301985	299	< 5																		
301986	299	< 5																		
301987	299	< 5																		
301988	299	< 5																		
301989	299	< 5																		
301965	299	< 5																		
301967	299	< 5																		
301969	299	< 5																		
301970	299	< 5																		

CERTIFICATION: *Harold Tracanelli*



# Chemex Labs Ltd.

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5175 Timberlea Blvd., Mississauga,  
Ontario, Canada L4W 2B9  
PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING, INC.  
131 FIELDING RD., P.O. BOX 700  
LIVELY, ON  
P0M 2E0

Project: 92-5000-004  
Comments: ATTN: HAROLD TRACANELLI

Page Number : 2  
Total Pages : 2  
Certificate Date : 19-AUG-92  
Invoice No. : 19219141  
P.O. Number : 1761  
Account : KDU

## CERTIFICATE OF ANALYSIS A9219141

SAMPLE	PREP CODE	AN ppb PA-AA								
301971	299 --	< 5								
301972	299 --	< 5								
301973	299 --	< 5								
301974	299 --	< 5								
301975	299 --	< 5								
301981	299 --	< 5								
301982	299 --	< 5								
301986	299 --	< 5								
301989	299 --	< 5								
301990	299 --	< 5								
301991	299 --	< 5								

CERTIFICATION:



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 5175 Timberlea Blvd., Mississauga,  
 Ontario, Canada L4W 2S3  
 PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING, INC.  
 131 FIELDING RD., P.O. BOX 700  
 LIVELY, ON  
 P0M 2E0

Project: 92-5000-004  
 Comments: ATTN: H. TRACANELLI

Page Number : 1  
 Total Pages : 1  
 Certificate Date: 19-AUG-82  
 Invoice No. : 19219253  
 P.O. Number : 1761  
 Account : KDU

## CERTIFICATE OF ANALYSIS A9219253

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Mn2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %
300227	205 274	15.76	4.93	< 0.01	5.34	2.28	1.68	0.08	3.65	0.15	64.88	0.50	1.35	100.60
301960	205 274	14.79	8.09	< 0.01	15.31	0.65	6.95	0.22	2.26	0.08	46.40	1.32	2.03	98.10
301961	205 274	14.63	5.62	< 0.01	15.98	0.70	6.82	0.21	3.79	0.06	46.59	1.06	2.65	98.13
301962	205 274	13.96	6.44	< 0.01	14.20	0.63	6.16	0.24	4.16	0.08	48.56	1.35	1.96	97.74
301963	205 274	13.77	7.26	< 0.01	15.50	2.96	6.19	0.24	2.88	0.06	46.76	1.03	1.93	98.58
301964	205 274	13.86	1.15	0.01	3.46	1.32	2.13	0.05	4.69	0.13	70.59	0.35	1.80	99.54
301966	205 274	14.00	6.20	< 0.01	16.08	0.37	6.07	0.30	3.34	0.08	47.13	1.30	1.36	98.24
301968	205 274	15.37	8.42	0.02	12.43	0.83	8.45	0.24	2.86	< 0.01	46.83	0.62	2.01	98.09
301980	205 274	13.88	1.45	0.02	3.47	4.21	1.75	0.05	3.49	0.16	69.89	0.60	2.40	101.40
301982	205 274	11.76	14.15	0.02	10.07	1.72	5.50	0.33	1.98	0.07	51.49	0.71	1.36	99.16
301984	205 274	13.93	6.23	0.02	5.73	3.57	2.89	0.13	3.79	0.55	60.93	0.67	1.44	99.87
301985	205 274	12.51	1.70	0.03	3.63	2.42	1.61	0.05	3.71	0.16	74.04	0.50	1.38	101.75

CERTIFICATION:

*Jhai D Ma*



# Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers  
 5175 Timberlea Blvd., Mississauga,  
 Ontario, Canada L4W 2S3  
 PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING, INC.  
 131 FIELDING RD., P.O. BOX 700  
 LIVELY, ON  
 POM 2E0

Project: 92-5000-004  
 Comments: ATTN: H. TRACANELLI

Page Number : 1  
 Total Pages : 1  
 Certificate Date: 19-AUG-92  
 Invoice No. : 19219263  
 P.O. Number : 1761  
 Account : KDU

## CERTIFICATE OF ANALYSIS A9219253

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %
301960	208 274	15.76	4.93	< 0.01	8.34	2.28	1.68	0.08	3.65	0.15	64.88	0.50	1.35	100.60
301961	208 274	14.79	8.09	< 0.01	15.31	0.55	6.95	0.22	2.26	0.08	46.40	1.32	2.03	98.10
301962	208 274	14.63	5.62	< 0.01	15.98	0.70	6.82	0.21	3.79	0.06	46.59	1.06	2.65	98.13
301963	208 274	13.96	6.44	< 0.01	14.20	0.93	6.16	0.24	4.16	0.08	48.56	1.35	1.96	97.74
301964	208 274	13.77	7.26	< 0.01	15.50	2.96	6.19	0.24	2.88	0.06	46.76	1.03	1.93	98.58
301965	208 274	13.86	1.15	0.01	3.46	1.32	2.13	0.05	4.69	0.13	70.59	0.35	1.80	99.54
301966	208 274	14.00	8.20	< 0.01	16.08	0.37	6.07	0.30	3.34	0.08	47.13	1.30	1.35	98.34
301967	208 274	15.37	8.42	0.02	12.43	0.93	8.45	0.24	2.86	< 0.01	46.83	0.62	2.01	98.09
301968	208 274	13.88	1.48	0.02	3.47	4.31	1.75	0.05	3.49	0.16	69.89	0.60	2.40	101.40
301969	208 274	11.76	14.15	0.02	10.07	1.72	5.50	0.33	1.98	0.07	51.49	0.71	1.36	99.36
301970	208 274	13.93	6.23	0.02	5.73	3.97	2.89	0.13	3.79	0.95	60.93	0.67	1.44	99.87
301971	208 274	12.51	1.70	0.03	3.63	2.42	1.61	0.05	3.71	0.16	74.04	0.50	1.38	101.75

CERTIFICATION: *Phai D Min*



# Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers  
5175 Timberlea Blvd., Mississauga,  
Ontario, Canada L4W 2S3  
PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING, INC.  
131 FIELDING RD., P.O. BOX 700  
LIVELY ON  
POM 2E0

Project : 92-5000-004  
Comments: ATTN: H. TRACANELLI

Page Number : 1  
Total Pages : 1  
Certificate Date : 18-AUG-92  
Invoice No. : 19219254  
P.O. Number : 1761  
Account : KDU

## CERTIFICATE OF ANALYSIS A9219254

SAMPLE	PREP CODE	Au ppb FA+AA								
300227	299 --	< 5								

CERTIFICATION: *Theresa Vankh*



# Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers  
5176 Timberlea Blvd., Mississauga,  
Ontario, Canada L4W 2B3  
PHONE: 416-424-2806

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P0M 2E0

Project: 92-5000-004  
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## CERTIFICATE OF ANALYSIS A9219254

SAMPLE	PREP CODE	AU PPb FA+AA								
300227	299 --	< 5								

CERTIFICATION: *[Signature]*



## 8.4 DIAMOND DRILLING

The diamond drilling portion of the BLM Richardson Lake Exploration Program was carried out by Sparta Diamond Drilling of Connought, Ontario during the period from September 15, 1992 to October 5, 1992.

For the project Sparta utilized a BBS-2 hydraulic drill with a thin wall wireline drill string system.

A total of four diamond drill holes with an aggregate footage of 2,102 feet of AGBM (1.2 inch diameter) core was recovered from the property.

There were four diamond drill holes put down on mining claim S-1095079 and have been identified as follows:

RL-92-01	-45° to -40°
RL-92-02	-45° to -45.5°
RL-92-03	-45° to -47°
RL-92-04	-55° to -56.5°

Each of the above inclined holes were drilled in a northeastward direction in an attempt to test the down dip extension of the highly altered and deformed sulphide bearing felsic metavolcanic rocks previously exposed in a series of surface trenches.

Please refer to Figure 29 which depicts the position of the drill holes in conjunction with the position of the surface trenches and dozer-skidder access trails.

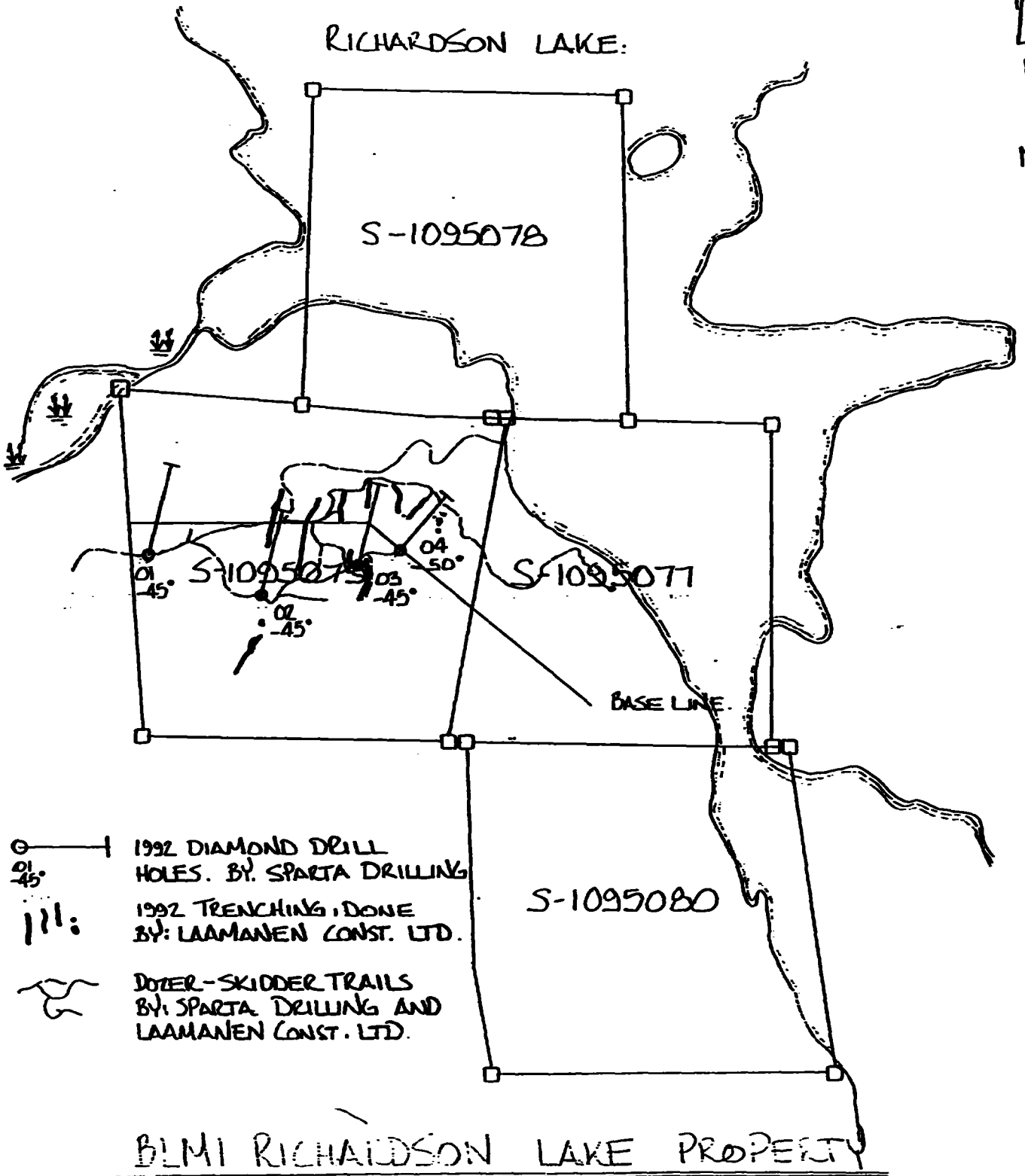
The position of the four drill holes has also been plotted on the 1 inch to 50 feet Bharti Laamanen Mining Inc. VLEM Survey Plan (Map 2). Each of the holes has been drafted showing the vertical projections of the ends of each drill hole onto an assumed horizontal plane.

Each of the holes on the plan (Map 2) has been marked by their identification numbers, inclination of the hole and ultimate depth in feet.

All of the compiled drill log information was drafted at a scale of 1 inch to 50 feet to generate "Geological X-Sections".

# 1992 TRENCHING AND DIAMOND DRILLING INDEX MAP.

0'      600'      1200'  
 1" = 600 FT.



RHODES TOWNSHIP  
 SCALE 1" = 600 FT.

Figure 29

Upon the completion of the drill core logging, a number of drill core lengths were split in half and subsequently submitted to Chemex Labs. Ltd. to be subjected to analytical procedures for Au, Ag, ICP-32 and major oxide whole rock determinations. The various "Certificates of Analysis" provided from the lab have been included within this section.

From the diamond drill logs a series of geological cross sections were created of a scale of 1" to 50 feet.

In conjunction with the geological cross sections, four separate cross sections were created showing the position of all collected samples as well as separate sections depicting the ICP geochemistry results for copper, lead and zinc drafted at a scale of 1 inch to 50 feet.

The remaining ICP-32 elements, gold, silver and the whole rock major oxides were not plotted and can easily be assessed by reviewing the attached assay certificates.

The copper, lead and zinc values were reported in parts per million (ppm) and have been plotted on the various sections with the units having a specific scale which has been depicted as a bar scale on each of the drawings.

Please refer to Figures 30 through 49 showing the various plotted drill hole information.

The results of the diamond drilling has shown that 3 out of the 4 holes put down cut through the intermediate to mafic amphibolite rocks and passed into the highly altered and deformed sulphide bearing felsic metavolcanic rocks.

The amphibolite rocks, for the most part, were quite consistent and were fairly predictable with respect to the mineralogy foliation plane, alteration, etc.

The contact between the amphibolites and the felsic rocks was more or less encountered at a predictable location. Some of the felsic rocks that were encountered below the contact were similar to those observed in the surface trenches, while there were other more unusual felsic metasedimentary-metavolcanic rocks lower in the holes that have never been observed on the present surface.

With respect to the results of the split core assaying, the results generally turned out to be quite low, particularly in sections that were expected to be meal bearing. Intermediate amphibolites in the upper portions of the drill holes appeared to show elevated metal values which may be due to the presence

---

of both primary and secondary sulphide minerals.

A lot of the generated assay data should be carefully assessed in the near future in an attempt to determine the various background and anomalous metal values.

### 8.4.1 DIAMOND DRILLING SPECIFICATION INFORMATION

Drilling carried out by:

Sparta Diamond Drilling, Connaught, Ontario  
Principal Owners: Larry and Joeann Salo

Equipment used for the project:

Skid mounted Boyles Brothers 2 (BBS-2) hydraulic feed, powered by a 4 cylinder diesel engine.  
Drill tower set up to accommodate a 10 foot pull.  
Drill equipment mobilized using a Clark Timber Jack.

Drill string equipment used:

LongEar thin wall system rods, Fordia diamond bits, reaming shells and rear stabilizers, mounted on a 10 foot double tube core barrel with the overshot assembly for wire line use.

Rod system core size:

AGBM wire line @ 1.20 inch O.D. core

All inclusive drilling costs per foot: \$12.00

Diamond Drill Runner: Larry Salo  
Diamond Drill Helper: Ronald Crichton

Hole Drilling - Start and Completion Dates:

RL-92-01	September 15, 1992 to September 20, 1992
RL-92-02	September 21, 1992 to September 26, 1992
RL-92-03	September 27, 1992 to October 01, 1992
RL-92-03	October 02 1992 to October 05, 1992

Diamond Drill Hole Grid Line Co-Ordinates:

RL-92-01	3 + 86 W, 1 + 39 S
RL-92-02	0 + 22 E, 3 + 20 S
RL-92-03	3 + 02 E, 1 + 93 S
RL-92-03	BL 0 + 00, 1 + 85 SE

Diamond Drill Hole Azimuth and Bearings

RL-92-01	014.5° Az	N 14° - 30' E
RL-92-02	014.5° Az	N 14° - 30' E
RL-92-03	014° Az	N 14° - 0' E
RL-92-03	039° Az	N 39° - 0' E

Final Depth of Drill Holes:

RL-92-01	532'
RL-92-02	522'
RL-92-03	524'
RL-92-03	524'

Total footages drilled: 2102' \_

Total amount of casing sunk: 6.0' +/-

RL-92-01 6.0 feet +/-  
B sized shoe left in hole with casing

Drill hole HCl acid dip - inclination tests and calculated angle changes:

RL-92-01 0' - 45°, 532' -40°

0'-106.4'	-45°
106.4' - 212.8'	-43.75°
212.8' - 319.2'	-42.50°
319.2' - 425.6'	-41.25°
425.6' - 532.0'	-40.00°

RL-92-02 0' - 45°, 522' -44.5°

0'-104.4'	-45°
104.4' - 208.8'	-44.88°
208.8' - 313.2'	-44.75°
313.2' - 417.6'	-44.63°
417.6' - 522.0'	-44.50°

RL-92-03 0' - 45°, 504' -47°

0'-104.8'	-45°
104.8' - 209.6'	-45.50°
209.6' - 314.4'	-46.00°
314.4' - 419.2'	-46.50°
419.2' - 524.0'	-47.00°

RL-92-04      0' - 55°, 524' -56.5°

0'-104.8'	-55°
104.8' - 209.6'	-55.38°
209.6' - 314.4'	-55.75°
314.4' - 419.2'	-56.13°
419.2' - 524.0'	-56.50°

Diamond drill holes were put down on mining claim S-1095079.

Dates the drill hole logging was completed.

RL-92-01      October 15, 1992  
 RL-92-02      November 27, 1992  
 RL-92-03      December 4, 1992  
 RL-92-03      December 11, 1992

The core logging was carried out by:

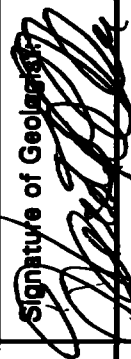
Harold J. Tracanelli  
 Exploration Geologist, BLMI Richardson Lake Project  
 BEA/BLMI staff employee

Present location and condition of diamond drill core:

Upon completion of the logging, certain sections of the diamond drill core were split in half and submitted to the laboratory for assay determinations, etc. The core is securely stored in wooden core boxes in wooden core racks located in the Laamanen Construction Ltd. yard at 129 Fielding Road, Lively, Ontario.

For further diamond drill related information, please contact Harold J. Tracanelli at 705-682-3211 during normal business hours.

**BHARTI LAAMANEN MINING INC. - RICHARDSON LAKE PROJECT**

<b>Drill Hole No.</b> RL-92-01	<b>Date Logs Submitted:</b> January 15, 1993		<b>Signature of Geologist:</b> 	<b>No. of Pages in Log:</b> 10
<b>Company Name:</b> Bharti Laamanen Mining Inc.	<b>Property Name:</b> Richardson Lake	<b>Township:</b> Rhodes Township	<b>Claim Number:</b> S 1095079	
<b>N.T.S. Reference No.:</b> 41-1/14 Edition 2, Venetian Lake, Ontario				
<b>Drill core stored at:</b> Laamanen Const., 129 Fielding Rd., Lively, Ontario, POM 2EO				
<b>Project Supervisor:</b> Harold J. Tracanelli				
<b>Employer:</b> Bharti Engineering Associates Inc. 131 Fielding Rd., Lively, Ontario, POM 2EO				
<b>Diamond Drilling Company:</b> Sparta Drilling		<b>Runner-Supervisor:</b> Larry Salo	<b>Helper:</b> Ronald Crichton	<b>Equipment Type:</b> BBS-2
<b>Date Drill Hole Started:</b> Sept. 15, 1992	<b>Date Drill Hole Completed:</b> Sept. 20/92	<b>Azimuth of Drill Hole:</b> 014.5°	<b>Total Length of Drill Hole:</b> 532 ft.	<b>Dip of Drill Hole, Collar:</b> 0' -45° 532' -40°
<b>Drill Core Logged by:</b> Harold J. Tracanelli		<b>Drillhole Co-ordinates:</b> 3 + 86W, 1 + 39S		
<b>Major Lithological Units:</b> Mafic to felsic metavolcanics with minor metasediments				
<b>Objectives of the diamond drilling exploration:</b> To explore the depth extent of the mafic-felsic contacts for volcanogenetic massive sulphide type deposits (VMS)				











Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
			<p>② 255.1-292' interbedded altered section of tuff. The fine grained grey altered felsic tuff appears to be interbedded or incalated with very fine grained highly contorted mud-ash. The interbeds are quite common within this section having a maximum thickness of 5.8'-6.0' +/- . The localized interbeds show some alteration to silica with some visible chlorite-carbonate as localized fine disseminated to irregular inclusions, particularly at footages 278'-279' +/- .</p> <p>③ 263' - 271' - 1" - 2" round fragments within the tuff (fine grained felsic), locally trace 1% cubic to irregular formed pyrite.</p>	57102	276.0'	282.0'	6.0'	Au-877 ICP-32
282.0'	294.3'	Felsic tuff.	Medium grained, grey coloured, weakly foliated but generally quite massive looking with numerous 0.05-0.1" grey to light pink poorly sorted quartz-feldspar ash fragments throughout. The core has been sharply to irregularly broken in places and fracture surfaces are coated with green sericite-chlorite-talc minerals.					
294.8'	323.0'	Moderately altered felsic tuffs	Visible evidence of the alteration zone can be seen down to at least 323' although it may be somewhat weak. There is a possible alteration halo to 328' +/- . The average alteration is moderate, although it can range from weak to strongly altered in places. The alteration zone may mark a significant lithological change in the tuff unit. The most visible alteration occurs starts abruptly from about 295' to 313' and from 313' to 328'. The alteration effects seem to be quite less visible from footages 313' - 328'. For the most part the rocks within the altered zone are thought to be made up primarily of former fine to medium grained tuffs near the upper stratigraphic portion of the zone. A significant amount of chlorite alteration is evident at about 295'. From 295'-297.7' there are visible medium grained tuffs which have been intruded by numerous irregular inclusions of grey quartz with white-cream to salmon red feldspars - impregnated with light green sericite throughout. There is some carbonate alteration with the quartz etc. is visible as well as what appears to be remnants of very fine grained green-yellow mud interbed xenoliths.					
			<p>④ 297.7'-298.6' very fine grained, grey-yellow-green regular to visibly contorted interbedded mud-ash/sericite schist occurs @ 20°-22° T.C.A. The rock is contorted at the lower sharp contact.</p> <p>⑤ 298.6'-304.5' moderately fresh looking medium grained grey brown to pink interunit felsic tuff. There is no visible carbonatization. Strong visible salmon reddening of some of the feldspar clasts was noted. There are numerous fractures within the tuff which have been filled with a greasy sericite (talc)?-carbonate mud which is light yellow in colour.</p> <p>⑥ 304.5'-315.6' Moderately to strongly altered portion of the zone. The rock is generally fine to medium grained former tuff, multiple colours of from light grey to light green-pink-some portions with sections are silicified or randomly carbonated.</p>					

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
			<p>The rock hosts irregular, randomly distributed 1.5% - 5% +/- inclusions of black-green chlorite after amphiboles, with increase in carbonatization and a decrease in silica from 2 - 3 ft. below the start of the visible alteration. Within the section there is considerable intruding of micro thin white to yellow felsic veinlets most evident near the central areas.</p> <p>⊙ 310.7'-312.7' Area of most intense alteration in whole of the altered tuff zone. The rock is flesh pink to grey-green in colour and is made up of carbonate-silica and fine disseminated light green chlorite throughout.</p> <p>1%-2% irregular inclusions of light coloured amethyst with considerable carbonate occur from 311.2' - 311.8'. Traces of fine disseminated pyrite-chalcopyrite were also noted.</p> <p>⊙ 312.7'-315.6' there is a marked decrease in alteration of the tuff. There is some visible reddening of feldspars and a noticeable decrease in the felsic micro veinlets. Minor chlorite inclusion, some black quartz fragments and random traces of chalcopyrite, pyrite, have been noted.</p> <p>⊙ 320'-323' coarser grained possible fragmental-epilli tuff. The largest felsic white grey-pink fragment was measured @ 0.8".</p>	57103	304.3'	310.0'	6.30'	Au-877 ICP-32
323.0'	346.6'	Felsic tuff	<p>More or less consistent throughout, being fine to medium grained grey in colour with random thin coarser grained layers.</p> <p>The layered fabric of the rock has been measured @ 324.3' - 49° - 59° T.C.A. The layers range from 2" to 1.0 ft. thick.</p> <p>At 338' there are several white-grey felsic fragments with a maximum 1.5" long axis which looks stretched or flattened. There appears to be an increase in the overall grain size texture of tuff towards 346.6', possible grading up the hole. The section carries appreciable fine disseminated sericite with no carbonate and random sharp fractures throughout, coated with talc-sericite and/or thin carbonate vein infillings.</p> <p>⊙ 341' +/- weak foliation-tuff bedding visible, with concordant sharp fractures @ 42° T.C.A. +/-.</p>	57104	310.0'	313.0'	3.00'	Au-877 ICP-32
346.6'	359.9'	Welded felsic tuff to lapilli tuff.	<p>Medium to very coarse grained, compacted stretched pyroclasts - brittle - recrystallized (welded) - silicified with random sections of cream to light green carbonate. The rock is generally dark grey to green in the upper 5 ft. of section and lighter grey to a mottled patch of dark green to cream yellow and browns. The rock contains little or no sericite mica.</p>					

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
			<p>There are numerous large fragments of felsic rock visible with the average size being 0.5"-0.7", the largest being 2.5"-2.75" long. The fragments appear to be somewhat stretched out and are irregular to elongated shaped, mainly being white-grey but also pink to lesser brown colour. The fragments appear to be made up of a white quartz feldspar porphyry. The fragments are set in a fine to very fine grained ground mass of quartz and a well dispersed very fine grained hard green mineral, possibly amphiboles? Up to 25% +/- green to black inclusions of acicular needles of amphibole, (actinolite-hornblende) with some alteration to green chlorite occur randomly throughout section. Occasionally there are thin yellow-white carbonate veins which cross out the lapilli tuff. There are notable intense green micro thin fractures @ 353'-353.75' @ 50-52° T.C.A. These are possibly concordant to foliation-bedding of tuff? Some sharp fractures have been infilled with slippery green talc or thin fillings of calcite.</p>					
359.5'	385.8'	Felsic tuff.	<p>Very similar to the section described @ 323'-346.6'. Grey in colour, noticeable sericite disseminated throughout and carries minor visible coarser grain pyroclastic fragments @ 359.9' - 362.5' (possible finer graded section of lapilli than above).</p> <p>@ 367.5', 369.0' and 379.2' - 379.8' - the fragments stretched and aligned @ 45° +/- T.C.A. Noticeable thin white carbonate veins with talc sericite occur from 377' to 381.8'.</p>					
385.8'	411.0'	Welded felsic lapilli tuff.	<p>Very coarse grained grey to light green to locally pink coloured lapilli tuff similar to section from 346.6'-359.9'. The large fragment content is much greater than from 346.6'-359.9'. The makeup of the cleasts are less distinguishable than above, possibly due to more welding, compacting, etc. The lapilli tuff has been randomly interbedded with fine grained grey sericite bearing felsic tuff. Within the coarser grained portions the rocks and its fragments are either porphyritic or exhibit porphyroblastic textures with anhedral crystals. The porphyritic porphyroblastic minerals have snow white rims with grey cores being made of feldspar and quartz. Lapilli fragments measure up to several inches across to less than 6" +/- . The boundary marking the fine grained tuff and the lapilli tuff is quite abrupt.</p> <p>@ 385.8' - 391.6' possible strong fault zone intense structure fracturing at the very top of lapilli tuff unit. There is visible salmon red staining adjacent to the fractures. The fractures have been infilled with calcite and light green to cream yellow coloured talc. The fracture system is subparallel @ 5° T.C.A. and 10° T.C.A. There are numerous perpendicular joints (tension fractures associated with the possible faulting). Traces of irregular to cubic pyrite are found throughout rock. Sharp fractures throughout the section often infilled with calcite and/or talc.</p>					

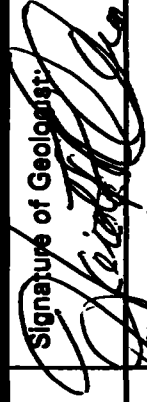
Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
411.0'	489.0'	Welded felsic tuff with no lapilli fragments.	<p>Medium to coarse grained grey to light green-brown compacted brittle-silicified numerous small visible felsic fragments which appear to be visibly stretched into a crude planar fabric @ 428' 44° T.C.A. 467' 50° T.C.A.</p> <p>@ 477.2' - 55° T.C.A. Some sections the tuffs appear to be quite massive. Locally the tuffs have been micro-fracture filled with light green minerals.</p> <p>@ 416.45' - 416.65' Irregular inclusion of grey quartz with irregular wisps and inclusions of chlorite-talc.</p> <p>@ 441.5' - 442.5' recrystallized former pegmatite vein. The initial intrusion of the pegmatite vein has resulted in the alteration of the tuffs on either side of the vein contact. The vein consists of light grey white quartz with remnants of pink-white feldspars and secondary seams or fracture fillings of yellow sericite from muscovite. The contacts are semi-irregular and were measured @ 40°-45° T.C.A.</p> <p>The tuffs have been recrystallized on each side of contact.</p> <p>@ 443' there occurs a thin smear of pyrite-pyrrothite along a fracture surface.</p> <p>@ 489' trace blue quartz eyes were found to occur within the tuff, which is thought to be the lower most cooked portion of unit. Blue quartz eye porphyroblasts? may be due to welding - burial metamorphism processes.</p>					RL-92-01 Page 8
489.0'	497.95'	Porphyritic andesite.	<p>Medium to lesser finer grained light-medium green to yellow tinged in colour. The rock consists of numerous white-greenish anhedral-euhedral porphyries within an aphanitic green ground mass. The feldspar porphyry content increases from traces at the upper contact to &gt; 20% at the lower contact. The upper contact with the felsic tuff is distorted and obscured. The top - fine grained portion of the flow has likely been cooked up by the overlying hot tuffs when the tuffs were originally deposited. The lower contact is clearly marked, being sharp with the underlying medium welded felsic tuff. The lower contact was measured @ 37° T.C.A. The andesite has been intruded by numerous multi-directional microthin light green yellow felsic veinlets. Some of the veinlets are infilled with grey-white carbonate minerals or some quartz. The flow contains traces of fine disseminated pyrite-possibly traces of chalcocopyrite.</p>					
497.95'	505.0'	Felsic tuff, some welding, interflow tuff	<p>Medium fine grained, dark grey to fine disseminated sericite bearing, and being visibly folded and kink banded near centre part of the unit. The upper contact area of tuff appears to have been cooked - welded by the overlying flow. The lower contact looks welded, possibly being made up of thin short lived ignimbrite materials deposited upon a lower underlying deposited andesite. The tuff unit contains trace fine disseminated pyrite-chalcocopyrite. The lower contact of tuff is not very clear. Thin &lt; 0.5" quartz veins may mark the contact location.</p>					



Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
505.0'	522.0'	Porphyritic andesite.	<p>Medium to fine grained, green to progressively increasing to salmon red-brownish colour with increasing depth. The andesite flow hosts trace to 1/2% pyrite-chalcopyrite with rare random inclusions of chalcopyrite in remobilized veins cross cutting the flow.</p> <p>⊕ 505.0-511.6' green andesite increasing in the visible porphyry content from 505' to 155.6'. There are numerous thin unidirectional yellow green felsic epidote veins with some grey carbonate quartz cross cutting the rock. The rock hosts trace disseminated pyrite.</p> <p>⊕ 511.6' - 517.6' Decrease in the feldspar porphyries has been noted. There is an increase in the intensity of fine yellow-green felsic veins, including the starting of narrow quartz-carbonate salmon red (hematite altered feldspars) with some chlorite.</p> <p>⊕ 512.6' - 0.4" carbonate-quartz-epidote needles with chlorite inclusions and traces of red feldspars @ 24° T.C.A.</p> <p>⊕ 514.0' - 0.05" red feldspar-calcite bearing quartz vein @ 15° T.C.A.</p> <p>⊕ 517.0' 0.3" - 0.4" white rhombic calcite-red feldspar - chlorite - quartz vein @ 27° T.C.A. There is noticeable increase in the redness of groundmass towards 517.6'.</p> <p>This section of rock hosts trace - 1/2% disseminated pyrite.</p> <p>⊕ 517.6' - 527.0' - well developed medium grained red to brownish porphyry, intruded by numerous thin green felsic veins and several white rhombic calcite-salmon red feldspar, green chlorite veins with lesser quartz. The minerals above formed as irregular or streaky masses and developed sharp cutting contacting veins. Some of the veins contain seams or irregular inclusions of fine grained pyrite-chalcopyrite.</p> <p>⊕ 518.6' 1.3" coarse grained calcite-pink-red feldspar chlorite trace quartz with a thin seam of pyrite along a fracture vein @ 12° T.C.A.</p> <p>The vein cross cuts fine grained green felsic visible breccia veinlets. The green felsic veins occur @ 65° T.C.A. Some minor carbonate minerals in the veins.</p> <p>⊕ 519.8 thin 0.1 irregular salmon red spar vein 15° T.C.A. +/-</p> <p>⊕ 521.4' 0.7" sharp contact, red feldspar-grey carbonate green chlorite vein with minor grey quartz occurs @ 20° T.C.A. A thin &lt; 0.2" red feldspar vein parallel to the 521.4' veins hosts erratic fine grained inclusions of chalcopyrite measuring about 0.3" x 0.15" across.</p>	57105	518.0'	523.5'	5.5'	Au-877 ICP-32
				300066	523.6'	528.3'	4.70'	A-12, ICP-32

Footage		Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To			From	To		
		<p>③ 528.5' 0.5" coarse grained white-yellow cream calcite rhombs with salmon red feldspar, green chlorite and minor grey quartz in a sharp contact vein @ 10° T.C.A.</p> <p>③ 523' 0.25" cream yellow medium coarse rhombic calcite with minor red feldspars @ 12° T.C.A.</p> <p>Andesite unit host trace - 1/2% fine disseminated pyrite-ohalcopyrite.</p>	57105	528.3'	529.4'	1.10'	Au-877 ICP-32
532.0'		End of Hole RL92-01					

**BHARTI LAAMANEN MINING INC. - RICHARDSON LAKE PROJECT**

<b>Drill Hole No.</b> RL-92-02	<b>Date Logs Submitted:</b> January 15, 1993	<b>Signature of Geologist:</b> 	<b>No. of Pages in Log:</b> 14
<b>Company Name:</b> Bharti Laamanen Mining Inc.	<b>Property Name:</b> Richardson Lake	<b>Township:</b> Rhodes Township	<b>Claim Number:</b> S 1095079
<b>N.T.S. Reference No.:</b> 41-1/14 Edition 2, Venetian Lake, Ontario		<b>Drill core stored at:</b> Laamanen Const., 129 Fielding Rd., Lively, Ontario, POM 2EO	
<b>Project Supervisor:</b> Harold J. Tracanelli		<b>Employer:</b> Bharti Engineering Associates Inc. 131 Fielding Rd., Lively, Ontario, POM 2EO	
<b>Diamond Drilling Company:</b> Sparta Drilling		<b>Runner-Supervisor:</b> Larry Salo	<b>Helper:</b> Ronald Crichton
<b>Date Drill Hole Started:</b> Sept. 21, 1992	<b>Date Drill Hole Completed:</b> Sept. 26/92	<b>Total Length of Drill Hole:</b> 522 ft.	<b>Equipment Type:</b> BBS-2
<b>Drill Core Logged by:</b> Harold J. Tracanelli	<b>Drill Core Logging Completed:</b> November 27, 1992	<b>Dip of Drill Hole, Collar</b> 0' -45° 522' -44.5°	<b>Drillhole Co-ordinates:</b> 0 + 22E, 3 + 20S
<b>Major Lithological Units:</b> Mafic to felsic metavolcanics with minor metasediments			
<b>Objectives of the diamond drilling exploration:</b> To explore the depth extent of the mafic-felsic contacts for volcanogenetic massive sulphide type deposits (VMS)			

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
0'		Hole Collar	The diamond drill hole was collared in foliated amphibolites.					RL-92-02 Page 1
0'	30.3'	Foliated amphibolites	Fine grained-dark green well foliated to weakly foliated primarily amphiboles with various degrees of chlorite alteration. Most foliation planes measure a fraction of an inch thick. Some foliation planes visible are light-dark and alternating. The noted foliation angles were measured @ 11.70°-92° TCA, @ 22.0° +/- 90°-91° TCA, @ 33.3° 59° TCA. The amphibolite commonly is intruded by narrow <1" to a maximum of 2" irregular inclusions to sharp veins of quartz-feldspars, green felsic materials and possible carbonates. The rock hosts fine grained pyrite with chalcopyrite occurring as fine disse. In quartz the sulphides occur as thin concordant to foliation lenses-seams, to discordant cross cutting stringers and inclusions randomly distributed through the section. All stringer sulphides are <0.1" and cross out @ 41° TCA.	57107	12.90'	15.00'	2.20'	877-Au ICP-32
30.3'	32.9'	Massive amphibolite.	Fine grained medium-light green massive to locally weak foliation with visible weak breccia from 30.3 - 31.3' +/- . There are thin light green felsic infillings within the rock. The rock also contains fine grained chlorite alteration and traces of pyrite.					
32.9'	39.9'	Foliated amphibolite	Weakly foliated - consistent textured amphibolite. The amphibolite hosts sulphide pyrite-chalcopyrite stringers and inclusions from 37.5' - 39.9'.	57108	37.5'	39.9'	2.40'	ICP-32
39.9'	40.7'	Massive amphibolite	Same as 30.3 - 32.9 - with little or no breccia or felsic veining.					
40.7'	56.5'	Foliated amphibolites	Same as from 0'-33.3' At 46.65' - 47.25' there occurs a micro breccia zone in the amphibolite. There were no visible sulphides but the breccia was well healed. The foliation of the rock was measured from 88° to 90° TCA.	57109	42.5'	46.65'	4.15'	ICP-32
56.5'	60.6'	Massive amphibolites	Medium fine grained mottled light green grey amphibolite rock with moderate fine grained chlorite alteration. The rock has been intruded by minor micro thin felsic veinlets. No apparent breccia and no visible foliation was noted. Coarser grained than above foliated amphibolite.					
60.6'	66.5'	Foliated amphibolite	Fine grained moderate to well foliated amphibolite being very similar to the rocks described from the 0' - 33.3' section. Foliations are much more visible from 63.0' to 65.5' and were measured @ 90° - 92° TCA. Some wavy folded-twisted thin foliation (laminations) were also noted in the section.					

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
65.5'	68.7'	Massive amphibolites	Massive, mottled green-grey to moderate chlorite altered, possible light green remnants of porphyries (basalt flow?) has been noted. From 66.7' - 67.4' a light grey green intermediate amphibolite being weakly foliated with fine disc. to irregular inclusions of pyrite and chloropyrite was examined. @ 68.2' - 68.7' there is visibly foliated to brecciated massive amphibolite with some lean banded iron formation. There is some strong but thin pyrite cross cutting stringers developed in the iron formation.	57110	68.70'	72.65'	3.95'	Au 877 ICP 32
68.7'	72.65'	Banded iron formation	Fine to medium grained alternating bands of magnetite with moderately altered chlorite-amphibole mineral bands. Some of the alternating bands of the iron formation are quite siliceous looking. The iron formation carries from trace to 7% +/- disc. to irregular inclusion and micro thin fracture fillings of pyrite throughout.					
72.65'	76.50'	Massive amphibolite	Fine grained, mottled light green-grey with possible former porphyritic rock showing moderate chlorite alterations of the amphiboles. A moderate 6" breccia zone was noted in the section. The breccia has been well healed and occurs immediately below iron formation rocks.					
76.50'	78.35'	Foliated amphibolite	Thin concordant seams of pyrite throughout, thin calcite fracture fillings. Core badly broken at contact between F.G. amphibolites and fine grained intermediate metavolcanic.					
78.35'	78.80'	Altered intermediate metavolcanic	Fine grained weakly foliated pink-brown to light green tinge, possibly being an altered andesite flow? There has been noted minor salmon red spotting near broken contact which has been intruded by minor quartz-carbonate veins. The rock hosts trace disc. pyrite-chloropyrite.					
78.80'	83.75'	Intermediate amphibolite	Fine grained grey to light green very well foliated or laminated and intruded by many thin fine grained felsic-carbonate fracture fillings. The rock contains fine disc. pyrite to very thin concordant seams up to <0.2 inch thick which cross veins of pyrite. The foliation angle was measured @ 81.0' @ 75° TCA.					
83.8'	92.5'	Foliated mafic to intermediate amphibolite	The amphibolites have been intruded by numerous irregular shaped grey quartz inclusion. Fractures developed in the inclusions are filled with fine grained pyrite. The amphibolite rock is cross cut by the occasional thin epidote - pink flesh coloured felsic veins @ 35° TCA.					
92.5'	102.0'	Mafic amphibolite	Dark green with several cross cutting epidote-fleshy-brown to green felsic material veins. @ 94.9 - 97.6 visible increase in grain size and felsic content but the rock still remains foliated. The amphibolite contains 1% - 2% irregular disc. pyrite-pyrrhotite. Visible brown-green alterations to chlorite/biotite were noted.					
97.4'	101.4'	Amphibolite	The rock is weakly foliated @ 80° TCA. The foliation is cross cut by thin 0.10-0.20 inch veinlets of quartz-epidote and pink feldspars. The rock hosts trace disc. pyrite.					

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
101.4'	110.10'	Amphibolites.	Medium grained, well developed amphibole crystals with fine grained amphibolite inter units. The med. grained amphibolite carry 5-7% finely diss. to noticeable inclusions to well developed cubic pyrite with localized disseminated chalcopyrite. The bulk of the sulphides are confined to the coarsest grained rocks, which have been intruded by felsic-quartz-carbonate veins and irregular discontinuous narrow lenses of grey to white quartz. Primary sulphides occur concordant to foliation while thin pyrite < chalcopyrite veins cross out foliation. Foliation has been measured @ 78°-80° TCA. Within the amphibolite unit a number of diss. sulphide stringer zones hosting 5% - 7% pyrite with lesser chalcopyrite were noted at footages 102.4' to 104.3', 105.1' to 105.8' and 106.8' to 110.10.	57111 57112	102.4' 106.4'	106.4' 110.10;	4.00' 4.70'	ICP-32 ICP-32
110.10'	118.3'	Well foliated amphibolite	Quite well foliated @ 88-90° TCA. The rock appears to become more coarse grained down the hole and shows some thin 0.10" - 0.50" dark to light green alternating bands (possible tuff-seed,?) with localized thin pyrite < chalcopyrite as irregular stringers cross cutting foliation. A slight increase in grain size-rossette amphibole crystals were noted @ 110.5', 112.3' - 112.6', 114.1'. Narrow <0.10" carbonate veins were noted @ 116.8' - 118.3' with yellow-white carbonate veins and chlorite alteration. The carbonate veins sometimes host pyrite-chalcopyrite and were measured @ 35° TCA and 40° TCA which infilled into an orthogonal fracture system with some right lateral fault movement being evident.					
118.3'	128.4'	Well to poorly foliated amphibolite	Light grey to green in colour (possibly being an intermediate vol.) which is well to rarely poorly foliated. @ 123.1 there is a 0.80" +/- crystal form epidote vein with minor pink feldspar - minor fine grained carbonate minerals and semi massive pyrite with 1% chalcopyrite in cores of vein. The disseminated sulphides are also visible outside of vein area. @ 126.0"-128.4" 25%-45% semi massive to heavily disseminated pyrite with localized 1-2% disseminated inclusions of amorphous galena with trace amounts of chalcopyrite and arsenopyrite. The bulk of the sulphides occur as regularly shaped inclusions with minor stringers within a grey green amphibolite rock with well developed amphibole crystals being developed. Some visible green chlorite inclusions as alteration products are also present. Fine diss. sulphides were observed immediately below the sulphide zone in the finer grained amphibolites.	57113' 57114'	117.0' 122.0'	122.0' 126.0'	5.0' 4.0'	ICP-32 ICP-32
128.4'	132.0'	Well foliated amphibolite	These rocks are very much similar to those rocks described in footages described from 110.10'-118.3'. Narrow < 0.10" sharp sulphide stringers with trace pyrite, trace chalcopyrite cross out the foliation. Trace to 1% fines diss. pyrite and trace chalcopyrite occur in the amphibolite rocks within localized thin quartz-carb. veinlets near bottom of section.	57115 57116	126.0' 128.4'	128.4' 134.4'	2.4' 6.0'	Au 877,ICP-32 ICP-32

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	RL-82-02 Page 4
From	To				From	To		
132.0'	134.4'	Altered amphibolite	Medium to fine grained grey to green amphibolite rocks which have been somewhat contorted and intruded by numerous white-green felsic to pink orthoclase-epidote-amphibole inclusions and needle like veins which often host disseminated minor pyrite with some minor disseminated chalcocopyrite. Some minor micro thin sulphide veins have been observed without epidote or feldspars etc. Some large well developed crystals of epidote and amphibole minerals remobilized into rosette features (spherulitic forms?) were noted.					
134.4'	136.81'	Well foliated amphibolite with felsic interbands	The rock shows to be somewhat well foliated @ 80° - 82° TCA. The amphibolite rocks are separated by thin, maximum 6" very fine grained light grey to pink felsic bands. These bands contain finely disseminated pyrite with traces of chalcocopyrite. Cross cutting sulphide veins and (<0.10" +/-) carbon-quartz with pyrite and chalcocopyrite inclusions were observed in felsics.					
136.81'	146.0'	Well foliated mafic amphibolites (mafic) foliated	Moderately well foliated with lesser fine grained amphibolites which are evident from about 142'-144.8'. The fine grained amphibolite resembles fine grained alternating bedded rocks such as tuffs. Above 142' such as from 136.8' - 142.0' +/- coarse grained amphibolites appear to have spherulitic texture with acicular amphiboles being aligned somewhat parallel to the apparent foliation. Pyrite with chalcocopyrite are often smeared along the foliation plains associated with irregular thin <0.20" stringers of pyrite with less chalcocopyrite with light green felsic materials, cross cut the foliation at or very near to or along the core axis. Minor thin quartz-carbonate veins have formed concordant to foliation at 142.3'. Badly broken up coarse grained crystals of epidote with rhombic calcite and quartz with 1-2% disseminated pyrite-trace chalcocopyrite were noted.					
146.0'	154.8'	Poorly foliated Amphibolite	Dark grey to light green creamy yellow coloured moderately to poorly foliated with suspected local strong porphyroblastic textured amphibolite. Near the top of the section there are a couple of very thin fine grained mafic amphibolites followed by a more consistent intermediate looking rock. The foliation or laminated features occur @ 85° - 90° TCA and are made up of alternating layers of light and dark coloured materials measuring < 0.10". The rock carries trace amounts of disseminated inclusions of pyrite. The rock varies from being weakly to strongly porphyroblastic having an estimated 2% - 10% porphyroblasts of cream yellow colour and having a rounded to subrounded shape. The porphyroblasts appear to be aligned parallel to foliation and have an average size 0.1" - 0.2" +/- wide and 0.6" x 1.1" long. The top contact of the unit is visibly gradational while the bottom - lower contact appears somewhat sharper. The contacts between the intermediate porphyroblastic rocks and lower fine grained amphibolite is marked by a 2.0" vein-like feature of white to cream carbonate with olive green actinolite-tremolite needles. The vein also hosts 1/2% - 1% disseminated pyrite with trace brown sphalerite and galena.					

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
154.8'	156.5'	Well foliated mafic amphibolite (mafic) foliated	Well foliated @ 78° - 80° TCA. The rock is dark green with thin <math>< 8^\circ</math> interbed of medium to coarse grained amphibolite with acicular amphibole needles in coarser grained sections. Trace - 1% fine disseminated pyrite, pyrite-trace chalcopyrite can often be seen along the foliation plains. Rare micro-thin pyrite-chalcopyrite stringer also cross out the foliation.					
156.5'	162.3'	Well foliated mafic to intermediate amphibolite	Moderately well foliated @ 70° TCA. The rock is made up of coarse to medium grained amphibole crystals with some thin felsic layers. Grey-blue quartz occurs in the lower two foot section of the amphibolite and may represent a possible altered flowtop? The rock hosts trace - 1% fine disseminated pyrite with trace chalcopyrite. Rare thin, irregular shaped micro pyrite-chalcopyrite stringers are known cross out foliation.					
162.3'	172.6'	Foliated mafic amphibolite	The rock is fine grained dark green and weakly foliated @ 88°-90° TCA. Numerous thin <math>< 0.10''</math> felsic partings to cross cutting micro veinlets are found throughout the unit. Smearings of pyrite along fractures are common. Micro thin sulphide stringers were also noted in the upper sections.					
172.6'	199.7'	Foliated to massive mafic to intermediate amphibolite (mafic-intermediate)	<p>The rock appears to be lighter green to more grey in colour than the section from @ 162.3'-172.6'. This unit has been subjected to visible alteration, mainly in the form of vein infillings at various intervals. Sulphide minerals do not appear to be overly abundant. Trace to 1% pyrite with chalcopyrite generally occur in the disseminated form.</p> <p>@ 172.6'-172.9' there occurs a very fine grained flesh-pink coloured felsic rock. The rock looks to be very weakly laminated with intergrowths of amphibole minerals and trace disseminated pyrite-chalcopyrite. Grey carbonate micro veinlets with thin infillings of pyrite-chalcopyrite also cross out the thin felsic unit.</p> <p>@ 176.2' - 182.0' there occurs a zone of intense veining. Numerous thin &lt;math&gt;&lt; 0.10''&lt;/math&gt; to &lt;math&gt;0.70''&lt;/math&gt; irregular shaped random cross cutting, unidirectional veins cross cutting the amphibolites and are made up of fine grained white-green felsic materials, fine grained green epidote with some minor crystals, lesser quartz-carbon and pink feldspars. The veins and veinlets sometimes host small irregular inclusions of pyrite-pyrrhotite and chalcopyrite. The most intense vein infilling occurs between 174.6' and 178.5'.</p> <p>@ 185.3' - 185.75' there occurs a grey to pink intermediate felsic interbed with very fine grained thin visible laminations. Minor intergrown black amphiboles having a spherulitic texture? were noted.</p> <p>@ 185.75' to 199.70' - Amphibolite rocks are nearly massive looking, to locally well foliated @ 70 - 80° +/- TCA. Weak folding is evident and the rock often has thin bands or inclusions of grey-blue quartz minerals randomly distributed throughout. Rare microthin pyrite and chalcopyrite stringers were noted. Contact with lower rocks appear to be semigradational.</p>					



Footage		Rock Type	Description	Sample No.	Footage		Sample Length	RL-92-02 Page 6
From	To				From	To		
199.7'	298.40'	Moderately to highly deformed foliated to massive intermediate amphibolites.	<p>The rocks within this section show a varying degree of being contorted and being subjected to various mineralogical alterations. These rocks are found above the known lower felsic metavolcanic units and are probably made up of flows and tuffaceous metavolcanic rocks. In places the rocks are separated by thin interbeds of laminated felsic metavolcanics, are often brecciated, intruded by thin quartz-carbonate-feldspar veins and/or irregularly shaped inclusions. Some of the finer grained more mafic looking rocks appear to have alternating dark or light green layers suggesting a former bedded depositional history.</p> <p>Various sections which contain more light coloured felsic minerals are often found to contain euhedral-anhedral growths of black or green amphibole minerals. At some locations the amphibolite rocks are visibly interbedded with felsic rocks, containing visible clastic fragments, possibly being tuff units. These units generally measure less than 1-2 ft. in thickness. In some sections the fine grained mafic looking rocks contain from 5-10% microfine grained porphyries or porphyroblasts of a silvery-white mineral, possibly being sericite or altered plagioclase feldspars. These features may be indicative of former amygdaloidal flows. Locally the rock has undergone visible weak to strong chlorite alteration. Pyrite with minor amounts of chalcopyrite, pyrrhotite, brown and purple apatite and micro fine galena can be as disseminated grains, inclusions along specific fractures or as micro thin fracture filled veinlets. Locally where foliations remain visible, the rocks show clear evidence of folding having taken place. Some highlights of the section are presented as follows:</p> <p>Generally from 201.7' to 206.9' the amphibole rocks show signs of chlorite alteration in the form of veining, associated with pyrite and chalcopyrite.</p> <p>⊙ 201.7' to 202.6' &lt; 0.10-0.50 dark green chlorite veins with irregular shaped elongated inclusions of pyrrhotite and thin seams of chalcopyrite within a siliceous section of intermediate metavolcanics (amphibolites).</p> <p>⊙ 203.1' to 203.45' Fine grained pink felsic band with fine amphibole needles. The rock hosts trace fine disseminated pyrite.</p> <p>203.75' to 206.9' Chlorite alteration in the massive to vein-like form with a weak to highly chloritized rocks. Some tight breccia within the section has been noted.</p>					

Au

Footage		Sample No.	Footage	Sample Length	Analytical Procedures
From	To				
		57117	218.8'	3.20'	ICP-32
Description		<p>⊕ 218.8' - 222.0' grey mauveish coloured somewhat alloctified intermediate rock. The rock is weakly foliated ⊕ 75° TCA with cross cutting fracture fillings of micro fine and crystal form pyrite. 1 - 3% inclusions, disseminations and secondary micro veinlets of fine grained pyrite-pyrrhotite, trace chalcocopyrite are known to occur. There are some short sections of tight brecciation healed up with felsic micro veinlets and materials.</p> <p>⊕ 222.70' - 231.0' Alternating light-dark green foliated rock possibly being a former tuff. The fabric of the rock was measured ⊕ 50-55° TCA. There are numerous grey stretched out quartz boudins.</p> <p>⊕ 231.0' - 234.3' This portion of the rock is made up of 15% - 50% +/- light to dark green, anhedral to sub anhedral intergrowths of amphibole minerals within a cream-yellow aphanitic rock. The rock appears to be weakly foliated with rare localized thin &lt;0.10" white carbonate veins with fine pyrite. The rock carries 5% to 7% irregular inclusions of pyrrhotite-pyrite with traces of light-dark brown sphalerite to yellow chalcocopyrite.</p> <p>⊕ 209.1' - 210.4' Fine grained grey pink felsic crystal tuff unit which has been intruded by irregular quartz-feldspar inclusions with trace fine disseminated chalcocopyrite. There is some visible alteration of the felsic rock with fine grained chlorite, talc and/or sericite micas.</p> <p>⊕ 234.8' - 239.4' Slightly altered fine grained felsic crystal tuff to localized lapilli tuff at about the 237' +/- . The apparent tuff unit contains a couple of narrow micro folded bands of amphibolite rock. The unit carries trace to 1% +/- fine grained disseminated to micro fracture fillings of pyrite-chalcocopyrite.</p>			
Rock Type					

Footage

From

To

Description

Sample No.

Footage

From

To

Sample Length

Analytical Procedures

Footage		Sample No.	Footage		Sample Length	Analytical Procedures
From	To		From	To		
		57118 57119	239.40'	245.85'	6.45'	ICP-32 ICP-32
			245.85'	252.30'	6.45'	
		57120	293.2'	298.2'	5.0'	ICP-32
			298.2'	302.65'	4.45'	
		57121	298.2'	302.65'	4.45'	ICP-32
			298.2'	302.65'	4.45'	
Description		<p>② 239.4 - 252.3' Dies. sulphide-stringer silicified zone with a medium to coarse grained intermediate amphibolite which has been altered by some noticeable silicification with some minor carbonate-epidote sections often containing irregular blue grey quartz inclusions. The section hosts an estimated trace to 15% fine grained inclusions and disseminations of pyrite with lesser pyrrhotite and even lesser chalcopyrite. Very sharp but sinuous &lt;math&gt;0.10^{\circ}&lt;/math&gt; - &lt;math&gt;0.30^{\circ}&lt;/math&gt; +/- stringers cross out moderately developed foliation of the rock. The foliation of the rock was measured @ &lt;math&gt;80-82^{\circ}&lt;/math&gt; TCA +/- . The sulphides appear to have formed concordant, primary with the amphibolite and discordantly as secondary stringers in multiple directions cross cutting amphibolites. Sulphide minerals also occur within irregular quartz inclusions.</p> <p>② 253.45' - 1.0"-1.5" narrow, irregular contact pink carbonate vein with quartz and trace - 2% disseminated pyrite, black sphalerite.</p> <p>② 256.0' - 258' There occurs @ well foliated fine grained black to green intermediate amphibolite measured @ &lt;math&gt;75^{\circ}&lt;/math&gt; - &lt;math&gt;76^{\circ}&lt;/math&gt; TCA. Distinct amorphous (fine grained) primary pyrite had developed concordantly to the foliation. Localized micro fracture fillings of pyrite also cross out foliation.</p> <p>② 259.95' - 260.35' irregular contacting @ &lt;math&gt;40^{\circ}&lt;/math&gt; - &lt;math&gt;45^{\circ}&lt;/math&gt; T.C.A. white-grey quartz with pink cream feldspar and lesser carbonate with trace chlorite. The rock hosts trace pyrite-pyrrhotite and chalcopyrite.</p> <p>② 260.35' - 298.2' brecciation of highly foliated to nearly massive intermediate amphibolites. The fracturing of the rock ranges from very weakly brecciated to very intensely brecciated. The breccia infilling veins consist mainly of a fine grained light green felsic materials. Trace to 1% disseminated pyrite with chalcopyrite occurs randomly throughout the section. Some prebreccia quartz-carbonate laminations, veins or inclusions, some silicification-carbonatization of breccia in places, some chlorite alteration also noted.</p> <p>② 296.0' +/- remnants of the former foliation within the brecciated rock occur @ &lt;math&gt;58^{\circ}&lt;/math&gt; TCA.</p>				

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
299.2'	314.4'	Intense epidote-siliceous-carbonate-sulphide-chlorite alteration zone	<p>⊙ 299.2' - 299.2' fine grained grey ash-tuff with visible fine grained cryptocrystalline elongated fragments. Visible micro fine grained sulphide gangams occur within the ash tuff. Trace to 1% coarse disseminated pyrite, pyrrhotite and trace chalcopyrite were noted. Visible siliceous-carbonated fine grained biotite alterations within the breccia on either side of the ash unit were also noted.</p> <p>⊙ 299.2' - 302.65' Weakly to strongly green epidote with chlorite siliceous-carbonate alteration of what formerly appears to have been a well laminated felsic metavolcanic rock. Alteration progresses from fine grained black chlorite at the top 1.2-1.5 feet of the upper section.</p> <p>The chlorite-minor carbonate alteration appears to die out to coarse grained pink orthoclase with fine grained grey quartz and large epidote inclusions (formerly altered peg vein or syenite vein 0.7 inches thick). The feldspars and quartz host trace amounts of amorphous silica, trace pyrite below the feldspar quartz. The felsic rocks show remnants of foliation @ 68-70° TCA +/- . Locally there is an increased intensity of epidote alteration with 1% to 3% pyrite with traces of chalcopyrite. Throughout this section the rock has been well contorted, being subjected to some brecciation, with the injection of felsic-epidote-quartz and carbonate veins cross cutting in multidirections.</p>	57122	302.65'	303.3'	0.65'	ICP-32
			<p>⊙ 302.65 - 303.3' this section is made up of fine grained cream yellow to light grey massive equigranular felsic metavolcanic, which shows some very small scale movement-stretched out features. This section of the rock hosts minor grey-irregular shaped quartz inclusions. The rock is mainly siliceous with minor carbonate alteration, and hosts 3-4% finely disseminated red-brown sphaerite-traces fine pyrite.</p> <p>⊙ 303.3' - 305.2' intense faulted-brecciated yellow-grey finely laminated felsic metavolcanic rock. The brecciated rock contains numerous shaped, angular to subangular fragments being a maximum of 0.9" long by 0.4" wide. The rock has been infilled with considerable white-grey quartz. Fine grained green chlorite, pink-orange fine grained feldspars, traces of carbonate, sericite and/or talc minerals. Trace fine sulphides occur within the rock. The most intense breccia was noted from 303.3' to 304.45'.</p> <p>⊙ 305.2'-307.9' cryptocrystalline to very fine grained light grey to green to rarely flesh coloured bedded-layered-stretched out-wispy felsic ash tuff-epilill tuff. Most of the tuff fragments are micro sized although the largest stretched out fragment measures over 2.5". Almost all of the tuff fragments are felsic and glassy although some rare traces of fine grained sulphide fragments have been noted. Trace - 3% coarse distorted cubic pyrite appears to have been introduced into the tuff. The tuff has probably undergone some welding. The bedding - layering etc. occurs @ 66°, 45° and 54° TCA. Obvious localized folding - slumping of materials during tectonic events appears to have taken place.</p>	57123	303.3'	307.9'	4.60'	ICP-32

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
			<p>③ 307.9' - 310.2' - about 1.10 ft. of core appears to be missing from this section. Massive to dark grey - minor brown-red fine to medium grained massive felsic ash tuff, which has been highly altered by the introduction of fine grained epidote, cream-pink to white fine grained carbonate minerals with quartz as distinctive veins trending @ 50-51° TCA. Some fine disseminated black chlorite occurs throughout the rock or as fine grained green veins cross cutting rock or within large irregular inclusions with carbonate-quartz materials. 5% - 10% irregular - deformed cubic pyrite occurs with epidote or infillings - disseminated within chlorite rich sections. No sulphides occur with the quartz carbonate.</p>	57124	307.9'	312.4'	4.50'	RL-92-02 Page 10 ICP-32
			<p>③ 310.2' - 312.4' Micro fine grained grey-dark grey-green layered or stretched out tuff - lapilli tuff with numerous loosely to tightly packed felsic fragments ranging from micro to lapilli sized being &gt; 2.5" +/- across. Most of the fragments are stretched out, rounded to subrounded, to rarely angular and are made up of white grey to yellowish coloured felsic glassy to fine grained mineral aggregate rocks. Some of the fragments carry finely disseminated pyrite. Some of the largest stretched out fragments are salt and pepper coloured equigranular textured fine grained mineral aggregates of possible intermediate composition, possibly similar to the andesites observed within drill hole RL-92-01 - 45°. Overall, this rock has probably undergone some welding. The sulphide minerals within the fragments and matrix of tuff look fairly fresh.</p>					
			<p>③ 312.4' - 314.45' These rocks are made up of an equigranular light pink-flesh coloured tuff. The tuff has sharp contacts with adjacent rocks at 49° T.C.A. @ the upper contact and 38° lower contact. Very fine grained yellow ash &lt; 0.1" thick at contacts with adjacent tuffs. Trace sulphides in this tuff rock.</p>					
314.4'	330.70'	Felsic lapilli to ash tuff	<p>A much more extensive unit of tuffaceous rock as was described for 310.2' - 312.4' being made up of micro fine to very fine grained light to dark grey highly contorted, layered-stretched out very glassy to minor massive less glassy looking felsic lapilli to ash tuff. Most of the tuff is contorted, layered and glassy in appearance. The tuff also contains minor grey green equigranular interbeds that range in thickness from 1.0' to 2.25' maximum. The massive tuff contain irregular shaped felsic fragments, not exceeding 1.0" across.</p>					
			<p>③ 317.8' 0.25" x 0.10" angular dark brown-green fragment of chlorite.</p>					
			<p>③ 318.0 0.05" sharp pink carbonate vein occurring @ 49° TCA.</p>					
			<p>③ 318.2' there occurs a thin band of massive fine grained visibly banded sulphides pyrite in semi-massive tuffs. The massive sulphides appear to be closely related with some lapilli tuffs. Many of the lapilli fragments are made up of medium to fine grained equigranular white to yellow (pyroclastic-porphyrilic), yellow-grey-green glassy felsic to intermediate rocks. Some of the fragments appear to be well sorted and packed. Some of the largest fragments measure from 2.5" to greater than 1.5 feet. Many of both the large and small sized carry finely disseminated or micro stringers of pyrite. Fine grained sulphides also occur in matrix material of the tuff.</p>					

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
			<p>③ 328' - 330' Fine grained intermediate megacrysts occur within fine grained tuff. The large clasts show distinct prior alteration with numerous fine grained stringers of black chlorite and/or biotite with minor quartz inclusions and trace to 1% disseminated inclusions of pyrite. Some sections of the tuff unit show obvious welding thinly sharply laminated alternating light to dark coloured layers.</p>	27125	327.90'	330.70'	2.80'	ICP-32
330.70'	347.5'	Massive felsic lapilli tuff	<p>Light to dark grey, fine to medium grained quartz rich with fine chloritic matrix with randomly distributed highly unsorted pyroclastic fragments measuring from &lt;math&gt;&lt;0.10''&lt;/math&gt; to greater than 5". The matrix of the tuff is distinctively massive with only very minor thin &lt;math&gt;&lt;6''&lt;/math&gt; interruptions of fine grained green layered-wispy mud-ash tuff rocks. The inter mud-ash tuffs show massive fine grained chlorite alteration. Many of the pyroclasts are made up of felsic-quartz-quartz/feldspars (resembling fine grained granites), with the occasional large fragment of light grey to green medium to fine grained intermediate rocks in the lower most section of the unit which may represent an intermediate blast followed by more felsic composition fallout. Finely disseminated pyrite have been noted within the tuff unit-matrix. Rare chalcopyrite-pyrite inclusions have been noted in some of the small felsic-quartz fragments.</p>					
347.5'	348.75	Massive felsic tuff	<p>③ 330' +/- 0.10"-0.15" thick black massive chloride vein in tuff @ 45° TCA.</p>	57126	347.50'	348.75'	1.25'	ICP-32
348.75'	349.30'	Intermediate to felsic tuff	<p>Fine grained, light fleshy pink coloured, highly siliceous, only very weakly foliated? The contacts are very sharp with the adjacent rocks @ 60° TCA for the upper contact and @ 50° TCA for the lower contact. The rock hosts trace to 5% fine-very well disseminated cubic pyrite with traces wispy green chlorite.</p>					
349.30'	352.0'	Massive metasedstones	<p>The rock is fine grained dark green with micro fine chlorite alteration. There are visible small &lt;math&gt;&lt;0.20''&lt;/math&gt; - 0.4" fragments - stretched out within the matrix. The tuff is probably welded. The rock hosts traces of fine grained disseminated chalcopyrite inclusions.</p>					
			<p>Medium fine grained light cream-green coloured equigranular quartz rich rock with fragments up to 0.10 inches.</p>					
352.0'	355.0'	Weakly foliated or bedded felsic tuff or metasediment	<p>③ 357.6' There occurs a 0.4" thick coarser grained quartz, pink feldspar &lt;math&gt;&lt;mathcal&gt;&lt;/math&gt;&lt;/math&gt; member immediately in contact with a thin &lt;math&gt;&lt;2''&lt;/math&gt; chlorite altered pyroclastic muddy ash unit. This may indicate possible grading of metasediments up the drill hole.</p>					
			<p>Dark grey to pink, very fine grained, visibly siliceous with evidence of weak bedding or foliation occurring @ 25° +/- TCA. Fractures have developed along these planes. Very thin ribbons of yellow, fine grained felsic materials were noted.</p>					

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	RL-92-02 Page 12
From	To				From	To		
355.0'	357.8'	Metaarkose	<p>Medium fine grained, pink-orange to fleshy coloured. The rock consists of at least 50% pink feldspar clasts up to 0.20" across with the remaining materials being made up of light grey-white quartz and what look to be very weak bedding appears evident at 35° TCA. The rock is somewhat fractured and weakly brecciated upper contact. The lower contact was measured @ 35° TCA and is semi gradational and concordant with apparent depositional features observed within the lower-following units. The coarsest grain sized feldspars are found at the lower contact area, suggesting grading occurs in the up hole direction.</p> <p>Rock can be intruded by thin &lt; 0.3" subvitreous remobilized quartz veins - quartz-chlorite veins with fine grained disseminated to irregular inclusions and chalcopyrite erratically distributed throughout.</p>	57127	355.0'	357.8'	2.8'	ICP-32
358.8'	370.2'	Metasandstone	<p>Medium to coarse grained, light green to light yellow rock which shows evidence of physical grading into arkosic metasediments over short lengths &lt; 1.0'. The grading is somewhat gradual from one rock type to the other. The largest clasts appear to be made up of subvitreous quartz, cream coloured felsic and feldspars which show to be rounded to subrounded for the quartz, and angular to subrounded for the feldspars. The largest fragment measures 1.10" x 0.30". The metasediment is made up primarily of quartz within a fine grained yellow cement. Locally dark green mafic minerals can be found disseminated throughout the rock. The mineral clasts appear to be bedded or somehow aligned at about 35° TCA. Sharp fractures occur along these apparent planes while sharply out fractures run perpendicular to the apparent bedding fractures.</p>					
370.2'	432.6'	Metaarkose	<p>Medium to coarse grained, rarely subconglomeritic, dark-light pink, light pink-green arkose being made up of primarily feldspars and quartz clasts with minor thin interbeds of graded light green metasediments with apparent bedding @ 35° - 45° T.C.A. Large 1.0" - 1.5" white subvitreous round to subround quartz clasts can be found throughout the rock. A few rare purple subangular fine grained fragments measuring 0.25" x 0.2" were noted in the lower section of unit. Finely disseminated stubby black-green mafic minerals are also scattered throughout the section. At several locations in the section there are numerous intruding thin 0.10" - 2.0" thick light white quartz veins with black-green chlorite. Some chlorite was found to replace former lath-needle form crystals associated with fine grained epidote with the chlorite and amorphous magnetite. Minor carbonates and up to 1% fine grained irregular shaped inclusions of chalcopyrite with lesser pyrite occur within veins or isolated inclusions within the arkose. The veining and mineralization were probably derived from the intruding diabase-gabbro intruding from below metasediment.</p>	30067	422.45'	428.00'	5.55'	ICP-32 A-12
			<p>@ 430.0' - 432.6' Highly silicified, coarsely brecciated arkose in contact with the intruding diabase, metagabbro dyke. The rock has a very siliceous vitreous look. Both mafic and light coloured felsic minerals are present as disseminations and were probably the results of contact metamorphism.</p>					

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
432.6'	456.0'	Altered meta-diabase, metagabbro	<p>Fine to medium grained dark grey-bluish-green. Much of the original feldspar-ferromagnesium mineral textures have been somewhat lost to strong breccia and chlorite alteration effects. Some fresh material does remain. The most prominent alteration is due to the brecciation of the dyke. Breccia fragments and resultant voids have been infilled with a light green cryptocrystalline felsic material. Trace cubic pyrite can be found in the brecciated sections. The upper contact is marked by strong healed brecciation with visible metasedimentation xenoliths with weak to more prevalent massive chlorite alteration with lense-like and disseminated inclusions of chalcopyrite. Upper contact has been measured @ 65° - 66° TCA. The lower contact is sharp and is marked by 0.2" irregular carbonate vein at 10 - 12° TCA. No xenoliths above were observed at the lower contact.</p> <p>@ 432.6' - 435.75' Highly brecciated to massive chlorite altered metadiabase-gabbro dyke rock with 2-3% fine grained discontinuous lense-like inclusions to finely disseminated chalcopyrite with trace pyrite. The chalcopyrite inclusions are aligned at about 50° TCA.</p>	57128	432.6'	435.75'	3.15'	ICP-32
456.0'	468.6'	Felsic lapilli tuff	<p>Very fine grained, light cream-yellow-grey, dark grey green coloured, generally very glassy. The tuff has been very highly contorted and contains a highly variable size fraction of clasts from glassy to megaclasts-blocks measuring almost 3 ft. across. The large megaclasts consist of quartz, meta arkose, meta-sandstone, metadiabase-gabbro. In the finer grained tuff fractions, fine grained crystals and mineral grains of pyrite with chalcopyrite occur within the matrix or within specific small pyroclasts throughout the unit. Some of the clast appears to have rims of sulphides.</p>					
		<lower tuff contact fault zone > 466.5' - 468.6	<p>@ 466.5' - 468.6' Lapilli tuff has been cut off by a series of fault related fractures developed between the tuffs and the metasediments. The fractures occur at about 25° TCA. The numerous fractures appear to have aligned the fragmented rocks of the tuff along the axis of the fractures and/or contact location. Some of the fracture generated rock segments appear to have undergone some noticeable leaching. The fracture surfaces are altered with yellow to light green sericite and/or talc.</p>					
468.6'	522.0'	Massive metasediment	<p>Medium to fine grained light green to yellow coloured highly equigranular texture rock of primarily quartz grains with a fine grained yellow cement. The rock appears to be quite massive but is highly planar fractured which in some instances may represent former bedding, i.e. 42° TCA @ 472.5', 37° TCA at 496.5', 40° TCA at 517' +/- . Many of the fractures are often coated with thin yellow-green to silver talc and/or sericite. Highly angular to rounded very fine grained butter yellow coloured clasts can regularly be seen in small percentages &lt; 1% +/- throughout the unit.</p> <p>@ 475.4' - 476.1' Fine grained light green felsic ash-breccia interlayered unit within the metasediment contacts is marked @ 31° TCA. The rock shows layering and contorting as was observed in lapilli tuff from footages 456.0' - 468.6'. Overall this thin unit is quite similar in colour to the adjacent metasediment. No sulphides were observed in the tuff matrix.</p>	300088	506.0'	512.0'	6.0'	A-12

Footage

From

432.6'

456.0'

Rock Type

Altered meta-diabase, metagabbro

Description

Fine to medium grained dark grey-bluish-green. Much of the original feldspar-ferromagnesium mineral textures have been somewhat lost to strong breccia and chlorite alteration effects. Some fresh material does remain. The most prominent alteration is due to the brecciation of the dyke. Breccia fragments and resultant voids have been infilled with a light green cryptocrystalline felsic material. Trace cubic pyrite can be found in the brecciated sections. The upper contact is marked by strong healed brecciation with visible metasedimentation xenoliths with weak to more prevalent massive chlorite alteration with lense-like and disseminated inclusions of chalcopyrite. Upper contact has been measured @ 65° - 66° TCA. The lower contact is sharp and is marked by 0.2" irregular carbonate vein at 10 - 12° TCA. No xenoliths above were observed at the lower contact.

@ 432.6' - 435.75' Highly brecciated to massive chlorite altered metadiabase-gabbro dyke rock with 2-3% fine grained discontinuous lense-like inclusions to finely disseminated chalcopyrite with trace pyrite. The chalcopyrite inclusions are aligned at about 50° TCA.

57128

432.6'

435.75'

3.15'

ICP-32

456.0'

468.6'

Felsic lapilli tuff

Very fine grained, light cream-yellow-grey, dark grey green coloured, generally very glassy. The tuff has been very highly contorted and contains a highly variable size fraction of clasts from glassy to megaclasts-blocks measuring almost 3 ft. across. The large megaclasts consist of quartz, meta arkose, meta-sandstone, metadiabase-gabbro. In the finer grained tuff fractions, fine grained crystals and mineral grains of pyrite with chalcopyrite occur within the matrix or within specific small pyroclasts throughout the unit. Some of the clast appears to have rims of sulphides.

<lower tuff contact fault zone > 466.5' - 468.6

@ 466.5' - 468.6' Lapilli tuff has been cut off by a series of fault related fractures developed between the tuffs and the metasediments. The fractures occur at about 25° TCA. The numerous fractures appear to have aligned the fragmented rocks of the tuff along the axis of the fractures and/or contact location. Some of the fracture generated rock segments appear to have undergone some noticeable leaching. The fracture surfaces are altered with yellow to light green sericite and/or talc.

468.6'

522.0'

Massive metasediment

Medium to fine grained light green to yellow coloured highly equigranular texture rock of primarily quartz grains with a fine grained yellow cement. The rock appears to be quite massive but is highly planar fractured which in some instances may represent former bedding, i.e. 42° TCA @ 472.5', 37° TCA at 496.5', 40° TCA at 517' +/- . Many of the fractures are often coated with thin yellow-green to silver talc and/or sericite. Highly angular to rounded very fine grained butter yellow coloured clasts can regularly be seen in small percentages < 1% +/- throughout the unit.

@ 475.4' - 476.1' Fine grained light green felsic ash-breccia interlayered unit within the metasediment contacts is marked @ 31° TCA. The rock shows layering and contorting as was observed in lapilli tuff from footages 456.0' - 468.6'. Overall this thin unit is quite similar in colour to the adjacent metasediment. No sulphides were observed in the tuff matrix.

300088

506.0'

512.0'


6.0'

A-12



Footage		Rock Type	Description	Sample No.	Footage		Sample Length	RL-92-02 Page 14
From	To				From	To		
522.0'		End of hole RL 92-02						Analytical Procedures

**BHARTI LAAMANEN MINING INC. - RICHARDSON LAKE PROJECT**

<b>Drill Hole No.</b> RL-92-03	<b>Date Logs Submitted:</b> January 15, 1993	<b>Signature of Geologist:</b> 	<b>No. of Pages in Log:</b> 13
<b>Company Name:</b> Bharti Laamanen Mining Inc.	<b>Property Name:</b> Richardson Lake	<b>Claim Number:</b> S 1095079	
<b>N.T.S. Reference No.:</b> 41-1/14 Edition 2, Venetian Lake, Ontario		<b>Drill core stored at:</b> Laamanen Const., 129 Fielding Rd., Lively, Ontario, POM 2EO	
<b>Project Supervisor:</b> Harold J. Tracanelli		<b>Employer:</b> Bharti Engineering Associates Inc. 131 Fielding Rd., Lively, Ontario, POM 2EO	
<b>Diamond Drilling Company:</b> Sparta Drilling	<b>Runner-Supervisor:</b> Larry Salo	<b>Helper:</b> Ronald Crichton	<b>Equipment Type:</b> BBS-2
<b>Date Drill Hole Started:</b> Sept. 27, 1992	<b>Date Drill Hole Completed:</b> Oct. 01/92	<b>Total Length of Drill Hole:</b> 524 ft.	<b>Dip of Drill Hole, Collar</b> 0' -45° 524' -47°
<b>Drill Core Logged by:</b> Harold J. Tracanelli	<b>Drill Core Logging Completed:</b> December 4, 1992	<b>Drillhole Co-ordinates:</b> 3 + 02E, 1 + 93S	
<b>Objectives of the diamond drilling exploration:</b> To explore the depth extent of the mafic-felsic contacts for volcanogenic massive sulphide type deposits (VMS)			

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	RL-92-03 Page 1
From	To				From	To		
0'	0'	No casing was required	Diamond drill hole RL-92-03 was collared directly on top of an amphibolite outcropping. This diamond drill hole is currently making water.	57129	6.2'	11.0'	4.80'	Analytical Procedures
0'	16'	Foliated or laminated intermediate metavolcanics (ash-tuff?)	<p>Fine grained very thinly foliated or laminated &lt;0.10" thick @ 85° T.C.A. Some parts of the section are obviously altered and are therefore noticeably or nearly massive in appearance. Much of the rock is grey to light green to light grey-brown. Locally there are a couple of thin coarser grained amphibolite sections within the intermediate rocks.</p> <p>Irregular shaped quartz ribbons, boudins, fine disseminated and irregular pyrite, pyrrhotite, chalcopyrite with some minor sphalerite stringers commonly occur in this section, hence identified as the possible down dip extension of the sulphide stringer zone as mapped in the surface trenching program in 1992.</p> <p>@ 0-2' visible micro to macro breccia of grey-green int. vols. Rocks @ 3.1' thin patchy small rusty sulphide grains - inclusions with thin 0.2" quartz ribbons-veins.</p> <p>@ 6.2'-11.0' finely disseminated to lenses, of stratiform amorphous pyrite with traces of chalcopyrite, to irregular shaped stringers of fine grained to amorphous pyrite with lesser pyrite-chalcopyrite stringers to thin chalcopyrite stringers throughout. Sulphide minerals often associated within amphibole mineral rich rock to laminated foliated lighter coloured intermediate rocks.</p> <p>Sulphides also associated with some grey to subvitreous white quartz, with strong chlorite alteration (dark green coloured). Good evidence for primary and secondary sulphide deposition. Pyrite and quartz with chlorite formed concordant to foliation-laminations (primary?), pyrite, pyrite-chalco, chalco stringers x-out fabric (secondary?)</p> <p>@ 11.0'-16.0' F.G. Massive to weakly foliated-laminated in rare instances, light brown to grey green coloured rocks - possible fine grained biotite-chlorite after amphiboles visible fabric @ about 13' = 55° T.C.A.</p> <p>Rocks intruded by numerous ribbons to tear dropped shopped subvitreous white to blue grey quartz concordant to the remnants of the plainer fabric (some with cream colours spar) @ 52° T.C.A. and 45° T.C.A. respectively.</p> <p>Occasional visible rosettes, eolular needles of amphibole minerals (hornblende) rare thin &lt;0.10" sulphide stringers associated with the 45° T.C.A. fractures. Trace to minimum 2% disseminated inclusions of pyrrhotite with possible pyrite.</p>	57129	6.2'	11.0'	4.80'	ICP-32

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
16'	55.9'	Weakly foliated to massive amphibolite	<p>Generally coarse grained with minor fine grained, amphibole rich rock with numerous irregularly shaped quartz veins with minor feldspars and disc to inclusions or micro veins in sulphides, some chlorite alteration with some fine grained light green epidote with the quartz. Minor thin &lt;math&gt;\lt; 9^\circ&lt;/math&gt; laminated grey very fine grained felsic to intermediate interbeds observed in the lower parts of this measured section.</p> <p>Foliation of rocks estimated @ <math>85^\circ</math> to <math>90^\circ</math> T.C.A. @ 18.8' strataform inclusions of pyrrhotite and -trace chalcocopyrite.</p> <p>@ 19.0'-19.4' strong limonite on fracture surfaces in coarse grained amphibolite @</p> <p>@ 20.0' - 0.3" medium fine grained light green-yellow zoned sharp contact epidote vein in amph., observed @ <math>25^\circ</math> T.C.A.</p> <p>@ 20.35' - 21.45' occurs at 1.10' fine grained white to grey quartz vein with semi sharp contacts @ <math>38^\circ</math> T.C.A. Contact rocks are altered by thin seams of carbonate-sulphides, highly altered xenoliths observed at upper contact, none at lower contact?. Quartz vein broken by numerous regular orthogonal fractures @ <math>37^\circ</math> - <math>38^\circ</math> T.C.A. - which have been altered and infilled with pyrite-pyrrhotite and chalcocopyrite as inclusions within the pyrrhotite and fine grained epidote and dark coloured chlorite inclusions.</p> <p>Sulphides seem to be restricted more or less to contact areas of the vein.</p> <p>@ 21.45' - 22.30' visible weak epidote veins with fine disseminated sulphides immediately below the quartz vein as described above.</p> <p>@ 25.95' - 0.10" - 0.25" sharp sulphide stringer @ <math>33^\circ</math> T.C.A.</p> <p>@ 27.25' - 39.0' Up to 5% disseminated strataform pyrite with traces of chalcocopyrite, also as distinctive x-outting stringers. throughout a coarse to fine grained amphibole rich rock.</p> <p>@ 30.4' - 33.0' numerous irregular quartz inclusions, with minor light coloured feldspars or iron carbonates with finely disseminated pyrite and chalcocopyrite. Some weak breccia at 32.0' - 33.0' with visible brown alteration colour.</p> <p>@ 40.5' strong fracture breccia of fine grained amphibolite, infilled with quartz-spar-epidote and other fine grained felsic minerals developed @ <math>10^\circ</math> T.C.A.</p> <p>@ 48.25' - 50.3' irregular pyrite stringers within coarse grained amphibolites.</p> <p>@ 50.3' - 51.3' fine to medium grained grey to brown thinly foliated to laminated felsic to intermediate metavolcanics with quartz inclusions. 2% disc. and sharp micro stringers of pyrite.</p> <p>@ 53.45' - 53.70' grey fine grained laminated felsic metavolcanic rock with fine disc. pyrite.</p>	57130	24.7'	26.7'	2.0'	ICP-32 877-Au

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
55.9'	57.5'	Weakly foliated intermediate metavolcanic (lean iron formation)	<p>⑤ 54.8' - 55.6' light grey-green sharp contacted fracture breccia veins infilled with fine felsic minerals with traces of sulphide inclusions - breccia occurs within a fine grained amphibolite at about 23° T.C.A.</p> <p>Fine grained weakly foliated 89° - 90° T.C.A. dark grey in colour, rocks separated by thin micro ribbons of felsic materials as well as thin 0.1" - 0.2" fine grained bands of magnetite. Rocks intruded by 1" irregular quartz inclusions with 3-5% finely disseminated pyrrhotite-pyrite at bottom contact of rock where a thin 3 inch laminated felsic-brecciated rock has been observed.</p>					
57.5'	61.55'	Well foliated intermediate Mafic amphibolite	<p>Medium to fine grained, grey to green coloured foliation @ 85-90° T.C.A. Numerous thin &lt; 1.0" grey-blue quartz inclusions concordant to foliation especially near lower part of section. Finely disseminated pyrite-pyrrhotite and lesser chalcocopyrite with chlorite alteration rims quartz inclusions.</p>					
61.55'	64.8'	Moderately altered of intermediate metavolcanics Pyr-Py-Pbs	<p>Fine grained, light to rarely dark green, weak remnant of former foliation-laminations @ 85° - 90° T.C.A. Massive to weakly foliated. Rocks have undergone silicification and brecciation with the introduction of light green epidote-pink iron carbonate with possibly feldspars and minor acid reactive carbonate. The rock unit carries from traces to up to a localized maximum of 25-30% disseminations to epidote veins with pyrrhotite, galena, pyrite with much lesser amounts of chalcocopyrite and traces of sphalerite.</p> <p>@ 63.25' - 63.9' most highly concentrated sulphide location having 25% - 30% galena - pyrite within a nearly massive epidote-quartz rich Rocks. Pyrrhotite with minor chalcocopyrite appears more commonly on either sides of the thin galena mineralization.</p>	57131	61.55	64.80	3.25'	ICP-32
64.8'	70.0'	Weakly altered intermediate metavolcanics	<p>Well foliated fine grained, brown to light green very thinly &lt;0.01" foliated or laminated Rocks 80° - 90° TCA, not noticeably silicified.</p> <p>@ 64.8' - 68' distinctive 30% - 50% brown (biotite) alteration of former felsic-amphibole mineral host rock - 5-7% coarse disseminated pyrrhotite. Possible biotite-sericite derived from alterations of fine grained amphiboles and pyroxene minerals.</p> <p>@ 68.0' - 70' light green foliated, little or no brown alteration, several fine grained pink to light green felsic veins as fracture fillings 0.05" - 0.02" thick @ 20° to 35° TCA. Minor quartz infillings with traces of pyrrhotite and sphalerite x-stal inclusions.</p>	57132	64.8'	70.0'	5.20'	ICP-32
70.0'	79.2'	Weakly foliated mafic amphibolites	<p>Fine to much lesser medium grained amphibole rich rocks @ 85°-90° T.C.A. Rocks have been intruded by a few thin &lt;0.1" x-cutting felsic veinlets, rare sulphide stringers with quartz and yellow-green epidote inclusions. Trace fine disseminated pyrite within the rocks. @ 79' weak alteration of hornblende to pyroxene minerals.</p>					

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
79.2'	101.1'	Well foliated amphibolites	<p>Fine to medium grained, dark green to gray to rarely brown or pink coloured. Foliation ranges from 85°-90° TCA. In places the rock has been brecciated and cross cut by numerous of felsic-quartz carb veins. The amphibolites are sometimes interrupted by thin 3.5" pink, finely laminated felsic bands with 0.5% - 1% disc. chalcopyrite-galena and sphalerite. Narrow bands of fine grained intermediate metavolcanics &lt;2.0' occur within the classical amphibolites and often carry 5-7% fine grained pyrrhotite as disseminations, micro veinlets and form concordantly with foliation appearing to have replaced amphibole needles. In the upper portions of the section some coarser grained pyroxene porphyroblasts have been developed within the amphibolites. Varying degrees of biotite alteration has been noted in the section.</p> <p>⊙ 79.20' - 85.35' visually brown coloured, weakly to moderately strong biotite alteration of the amphibolites. This section has also been strongly brecciated as distinctive masses or as fracture breccia veins throughout.</p> <p>⊙ 80.5' - 82.9' strongest area of brecciation having breccia infillings of white-cream granular carbonate, fleshy orange to pink-green feldspars, green chlorite, black blocks of biotite (microscale), inclusions of pyrrhotite with traces of chalcopyrite, thin seams of pyrite and traces of finely disc. blue galena. (Irregular sulphides throughout). Strong biotite alteration of breccia @ 82.5'. Brecciation axis along fractures 10° - 45° TCA.</p> <p>⊙ 85.45' - 85.75' Fine grained pink, thinly laminated, very sharp contacted. The rock hosts 1/2% chalcopyrite-sphalerite-galena.</p> <p>⊙ 90.35' - 90.6' white-gray quartz vein with trace disc. to micro stringers of pyrite along fractures 47° TCA. Minor whips of chlorite, very sharp vein contacts.</p> <p>⊙ 91.2' - 92.2' Fine grained grey to light green well to poorly laminated-foliated intermediate metavolcanic with 3% - 5% finely disc. pyrr-pyrite. Some weak folding of rocks evident.</p> <p>⊙ 95.5' - 97.3' fine to medium grained foliated or laminated intermediate amphibolite with irregular subvitreous quartz inclusions. 7% - 10% disseminated strataform and inclusions of pyrrhotite and pyrite within quartz inclusions.</p>	57133	79.20'	85.35'	6.15'	ICP-32
101.1'	139.5'	Intermediate-mafic well foliated amphibolites (andesites - basalts)	Well foliated, medium to fine grained @ 88° - 90° T.C.A. Intermediate-mafic amphibolite, light to dark green in colour. Rock unit consists primarily of medium to fine grained amphibole needles, to aggregate-like crystals, ribbons-laminations or disseminated forms of white-yellow feldspars. Some evident chlorite-carbonate alteration, irregular quartz inclusions or boudins throughout section. Rock units sometimes intercalated with thin very fine grained massive to laminated, grey to pink felsic rocks, which often host finely disseminated pyrite-chalcopyrite, sphalerite and/or galena.					

Footage		Description	Sample No.	Footage		Sample Length	RL-92-03 Page 5
From	To			From	To		
		<p>© 101.3'-102' pink to light green felsic band with weak visible laminations offsetting by micro faulting separated by a series of right lateral fault fractures @ 20° TCA. Trace - 1% fine diss. and visible inclusions of brown-purple sphalerite, with fine grained blue galena, ultra fine pyrite and/or chalcopyrite and an elongated inclusion of pyrrhotite. Some smearing of fine grained pyrite along fault fractures was observed (secondary sulphides).</p> <p>© 102.4'-102.8' fine grained grey, glassy appearance, very well laminated felsic band (Rhyolite flow?). Trace ultrafine to 3% coarser grained brown, purple sphalerite, with light blue galena and minor pyrite was noted especially near the contact.</p> <p>© 103.4'-112.0' numerous very fine grained very well laminated light to dark grey felsic rocks intercalated with foliated hornblende - feldspar - quartz/feldspar, minor chlorite altered rock (intermediate amphibolite). Trace to 1% finely disseminated pyrite-pyrrhotite with light coloured sphalerite and galena can be found throughout this minor localized unit. This section may clearly represent andesite like flows interrupted by thin felsic flows or tuffaceous rocks.</p> <p>© 127.3' - 134.01, 0.70" - 0.90" wide vein consisting of well brecciated fragments of the coarse grained amphibole-epher rich intermediate amphibolite which has been infilled and subsequently zoned with pink flesh coloured feldspars (orthoclase) with a fine grained light green felsic materials (epidote) and a blue grey to green grey fine grained felsic material. The vein hosts ultrafine light blue galena, with diss. to fracture fillings and whips of pyrrhotite, pyrite and chalcopyrite in minor quantities, finely diss. pyrite-pyrrhotite with chalcopyrite and micro stringers are found within the host rock of the vein and in close proximity to the fault fracture vein.</p> <p>The fault fracture vein was found to undulate along the length of the core axis (Pbs, Pyrite, Pyrrhotite) dis-stringers of pyrite, pyrrhotite with lesser chalcopyrite @ 25° TCA in the adjacent amphibolite host rock.</p>	57134	127.3'	134.0'	6.70'	ICP-32
139.5'	141.65'	Intermediate amphibolite					
141.65'	142.90'	Mafic dyke					

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	RL-92-03 Page 6
From	To				From	To		
142.90'	143.9'	Intermediate amphibolite	Foliated, medium to coarse grained, light to dark green-yellow with rare brown coloration due to some minor fine grained biotite. Traces to 1% localized pyrrhotite with pyrite as disseminations and thin fracture fillings.					
143.9'	145.4'	Chloritized brecciation zone in felsic volcanics	Weakly foliated felsic vols. with fine grained to very coarse grained mega breccia, made up of up to 4" +/- fragments of fleshy pink fine grained felsic metavolcanic, associated with considerably small ground up fragments of quartz and feldspars. The breccia fragments were infilled with massive fine grained dark-light green chlorite. The breccia-chlorite matrix appears foliated at about 55° T.C.A. Both the rock fragments including isolated locations within the chlorite matrix contain trace amounts of pyrrhotite with ultrafine grained light blue grey galena and traces of silvery-grey ilmenite?					
145.4'	158.0'	Intermediate Amphibolites (andesite flow?)	Well foliated coarse grained to rarely medium-fine grained dark to light green in colour which can be well foliated @ 80° - 90° T.C.A. Rock shows visible signs of drag folding with additional more complex versions of folding. Also observed were ribbons of light coloured feldspars, including apparent intergrowths of a bright white disseminated mineral, possibly sericite. Some visible chlorite alteration of the amphiboles.  The amphibolite can be intruded by more or less randomly distributed, concordant or discordant irregular shaped lense-like laminations or inclusions of quartz with epidote, minor carbonate and light pink-white feldspars. The narrow lense-inclusions, host trace to 2% max. finely disc. inclusions to fine grained fracture fillings pyrite, pyrrhotite, brown sphalerite and fine chalcopyrite.					
158.0'	158.8'	Intermediate amphibolites	Weakly foliated, fine-medium grained, dark green					
158.8'	161.2'	Mafic to Intermediate dyke	Massive fine grained, dark green to dark grey, knife sharp contacts with the adjacent amphibolites @ 28° T.C.A. (upper contact), with 28° T.C.A. (lower contact) with amphibolite xenoliths present in dyke near lower contact. Thin <0.05" - 0.15 sharp contact x-cutting carbonate veinlets with no visible sulphides occur in the dyke @ 42° T.C.A. and 88° - 90° T.C.A.					
161.2'	170.4'	Intermediate Amphibolite	Weakly foliated, medium to fine grained, dark grey to green in colour, foliation @ 88°-90° T.C.A. +/- . Rocks contain numerous ribbons or partings of massive like to rosette acicular needles of amphibole minerals throughout (possible spherulitic texture). In lower sections the finer grained amphibolites contain numerous speckled fine disseminations of a white-dull bright mineral which may represent relict porphyries or amygdules.  Narrow fine grained felsic veins x-cut foliation @ 42° - 80° T.C.A. Rocks host trace -1% finely disc. pyrite and as this micro seems along fracture surfaces.	57135	165.4'	170.4'	5.00'	ICP-32



Footage		Rock Type	Description	Sample No.	Footage		Sample Length	RL-92-03 Page 7
From	To				From	To		
170.4'	173.3'	Chlorite Altered Intermediate Rocks	<p>Very weakly foliated, fine grained, light green to green, visibly chlorite altered throughout, some possible isolated rounded feldspars and finely disseminated white speckled felsic minerals as possible relict porphyries or amygdules. The rocks have been mildly fractured to form microthin - anastomosing network of wispy to sinuous veins of felsic minerals with brown epidote and some minor chlorite.</p> <p>@ 173' strong but narrow &lt;0.5" thick grey quartz with massive to rhombic carbonate (calcite).</p>	57136	170.4'	173.3'	2.90'	ICP-32
173.3'	179.8'	Chlorite altered and brecciated intermediate rock	<p>Moderately to well foliated, fine grained light green to grey coloured rock has in places undergone severe brecciation and contortin of the visible foliation. The rock has been weakly to very strong brecciated with infillings of quartz-carbonate, light to dark green to brown chlorite, epidote, pink to light coloured feldspars, all of which host massive coarse grained disseminations to large irregular inclusions to veinlets of pyrrhotite-with lesser chalcopyrite.</p> <p>@ 173.3' - 175.9' (2.60') most intense breccia with pyrrhotite-chalcopyrite-carbonate-quartz epidotes.</p> <p>@ 177' a 1.5" - 1.75" sharp contact breccia dyke or vein, @ 35° T.C.A. x-cutting foliation of adjacent altered rocks. Apparent breccia dyke consists of an elongated fragment of a fine grained grey massive metasediments or tuffaceous rocks, within a matrix of very fine grained green ground mass. The metasediment-tuff diast measures 1" wide by 2.3" +/- long. Other smaller fragments are visible. This material may have been derived from the same materials that are known to occur only 3 feet further down the hole. This occurrence may be representative of a former soft sedimentary dyke possibly upwelling into semi-consolidated tuffs or metasediments.</p>	57137 57138	173.3' 176.0'	175.0' 179.8'	2.70' 3.80'	ICP-32 ICP-32
179.8'	182.8'	Felsic to intermediate meta-sediment or tuffaceous rocks	<p>Massive, fine grained medium grey in colour, for the most part massive but there are some very faint remnants of foliation-bedding at about 60° T.C.A. The rock unit has been finely fractured - tightly brecciated and infilled with numerous fine grained felsic to epidote-carbonate bearing veins having a max. thickness of 0.5". Most of the veins are &lt;0.01" thick and x-out in all directions (anastomosing). No apparent chlorite alteration is visible - although some possible silicification is suspected.</p> <p>The end of this section marks the beginning of the Intermediate-Mafic/Felsic contact alteration zone</p>	57139	179.8'	182.8'	3.00'	ICP-32

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
182.8'	212.6'	Highly folded and contorted carbonaceous metasediments	<p>Fine to medium grained light to dark grey. The rock generally ranges from very thinly bedded &lt;0.05" to less commonly massive. The rock is made up of primarily carbonate grains with lesser quartz materials. This carbonate rich unit often has erratically distributed fragments of angular to subangular light to dark grey quartz fragments. A number of large rounded to subangular exotic fine grained quartz foreign rock fragments up to 4.5" - 5" across can be observed within the unit. The rocks appear to have been molded around the rock and quartz fragments, clearly suggesting a soft unconsolidated deposition. Some of the rock fragments have been altered as a result of secondary carbonate vein remobilization, beginning from the outer edge of the rock fragment and pinching out towards its interior. Veins do not cross over into the carbonate - metased - tuff rock? The rock shows very erratic folding and twisting, possible soft sediment slumping episodes. Structural folding features were measured at:</p> <p>184' 81° TCA, 194' 48° TCA, 204' 88-90° TCA and 212' 69° TCA</p> <p>The rock hosts traces of finely disseminated pyrite-pyrrhotite and rare thin bedding concordant sulphide seams.</p> <p>@ 183.0'-189.0' 1-2% light brown-yellow anhedral garnet crystals or inclusions developed within a massive light grey carbonate rich rock.</p> <p>210.0'-212.6', strong 1% to massive garnet alteration as irregular shaped inclusions aligned along former bedding or depositional layering of the carbonated rocks. Garnets range in colour from light to dark brown to light off-red to rarely bright yellow. Garnets can also be associated with carbonate-silica, ultrafine disseminated gelsens within a thin isolated band of massive amphibole mineral needles altering to chlorite-hosting bright yellow garnets (aggregate like forms, no crystals visible).</p>	57140 57141 57142 57143 57144 57145	182.8 189.0 184.8 199.8 204.0 210.0	189.0 194.8 188.8 204.0 210.0 212.6	6.20' 5.80' 5.00' 4.20' 6.00' 2.60'	ICP-32 ICP-32 ICP-32 ICP-32 ICP-32 ICP-32
212.6'	219.6'	Well foliated silicified felsic meta-volcanic (semi-massive sulph. zone)	<p>Well foliated or laminated, fine grained, light brown to grey, silicified rocks with some minor carbonate which has undergone some alteration to light brown-red garnet, with dark green to black quartz foliation laminations observed @ 75° TCA. Much of the foliation laminations has been obscured due to the extensive silica-sulphide alteration. The rock hosts an estimated 10% to massive pyrite, with lesser pyrrhotite and traces of chalcopyrite. The sulphides most commonly occur in the disseminated form or massive replacement as observed at about 215'-216' footage. Massive sulphides occur as fine grained aggregates or as an agglomeration of poorly developed crystal grains. Numerous voids which were possibly once infilled with yellow garnet or possibly epidote occurs within the massive sulphides. A minor amount of the sulphides occur as secondary stringers x-cutting foliation-lamination of host rocks.</p>	57146	212.6'	219.6'	7.00'	ICP-24

Footage

From

182.8'

Rock Type

Highly folded and contorted carbonaceous metasediments

Description

Fine to medium grained light to dark grey. The rock generally ranges from very thinly bedded <0.05" to less commonly massive. The rock is made up of primarily carbonate grains with lesser quartz materials. This carbonate rich unit often has erratically distributed fragments of angular to subangular light to dark grey quartz fragments. A number of large rounded to subangular exotic fine grained quartz foreign rock fragments up to 4.5" - 5" across can be observed within the unit. The rocks appear to have been molded around the rock and quartz fragments, clearly suggesting a soft unconsolidated deposition. Some of the rock fragments have been altered as a result of secondary carbonate vein remobilization, beginning from the outer edge of the rock fragment and pinching out towards its interior. Veins do not cross over into the carbonate - metased - tuff rock? The rock shows very erratic folding and twisting, possible soft sediment slumping episodes. Structural folding features were measured at:

184' 81° TCA, 194' 48° TCA, 204' 88-90° TCA and 212' 69° TCA

The rock hosts traces of finely disseminated pyrite-pyrrhotite and rare thin bedding concordant sulphide seams.

@ 183.0'-189.0' 1-2% light brown-yellow anhedral garnet crystals or inclusions developed within a massive light grey carbonate rich rock.

210.0'-212.6', strong 1% to massive garnet alteration as irregular shaped inclusions aligned along former bedding or depositional layering of the carbonated rocks. Garnets range in colour from light to dark brown to light off-red to rarely bright yellow. Garnets can also be associated with carbonate-silica, ultrafine disseminated gelsens within a thin isolated band of massive amphibole mineral needles altering to chlorite-hosting bright yellow garnets (aggregate like forms, no crystals visible).

Sample No.

57140  
57141  
57142  
57143  
57144  
57145

From

182.8  
189.0  
184.8  
199.8  
204.0  
210.0

To

189.0  
194.8  
188.8  
204.0  
210.0  
212.6

Sample Length

6.20'  
5.80'  
5.00'  
4.20'  
6.00'  
2.60'

Analytical Procedures

ICP-32  
ICP-32  
ICP-32  
ICP-32  
ICP-32  
ICP-32

Footage

From

212.6'

Rock Type

Well foliated silicified felsic meta-volcanic (semi-massive sulph. zone)

Description

Well foliated or laminated, fine grained, light brown to grey, silicified rocks with some minor carbonate which has undergone some alteration to light brown-red garnet, with dark green to black quartz foliation laminations observed @ 75° TCA. Much of the foliation laminations has been obscured due to the extensive silica-sulphide alteration. The rock hosts an estimated 10% to massive pyrite, with lesser pyrrhotite and traces of chalcopyrite. The sulphides most commonly occur in the disseminated form or massive replacement as observed at about 215'-216' footage. Massive sulphides occur as fine grained aggregates or as an agglomeration of poorly developed crystal grains. Numerous voids which were possibly once infilled with yellow garnet or possibly epidote occurs within the massive sulphides. A minor amount of the sulphides occur as secondary stringers x-cutting foliation-lamination of host rocks.

Sample No.

57146

From

212.6'

To

219.6'

Sample Length

7.00'

Analytical Procedures

ICP-24

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	RL-92-03 Page 9
From	To				From	To		
219.6'	232.7'	Carbonaceous metasediments	<p>Massive to weakly bedded, @ 80° - 85° T.C.A. fine grained light to dark grey in colour. Some visible fine grained light coloured rock fragments scattered throughout, which appear to be aligned along the apparent bedding. The rock unit has developed within it numerous boudinage shaped quartz inclusions, which have locally realigned the bedding-foliation planes. Trace to 3% fine to coarse disse. pyrite with minor micro pyrite stringers and fracture fillings @ 222.4", 0.75" sulphide seam or interbed @ 73° - 74° TCA sharp contact.</p> <p>@ 222.95', 0.50" - 0.75" fine grained carbonaceous interbed which has been faulted off at 40° TCA.</p> <p>@ 229' thin wispy felsic x-cutting veins @ about 30° TCA. Rock shows some silicification.</p>	57147 300051	219.6' 224.6'	224.6' 232.7'	5.00' 8.10'	ICP-32 ICP-32
232.7'	244.0'	Silicified felsic metavolcanics	<p>Well foliated or laminated rock. Same as described in Section 212.6' - 219.6', mauvish to brown in colour, silicified, strongly disseminated 1% to 15% +/- coarsely to finely disse. pyrite-stringers and inclusions within flow rocks.</p> <p>@ 238.4' - 238.65' highly irregular contacts of a carbonaceous interbed, with adjacent rocks suggesting semi-consolidated nature of underlying rocks. Some slumping and load casting appears evident at this location.</p> <p>@ 238.65' - 240.3', fine grained - green highly chloritic, jointed shear zone, shearing plains appear to have developed @ 39° T.C.A. Thin carbonate veins or ribbons with trace pyrite were found near the contact areas. Minor oval shaped carbonate inclusions were observed within the whole of the shear zone. Visible chlorite remobilization veins near upper contact with carbonaceous metasediment.</p>	57148 57149	232.7' 238.6'	238.6' 244.0''	5.90' 5.40'	ICP-32 ICP-32
224.0'	260.50'	Felsic tuffs	<p>Massive to weakly foliated rocks being the same as those described in section from 219.6" - 232.2'. Foliation - bedding? @ 244', 65° - 66° T.C.A.</p> <p>@ 250.0' foliation-bedding occurs @ 80° T.C.A suggesting obvious folding has taken place. Folding in part may have resulted from the intrusion of the meta diabase-gabbro immediately below this section. The rock has been beddy broken up and riddled with fine fractures from about 254.0' to 260.50'. The fractures have been infilled with thin carbonate and fine grained chlorite. Minor quartz inclusions or narrow veins are also present.</p> <p>@ 254'-260.5' - The rock probably has undergone some adjacent dyke contact faulting episodes.</p>	57150 57076	244.0' 252.0'	252.0' 262.7'	8.0' 10.7'	ICP-32 ICP-32
260.5'	261.5'	Lepilli tuff-welded tuff or tuff flow	Banded light green to yellow unsorted, quite glassy matrix. These rocks appear to show evidences of semi consolidated or molten flow-like movements contemporaneous to or subsequent to deposition.					
261.5'	262.7'	Felsic tuffs	Massive rock, the same as described at 244.0' - 260.50' - No visible foliation was observed. The host rock is cross cut by thin 0.30" quartz-epidote veins parallel to the core axis with minor disse. pyrite visible.					

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	RL-92-03 Page 10
From	To				From	To		
262.7'	264.8'	Silicified meta-sandstone/arkose	Medium fine grained, light grey-yellow to locally white rock altered due to the intrusion of an irregular mass to more or less distinctive veins(s) of white to grey-black quartz with white to light pink rhombo carbonate, irregular inclusions of fine grained green chlorite, yellow-green needles of epidote and possible amphibole intergrowths. Trace - 1/2% fine grained smearing and disseminations of chalcopyrite within the quartz-carbonate minerals. Contacts of the units appear to have undergone some shearing and infilling with fine grained green felsic minerals.	57077 57078	262.7' 264.8'	264.8' 267.0'	2.10' 2.20'	ICP-32 ICP-32 877-Au
264.8'	398.2'	Metagabbro dyke	Medium to coarse grained mottled texture of white-green to black where alteration has taken place. The upper contact of the dyke shows a somewhat sharp but significant shearing and brecciation @ 65° T.C.A. The lower contact is rather sharp @ 38° TCA with some remobilized pseudotachylite material in place at contact with leplli tufts below. Overall the dyke is massive but has been randomly locally altered by a number of thin light green very fine grained pseudotachylite remobilization veins and stringers cross cutting or localized shearing the rock in numerous directions. A few thin carbonate veins-sharp joint infillings occur. In the upper portion of the dyke the rock is most noticeably altered by shearing starting from the upper contact and extending for approximately some 55.0' +/- outwards or down the hole from the contact. The shearing appears to have varying intensities. The shearing has allowed the rock to undergo weak to moderate alteration with fine grained black biotite, trace to 2% dias. grains and inclusions of chalcopyrite, minor quartz/quartz-carbonate inclusions in places. Rare localized sulphide stringers were found to occur. @ 264.8' - 318.0' shear zone with weak to moderate shearing appears to be aligned along possible shearing-stress plains averaging about 50° TCA. @ 264.8' - 287.2' weakly sheared metagabbro with numerous micro thin pseudotachylite-epidote veins, with minor localized more intensely altered biotite rich rock. Minor localized grey-blue quartz with trace to 2-3% dias. to irregular inclusion and lesser stringers of pyrite-chalcopyrite were observed. @ 287.2' - 311.7' moderately most intense sheared rock with moderate biotite alteration, with trace to 3% disseminated to irregular shaped inclusions of chalcopyrite-pyrrhotite and pyrite. Lesser pyrite-chalcopyrite occur in minor quartz/quartz-carbonate veins cross cutting the metagabbro. @ 311.7' - 318.0' evidence of weak shearing, decreases towards the 318 footage with the remobilization of multiple thin pseudotachylite veins being most intense near 311-312 footage. Little or no biotite, some alteration by chlorite-talc with irregular shaped grey quartz and yellow carbonate inclusions from about 314.0' - 318.0'. Trace to 1% finely dias. irregular to cubic pyrite in localized areas. Increase in chlorite alteration from 314' towards 318'. Beyond 318' fresh metagabbro, no veining and no chlorite alterations.	57078 57079 57080 57081	287.2' 293.3' 299.4' 305.5'	293.3' 299.4' 305.5' 311.7'	6.10' 6.10' 6.10' 6.20'	ICP-32 ICP-32 ICP-32 ICP-32

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	RL-92-03 Page 11
From	To				From	To		
398.2'	405.8'	Felsic lapilli tuff - ash tuff matrix.	<p>Controtted, fine grained to locally silicified-glassy, dark grey to white-yellow greenish colour. Numerous mega blocks of silicified metasedstone, with other foreign mafic-intermediate-felsic fragments occur throughout. The lapillit tuff fragments are set in an ash tuff matrix. Much of the sections have been broken up, probably due to faulting, minor carbonate and talc along some of the fracture surfaces.</p> <p>@ 380.5' - 381.75' moderately to strongly brecciated and sheared metagabbro, 62° T.C.A. Shearing plains have been infilled with micro thin ribbons of white-light green carbonate minerals. Noticeable increase in the number of pseudotachylite veins towards the lower contact of the metagabbro dyke. Probably related to fracture filling during the cooling down periods of the metagabbro dyke.</p>					Analytical Procedures
405.8'	407.45'	Metagabbro dyke.	<p>Altered intrusive rock, same gabbro as described from 264.8' - 398.2'. Visible sharp contacts with lapilli tuff @ 31° TCA. Fingers of metagabbro with alteration of irregular pseudotachylite veins, trace - disseminated pyrite were noted. This metagabbro may also represent a megablock within the tuff unit above and below.</p>					
407.45'	410.6'	Felsic lapilli tuff with an ash tuff matrix	<p>Controtted, possibly welded, very fine grained to glassy light grey to grey green with numerous unsorted small to large scale irregular shaped fragments which include metasedstone and metagabbro. Some of the fragments contain fine disse. sulphides. Many of the fragments look as if they were partially melted (welded) allowing them to be cone twisted and contorted without breaking into pieces. The fragments are both large and small and appear to have a greater affinity to being stretched out rather than shattered and then stretched or spread out. The lapillit fragments are set in an ash tuff matrix. Some micro thin carbonate fracture fillings with fine grained pyrite occur within the tuffs.</p>					
410.6'	412.5'	Metagabbro dyke	<p>Moderately fresh looking, same intrusive as previously described at footages, 264.8' to 398.2'. Sharp upper contact @ 34° - 35° T.C.A. Somewhat undulating lower contact with the grey glassy tuffs @ 52° TCA. There are numerous micro thin pseudotachylite veins in the metagabbro. Trace fine sulphides typically occur within the dyke.</p>					

Footage		Rock Type	Description	Footage		Sample No.	Sample Length	Analytical Procedures
From	To			From	To			
412.5'	491.2'	Metasandstone with intertuff units.	<p>Light yellow green to light grey to in some instances white. The metasandstone consists primarily of well to poorly sorted, highly angular to subrounded clasts of quartz &lt; 0.1" to a maximum of 0.7" (rarely conglomeritic) within a cryptocrystalline white-yellow matrix (possible mud segregations). The metasandstone has been interbedded with various coloured highly contorted-glassy, multi compositional-fractional from primarily ash to lapilli tuffs. The maximum thickness of the intertuff units ranges from about 3" to 14" max. +/- The metasediments are locally intruded by thin &lt;0.5" quartz veins or inclusions which sometimes carry trace disseminated to inclusions of chalcopyrite-possibly with pyrite. Most of the unit shows a discrete network of fine fractures which appear to be infilled with remobilized white-yellow minerals. The green to grey metasandstones appear to grade into a finer grained light to dark grey fine grained meta-greywacke? The most notable lapilli-ash tuff bands are described as below.</p> <p>@ 445.6' - 446.4' light yellow to grey contorted tuff band with glassy-numerous size fragments, mostly in the &lt;0.10" range, some as large as &gt;1" long. Trace - 1% max. fine dis. chalcopyrite-pyrite throughout. Upper contact obscured by large quartz inclusions, lower contact quite sharp @ about 35° T.C.A.</p> <p>@ 459.5' - 460.15' - very fine grained tuff band with glassy very dark green-grey almost black in colour. There are knife sharp contacts with metasandstones @ about 49° T.C.A +/- . Light coloured white-yellow to pink 0.2" - 0.3" rims of fine grained ash tuff along each of the contacts. Many of the ash fragments in the dark portion of the tuff are microscopic. The largest fragments measure about 0.8" long by 0.2" - 0.3" wide and appear to be made up of altered metagabbro fragments hosting disseminated sulphides.</p>					
481.2'	511.9'	Metasediment or tuff.	<p>Fine grained grey to weakly mottled burgundy-red brown colour, possibly due to introduction of hematite. Rock interbedded with a couple of thin lapilli to ash tuff units. Rock intensely microfractured throughout, infilled with light coloured fine grained minerals?</p> <p>@ 503.0' minor weak localized thin shearing with talc and sericite @ 45° T.C.A. 1.0" - 1.25" thick. The rock unit appears to have undergone some silicification. Rare localized pyrite inclusions and crude crystals were found to occur within a couple of random locations in the unit.</p> <p>@ 498.7' - 499.8' Very fine grained glassy, dark grey to black lapilli tuff - ash tuff with many of the fragments ranging from micro to 0.05" to fragments at least up to 2.7" long or greater. Some of the fragments host fine grained disseminated sulphides. The fine grained tuff matrix hosts 1 - 2% well developed cubic pyrite. Most of the tuff fragments appear to be made up of felsic to intermediate rocks. The tuff unit contacts the adjacent rocks at about 60° T.C.A.</p>					

Footage

From

412.5'

Rock Type

Metasandstone with intertuff units.

Description

Light yellow green to light grey to in some instances white. The metasandstone consists primarily of well to poorly sorted, highly angular to subrounded clasts of quartz < 0.1" to a maximum of 0.7" (rarely conglomeritic) within a cryptocrystalline white-yellow matrix (possible mud segregations). The metasandstone has been interbedded with various coloured highly contorted-glassy, multi compositional-fractional from primarily ash to lapilli tuffs. The maximum thickness of the intertuff units ranges from about 3" to 14" max. +/- The metasediments are locally intruded by thin <0.5" quartz veins or inclusions which sometimes carry trace disseminated to inclusions of chalcopyrite-possibly with pyrite. Most of the unit shows a discrete network of fine fractures which appear to be infilled with remobilized white-yellow minerals. The green to grey metasandstones appear to grade into a finer grained light to dark grey fine grained meta-greywacke? The most notable lapilli-ash tuff bands are described as below.

@ 445.6' - 446.4' light yellow to grey contorted tuff band with glassy-numerous size fragments, mostly in the <0.10" range, some as large as >1" long. Trace - 1% max. fine dis. chalcopyrite-pyrite throughout. Upper contact obscured by large quartz inclusions, lower contact quite sharp @ about 35° T.C.A.

@ 459.5' - 460.15' - very fine grained tuff band with glassy very dark green-grey almost black in colour. There are knife sharp contacts with metasandstones @ about 49° T.C.A +/- . Light coloured white-yellow to pink 0.2" - 0.3" rims of fine grained ash tuff along each of the contacts. Many of the ash fragments in the dark portion of the tuff are microscopic. The largest fragments measure about 0.8" long by 0.2" - 0.3" wide and appear to be made up of altered metagabbro fragments hosting disseminated sulphides.

Metasediment or tuff.

481.2'

511.9'

Fine grained grey to weakly mottled burgundy-red brown colour, possibly due to introduction of hematite. Rock interbedded with a couple of thin lapilli to ash tuff units. Rock intensely microfractured throughout, infilled with light coloured fine grained minerals?

@ 503.0' minor weak localized thin shearing with talc and sericite @ 45° T.C.A. 1.0" - 1.25" thick. The rock unit appears to have undergone some silicification. Rare localized pyrite inclusions and crude crystals were found to occur within a couple of random locations in the unit.

@ 498.7' - 499.8' Very fine grained glassy, dark grey to black lapilli tuff - ash tuff with many of the fragments ranging from micro to 0.05" to fragments at least up to 2.7" long or greater. Some of the fragments host fine grained disseminated sulphides. The fine grained tuff matrix hosts 1 - 2% well developed cubic pyrite. Most of the tuff fragments appear to be made up of felsic to intermediate rocks. The tuff unit contacts the adjacent rocks at about 60° T.C.A.

Footage

From

To


Sample Length

Analytical Procedures

RL-92-03  
Page 12

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	RL-92-03 Page 13
From	To				From	To		
511.9'	514.8'	Felsic lapilli - ash tuff	<p>@ 513.9' - 514.7' Interunit contorted and stretched out or flow features of light grey to green numerous large rock lapilli fragments both silica rich and including fragments of intermediate-mafic altered looking amphibolite, and a large fragment of metasedstone set in a fine grained glassy matrix. Some of the fragments show chlorite alteration and fine grained disseminated sulphides. In places the matrix is blue coloured and may contain microfine grained galena and/or sphalerite.</p> <p>Massive to stretched out or flowing features, fine to very coarse grained lapilli to ash tuff with numerous siliceous-felsic-metasedstone fragments, set in a fine grained yellow-grey ground mass. Many of the siliceous-felsic fragments host finely dis. pyrite. The tuff matrix host trace irregular inclusions of pyrite. Random joint features in tuff coated with thin smearing of pyrite.</p> <p>Upper contact @ 89°-90° TCA lower contact @ 45° TCA. Upper contact undulating like suggesting some erosion had taken place prior to deposition of overlying rock. Lower contact is knife sharp and may represent a joint contact relationship with underlying rocks.</p> <p>Fine grained green coloured quite massive looking. Minor thin fine grained glassy tuff at 523.75' +/-.</p>					
514.8'	524.0'	Metasedstone						
524.0'		End of drill hole RL-92-03						

**BHARTI LAAMANEN MINING INC. - RICHARDSON LAKE PROJECT**

<b>Drill Hole No.</b> RL-92-04	<b>Date Logs Submitted:</b> January 15, 1993	<b>Signature of Geologist:</b> 	<b>No. of Pages in Log:</b> 9
<b>Company Name:</b> Bharti Laamanen Mining Inc.	<b>Property Name:</b> Richardson Lake	<b>Township:</b> Rhodes Township	<b>Claim Number:</b> S 1095079
<b>N.T.S. Reference No.:</b> 41-1/14 Edition 2, Venetian Lake, Ontario		<b>Drill core stored at:</b> Laamanen Const., 129 Fielding Rd., Lively, Ontario, POM 2EO	
<b>Project Supervisor:</b> Harold J. Tracanelli		<b>Employer:</b> Bharti Engineering Associates Inc. 131 Fielding Rd., Lively, Ontario, POM 2EO	
<b>Diamond Drilling Company:</b> Sparta Drilling		<b>Runner-Supervisor:</b> Larry Salo	<b>Equipment Type:</b> BBS-2
<b>Date Drill Hole Started:</b> Oct. 02, 1992	<b>Date Drill Hole Completed:</b> Oct. 05/92	<b>Helper:</b> Ronald Crighton	<b>Dip of Drill Hole, Collar</b> 0' -55° 524' -56.5°
<b>Date Drill Hole Started:</b> Oct. 02, 1992	<b>Azimuth of Drill Hole:</b> 039°	<b>Total Length of Drill Hole:</b> 524 ft.	<b>Drillhole Co-ordinates:</b> BL 0 + 00, 1 + 85SE
<b>Drill Core Logged by:</b> Harold J. Tracanelli	<b>Major Lithological Units:</b> Mafic to felsic metavolcanics with minor metasediments		
<b>Objectives of the diamond drilling exploration:</b> To explore the depth extent of the mafic-felsic contacts for volcanogenetic massive sulphide type deposits (VMS)			



Footage		Rock Type	Description	Sample No.	Footage		Sample Length	RL-92-04 Pg. 1
From	To				From	To		
0'			The diamond drill hole was collared directly on top of an amphibolite outcropping.					
0'	6.8'	Well foliated amphibolites	Medium to coarse grained, dark green to light white speckled to streaks of a light coloured mineral (feldspar) aligned with foliation. Foliation was measured at about 67° TCA at footage 6.4' +/- . The rock appears to have undergone further alteration to develop coarse grained pyroxene mineral porphyroblasts throughout the section. Occasional thin quartz or quartz-carbonate veinlets occur cross cutting or parallel to foliation. Rare thin < 0.10" sulphide stringers were observed.					
6.8'	13.0'	Well foliated amphibolites	Fine grained light green to mottled black and white rock. Some well developed discing of the core with surfaces coated with limonite and beginning to show signs of some chlorite alteration. The section was interbedded with a couple of very fine grained light gray bands of laminated or foliated intermediate to felsic rocks. (Felsic bands) @ 8.7' - 9.0' and 9.35' - 9.75'. Amphibolite section cross cut by a few thin < 0.10" to 0.20" felsic veinlets and rare sulphide stringers. The rock shows signs of localized chlorite alteration with trace disseminated pyrite being observed.					
13.0'	46.0'	Amphibolite with felsic to intermediate interunits.	Very fine to medium grained moderately altered well foliated to nearly massive looking amphibolite rock with numerous thin interbeds of very fine grained gray to pink coloured felsic to intermediate rocks which can be pyrite-pyrrhotite and chalcopyrite bearing. The entire unit shows some chlorite alteration with weak to strong concentrations of fine grained sericite with needle growths of black amphiboles. In most places the rock is well foliated but the foliation angles can be variable from 98° TCA @ 13', 48° TCA @ 21', 70° +/- TCA @ 42'. This clearly suggests folding has taken place. Tight dragfolding is visible in the lower parts of the section. Irregular inclusions of quartz with feldspars are fairly common within the section. A 3-4 ft. quartz vein and a narrow altered intermediate to mafic metadyke cross out the amphibolite host rocks. Much of the host rock carries from trace to upwards of 15% sulphides which most often include pyrite, with lesser pyrrhotite, chalcopyrite and with visible traces of bornite and/or covellite?. The sulphides were found to occur as fine disseminations, minor highly rusty stringers or as finely developed vuggy irregularly shaped inclusions. For the most part the section is too highly complex to break out each of the individual minor units.  @ 36.9'-40.5' white to opaque quartz vein with the contacts measured at 58-60° TCA. The vein appears to occur concordant to apparent foliation. Several irregular shaped, cooked up fine grained, (elliptical), dark green amphibolite xenoliths are present near lower half of the vein and developed fractures in the upper half of the vein which, have been partially coated with small semi-well developed octahedral pyrite crystals along orthogonal fractures @ 45° TCA. The fractures are sharp to expanded, open and both host pyrite mineralization.	57083	23.0'	29.1'	6.10'	ICP-32
				57084 57085	36.9' 40.5'	40.5' 46.0'	3.60' 5.50'	ICP-32 877Au ICP-32

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	RL-92-04 Pg. 2
From	To				From	To		
46.0'	68.4'	Weakly foliated amphibolites.	<p>@ 40.95'-41.90' fine grained light mottled green metadyke showing some very faint evidence of crystals which have been quite altered. The dyke contacts are quite sharp and appear to cross out the foliation of the adjacent amphibolite @ 75° TCA. A number of irregular fractures in the dyke are coated with ilmonite. The dyke is thought to be of mafic to intermediate composition and contains some chlorite alteration throughout rock.</p> <p>Fine to rarely medium grained, light green to grey mottled coloured, minor pink to grey felsic rock interunits. The amphibolite host rock has been subjected to varying intensities of brecciation and veining from noticeably weak to quite strong. The strongest and most intense brecciation occurs near the centre of the unit from 51.0' - 58.1'. This breccia has been healed up with quartz/quartz-carbonate/quartz-feldspars and fine grained light green epidote and/or amphibole minerals. The breccia infillings often host fine grained irregularly shaped to fine disseminations of pyrrhotite with lesser pyrite and chalcopyrite. The brecciation infilling veins average approximately 0.10" - 0.30" across and appear to have developed along a preferred orientation of approximately 19° - 20° TCA. The veins were separated right laterally by faulting.</p> <p>49.15'-49.6' very fine to fine grained light pink to light cream coloured, very thinly foliated or laminated to massive looking felsic rock having a fabric aligned at 74° TCA with minor quartz inclusions, micro thin stringers along finely developed fractures @ 5°-10° TCA, to irregular inclusions of black jack sphalerite, deep blue galena, pyrite-pyrrhotite with inner inclusions of fine chalcopyrite. The bulk of the sulphides are believed to occur along the (primary?) fabric of the rock.</p> <p>Very fine grained, pink to flesh coloured somewhat contorted felsic interbed with brecciated contacts. The contacts appear to be concordant to foliation of the amphibolite @ approx. 79° TCA. There are many inclusions and well developed clusters of black-green amphibole needles throughout. The sulphide content ranges from 1-1.5% and includes small inclusions of pyrrhotite which host minute inclusions of chalcopyrite occurring concordant to foliation-laminations. There also occurs fine grained pyrrhotite or pyrite with lesser chalcopyrite with the micro thin fractures from 0°-10° +/- TCA.</p> <p>@ 64.95'-65.40' fine grained, light pink to white-grey coloured thinly foliated or laminated @ 80° TCA. The center of the thin felsic interbed has undergone alterations as a result of the introduction of quartz-minor feldspars and green black amphibole minerals which have been altered by chlorite. The rock generally host trace inclusions of pyrrhotite with inclusions of chalcopyrite. It is possible to speculate from the hand examinations that the pyrrhotite and/or lesser pyrite have often replaced chalcopyrite. The chalcopyrite seems to be most often associated with pyrrhotite while the sphalerite-galena appear to be more commonly associated with pyrite in most rock types examined). A thin apple-green coloured precipitate resulted from the application of the dilute HCl to the felsic interbed. No visible carbonate reaction was noted. The green coloration may be due to the acid breaking down the sulphide minerals and precipitating the minerals as chloride complexes.</p>	57086	52.0'	57.2'	5.20'	ICP-32

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
68.4'	88.7'	Poorly foliated amphibolites	Coarse to medium grained-rarely fine grained light to dark green mottled white and green coloured amphibolite rock. The rock consists primarily of amphibole and light coloured feldspar crystals. In a couple of localized areas the rock has been somewhat altered as a result of the introduction of quartz with some visible alteration of the amphibole minerals to chlorite and the metamorphosis of pyroxene mineral porphyroblasts from the original amphiboles seems to be present. The amphibole-spar minerals appear to have a preferred orientation of about 80°-82° TCA. Some finely developed orthogonal fracture fillings of felsic materials occur @ 23° TCA. The fractures range from <0.10" to a max. of 0.60" across. Both narrow and wide fractures and infilling host fine grained pyrite and chalcopyrite. The widest fractures appear to host the richest pyrite and chalcopyrite mineralization. Some minor micro thin isolated stringers and inclusions of pyrite and pyrrhotite have been noted.	57087	81.4'	86.1'	4.70'	ICP-32
88.7'	121.5'	Poorly to well foliated amphibolite	Quartz-chlorite minor carbonate alteration of amphibolite @ 81.4' - 86.1' the rock has undergone alterations with chlorite and minor carbonates. The rock was found to host up to 5% +/- of disseminated inclusions of pyrrhotite with lesser chalcopyrite. Micro thin pyrite stringers cross out the disseminated pyrrhotite-chalcopyrite mineralization.	300070	113.0'	118.6'	5.60'	A-12 ICP-32
			Fine grained light to dark green, occasionally mottled coloured with measurable foliation of 70° TCA @ 94' +/-, 66° TCA @ 104' +/-, 71° TCA @ 114', 76° TCA @ 118' +/- . There is some visible fine grained brown biotite alteration from about 88.7' - 95.0'. The amphibolite unit has been intruded by several quartz-carbonate-quartz feldspar inclusions and veins, some of which host fine disseminated pyrrhotite, pyrite and lesser chalcopyrite. Minor sulphide stringers are present from about 118' - 121.5'. The amphibolite becomes visibly increased in grain size and shows some weak but visible alteration. Fine disseminated sulphides occur concordantly to fabric of the rock.					
			@ 97.2' - 97.45' fine grained fleshy, thinly laminated or foliated felsic band. 85° TCA with trace disseminated chalcopyrite. @ 100.7' folded-contorted fabric of amphibolite. @ 101.7' right lateral separation microfaulting @ 13°-14° TCA.					
			@ 97.0'-101.4' the amphibolite section has been intruded and hosts fracture fillings of quartz-feldspars-carbonate, some chlorite alteration minerals which have also intruded the thin felsic band. The vein and intrusive inclusions host up to 10% fine disseminations and inclusions of pyrrhotite, pyrite and minor chalcopyrite.	57088 300064	97.0' 118.5'	101.4' 121.5'	4.40' 3.00'	ICP-32 ICP-32
121.5'	122.3'	syenite vein or dyke	Flesh pink to light grey syenitic rock with moderately sharp contacts cross cutting the foliation planes or the amphibolites. The contacts occur @ 20° TCA. The sulphide contact was found to be up to 10% irregular inclusions and fine disseminations of pyrrhotite with minor chalcopyrite, trace bornite and/or covellite. The syenite vein (dyke) appears to mark the visual contact between the more formal dark green mafic? amphibolitic rocks and the lighter coloured gray to white intermediate? to felsic metavolcanic rocks.	57089	121.5'	122.3'	0.80'	IPC-32 877 Au

Footage		Rock Type	Description	Footage		Sample Length	Analytical Procedures
From	To			From	To		
122.3'	135.7'	Foliated to semi massive felsic to intermediate tuff	<p>Fine grained light to dark grey to cream coloured nearly massive to visibly foliated-bedded and/or laminated rocks. The rock fabric has been measured @ 65° TCA @ 124', 80° TCA @ 135'. The rock is made up of a series of thin alternating bands of light to darker coloured minerals appearing to be made up of numerous equigranular light coloured felsic fragments. The section has been tightly fractured and infilled with a micro fine grained felsic materials along a general preferred orientation of 15° TCA. Some fracture fillings also developed with micro breccia concordant to subconcordantly with plainer fabric of the rock. Some irregular inclusions of quartz with fracture smearing of pyrite common in section have been observed.</p> <p>The rock unit was found to host from trace to 7% fine grained pyrrhotite with minor chloopyrite developed concordant to the fabric. The rock has not been carbonated, possible silicification has occurred. Fine grained irregular pyrite stringers with locally occurring thin dark coloured chlorite rich contacts cross out plainer fabric @ about 10°-15° TCA. (It would appear that the event responsible for the cross cutting fracturing and felsic infilling also was responsible for the emplacement of pyrite with chlorite fracture fillings occurring at 10°-15° TCA. (The host rock is thought to be chlorite poor). The contact between the tuffaceous rocks and the nearly massive carbonaceous rocks appears to be somewhat gradational, increasing from silica rich to carbonate rich. There appears to be a marked increase in the sulphide (pyrrhotite-pyrite) content in association with the development of light pink to brown coloured crystal grain aggregates of garnets. Some elongated fragments or inclusions of grey quartz are present within the carbonaceous rocks near the transitional like contact.</p>	122.3'	129.0'	6.7 6.7	ICP-32 ICP-32
135.7'	148.0'	Bedded carbonaceous metasediment	<p>Fine grained, light to dark grey very thinly bedded visibly well folded and contorted, carbonaceous rock. For the most part the rock is made up of fine grained carbonate grains with minor localized interbeds of silica rich materials. The apparent bedding has been measured at 62° TCA @ 139.0' +/- and 47° TCA @ 145.0'.</p> <p>Throughout the section a number of angular to sub angular white to grey quartz with other foreign massive to laminated? light to dark green, reddish-purple rock fragments were observed and most often occur in the upper section of the carbonaceous rock. The foreign rock fragments measure from about 0.30" to about 3.0" across and appear to have been subject to some carbonate alteration. Some minor thin wispy fine grained beds of pyrrhotite locally occur where the larger rock fragments are found. The carbonaceous rocks grade more or less into a white cream brown highly clay altered rock down the hole.</p>	135.7'	141.9'	6.2' 6.1'	IPC-32 ICP-32

Footage

From

To

Rock Type

Description

Footage

From

To

Sample No.

Sample Length

Analytical Procedures

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	RL-92-04 Pg. 5
From	To				From	To		
148.0'	152.1'	Clay altered felsic rock	Very fine to fine grained, white to light cream brown, with visible alternating lighter to darker coloured layers aligned at about 64° T.C.A. The rock section shows some very strong localized bright white clay alteration. The clay alteration appears in the massive form or as veinlike or isolated tear dropped shaped patterns in the rock. In the more concentrated clay alteration areas voids similar to those found in travertine can be seen. Generally the clay alteration probably occurs throughout the entire section taking the form of finely disseminated clay minerals. Rare quartz veins were found to intrude the altered rock @ about 10°-15° T.C.A. The progression from the clay altered rock to the bedded carbonaceous rock appears to be somewhat gradational.	57094	148.0'	152.1'	4.10'	ICP-32
152.1'	155.2'	Bedded carbonaceous metasediment	This section is the same as the section described from footages 135.7'-148.0' with minor visible increases in disseminated pyrrhotite as from 135.7'-148.0' section.	57095	152.1'	155.2'	3.10'	ICP-32
155.2'	164.7'	Strongly altered felsic meta-volcanic rocks	Fine grained offwhite-cream, light brown to dark green highly altered and visibly contorted felsic metavolcanic rock with visible silicification and localized clay alteration, with travertine like voids being similar to that described from footages 148'-152.1'. The rock is massive to very thinly laminated and/or foliated, which shows a high degree of folding. The rock shows both silicification with minor carbonitization and clay alteration. The overall mineralogy of this section is probably quite complex. Localized sharp jagged quartz fragments or altered inclusions have been noted within the unit. There are possible intergrowths and inclusion like features of green-grey feldspar crystals (oligoclase) and white clay minerals. Carbonate minerals are cream-light brown to rarely apple green or turquoise coloured. There is also possible minor epidote alterations. Some localized tight carbonate-quartz fracture fillings occur @ 8°-10° T.C.A. Some of the measured laminations - foliations occur @ 30° T.C.A. @ 160' +/-, 52° T.C.A. @ 164.7'. Traces of finely disseminated sulphides have been noted.	57096	155.2'	164.7'	9.50'	ICP-32
164.7'	172.8'	Bedded carbonaceous metasediments	Same section as described from footages 135.7' - 184'. There are very little or no rock fragments. The rock is more consistently bedded but shows signs of folding and contorting. The rock hosts trace up to 15% finely disseminated and thin bands 0.05" - 0.20" of pyrrhotite. Localized fractures occur @ 10° T.C.A. with minor infilling with thin fine grained pyrite mineralization.	57097 57099	164.7' 169.45'	169.45' 172.8'	4.75' 3.35'	ICP-32 ICP-32

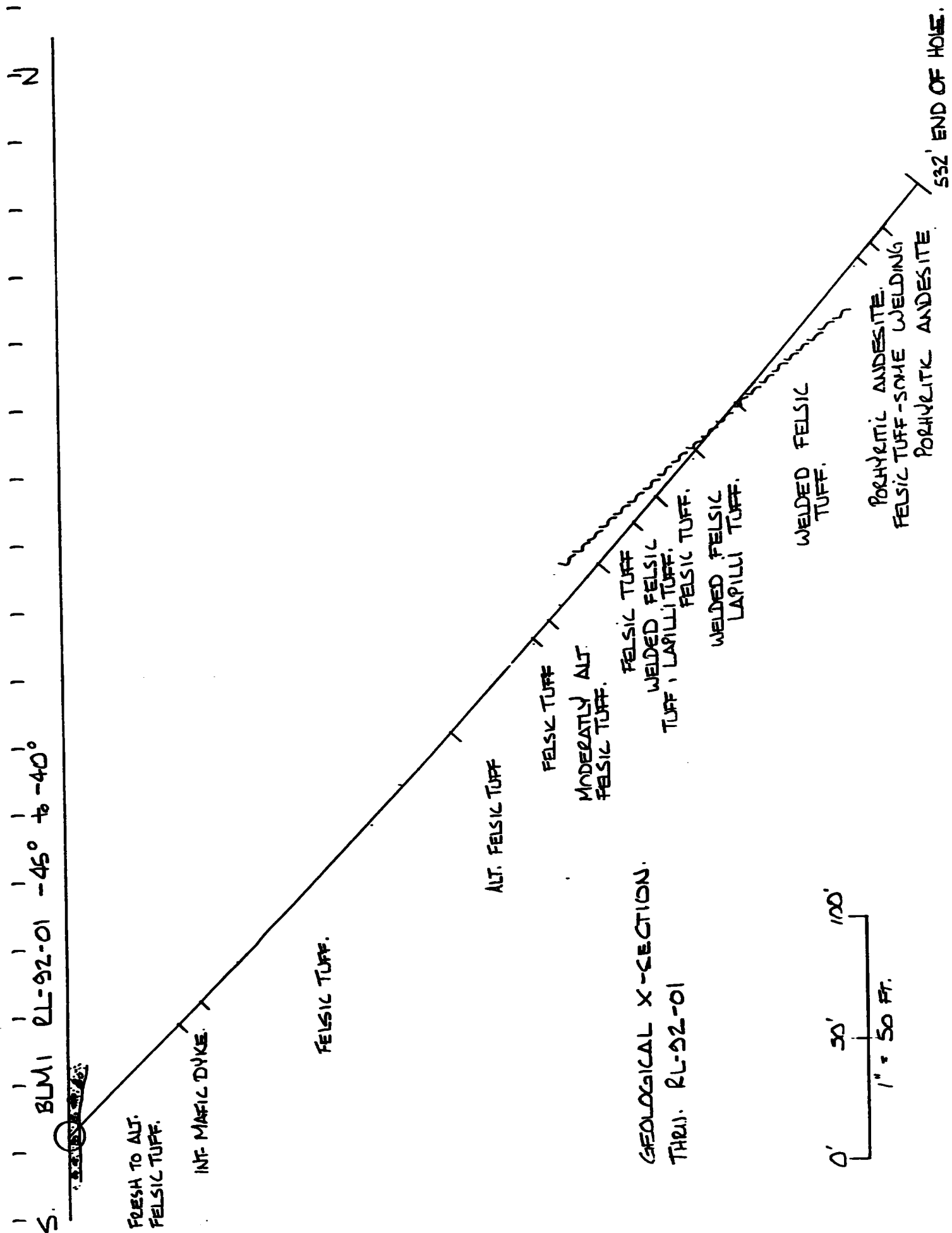
Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
172.8'	186.0'	Altered and silicified felsic meta-volcanics (Rhyolites)	Fine grained, light green to brown, grey and flesh pink coloured being very thinly <0.05" glassy laminated or foliated to nearly or mainly massive rhyolitic looking rock which has undergone considerable silicification. The rock has undergone little or no carbonitization. The felsic rock in pieces has been further altered by an irregular network of fractures and replacement infilling of the broken rock by poorly to well developed light green needles and asbestos form amphibole minerals (actinolite-tremolite), with much lesser quartz, black to brown chlorite and light coloured carbonate. This network of fractures appears to have developed along or @ about 25° T.C.A. +/- . The felsic rock often contains appreciable amounts of trace to localized semi-massive pyrrhotite, pyrite, with lesser chalcopyrite and sphalerite. The pyrrhotite and pyrite occur most frequently as fine disseminations, inclusions or thin layers or lenses developed concordant to the rock fabric. The chalcopyrite appears to be present as mainly fine dissemination or rare small inclusions. The light purple coloured fine grained visible crystals to micro crystals of sphalerite occur in isolated elongated semi-concordant lenticular inclusions and may also occur in very fine disseminations associated with the pyrrhotite. Minor fine grained pyrite was found to occur within some of the cross cutting fractures.	57098 57100	172.8' 179.4'	179.4' 186.0'	6.60' 6.60'	ICP-32 ICP-32
186.0'	188.35'	Semi-massive sulphide zone	Fine to medium grained, semi-massive to massive, compact to crystal vug-void like within the concentrated masses of mineralization. The bulk of the mineralization consists of interformed pyrite with pyrrhotite with traces of chalcopyrite as interconnected inclusions or bands of sulphides. The mineralization has developed within a silica (quartz) rich granular aggregate bedded rock similar in texture to the carbonaceous rocks found above and below. The sulphide zone contacts are notably marked by rusty yellow bedded silica rich rocks aligned at about 60°-65° T.C.A. which contain less sulphides. The core of the sulphide zone also contains a noticeably folded band of the bedded siliceous rock. The bulk of the sulphides appears to have formed within a fine grained grey-siliceous laminated-foliated rhyolite flow rock which is represented by altered xenoliths in the sulphides. There are numerous quartz rich inclusions or fragments are present within the sulphides.	300052	186.0'	188.35'	2.35'	ICP-24
188.35'	189.4'	Bedded carbonaceous metasediment	Fine grained light grey nearly massive to poorly developed bedding of rocks @ 63° T.C.A. The rock hosts trace fine grained disseminated pyrrhotite-pyrite.	300053	188.35'	189.40'	1.05'	ICP-32
189.4'	193.35'	Felsic flows or tuffs.	Fine grained, light to dark grey with very thin laminations or foliation @ 62° T.C.A. The rocks have been intruded by many thin felsic concordant partings as well as cross cutting veins - veinlets showing visible brecciation. The orientation of the cross cutting fracturing appears to be about 27° T.C.A. Visible kink banding of laminations or foliation occur @ 10°-12° T.C.A. Certain parts of the rock were observed to be light yellow green-light grey, highly silicified, highly riddled with fractures with felsic infillings. The most intense tight fracturing was observed at very top of measured section. Minor quartz inclusions, host from 1% to 2% irregularly shaped inclusions of pyrrhotite. @ 189.4' - 190.7' there occurs possible flow tops in the felsic rock.	300054	189.40'	193.35'	3.95'	ICP-32

Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
193.35'	232.65'	Intermediate to felsic tuff.	Fine grained light grey to very light green tinge, very discretely layered (bedded) or foliated at about 70° T.C.A. The rock is equigranular with some possible light white fragments being visible. The unit has been interbedded with a soft, mottled textured dark green rock which may represent fine grained ash or mud-ash layers in a more consistent type of ash fall. The upper contacts between the equigranular rock and the chlorite altered rock appears to have been eroded, suggested pre-depositional weathering. The lower contact appears to be quite sharp. These ash-ash mud units occur randomly throughout the section and vary in thickness from as little as 1.3" to approx. 1.0 ft. thick. Irregular shaped round-like quartz inclusions commonly occur within the unit. Quartz sometimes hosts fine grained disseminated pyrite-pyrrhotite with much less chalcopyrite observed. Minor thin fracture fillings with or without minor sulphides cross cut rock.	300055	193.35'	235.0'	5.65'	ICP-32
232.65'	235.45'	Epidote-siliceous carbonate altered felsic flow (Rhyolite)	Fine grained, apple green to dark grey to rare bands of black, moderately well laminated and/or foliated at 80° T.C.A. The rock has been well altered with epidote, coarse rhombic calcite inclusions and veins with grey to blue quartz inclusions and localized irregular chlorite alteration was observed. The rock has been highly fractured in all directions and infilled with fine felsic minerals. The rock hosts from trace to up to 5% disseminated pyrite with lesser chalcopyrite. The <0.05" carbonate-green chlorite cross cutting veins were measured cross cutting the rock at about 15° T.C.A.	300056	232.65'	235.45'	2.80'	ICP-32 877 Au
235.45'	243.3'	Silicified felsic meta-volcanic (quartz-feldspar porphyry)	Fine grained, pink to pink-brown massive to very weakly foliated, moderately to highly altered felsic rock which appears to be a former porphyritic rock, possibly a quartz-feldspar porphyry. The rock has been intensely fractured in all directions in which these fractures have been infilled with quartz, epidote-fine grained chlorite and carbonate minerals. Sharp joints @ 35°, 45° and 10° T.C.A. have been coated with thin hematite, possibly derived as a result of the breakdown of iron from the metagabbro dyke immediately below and intruding the meta-volcanic rocks. The iron minerals could have percolated from below as a result of capillary reactions. The overall rock appears to host little or no visible sulphides.	300057	235.45'	243.3'	7.85'	ICP-32 877 Au
243.3'	375.0'	Metagabbro dyke	Medium grained, mottled white to green/black dyke rock. The upper contact with meta-volcanics has been highly jointed-fractured undergoing alteration with chlorite and several yellow-green pseudotachylite veins. Many of the fractures near the contact area have been coated with red hematite, calcite with some minor sulphides and serpentine. Hematite coatings on the joint surfaces are evident down to about 283 ft. +/- The joints occur @ about 20°-25° T.C.A. Random epidote segregations occur as veins within the metagabbro. Minor shearing with carbonate-chlorite and minor sulphides occur in the metagabbro.	300059	243.3'	249.0'	5.70'	IPC-32





Footage		Rock Type	Description	Sample No.	Footage		Sample Length	Analytical Procedures
From	To				From	To		
479.0'	514.80'	Lapilli-bomb tuff	<p>The rock tuff-lapilli-bomb-breccia unit is made up of highly variable numerous mega fragments or blocks of rock varying from mafic-ultramafic to felsic compositions. Many of the fragments appear to be partially melted (welded-glassy-like) stretched out and contorted. The fragments are set within a very fine grained somewhat glassy dark-grey to black ground mass. The largest blocks-fragments consist of moderately fresh metagabbro with fresh green metasandstone.</p> <p>These fragments can measure from 2'-4' across on average. The most notable rock fragments probably measure only 1"-2" across. The vast majority of the small fragments which are quite glass altered, are well to loosely compacted within the ground mass and measure &lt; 0.10" +/- . Locally the rock unit hosts trace to 1% +/- minute fragments and/or injected-intruded pyrite with chalcopyrite. One subangular shaped pink felsic fragment in the upper part of the unit, contains about 30% - 40% pyrite with inclusions of fine grained chlorite.</p> <p>At 506' +/- the rock is intruded by a series of thin &lt; 0.10" green carbonate veins @ 10° - 12° T.C.A.</p> <p>It is possible to speculate that the tuff rocks were deposited upon semi-consolidated sandstones. Under pressure the underlying sediments probably gave way breaking loose the semi-consolidated rock and allowing for the possible intermixing of overlying muds with the fine grained ash. Some of the fragments may have sunk. Some of the originally hot partially melted fragments may have once been airborne projectiles but were probably finely deposited under aqueous conditions.</p>	300061 300062 300063	479.0' 503.0' 509.0'	484.0' 509.0' 514.8'	5.0' 6.0' 5.8'	ICP-32 ICP-32 ICP-32
514.8'	524.0'	Metasandstone	<p>The rock becomes medium to coarse grained towards the end with a light green to cream coloured quartz grain matrix. The rock is made up of well to poorly sorted quartz rich fragments. The rock hosts trace fine disseminated sulphides throughout (pyrite).</p> <p>At 518' +/- there occurs a slightly altered muddy interflow with numerous quartz grains and larger rock fragments. The mineral grains-fragments appear aligned @ 36°-37° T.C.A.</p>					
524.0'		End of Hole RL-92-04						



S. BLM1 RL-92-01 -45° to -40°

FRESH TO ALT. FELSIC TUFF.

INT. MAFIC DYKE.

FELSIC TUFF.

ALT. FELSIC TUFF

FELSIC TUFF

MODERATELY ALT. FELSIC TUFF.

FELSIC TUFF

WELDED FELSIC TUFF, LAPILLI TUFF, FELSIC TUFF.

WELDED FELSIC LAPILLI TUFF.

WELDED FELSIC TUFF.

PORPHYRITIC ANDESITE. FELSIC TUFF-SOME WELDING. PORPHYRITIC ANDESITE.

532' END OF HOLE.

GEOLOGICAL X-SECTION.  
THRU. RL-92-01

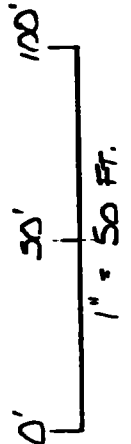
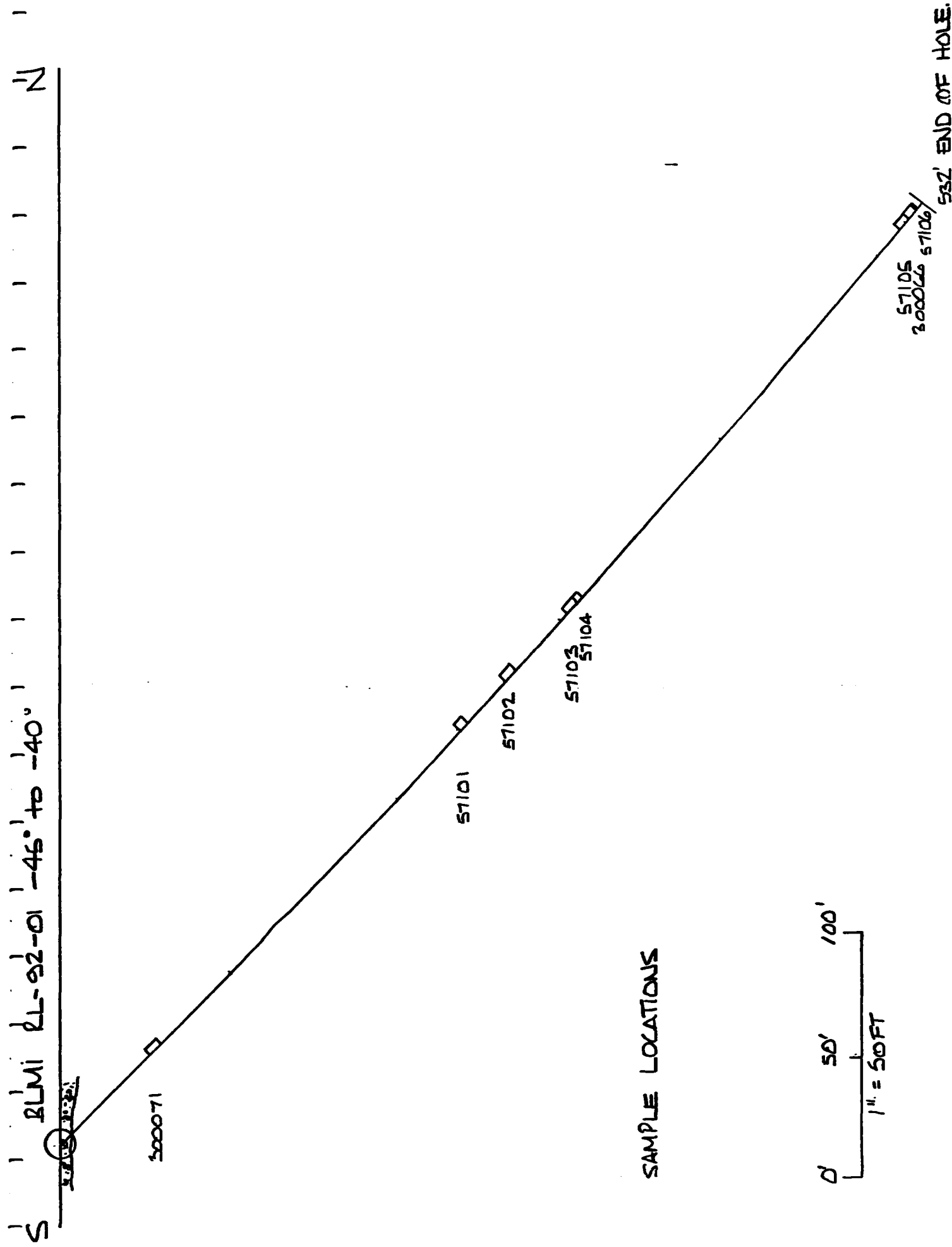


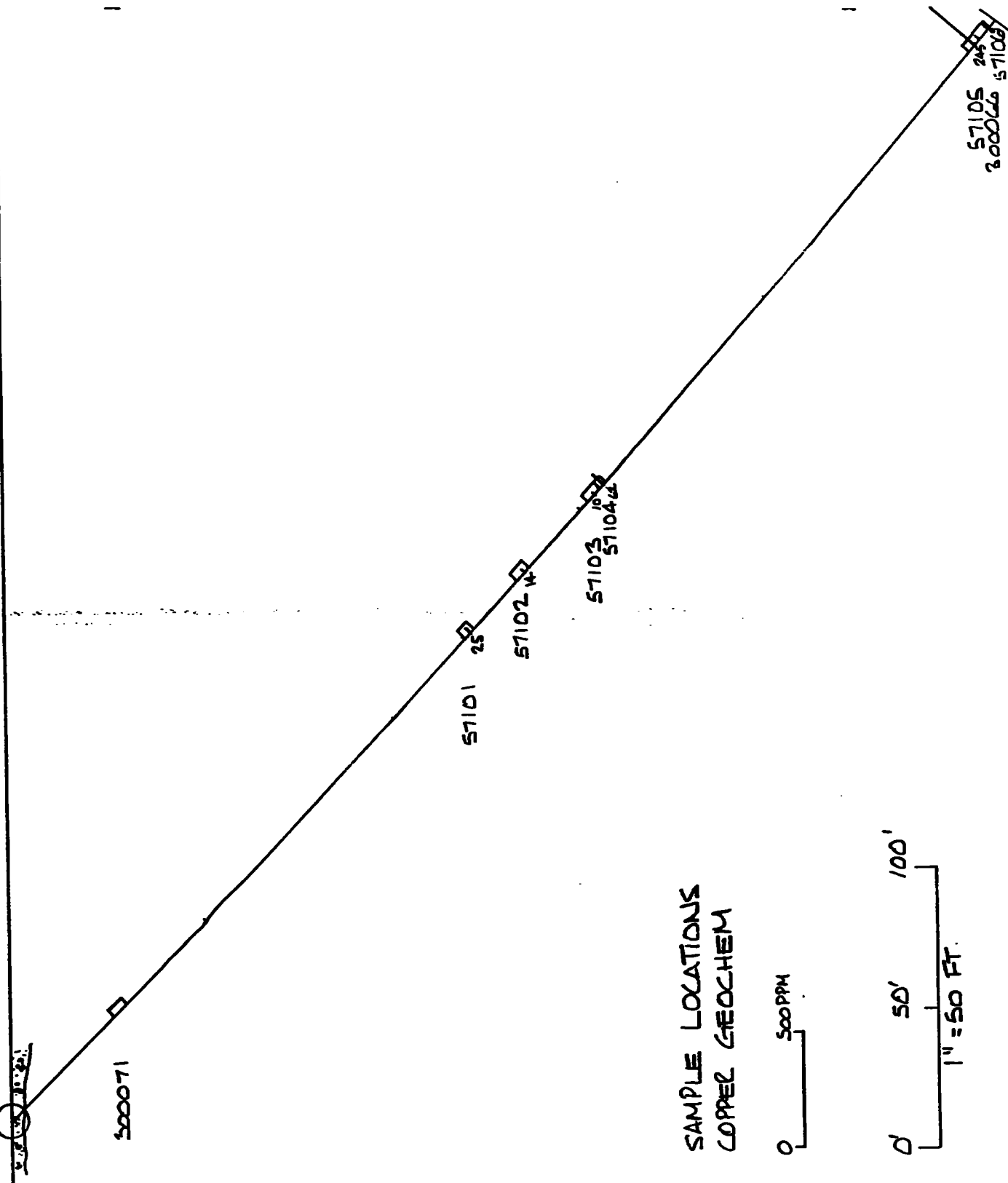
FIGURE 30



SAMPLE LOCATIONS

FIGURE 31

15 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |



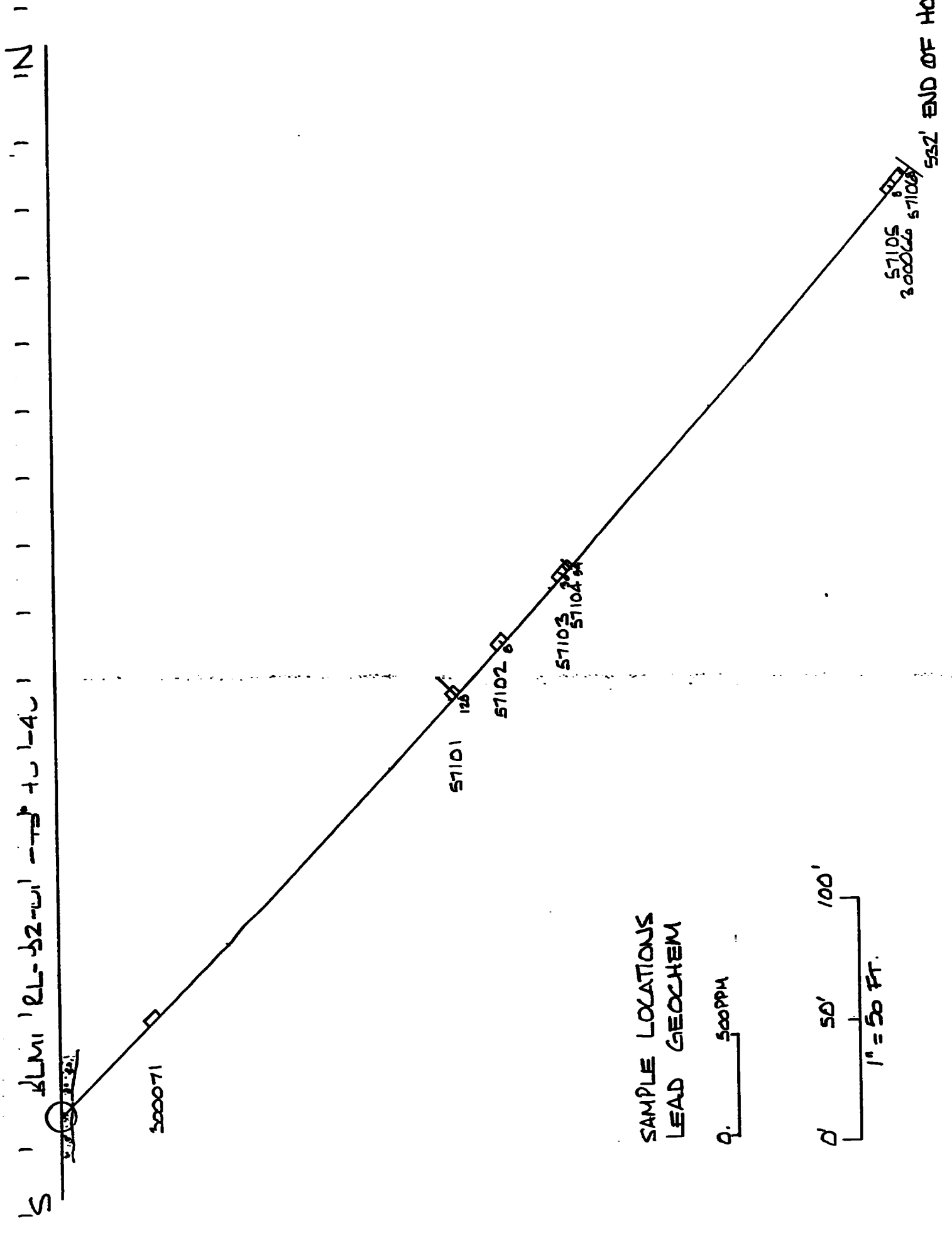
SAMPLE LOCATIONS  
COPPER GEOCHEM

0 500PPM

0 50' 100'  
1" = 50 FT.

552' END OF HOLE

FIGURE 32

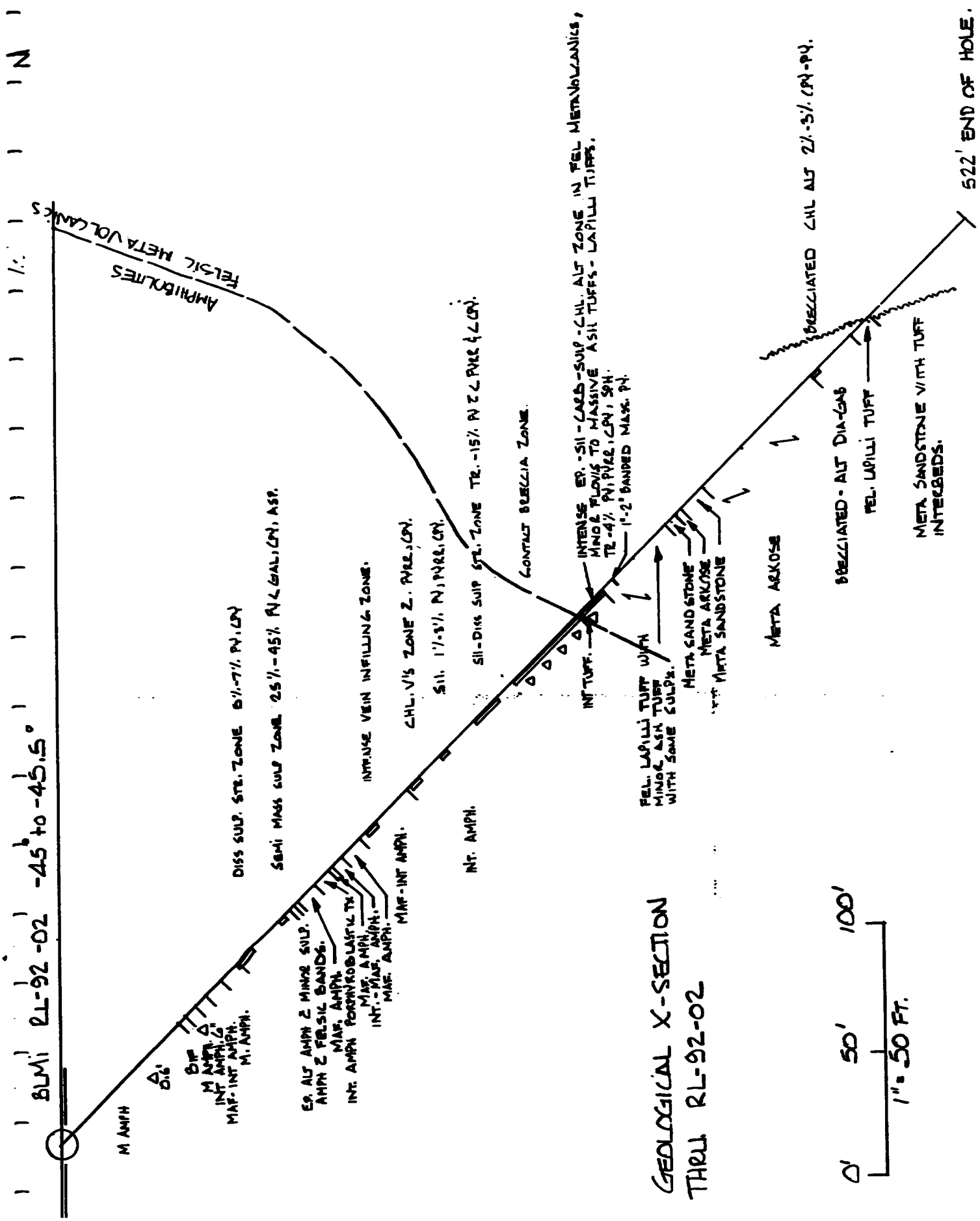


SAMPLE LOCATIONS  
LEAD GEOCHEM

□ 500PPM

0' 50' 100'  
1" = 50 FT.





GEOLOGICAL X-SECTION  
THRU RL-92-02

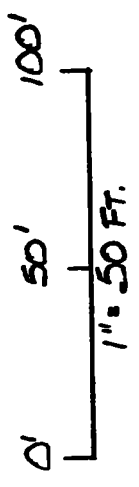
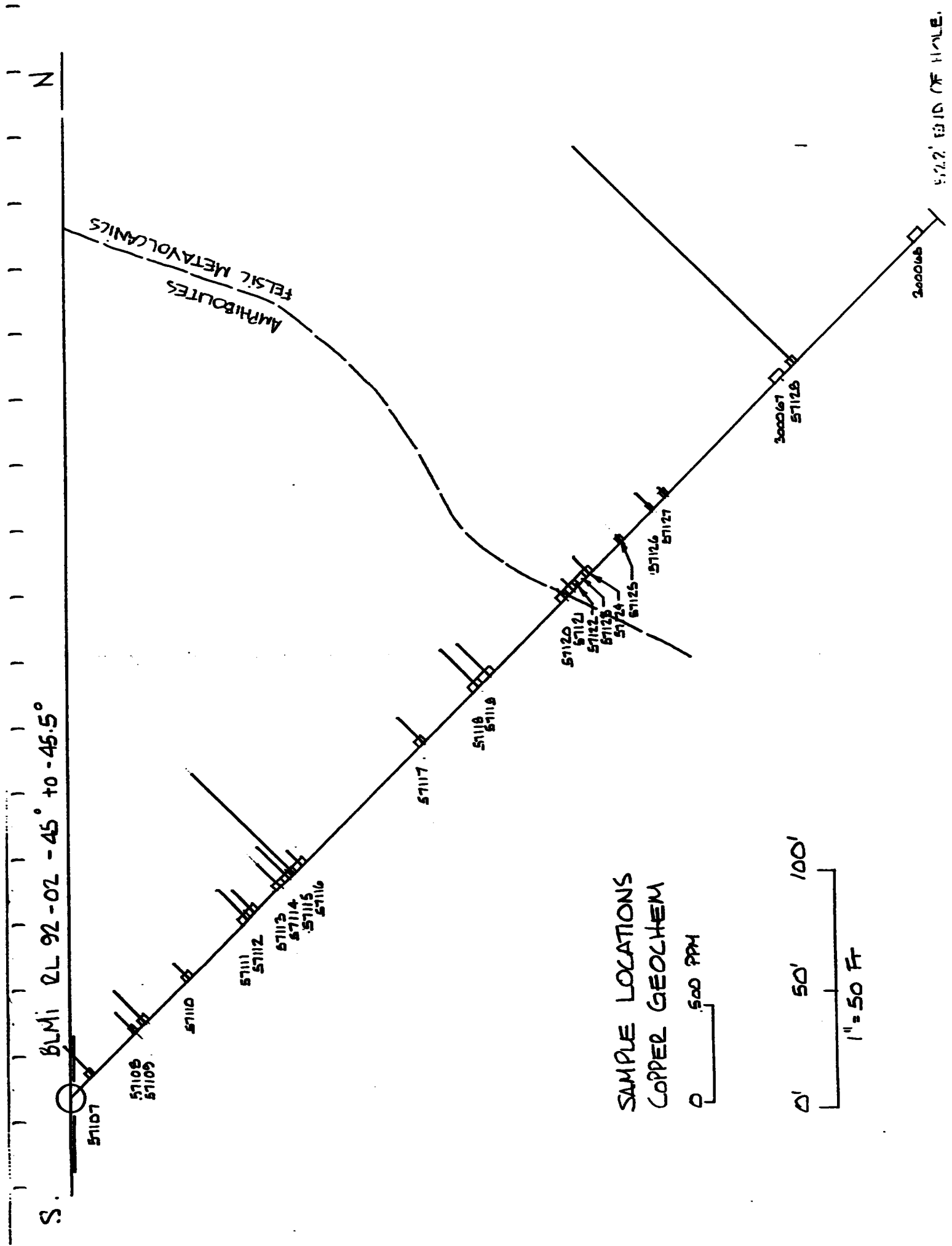


FIGURE 35.







S. 92-02-45° to -45.5° N

AMPHIBOLITES  
FELSIC METAVOLCANICS

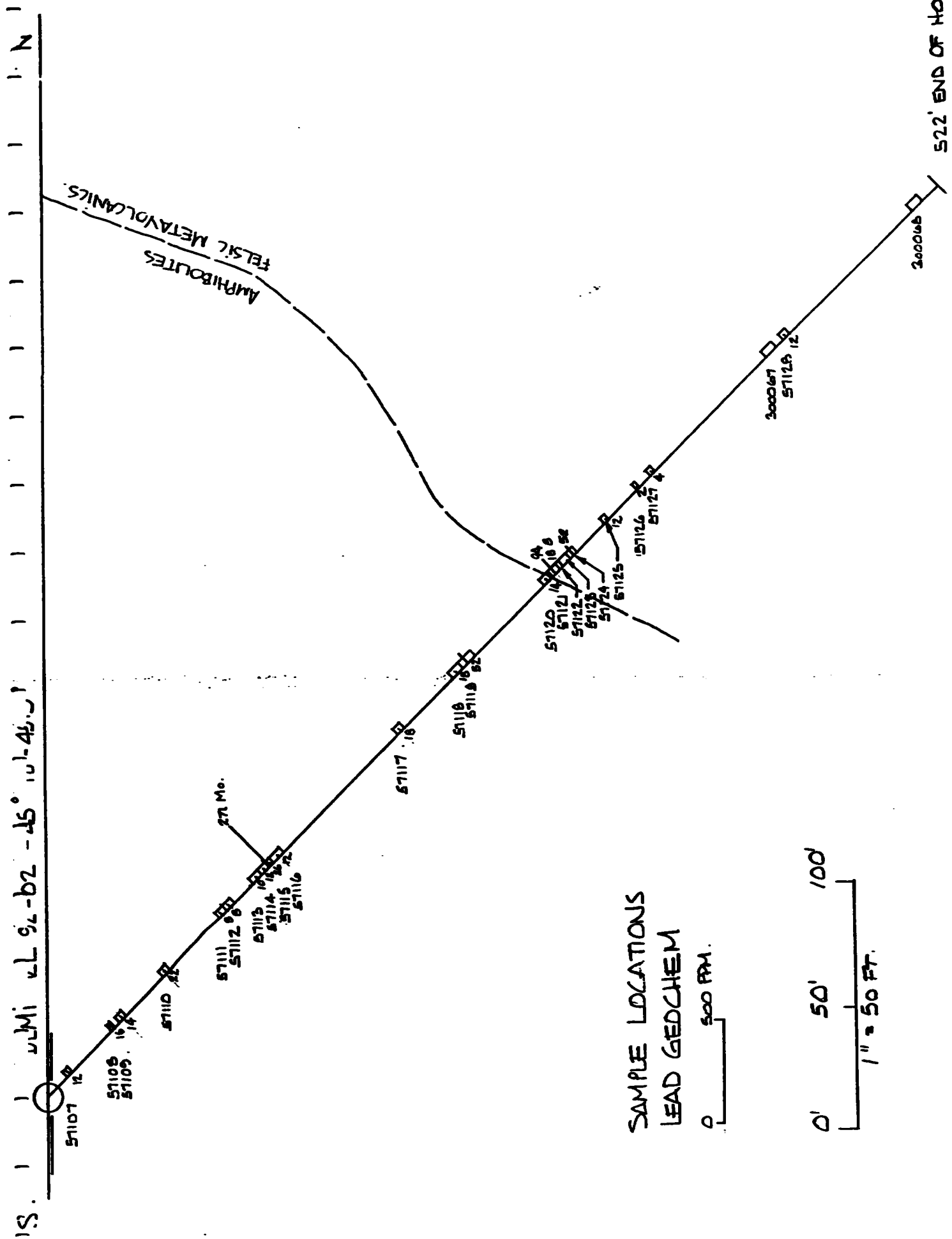
SAMPLE LOCATIONS  
COPPER GEOCHEM

0 500 PPM

0' 50' 100'  
1" = 50 FT

5722' END OF HOLE.

FIGURE 37



SAMPLE LOCATIONS  
LEAD GEOCHEM

0 500 FPM.

0' 50' 100'  
1" = 50 FT.

522' END OF HOLE.

FIGURE 38

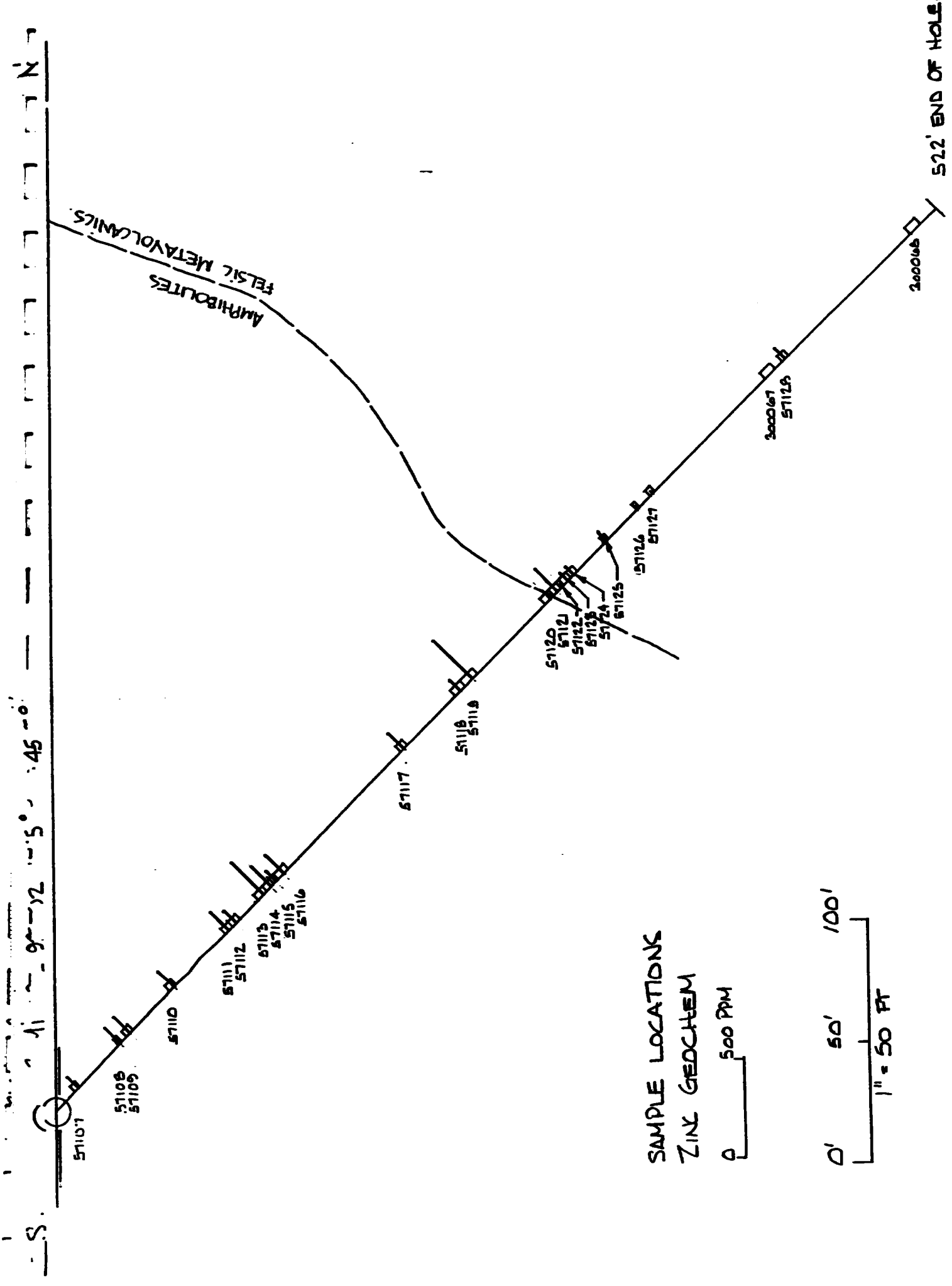
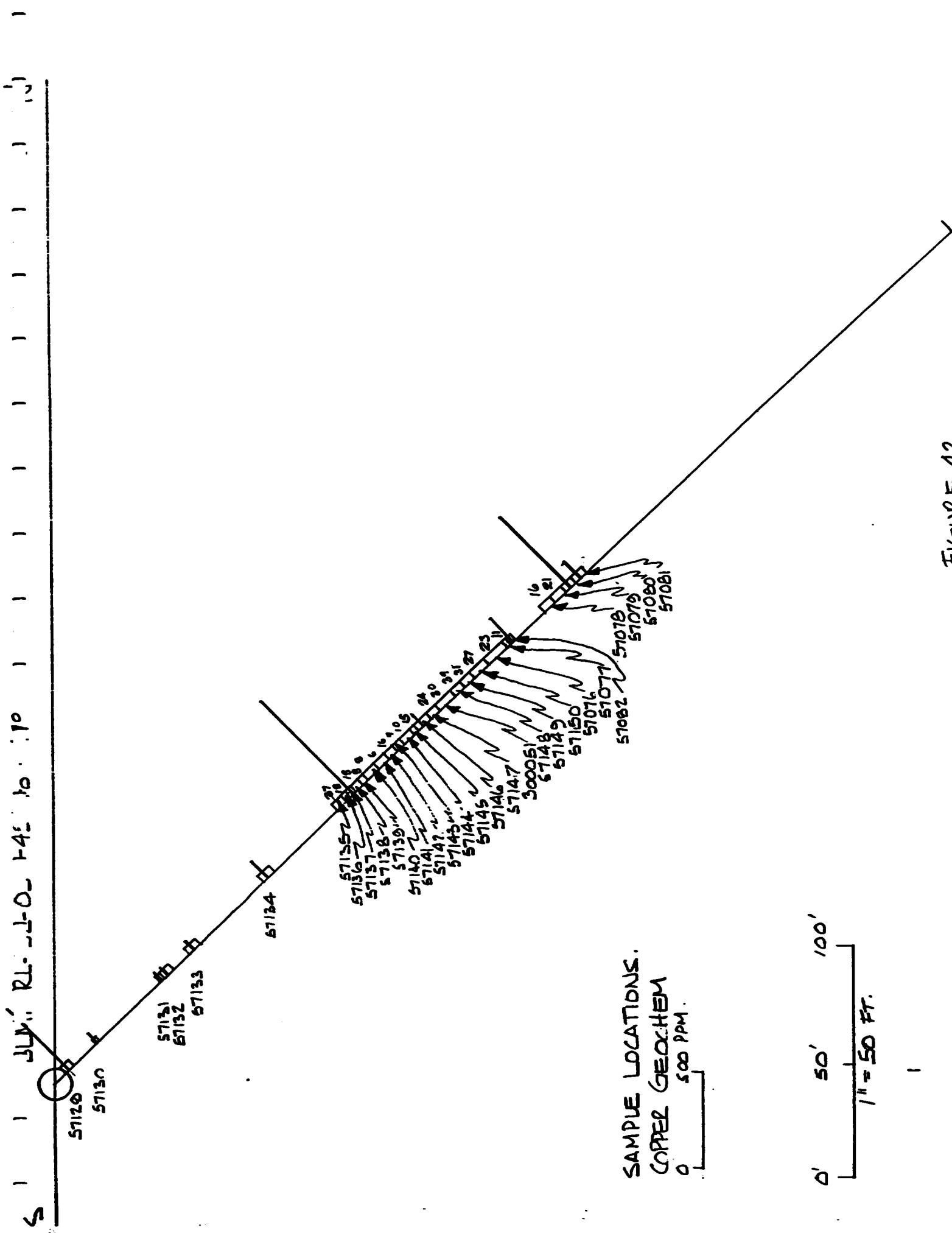


FIGURE 39.





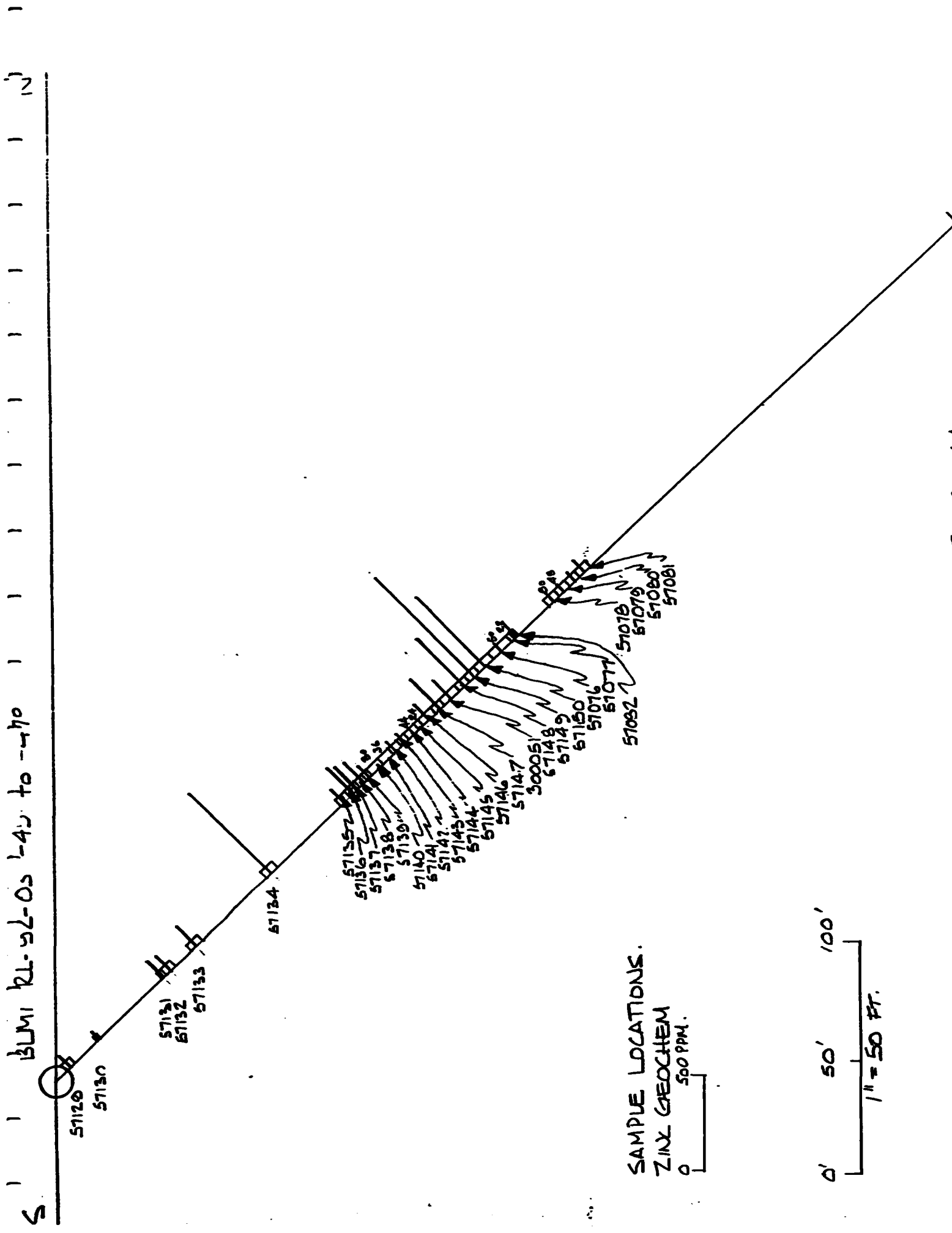
SAMPLE LOCATIONS.  
 COPPER GEOCHEM  
 0 500 PPM.

0' 50' 100'  
 1" = 50 FT.

FIGURE 42

50' END OF HOLE





SAMPLE LOCATIONS.  
 ZINC GEOCHEM  
 0 500 PPM.

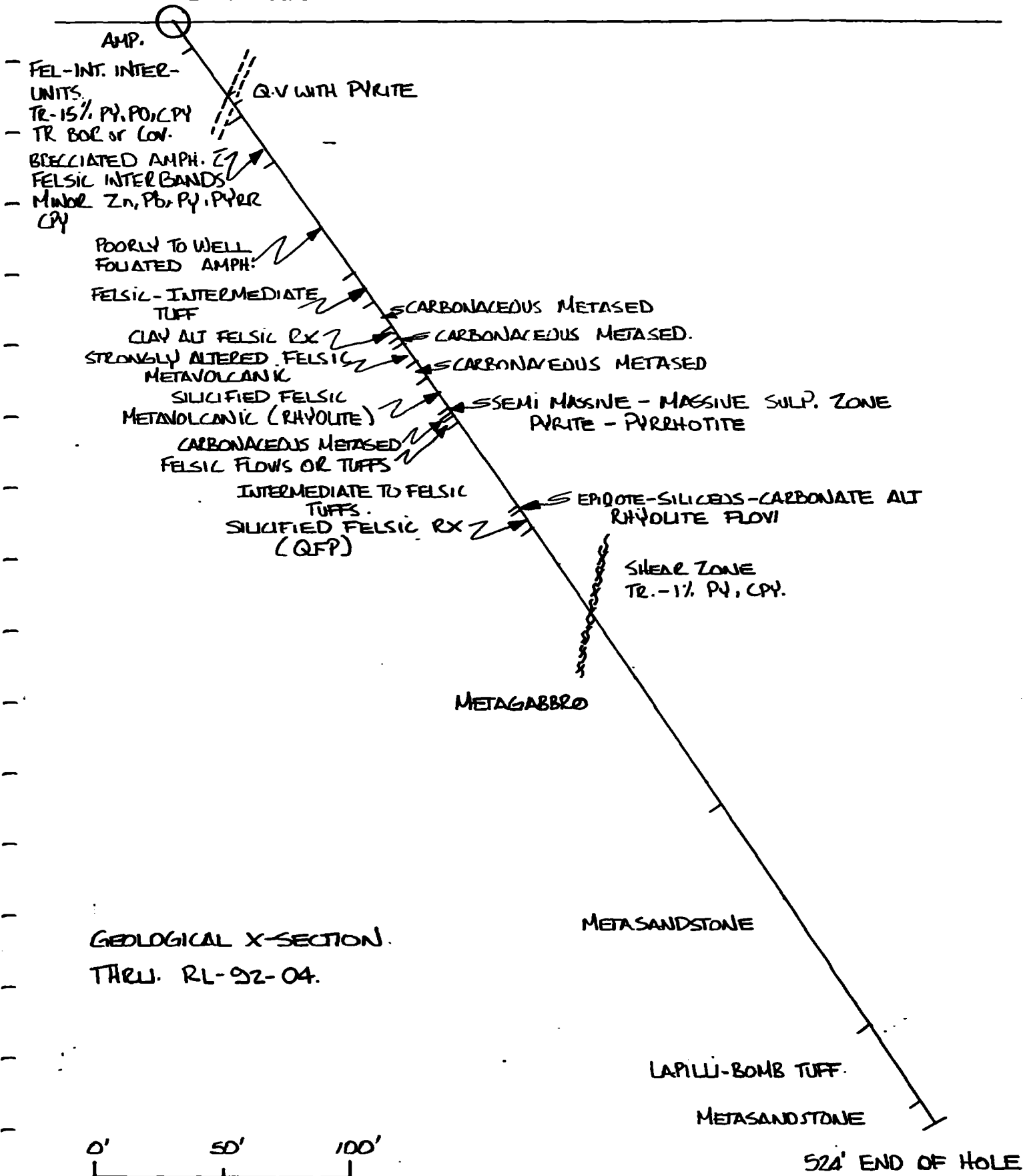
0' 50' 100'  
 1" = 50 FT.

FIGURE 44

- S.

BLMI RL-92-04 -55° to -56.5°

N



GEOLOGICAL X-SECTION.  
THRU. RL-92-04.

0' 50' 100'  
1" = 50 FT.

524' END OF HOLE

FIGURE 45



S

N

BLM1 RL-92-04 -55° to -56.5°

57083  
57084  
57085  
57086

57087

57088

300070  
300064  
57089  
57090

57091  
57092  
57093

57094  
57095  
57096

57097  
57098  
57099  
57100

300052  
300053  
300054  
300055  
300056  
300057  
300058

300058

300060

300061

300062  
300063

524' END OF HOLE

SAMPLE LOCATIONS.

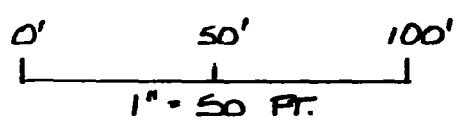
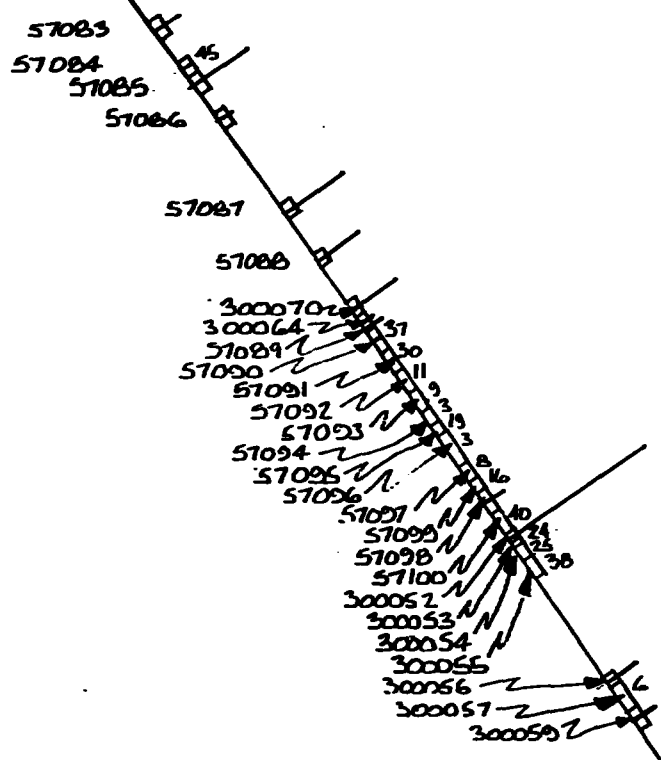
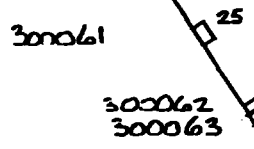
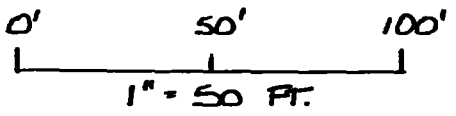
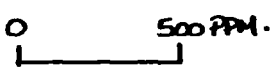


FIGURE 46.



SAMPLE LOCATIONS.  
COPPER GEOCHEM



524' END OF HOLE

FIGURE 47



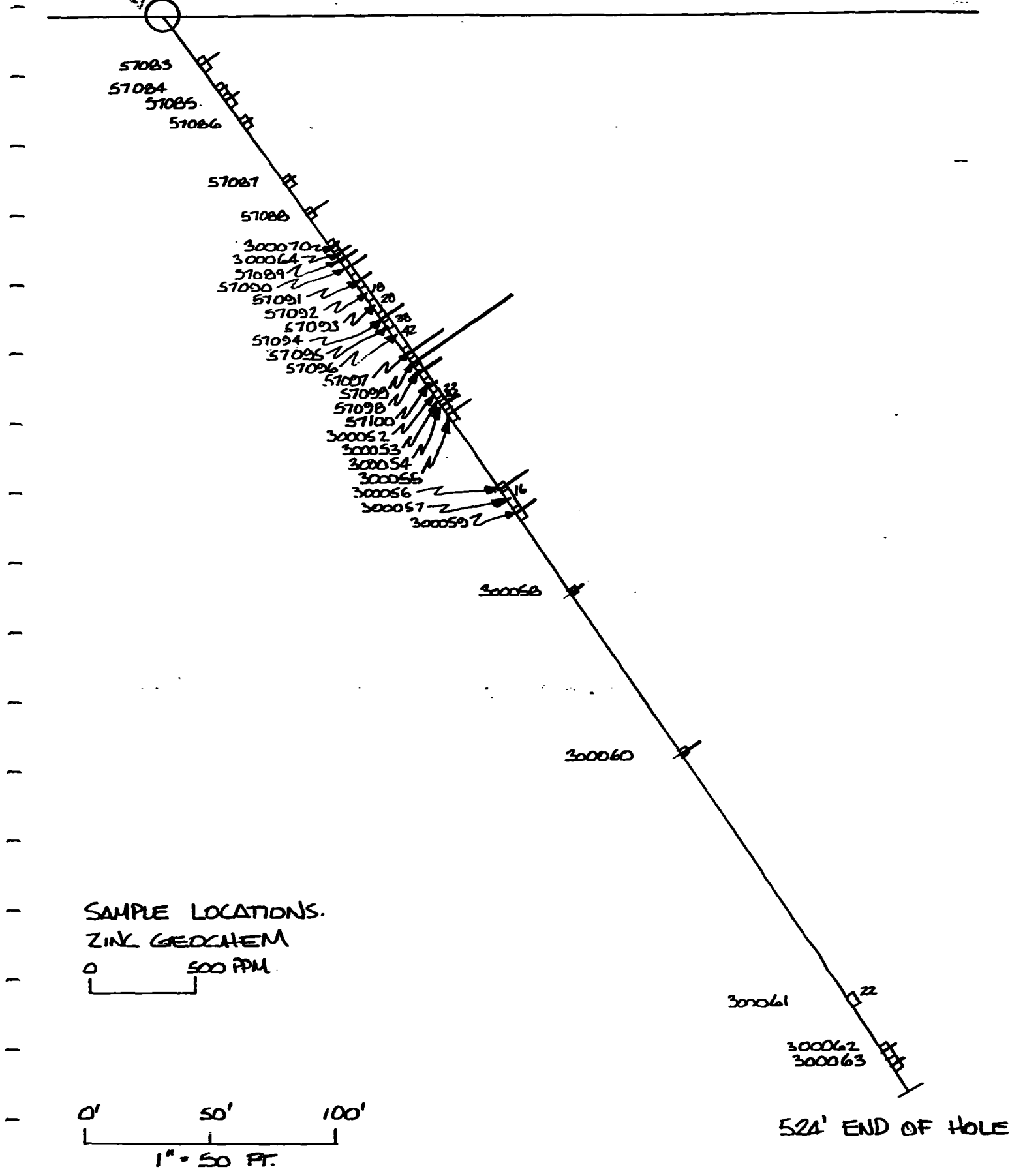


FIGURE 4D.

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Please refer to the attached "Certificates of Analysis" for all of the diamond drilling assay results.



**Chemex Labs Ltd.**  
 Analytical Chemists \* Geochemists \* Registered Assayers  
 5175 Timberlea Blvd., Mississauga,  
 Ontario, Canada L4W 2S3  
 PHONE: 416-824-2806

To: BHARTI LAAMANEN MINING INC.  
 131 FIELDING RD., P.O. BOX 700  
 LIVELY, ON  
 POM 2E0

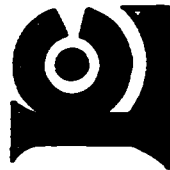
Page Number : 1-A  
 Total Pages : 1  
 Certificate Date: 29-DEC-92  
 Invoice No. : 19228717  
 P.O. Number : 67652  
 Account : KDU

Project : 92-5000-004  
 Comments: ATTN: HAROLD TRACANELLI

**CERTIFICATE OF ANALYSIS A9226717**

SAMPLE	PREP CODE	Au oz/T FA-AA	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
57083	208 226	-----	0.4	1.89	< 2	30	< 0.5	< 2	1.40	0.5	24	146	91	3.23	< 10	< 1	0.16	10	1.23	435
57084	208 226	< 0.0005	< 0.2	0.82	< 2	< 10	< 0.5	< 2	0.55	< 0.5	8	302	31	1.62	< 10	< 1	0.04	< 10	0.47	260
57085	208 226	-----	0.4	1.38	< 2	10	< 0.5	< 2	1.12	0.5	33	234	210	5.00	< 10	< 1	0.11	10	1.29	475
57086	208 226	-----	0.2	2.19	< 2	10	< 0.5	< 2	2.60	0.5	27	137	45	3.26	< 10	< 1	0.10	< 10	1.26	525
57087	208 226	-----	0.2	1.96	< 2	10	< 0.5	< 2	2.02	< 0.5	36	138	227	4.35	< 10	< 1	0.14	< 10	1.09	645
57088	208 226	-----	0.4	2.00	10	10	< 0.5	< 2	2.27	< 0.5	31	123	160	3.29	< 10	< 1	0.16	< 10	1.07	495
57089	208 226	< 0.0005	1.8	0.71	< 2	20	5.0	6	0.30	0.5	12	94	65	2.22	< 10	< 1	0.34	< 10	0.38	185
57090	208 226	-----	0.6	1.39	< 2	30	< 0.5	< 2	1.01	0.5	11	151	37	2.77	10	< 1	0.29	30	0.77	500
57091	208 226	-----	0.4	1.25	8	40	< 0.5	< 2	0.56	< 0.5	13	148	30	2.97	10	< 1	0.32	20	0.83	555
57092	208 226	-----	0.4	0.32	6	< 10	< 0.5	< 2	>15.00	< 0.5	8	19	11	1.14	< 10	< 1	0.08	10	0.16	3330
57093	208 226	-----	0.4	0.37	18	< 10	< 0.5	< 2	>15.00	< 0.5	7	23	9	0.55	< 10	< 1	0.06	10	0.13	2390
57094	208 226	-----	0.4	0.91	< 2	< 10	< 0.5	< 2	>15.00	1.0	2	28	3	0.25	< 10	< 1	< 0.01	10	0.11	1945
57095	208 226	-----	0.2	0.16	12	< 10	< 0.5	< 2	>15.00	< 0.5	7	15	19	0.38	< 10	< 1	0.01	10	0.06	2180
57096	208 226	-----	0.8	1.07	22	< 10	7.5	2	9.49	< 0.5	7	57	3	0.40	< 10	< 1	0.01	20	0.15	1130
57097	208 226	-----	0.6	0.30	14	10	< 0.5	< 2	>15.00	1.0	10	20	8	0.71	< 10	< 1	0.11	10	0.24	2900
57098	208 226	-----	0.6	1.57	14	10	< 0.5	< 2	2.10	0.5	6	68	71	4.01	10	< 1	0.03	10	0.40	280
57099	208 226	-----	0.4	0.24	8	< 10	< 0.5	< 2	>15.00	3.5	13	20	16	1.24	< 10	< 1	0.09	10	0.19	2710
57100	208 226	-----	0.2	1.34	< 2	20	< 0.5	< 2	1.53	< 0.5	7	131	40	2.95	10	< 1	0.30	20	0.44	250
300052	208 226	-----	< 0.2	0.85	6	10	< 0.5	< 2	1.11	0.5	21	71	520	>15.00	10	< 1	0.10	10	0.41	1490
300053	208 226	-----	0.2	0.33	< 2	< 10	< 0.5	< 2	>15.00	< 0.5	4	23	24	1.01	< 10	< 1	0.10	< 10	0.19	2870
300054	208 226	-----	0.2	1.85	< 2	30	< 0.5	< 2	1.25	0.5	10	134	25	2.48	10	< 1	0.39	20	0.69	335
300055	208 226	-----	0.2	1.72	< 2	50	< 0.5	< 2	0.82	0.5	17	110	38	3.28	10	< 1	0.34	20	1.04	495
300056	208 226	< 0.0005	0.6	2.07	< 2	10	< 0.5	< 2	5.92	1.0	4	76	102	2.63	< 10	< 1	0.12	10	0.66	915
300057	208 226	< 0.0005	0.2	1.31	< 2	30	< 0.5	< 2	1.73	< 0.5	1	144	6	1.42	10	< 1	0.16	30	0.30	265
300058	208 226	-----	0.2	2.60	< 2	110	< 0.5	< 2	5.19	1.0	40	53	82	4.19	< 10	< 1	0.74	< 10	1.81	750
300059	208 226	-----	0.2	3.79	< 2	60	< 0.5	< 2	2.12	0.5	34	80	74	5.54	10	< 1	0.70	10	2.50	1035
300060	208 226	< 0.0005	< 0.2	4.71	< 2	20	< 0.5	< 2	0.71	1.0	61	88	74	8.41	20	< 1	0.62	< 10	3.70	945
300061	208 226	-----	0.2	1.31	2	30	< 0.5	8	0.48	< 0.5	32	121	25	2.18	< 10	< 1	0.40	< 10	0.78	190
300062	208 226	-----	0.4	2.84	6	40	< 0.5	< 2	1.07	< 0.5	42	73	99	6.64	10	< 1	0.75	10	2.34	760
300063	208 226	-----	< 0.2	2.78	2	40	< 0.5	< 2	0.96	< 0.5	33	85	90	5.89	< 10	< 1	0.83	10	2.07	740
300064	208 226	-----	0.2	2.17	< 2	30	< 0.5	6	1.61	< 0.5	24	119	50	3.65	< 10	< 1	0.24	20	1.65	590
300065	208 226	-----	0.6	2.02	< 2	110	< 0.5	2	2.93	0.5	45	117	322	4.63	< 10	< 1	0.80	20	1.38	510
300066	208 226	-----	0.2	2.02	< 2	20	< 0.5	2	1.45	< 0.5	24	108	48	3.52	< 10	< 1	0.18	20	1.62	560
300067	208 226	-----	< 0.2	0.16	< 2	< 10	< 0.5	4	0.11	< 0.5	13	131	8	0.34	< 10	< 1	0.03	< 10	0.06	20
300070	208 226	-----	0.2	1.70	< 2	< 10	< 0.5	4	1.74	0.5	19	95	167	3.28	< 10	< 1	0.14	< 10	1.28	500

CERTIFICATION:



**Chemex Labs Ltd.**  
 Analytical Chemists • Geochemists • Registered Assayers  
 5175 Timberlea Blvd., Mississauga,  
 Ontario, Canada L4W 2S3  
 PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING INC.  
 131 FIELDING RD., P.O. BOX 700  
 LIVELY, ON  
 P0M 2E0

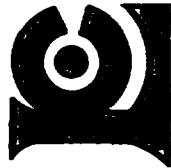
Project: 92-5000-004  
 Comments: ATTN: HAROLD TRACANELLI

Page Number : 1-B  
 Total Pages : 1  
 Certificate Date: 29-DEC-92  
 Invoice No. : 19226717  
 P.O. Number : 67652  
 Account : KDU

**CERTIFICATE OF ANALYSIS A9226717**

SAMPLE	PREP CODE	Mo	Na	K	Ca	Mg	P	Pb	Sb	Sc	Bz	Ti	Ti	V	W	Zn
		ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
57083	208 226	2	0.11	68	240	6	< 2	10	28	0.23	< 10	< 10	69	< 10	112	
57084	208 226	< 1	0.07	31	90	14	< 2	6	4	0.08	< 10	< 10	44	< 10	48	
57085	208 226	< 1	0.10	95	570	30	< 2	10	11	0.33	< 10	< 10	96	< 10	76	
57086	208 226	< 1	0.15	77	290	4	< 2	12	29	0.31	< 10	< 10	96	< 10	56	
57087	208 226	1	0.18	62	490	< 2	< 2	14	20	0.36	< 10	< 10	137	< 10	66	
57088	208 226	4	0.20	51	240	80	< 2	14	27	0.25	< 10	< 10	94	< 10	116	
57089	208 226	88	0.09	29	330	186	< 2	2	12	0.06	< 10	< 10	20	< 10	96	
57090	208 226	24	0.06	18	410	52	< 2	4	43	0.17	< 10	< 10	29	< 10	120	
57091	208 226	3	0.07	22	450	6	< 2	7	16	0.19	< 10	< 10	47	< 10	88	
57092	208 226	5	0.01	15	100	< 2	< 2	1	76	0.03	< 10	< 10	9	< 10	18	
57093	208 226	2	0.01	14	90	6	< 2	1	73	0.04	< 10	< 10	6	< 10	28	
57094	208 226	2	< 0.01	5	70	96	< 2	1	17	0.03	< 10	< 10	6	< 10	124	
57095	208 226	2	0.01	14	40	4	< 2	< 1	70	0.02	< 10	< 10	4	< 10	38	
57096	208 226	3	< 0.01	18	380	54	< 2	1	43	0.05	< 10	< 10	12	< 10	42	
57097	208 226	1	0.01	14	50	150	< 2	2	75	0.03	< 10	< 10	8	< 10	216	
57098	208 226	1	0.01	29	450	18	< 2	4	117	0.14	< 10	< 10	26	< 10	132	
57099	208 226	1	0.01	17	80	190	< 2	2	76	0.04	< 10	< 10	8	< 10	568	
57100	208 226	1	0.05	27	490	6	< 2	7	73	0.21	< 10	< 10	44	< 10	48	
300052	208 226	5	0.02	60	270	< 2	< 2	4	17	0.05	< 10	< 10	14	< 10	22	
300053	208 226	< 1	0.01	23	80	22	< 2	1	81	0.03	< 10	< 10	8	< 10	36	
300054	208 226	2	0.05	22	500	14	< 2	8	59	0.18	< 10	< 10	47	< 10	66	
300055	208 226	1	0.03	32	310	24	< 2	6	17	0.22	< 10	< 10	48	< 10	112	
300056	208 226	7	0.01	19	290	82	< 2	3	126	0.11	< 10	< 10	14	< 10	156	
300057	208 226	1	0.08	6	310	< 2	< 2	5	97	0.14	< 10	< 10	14	< 10	16	
300058	208 226	4	0.04	40	310	< 2	< 2	20	30	0.27	< 10	< 10	218	< 10	70	
300059	208 226	1	0.04	35	290	< 2	< 2	16	94	0.29	< 10	< 10	155	< 10	112	
300060	208 226	1	0.04	108	330	< 2	< 2	21	8	0.25	< 10	< 10	339	< 10	110	
300061	208 226	1	0.06	19	170	< 2	< 2	7	30	0.15	< 10	< 10	66	< 10	22	
300062	208 226	2	0.07	34	350	< 2	< 2	14	34	0.42	< 10	< 10	331	< 10	68	
300063	208 226	3	0.07	29	360	< 2	< 2	12	45	0.34	< 10	< 10	223	< 10	66	
300064	208 226	< 1	0.13	40	840	< 2	< 2	10	90	0.28	< 10	< 10	102	< 10	84	
300065	208 226	< 1	0.07	189	660	< 2	< 2	4	44	0.55	< 10	< 10	98	< 10	92	
300066	208 226	1	0.09	40	880	< 2	< 2	9	81	0.26	< 10	< 10	93	< 10	86	
300067	208 226	< 1	0.10	11	100	4	< 2	< 1	3	< 0.01	< 10	< 10	7	< 10	4	
300070	208 226	1	0.18	52	400	< 2	< 2	13	11	0.23	< 10	< 10	106	< 10	48	

CERTIFICATION: *B. Coughlin*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
5175 Timberlea Blvd., Mississauga,  
Ontario, Canada L4W 2S3  
PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING INC.  
131 FIELDING RD., P.O. BOX 700  
LIVELY, ON  
P0M 2E0

Project: 92-5000-004  
Comments: ATTN: HAROLD TRACANELLI

Page Number : 1-A  
Total Pages : 1  
Certificate Date: 29-DEC-92  
Invoice No. : 19228717  
P.O. Number : 87652  
Account : KDU

## CERTIFICATE OF ANALYSIS A9226717

SAMPLE	PREP CODE	Au oz/T FA-AA	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
57083	208 226	-----	0.4	1.89	< 2	30	< 0.5	< 2	1.40	0.5	24	146	91	3.23	< 10	< 1	0.16	10	1.23	435
57084	208 226	<0.0005	< 0.2	0.52	< 2	< 10	< 0.5	< 2	0.55	< 0.5	6	302	31	1.62	< 10	< 1	0.04	< 10	0.47	260
57085	208 226	-----	0.4	1.38	< 2	10	< 0.5	< 2	1.12	0.5	33	234	210	5.00	< 10	< 1	0.11	10	1.29	475
57086	208 226	-----	0.2	2.19	< 2	10	< 0.5	< 2	2.60	0.5	27	137	45	3.26	< 10	< 1	0.10	< 10	1.26	525
57087	208 226	-----	0.2	1.86	< 2	10	< 0.5	< 2	2.02	< 0.5	36	138	227	4.35	< 10	< 1	0.14	< 10	1.09	645
57088	208 226	-----	0.4	2.00	10	10	< 0.5	< 2	2.27	< 0.5	31	123	160	3.29	< 10	< 1	0.16	< 10	1.07	495
57089	208 226	<0.0005	1.8	0.71	< 2	20	5.0	6	0.30	0.5	12	94	65	2.22	< 10	< 1	0.34	< 10	0.38	185
57090	208 226	-----	0.6	1.39	< 2	30	< 0.5	< 2	1.01	0.5	11	181	37	2.77	10	< 1	0.29	30	0.77	500
57091	208 226	-----	0.4	1.25	6	40	< 0.5	< 2	0.56	< 0.5	13	148	30	2.97	10	< 1	0.32	20	0.33	595
57092	208 226	-----	0.4	0.32	6	< 10	< 0.5	< 2	>15.00	< 0.5	8	19	11	1.14	< 10	< 1	0.08	10	0.16	3330
57093	208 226	-----	0.4	0.27	18	< 10	< 0.5	< 2	>15.00	< 0.5	7	23	9	0.55	< 10	< 1	0.06	10	0.13	2390
57094	208 226	-----	0.4	0.91	< 2	< 10	< 0.5	< 2	>15.00	1.0	2	28	3	0.25	< 10	< 1	< 0.01	10	0.11	1945
57095	208 226	-----	0.2	0.16	12	< 10	< 0.5	< 2	>15.00	< 0.5	7	15	19	0.38	< 10	< 1	0.01	10	0.06	2180
57096	208 226	-----	0.8	1.07	22	< 10	7.5	2	9.49	< 0.5	7	57	3	0.40	< 10	< 1	0.01	20	0.15	1130
57097	208 226	-----	0.6	0.30	14	10	< 0.5	< 2	>15.00	1.0	10	20	6	0.71	< 10	< 1	0.11	10	0.24	2900
57098	208 226	-----	0.6	1.57	14	10	< 0.5	< 2	2.10	0.5	6	68	71	4.01	10	< 1	0.03	10	0.40	280
57099	208 226	-----	0.4	0.24	8	< 10	< 0.5	< 2	>15.00	3.5	13	20	16	1.24	< 10	< 1	0.09	10	0.19	2710
57100	208 226	-----	0.2	1.34	< 2	20	< 0.5	< 2	1.53	< 0.5	7	131	40	2.95	10	< 1	0.30	20	0.44	250
300052	208 226	-----	< 0.2	0.85	6	10	< 0.5	< 2	1.11	0.5	21	71	520	>15.00	10	< 1	0.10	10	0.41	1490
300053	208 226	-----	0.2	0.43	< 2	< 10	< 0.5	< 2	>15.00	< 0.5	4	23	24	1.01	< 10	< 1	0.10	< 10	0.19	2870
300054	208 226	-----	0.2	1.55	< 2	30	< 0.5	< 2	1.25	0.5	10	134	25	2.48	10	< 1	0.39	20	0.69	335
300055	208 226	-----	0.2	1.72	< 2	50	< 0.5	< 2	0.52	0.5	17	110	38	3.28	10	< 1	0.34	20	1.04	495
300056	208 226	<0.0005	0.6	2.07	< 2	10	< 0.5	< 2	5.92	1.0	4	76	102	2.63	< 10	< 1	0.12	10	0.66	915
300057	208 226	<0.0005	0.2	1.31	< 2	30	< 0.5	< 2	1.73	< 0.5	1	144	6	1.42	10	< 1	0.16	30	0.30	285
300058	208 226	-----	0.2	2.60	< 2	110	< 0.5	< 2	5.19	1.0	40	53	82	4.19	< 10	< 1	0.74	< 10	1.81	750
300059	208 226	-----	0.2	3.79	< 2	60	< 0.5	< 2	2.12	0.5	34	80	74	5.54	10	< 1	0.70	10	2.50	1035
300060	208 226	<0.0005	< 0.2	4.71	< 2	20	< 0.5	< 2	0.71	1.0	61	68	74	8.41	20	< 1	0.62	< 10	3.70	945
300061	208 226	-----	0.2	1.31	2	30	< 0.5	8	0.48	< 0.5	32	121	25	2.18	< 10	< 1	0.40	< 10	0.78	190
300062	208 226	-----	0.4	2.84	6	40	< 0.5	< 2	1.07	< 0.5	42	73	99	6.84	10	< 1	0.75	10	2.24	760
300063	208 226	-----	< 0.2	2.78	2	40	< 0.5	< 2	0.96	< 0.5	33	85	90	5.89	< 10	< 1	0.83	10	2.07	740
300064	208 226	-----	0.2	2.17	< 2	30	< 0.5	6	1.61	< 0.5	24	119	50	3.66	< 10	< 1	0.24	20	1.65	590
300065	208 226	-----	0.6	2.02	< 2	110	< 0.5	2	2.93	0.5	45	117	322	4.63	< 10	< 1	0.80	20	1.38	510
300066	208 226	-----	0.2	2.02	< 2	20	< 0.5	2	1.45	< 0.5	24	108	48	3.52	10	< 1	0.18	20	1.62	560
300067	208 226	-----	< 0.2	0.16	< 2	< 10	< 0.5	4	0.11	< 0.5	13	121	8	0.36	< 10	< 1	0.03	< 10	0.06	20
300070	208 226	-----	0.2	1.70	< 2	< 10	< 0.5	4	1.74	0.5	19	95	167	3.28	< 10	< 1	0.14	< 10	1.28	500

CERTIFICATION: *B. Coughlin*





# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
5175 Timberlea Blvd., Mississauga,  
Ontario, Canada L4W 2S3  
PHONE: 416-624-2808

To: BHARTI LAAMANEN MINING INC.  
131 FIELDING RD., P.O. BOX 700  
LIVELY, ON  
P0M 2E0

Project: 92-5000-004  
Comments: ATTN: HAROLD TRACANELLI

Page Number :1-B  
Total Pages :1  
Certificate Date: 29-DEC-92  
Invoice No. :19226717  
P.O. Number :87652  
Account :KDU

## CERTIFICATE OF ANALYSIS A9226717

SAMPLE	PREP CODE	Mo ppm	Na %	Ki ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	V ppm	W ppm	Zn ppm
57083	208 226	2	0.11	65	240	6	< 2	10	28	0.23	< 10	< 10	< 10	112
57084	208 226	< 1	0.07	31	50	14	< 2	6	4	0.08	< 10	< 10	< 10	48
57085	208 226	< 1	0.10	95	570	30	< 2	10	11	0.33	< 10	< 10	< 10	76
57086	208 226	< 1	0.15	77	290	4	< 2	12	29	0.31	< 10	< 10	< 10	56
57087	208 226	< 1	0.18	62	490	< 2	< 2	14	20	0.36	< 10	< 10	< 10	66
57088	208 226	4	0.20	51	240	90	< 2	14	27	0.25	< 10	< 10	< 10	116
57089	208 226	88	0.09	29	130	156	< 2	2	12	0.06	< 10	< 10	< 10	96
57090	208 226	24	0.06	18	430	52	< 2	4	43	0.17	< 10	< 10	< 10	120
57091	208 226	3	0.07	22	450	6	< 2	7	16	0.19	< 10	< 10	< 10	88
57092	208 226	5	0.01	15	100	< 2	< 2	1	76	0.03	< 10	< 10	< 10	18
57093	208 226	2	0.01	14	90	6	< 2	1	73	0.04	< 10	< 10	< 10	28
57094	208 226	2	< 0.01	5	70	96	< 2	1	17	0.03	< 10	< 10	< 10	124
57095	208 226	2	0.01	14	40	4	< 4	< 1	70	0.02	< 10	< 10	< 10	38
57096	208 226	3	< 0.01	18	350	54	< 4	1	43	0.05	< 10	< 10	< 10	42
57097	208 226	1	0.01	14	50	150	< 2	2	75	0.03	< 10	< 10	< 10	215
57098	208 226	1	0.01	29	450	18	< 2	4	117	0.14	< 10	< 10	< 10	132
57099	208 226	1	0.01	17	80	190	< 2	2	76	0.04	< 10	< 10	< 10	568
57100	208 226	1	0.05	27	490	6	< 2	7	73	0.21	< 10	< 10	< 10	48
300052	208 226	5	0.02	60	270	< 2	< 2	4	17	0.05	< 10	< 10	< 10	22
300053	208 226	< 1	0.01	23	80	22	< 2	1	81	0.03	< 10	< 10	< 10	36
300054	208 226	2	0.05	22	500	14	< 2	8	59	0.18	< 10	< 10	< 10	66
300055	208 226	1	0.03	32	510	24	< 2	6	17	0.22	< 10	< 10	< 10	112
300056	208 226	7	0.01	19	290	82	< 2	3	126	0.11	< 10	< 10	< 10	156
300057	208 226	1	0.08	6	310	< 2	< 2	5	97	0.14	< 10	< 10	< 10	16
300058	208 226	4	0.04	40	310	< 2	< 2	20	30	0.27	< 10	< 10	< 10	70
300059	208 226	1	0.04	35	290	< 2	< 2	15	94	0.29	< 10	< 10	< 10	112
300060	208 226	1	0.04	108	330	< 2	< 2	21	8	0.25	< 10	< 10	< 10	110
300061	208 226	1	0.06	19	170	< 2	< 2	7	30	0.15	< 10	< 10	< 10	22
300062	208 226	2	0.07	34	350	< 2	< 2	14	34	0.42	< 10	< 10	< 10	68
300063	208 226	3	0.07	29	360	< 2	< 2	12	45	0.34	< 10	< 10	< 10	66
300064	208 226	< 1	0.13	40	940	< 2	< 2	10	90	0.28	< 10	< 10	< 10	84
300065	208 226	< 1	0.07	189	660	< 2	< 2	4	44	0.55	< 10	< 10	< 10	92
300066	208 226	1	0.09	40	880	< 2	< 2	9	81	0.26	< 10	< 10	< 10	86
300067	208 226	< 1	0.10	11	100	4	< 2	< 1	3	< 0.01	< 10	< 10	< 10	4
300070	208 226	1	0.18	52	400	< 2	< 2	13	11	0.23	< 10	< 10	< 10	48

CERTIFICATION: *B. C. C. C.*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
6175 Timberlea Blvd., Mississauga,  
Ontario, Canada L4W 2S3  
PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING INC.  
131 FIELDING RD., P.O. BOX 700  
LIVELY ON  
POM ZEO

Project: 92-5000-004  
Comments: ATTN: HAROLD TRACANELLI

Page Number : 1  
Total Pages : 1  
Certificate Date: 28-DEC-92  
Invoice No. : 19228718  
P.O. Number : 87652  
Account : KDU

## CERTIFICATE OF ANALYSIS A9226718

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Mn2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %
300065	299 200	10.68	10.28	0.02	14.98	1.36	6.88	0.19	2.73	0.24	46.75	1.66	2.84	98.38
300066	299 200	18.58	6.17	0.04	8.76	2.68	4.72	0.16	3.77	0.26	55.58	0.85	1.89	100.50
300067	299 200	10.02	0.23	0.06	0.50	0.47	0.13	< 0.01	5.74	0.11	83.06	0.10	0.34	100.75
300070	299 200	14.43	9.69	< 0.01	13.29	0.85	6.41	0.23	2.63	0.13	48.18	1.14	1.09	99.08

CERTIFICATION: 



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 5175 Timberlea Blvd., Mississauga,  
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To: BHARTI LAAMANEN MINING INC.  
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Project: 92-6000-004  
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Page Number :1  
 Total Pages :1  
 Certificate Date: 29-DEC-92  
 Invoice No. :19226718  
 P.O. Number :67652  
 Account :KDU

## CERTIFICATE OF ANALYSIS A9226718

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Mn2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %
300065	299 200	10.68	10.28	0.02	14.98	1.36	6.65	0.19	2.73	0.24	46.75	1.66	2.84	98.38
300066	299 200	15.58	6.17	0.04	8.76	2.68	4.72	0.16	3.77	0.28	55.58	0.85	1.89	100.50
300067	299 200	10.02	0.23	0.05	0.50	0.47	0.13	< 0.01	5.74	0.11	83.06	0.10	0.34	100.75
300070	299 200	14.43	9.69	< 0.01	13.29	0.85	6.41	0.23	2.63	0.13	48.18	1.14	1.09	98.08

*B. Campbell*

CERTIFICATION:



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SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %
300065	299 200	10.68	10.28	0.02	14.98	1.36	6.65	0.19	2.73	0.24	46.75	1.66	2.84	98.38
300066	299 200	15.88	6.17	0.04	8.76	2.88	4.72	0.16	3.77	0.28	55.58	0.85	1.89	100.50
300067	299 200	10.02	0.23	0.06	0.50	0.47	0.13	< 0.01	5.74	0.11	83.06	0.10	0.34	100.75
300070	299 200	14.43	9.69	< 0.01	13.29	0.85	6.41	0.23	2.63	0.13	48.18	1.14	1.09	98.08

CERTIFICATION: 



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Page Number : 1  
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## CERTIFICATE OF ANALYSIS A9226718

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %
300065	299 200	10.68	10.28	0.02	14.98	1.36	6.65	0.19	2.73	0.24	46.75	1.66	2.84	98.38
300066	299 200	15.38	6.17	0.04	8.76	2.68	4.72	0.16	3.77	0.28	55.98	0.85	1.89	100.50
300067	299 200	10.02	0.23	0.06	0.80	0.47	0.13	< 0.01	5.74	0.11	83.06	0.10	0.34	100.75
300070	299 200	14.43	9.69	< 0.01	13.29	0.85	6.41	0.23	2.63	0.13	48.18	1.14	1.09	98.08

CERTIFICATION: \_\_\_\_\_



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 5175 Timberlea Blvd., Mississauga,  
 Ontario, Canada L4W 2S3  
 PHONE: 416-624-2808

To: BHARTI LAAMANEN MINING INC.  
 131 FIELDING RD., P.O. BOX 700  
 LIVELY, ON  
 POM 2E0

Project: 92-9000-004  
 Comments: ATTN: HAROLD TRACANELLI

Page Number : 1  
 Total Pages : 1  
 Certificate Date: 09-JAN-93  
 Invoice No. : 19228719  
 P.O. Number : 67852  
 Account : KDU

## CERTIFICATE OF ANALYSIS A9226719

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Mn2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %
300068	208 226	10.00	0.10	0.07	1.10	3.39	0.22	< 0.01	0.15	0.10	83.79	0.11	1.55	100.70
300069	208 226	14.97	9.55	0.01	10.88	1.36	6.36	0.18	1.86	0.11	51.01	0.78	2.38	99.25
300071	208 226	12.86	0.48	0.06	1.90	2.68	2.72	0.02	2.28	0.11	76.39	0.11	1.91	101.50

CERTIFICATION: *Phai Ma*



# Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers  
 5175 Timberlea Blvd., Mississauga,  
 Ontario, Canada L4W 2S3  
 PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING INC.  
 131 FIELDING RD., P.O. BOX 700  
 LIVELY, ON  
 P0M 2E0

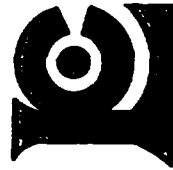
Project: 92-5000-004  
 Comments: ATTN: HAROLD TRACANELLI

Page Number : 1  
 Total Pages : 1  
 Certificate Date: 08-JAN-93  
 Invoice No. : 19226719  
 P.O. Number : 67652  
 Account : KDU

## CERTIFICATE OF ANALYSIS A9226719

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Mn2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %
300668	208 226	10.00	0.10	0.07	1.10	3.39	0.33	< 0.01	0.15	0.10	83.79	0.11	1.88	100.70
300669	208 226	14.97	9.55	0.01	10.88	1.36	6.15	0.18	1.86	0.11	51.01	0.78	2.38	99.25
300671	208 226	13.86	0.48	0.06	1.90	2.68	2.72	0.02	2.28	0.11	76.39	0.11	1.91	101.50

CERTIFICATION: *[Signature]*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
5175 Timberlea Blvd., Mississauga,  
Ontario, Canada L4W 2S3  
PHONE: 416-824-2806

To: BHARTI LAAMANEN MINING INC.  
131 FIELDING RD., P.O. BOX 700  
LIVELY ON  
POM 2E0

Project: 92-500-004  
Comments: ATTN: H. TRACANELLI

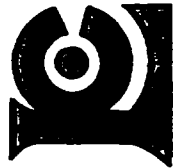
Page Number : 1-A  
Total Pages : 2  
Certificate Date: 22-DEC-92  
Invoice No. : 19226343  
P.O. Number : 67651  
Account : KDU

## CERTIFICATE OF ANALYSIS A9226343

SAMPLE	PREP CODE	Au oz/T	Ag ppm	Al %	As ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cu ppm	Cz ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
57076	205 226	-----	0.2	1.81	4	20	< 0.5	0.52	< 0.5	18	23	125	3.04	< 10	< 1	0.22	20	1.38	455
57077	205 226	-----	< 0.2	0.81	2	< 10	< 0.5	2.51	< 0.5	10	241	11	1.41	< 10	< 1	0.01	< 10	0.58	365
57078	205 226	-----	0.4	2.69	6	30	4.0	2.27	< 0.5	81	48	48	7.42	10	< 1	0.70	< 10	1.96	445
57079	205 226	-----	0.2	2.82	8	20	< 0.5	1.51	< 0.5	107	68	51	6.97	10	< 1	0.51	< 10	2.08	395
57080	205 226	-----	0.4	3.00	4	70	< 0.5	1.42	< 0.5	88	43	511	9.69	10	1	1.42	< 10	2.17	350
57081	205 226	<0.0005	0.2	4.25	10	100	< 0.5	1.86	< 0.5	88	40	111	9.46	20	1	1.90	< 10	3.07	605
57082	205 226	-----	< 0.2	3.69	12	70	< 0.5	1.90	< 0.5	249	97	133	6.83	< 10	< 1	0.96	< 10	2.92	935
57101	205 226	<0.0005	0.2	1.08	2	20	< 0.5	5.33	< 0.5	3	72	25	0.66	< 10	< 1	0.13	< 10	0.58	685
57102	205 226	<0.0005	< 0.2	1.79	< 2	20	0.5	2.40	< 0.5	14	101	14	2.04	10	< 1	0.13	70	1.52	245
57103	205 226	<0.0005	< 0.2	1.70	< 2	50	0.5	2.11	< 0.5	2	164	10	0.92	< 10	< 1	0.38	30	1.13	460
57104	205 226	<0.0005	0.2	1.90	< 2	40	7.0	3.89	0.5	1	111	62	0.86	< 10	< 1	0.43	20	0.87	825
57105	205 226	<0.0005	< 0.2	1.79	6	30	< 0.5	1.88	< 0.5	16	141	245	2.68	< 10	< 1	0.12	10	1.52	475
57106	205 226	<0.0005	< 0.2	1.45	< 2	30	< 0.5	3.55	< 0.5	11	144	9	2.03	< 10	< 1	0.13	< 10	1.15	480
57107	205 226	<0.0005	< 0.2	2.20	< 2	20	< 0.5	1.91	< 0.5	42	31	206	6.10	< 10	< 1	0.16	< 10	1.09	700
57108	205 226	-----	0.4	2.54	4	40	< 0.5	2.58	< 0.5	34	100	140	6.37	< 10	< 1	0.38	< 10	1.68	820
57109	205 226	-----	0.2	2.42	< 2	30	< 0.5	2.53	< 0.5	33	39	223	6.74	< 10	< 1	0.30	< 10	1.32	830
57110	205 226	<0.0005	0.2	1.63	4	70	< 0.5	1.28	< 0.5	9	173	108	15.00	< 10	< 1	0.72	< 10	0.93	350
57111	205 226	-----	< 0.2	2.37	6	40	< 0.5	2.33	< 0.5	35	108	108	5.74	< 10	< 1	0.50	< 10	1.64	765
57112	205 226	-----	0.2	2.18	10	20	< 0.5	1.89	< 0.5	34	68	153	5.57	< 10	< 1	0.34	< 10	1.47	700
57113	205 226	-----	0.2	2.74	4	40	< 0.5	2.13	< 0.5	37	80	170	6.57	< 10	< 1	0.39	< 10	1.75	790
57114	205 226	-----	0.6	2.79	< 2	20	< 0.5	2.23	< 0.5	24	69	237	7.01	< 10	< 1	0.24	< 10	1.78	875
57115	205 226	<0.0005	2.4	2.04	8	< 10	< 0.5	1.92	< 0.5	186	67	725	10.60	< 10	< 1	0.08	< 10	1.13	515
57116	205 226	-----	< 0.2	2.75	< 2	20	< 0.5	2.20	< 0.5	29	72	109	6.24	< 10	< 1	0.25	< 10	1.80	825
57117	205 226	-----	0.4	1.91	4	20	< 0.5	1.70	< 0.5	23	110	186	3.79	< 10	< 1	0.36	< 10	1.13	575
57118	205 226	-----	0.6	2.11	2	60	< 0.5	1.74	< 0.5	33	93	268	5.41	< 10	< 1	0.45	< 10	1.28	1005
57119	205 226	-----	0.6	2.02	4	40	< 0.5	1.65	0.5	77	103	233	5.29	< 10	< 1	0.38	< 10	1.36	855
57120	205 226	-----	< 0.2	2.04	6	10	0.5	1.64	< 0.5	19	108	63	2.92	< 10	< 1	0.18	< 10	1.31	685
57121	205 226	-----	0.4	1.80	4	20	1.0	1.87	< 0.5	28	140	79	2.61	< 10	< 1	0.20	< 10	2.20	565
57122	205 226	-----	< 0.2	1.97	< 2	< 10	1.5	2.27	< 0.5	7	92	11	1.69	< 10	< 1	0.03	< 10	0.71	490
57123	205 226	-----	0.2	2.17	8	10	< 0.5	0.70	< 0.5	17	176	13	3.57	10	< 1	0.11	10	1.55	705
57124	205 226	-----	0.2	3.02	38	20	0.5	4.36	< 0.5	94	108	122	5.35	< 10	< 1	0.37	< 10	1.63	770
57125	205 226	-----	0.2	3.21	2	60	< 0.5	1.24	< 0.5	29	105	40	6.23	10	< 1	1.85	20	1.93	555
57126	205 226	-----	< 0.2	0.63	2	10	< 0.5	2.86	< 0.5	26	245	118	1.41	< 10	< 1	0.24	< 10	0.35	145
57127	205 226	-----	0.2	0.95	4	10	< 0.5	2.15	< 0.5	37	208	53	1.01	< 10	< 1	0.13	< 10	0.22	105
57128	205 226	-----	0.2	3.91	6	10	< 0.5	0.99	< 0.5	51	179	1570	6.59	10	< 1	0.34	< 10	3.23	630
57129	205 226	-----	0.4	2.00	2	10	< 0.5	1.97	< 0.5	30	154	451	5.12	< 10	< 1	0.19	< 10	1.20	630
57130	205 226	<0.0005	0.4	1.45	6	< 10	< 0.5	1.36	< 0.5	27	235	70	3.73	< 10	< 1	0.04	< 10	1.02	465
57131	205 226	-----	4.4	2.93	< 2	40	0.5	1.89	< 0.5	35	85	58	3.79	< 10	< 1	0.42	< 10	1.24	575
57132	205 226	-----	0.4	2.91	10	90	0.5	1.86	< 0.5	24	170	52	4.90	< 10	< 1	1.52	< 10	2.13	705
57133	205 226	-----	0.4	2.60	< 2	70	0.5	2.85	< 0.5	21	100	63	4.67	< 10	< 1	0.95	< 10	1.97	755

CERTIFICATION: *John D. Man*





# Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers  
 5175 Timberlea Blvd., Mississauga,  
 Ontario, Canada L4W 2S3  
 PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING INC.  
 131 FIELDING RD., P.O. BOX 700  
 LIVELY, ON  
 P0M 2E0

Page Number : 1-B  
 Total Pages : 2  
 Certificate Date: 22-DEC-92  
 Invoice No. : 19226343  
 P.O. Number : 67861  
 Account : KDU

Project : 92-500-004  
 Comments: ATTN: H. TRACANELLI

## CERTIFICATE OF ANALYSIS A9226343

SAMPLE	PREP CODE	Mo ppm	Na %	KI ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Ti ppm	V ppm	W ppm	Zn ppm
57076	205 226	< 1	0.06	31	490	4	2	8	15	0.20	< 10	< 10	< 10	50
57077	205 226	< 1	0.04	17	70	2	2	2	17	0.07	< 10	< 10	< 10	22
57078	205 226	< 1	0.08	61	350	12	4	34	8	0.25	< 10	< 10	< 10	50
57079	205 226	< 1	0.12	76	400	8	4	43	5	0.25	< 10	< 10	< 10	48
57080	205 226	11	0.04	71	380	12	2	36	6	0.23	< 10	< 10	< 10	58
57081	205 226	1	0.03	84	320	14	4	39	6	0.24	< 10	< 10	< 10	80
57082	205 226	< 1	0.03	76	280	12	2	21	24	0.29	< 10	< 10	< 10	100
57101	205 226	< 1	0.02	6	90	128	2	1	36	0.02	< 10	< 10	< 10	98
57102	205 226	25	0.02	13	120	8	< 2	3	16	0.02	< 10	< 10	< 10	54
57103	205 226	3	0.07	6	60	30	2	2	35	0.03	< 10	< 10	< 10	76
57104	205 226	3	0.02	6	40	54	< 2	2	37	0.04	< 10	< 10	< 10	98
57105	205 226	2	0.09	28	960	8	2	5	100	0.20	< 10	< 10	< 10	60
57106	205 226	< 1	0.07	21	900	8	2	4	97	0.18	< 10	< 10	< 10	46
57107	205 226	< 1	0.20	8	820	12	2	14	11	0.28	< 10	< 10	< 10	70
57108	205 226	< 1	0.26	67	740	16	4	20	24	0.43	< 10	< 10	< 10	108
57109	205 226	1	0.27	26	820	14	2	20	17	0.42	< 10	< 10	< 10	110
57110	205 226	< 1	0.10	22	580	22	< 2	4	28	0.10	< 10	< 10	< 10	108
57111	205 226	4	0.22	41	610	8	2	18	25	0.45	< 10	< 10	< 10	134
57112	205 226	< 1	0.18	29	540	8	2	15	14	0.35	< 10	< 10	< 10	84
57113	205 226	2	0.17	33	540	10	2	14	18	0.39	< 10	< 10	< 10	226
57114	205 226	12	0.20	43	640	12	4	18	17	0.42	< 10	< 10	< 10	138
57115	205 226	271	0.09	113	600	26	4	11	39	0.31	< 10	< 10	< 10	70
57116	205 226	6	0.18	34	530	12	2	17	24	0.44	< 10	< 10	< 10	124
57117	205 226	7	0.12	48	300	18	2	12	33	0.29	< 10	< 10	< 10	100
57118	205 226	1	0.14	57	570	18	2	13	24	0.35	< 10	< 10	< 10	72
57119	205 226	7	0.17	74	490	52	2	13	20	0.32	< 10	< 10	< 10	264
57120	205 226	5	0.08	43	340	14	2	8	55	0.23	< 10	< 10	< 10	62
57121	205 226	20	0.02	60	580	94	2	5	70	0.16	< 10	< 10	< 10	154
57122	205 226	3	0.01	17	80	18	2	1	100	0.03	< 10	< 10	< 10	8
57123	205 226	< 1	0.07	38	600	8	4	9	24	0.13	< 10	< 10	< 10	46
57124	205 226	< 1	0.04	66	290	52	2	7	96	0.17	< 10	< 10	< 10	52
57125	205 226	1	0.10	40	450	12	2	14	44	0.29	< 10	< 10	< 10	60
57126	205 226	1	0.12	12	110	2	< 2	2	14	0.04	< 10	< 10	< 10	12
57127	205 226	6	0.10	16	60	4	< 2	2	14	0.01	< 10	< 10	< 10	8
57128	205 226	< 1	0.07	97	210	12	2	12	15	0.21	< 10	< 10	< 10	72
57129	205 226	2	0.17	41	570	14	< 2	12	40	0.27	< 10	< 10	< 10	72
57130	205 226	2	0.10	45	180	24	2	10	27	0.22	< 10	< 10	< 10	52
57131	205 226	9	0.09	32	400	1525	2	7	47	0.30	< 10	< 10	< 10	116
57132	205 226	< 1	0.12	68	430	26	4	12	31	0.30	< 10	< 10	< 10	108
57133	205 226	< 10	0.17	53	370	44	4	12	16	0.33	< 10	< 10	< 10	136

*Yves J. Ma*

CERTIFICATION:



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
5175 Timberlea Blvd., Mississauga,  
Ontario, Canada L4W 2S3  
PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING INC.  
131 FIELDING RD., P.O. BOX 700  
LIVELY ON  
POM 2E0

Project: 92-500-004  
Comments: ATTN: H. TRACANELLI

Page Number :2-A  
Total Pages :2  
Certificate Date: 22-DEC-92  
Invoice No. :19226343  
P.O. Number :67651  
Account :KDU

## CERTIFICATE OF ANALYSIS A9226343

SAMPLE	PREP CODE	As	Ag	Al	As	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn
		ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	%	ppm
57134	205 226	0.8	1.74	2.20	2.5	34	96	122	3.23	3.78	4	10	< 10	< 10	< 1	0.18	< 10	0.74	430
57135	205 226	0.2	2.47	< 2	< 0.5	22	142	37	< 0.5	22	142	18	5.72	< 10	< 1	0.11	< 10	2.15	800
57136	205 226	0.2	3.52	< 2	< 0.5	22	202	18	< 0.5	22	202	18	5.72	< 10	< 1	0.14	< 10	2.77	1180
57137	205 226	0.4	3.59	< 2	< 0.5	172	194	675	< 0.5	172	194	675	12.20	< 10	< 1	0.01	< 10	2.57	1245
57138	205 226	0.4	4.28	< 2	< 0.5	21	197	18	< 0.5	21	197	18	6.91	< 10	< 1	0.08	< 10	3.06	1410
57139	205 226	0.2	2.70	< 2	< 0.5	11	103	8	< 0.5	11	103	8	4.03	< 10	< 1	0.06	20	1.69	828
57140	205 226	0.4	0.38	< 2	> 15.00	4	17	8	< 0.5	4	17	8	0.43	< 10	< 1	0.03	10	0.16	2610
57141	205 226	0.4	0.25	< 2	> 15.00	7	21	6	< 0.5	7	21	6	0.47	< 10	2	0.07	10	0.14	2950
57142	205 226	0.2	0.62	< 2	> 15.00	12	80	16	< 0.5	12	80	16	1.01	< 10	< 1	0.20	20	0.30	2410
57143	205 226	0.4	0.42	< 2	> 15.00	9	21	9	< 0.5	9	21	9	0.72	< 10	1	0.19	10	0.21	2800
57144	205 226	0.4	0.55	< 2	> 15.00	10	21	10	< 0.5	10	21	10	1.08	< 10	< 1	0.27	10	0.41	2820
57145	205 226	0.4	2.78	< 2	14.45	11	129	15	< 0.5	11	129	15	2.77	< 10	< 1	0.15	10	0.48	2380
57147	205 226	0.4	1.92	< 2	3.24	15	116	24	0.5	15	116	24	3.12	< 10	< 1	0.42	< 10	1.08	1070
57148	205 226	0.8	2.20	< 2	3.74	14	113	39	1.0	14	113	39	4.15	< 10	< 1	0.82	< 10	1.15	1000
57149	205 226	1.0	2.23	< 2	1.11	19	427	31	2.0	19	427	31	4.17	10	< 1	0.69	30	2.28	830
57150	205 226	0.4	2.08	< 2	0.53	14	147	27	2.0	14	147	27	3.26	10	< 1	0.47	30	1.36	630
300051	205 226	0.4	1.90	< 2	0.58	16	104	30	< 0.5	16	104	30	3.32	10	< 1	0.39	30	1.28	670

*Bharti Laamanen*

CERTIFICATION:



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 5175 Timberlea Blvd., Mississauga,  
 Ontario, Canada L4W 2B3  
 PHONE: 416-824-2808

To: BHARTI LAAMANEN MINING INC.  
 131 FIELDING RD., P.O. BOX 700  
 LIVELY, ON  
 POM 2E0

Page Number :2-B  
 Total Pages :2  
 Certificate Date:22-DEC-92  
 Invoice No. :19226343  
 P.O. Number :67851  
 Account :KDU

Project: 92-500-004  
 Comments: ATTN: H. TRACANELLI

## CERTIFICATE OF ANALYSIS A9226343

SAMPLE	PREP CODE	Mo ppm	Na %	KI ppm	P ppm	Pb ppm	SB ppm	Bc ppm	Br ppm	Cl %	Fl ppm	U ppm	V ppm	W ppm	Zn ppm
57134	205 226	357	0.10	59	260	210	4	9	61	0.25	< 10	< 10	80	< 10	576
57135	205 226	< 1	0.13	69	260	14	< 2	10	21	0.28	< 10	< 10	99	< 10	94
57136	205 226	< 1	0.08	79	260	26	2	8	18	0.30	< 10	< 10	118	< 10	178
57137	205 226	< 1	0.04	367	260	32	2	9	22	0.27	< 10	< 10	114	< 10	164
57138	205 226	< 1	0.05	71	420	8	4	11	37	0.41	< 10	< 10	138	< 10	146
57139	205 226	7	0.14	34	600	10	2	11	43	0.30	10	< 10	97	< 10	76
57140	205 226	3	< 0.01	6	90	2	2	1	77	0.06	< 10	10	9	< 10	30
57141	205 226	1	0.01	14	110	4	2	1	94	0.06	< 10	< 10	7	< 10	36
57142	205 226	1	0.02	45	320	8	2	2	101	0.07	< 10	10	13	< 10	68
57143	205 226	1	0.02	17	100	12	2	1	102	0.05	< 10	< 10	7	< 10	52
57144	205 226	1	0.01	15	100	8	< 2	2	82	0.05	< 10	< 10	9	< 10	44
57145	205 226	697	0.01	30	220	6	8	2	53	0.09	< 10	< 10	42	< 10	24
57147	205 226	37	0.07	31	450	38	2	9	27	0.23	< 10	< 10	64	< 10	202
57148	205 226	208	0.06	31	380	86	2	10	47	0.16	< 10	< 10	60	< 10	338
57149	205 226	34	0.09	120	790	238	2	12	13	0.19	10	< 10	84	< 10	716
57150	205 226	6	0.06	29	460	148	< 2	8	8	0.23	10	< 10	58	< 10	500
500051	205 226	12	0.07	40	620	50	2	9	18	0.21	10	< 10	66	< 10	130

CERTIFICATION: *Bharti Laamanen*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 5175 Timberlea Blvd., Mississauga,  
 Ontario, Canada L4W 2S3  
 PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING INC.  
 131 FIELDING RD., P.O. BOX 700  
 LIVELY, ON  
 POM 2E0

Project: 92-500-004  
 Comments: ATTN: H. TRACANELLI

Page Number : 1-A  
 Total Pages : 2  
 Certificate Date: 22-DEC-92  
 Invoice No. : 19226343  
 P.O. Number : 67651  
 Account : KDU

## CERTIFICATE OF ANALYSIS A9226343

SAMPLE	PREP CODE	Au oz/T FA+AA	Ag ppm	Al %	As ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Eg ppm	K %	La ppm	Mg %	Mn ppm
57076	205 226	-----	0.2	1.81	4	20	< 2	0.51	< 0.5	18	125	23	3.04	< 10	< 1	0.22	20	1.38	455
57077	205 226	-----	< 0.2	0.81	2	< 10	< 0.5	2.81	< 0.5	10	241	11	1.41	< 10	< 1	0.01	< 10	0.58	365
57078	205 226	-----	0.4	2.69	6	30	4.0	2.27	< 0.5	81	48	16	7.42	10	< 1	0.70	< 10	1.96	445
57079	205 226	-----	0.2	2.82	8	20	< 0.5	1.51	< 0.5	107	68	21	6.97	10	< 1	0.51	< 10	2.08	395
57080	205 226	-----	0.4	3.00	4	70	< 0.5	1.42	< 0.5	88	43	511	9.69	10	1	1.42	< 10	2.17	350
57081	205 226	<0.0005	0.2	4.25	10	100	< 0.5	1.86	< 0.5	88	40	111	9.46	20	1	1.90	< 10	3.07	605
57082	205 226	-----	< 0.2	3.69	12	70	< 0.5	1.90	< 0.5	249	97	133	6.83	< 10	< 1	0.96	< 10	2.92	935
57101	205 226	<0.0005	0.2	1.08	2	20	0.5	5.33	< 0.5	3	72	25	0.66	< 10	< 1	0.13	< 10	0.58	685
57102	205 226	<0.0005	< 0.2	1.79	< 2	20	0.5	0.40	< 0.5	14	101	14	2.04	10	< 1	0.15	70	1.52	245
57103	205 226	<0.0005	< 0.2	1.70	< 2	50	0.5	2.11	< 0.5	2	164	10	0.92	< 10	< 1	0.28	30	1.13	460
57104	205 226	<0.0005	0.2	1.90	< 2	40	7.0	3.85	< 0.5	1	111	62	0.86	< 10	< 1	0.43	20	0.87	825
57105	205 226	<0.0005	< 0.2	1.79	6	30	< 0.5	1.85	< 0.5	16	141	245	2.68	< 10	< 1	0.12	10	1.52	475
57106	205 226	<0.0005	< 0.2	1.45	< 2	30	< 0.5	3.55	< 0.5	11	144	9	2.03	< 10	< 1	0.13	< 10	1.15	480
57107	205 226	<0.0005	< 0.2	2.20	< 2	20	< 0.5	1.81	< 0.5	42	31	206	6.10	< 10	< 1	0.16	< 10	1.09	700
57108	205 226	-----	0.4	2.54	4	40	< 0.5	2.58	< 0.5	34	100	140	6.37	< 10	< 1	0.38	< 10	1.68	820
57109	205 226	-----	0.2	2.42	< 2	30	< 0.5	2.53	< 0.5	33	39	223	6.74	< 10	< 1	0.30	< 10	1.32	830
57110	205 226	<0.0005	0.2	1.63	4	70	< 0.5	1.28	< 0.5	9	173	108	>15.00	< 10	< 1	0.72	< 10	0.93	350
57111	205 226	-----	< 0.2	2.37	6	40	< 0.5	2.33	< 0.5	35	108	205	5.74	< 10	< 1	0.50	< 10	1.64	765
57112	205 226	-----	0.2	2.18	10	20	< 0.5	1.85	< 0.5	34	68	153	5.57	< 10	< 1	0.34	< 10	1.47	700
57113	205 226	-----	0.2	2.74	4	40	< 0.5	2.13	< 0.5	37	80	170	6.57	< 10	< 1	0.39	< 10	1.75	790
57114	205 226	-----	0.6	2.75	< 2	20	< 0.5	2.23	< 0.5	24	69	237	7.01	< 10	< 1	0.24	< 10	1.78	875
57115	205 226	<0.0005	2.4	2.04	8	< 10	< 0.5	1.92	< 0.5	186	67	725	10.60	< 10	< 1	0.08	< 10	1.13	515
57116	205 226	-----	< 0.2	2.75	< 2	20	< 0.5	2.20	< 0.5	29	72	109	6.24	< 10	< 1	0.25	< 10	1.80	825
57117	205 226	-----	0.4	1.91	4	20	< 0.5	1.70	< 0.5	23	110	186	3.79	< 10	< 1	0.36	< 10	1.13	575
57118	205 226	-----	0.6	2.11	2	60	< 0.5	1.74	< 0.5	33	93	268	5.41	< 10	< 1	0.45	< 10	1.28	1005
57119	205 226	-----	0.6	2.02	4	40	< 0.5	1.65	< 0.5	77	103	233	5.29	< 10	< 1	0.38	< 10	1.36	855
57120	205 226	-----	< 0.2	2.04	6	10	0.5	1.64	< 0.5	19	108	63	2.92	< 10	< 1	0.18	< 10	1.31	685
57121	205 226	-----	0.4	1.80	4	20	1.0	1.87	< 0.5	28	140	79	2.61	< 10	< 1	0.20	10	1.20	565
57122	205 226	-----	< 0.2	2.97	< 2	< 10	1.5	5.27	< 0.5	7	92	11	1.69	< 10	< 1	0.03	< 10	0.71	490
57123	205 226	-----	0.2	2.17	8	10	< 0.5	2.07	< 0.5	17	176	13	3.57	10	< 1	0.11	< 10	1.55	705
57124	205 226	-----	0.2	3.02	38	20	0.5	4.36	< 0.5	94	108	122	9.35	< 10	< 1	0.37	< 10	1.63	770
57125	205 226	-----	0.2	3.21	2	60	< 0.5	1.24	< 0.5	29	105	40	6.23	10	< 1	1.85	20	1.93	555
57126	205 226	-----	< 0.2	0.83	2	10	< 0.5	0.86	< 0.5	26	245	118	1.41	< 10	< 1	0.24	< 10	0.35	145
57127	205 226	-----	0.2	0.95	4	10	< 0.5	0.15	< 0.5	37	208	53	1.01	< 10	< 1	0.13	< 10	0.22	105
57128	205 226	-----	0.2	3.91	6	10	< 0.5	2.09	< 0.5	51	179	1570	6.59	10	< 1	0.34	< 10	3.23	630
57129	205 226	-----	0.4	2.00	2	10	< 0.5	1.97	< 0.5	30	154	451	5.12	< 10	< 1	0.19	< 10	1.20	630
57130	205 226	<0.0005	0.4	1.45	6	< 10	< 0.5	1.36	< 0.5	27	235	70	3.73	< 10	< 1	0.04	< 10	1.02	465
57131	205 226	-----	4.4	2.83	< 2	40	0.5	1.89	< 0.5	35	85	58	3.79	< 10	< 1	0.42	< 10	1.24	575
57132	205 226	-----	0.4	2.91	10	90	0.5	1.86	< 0.5	24	170	52	4.90	< 10	< 1	1.52	< 10	2.13	705
57133	205 226	-----	0.4	2.60	< 2	70	0.5	2.85	< 0.5	21	100	63	4.67	< 10	< 1	0.95	< 10	1.97	755

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# Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers  
5175 Timberlea Blvd., Mississauga,  
Ontario, Canada L4W 2S3  
PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING INC.  
131 FIELDING RD., P.O. BOX 700  
LIVELY, ON  
POM 2E0

Project: 92-500-004  
Comments: ATTN: H. TRACANELLI

Page Number : 1-B  
Total Pages : 2  
Certificate Date: 22-DEC-92  
Invoice No. : 19228343  
P.O. Number : 87851  
Account : KDU

## CERTIFICATE OF ANALYSIS A9226343

SAMPLE	PREP CODE	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Bb ppm	Bc ppm	Br ppm	Ti %	Ti ppm	V ppm	W ppm	Zn ppm
57076	205 226	< 1	0.06	31	490	4	2	8	15	0.20	< 10	< 10	74	< 10
57077	205 226	< 1	0.04	17	70	2	2	2	17	0.07	< 10	< 10	31	< 10
57078	205 226	< 1	0.08	61	350	12	4	34	8	0.25	< 10	< 10	356	< 10
57079	205 226	< 1	0.12	76	400	8	4	43	5	0.25	< 10	< 10	323	< 10
57080	205 226	11	0.04	71	380	12	2	36	6	0.23	< 10	< 10	458	< 10
57081	205 226	1	0.03	84	320	14	4	39	6	0.24	< 10	< 10	454	< 10
57082	205 226	< 1	0.03	76	280	12	2	21	24	0.29	< 10	< 10	250	< 10
57101	205 226	< 1	0.02	6	90	128	2	1	36	0.02	< 10	< 10	3	< 10
57102	205 226	25	0.02	13	120	8	< 2	3	16	0.02	< 10	< 10	13	< 10
57103	205 226	3	0.07	6	60	30	2	2	35	0.03	< 10	< 10	1	< 10
57104	205 226	3	0.02	6	40	34	< 2	2	37	0.04	< 10	< 10	1	< 10
57105	205 226	2	0.09	28	960	8	2	5	100	0.20	< 10	< 10	73	< 10
57106	205 226	< 1	0.07	21	900	8	2	4	97	0.18	< 10	< 10	58	< 10
57107	205 226	< 1	0.20	8	820	12	2	14	11	0.28	< 10	< 10	123	< 10
57108	205 226	< 1	0.26	67	740	16	4	20	24	0.43	< 10	< 10	132	< 10
57109	205 226	1	0.27	26	830	14	2	20	17	0.42	< 10	< 10	96	< 10
57110	205 226	< 1	0.10	22	580	22	< 2	4	28	0.10	< 10	< 10	37	< 10
57111	205 226	4	0.22	41	610	8	2	18	25	0.45	< 10	< 10	153	< 10
57112	205 226	< 1	0.18	29	540	8	2	15	14	0.35	< 10	< 10	151	< 10
57113	205 226	2	0.17	33	540	10	2	14	18	0.39	< 10	< 10	154	< 10
57114	205 226	12	0.20	43	640	12	4	18	17	0.42	< 10	< 10	193	< 10
57115	205 226	271	0.09	113	600	26	4	11	39	0.31	< 10	< 10	110	< 10
57116	205 226	6	0.18	34	530	12	2	17	24	0.44	< 10	< 10	174	< 10
57117	205 226	7	0.12	48	300	18	2	12	33	0.29	< 10	< 10	100	< 10
57118	205 226	1	0.14	57	570	18	2	13	24	0.35	< 10	< 10	144	< 10
57119	205 226	7	0.17	74	490	52	2	13	20	0.32	< 10	< 10	138	< 10
57120	205 226	5	0.08	43	340	14	2	8	55	0.23	< 10	< 10	72	< 10
57121	205 226	20	0.02	60	580	94	2	5	70	0.16	< 10	< 10	38	< 10
57122	205 226	3	0.01	17	80	18	2	1	100	0.03	< 10	< 10	13	< 10
57123	205 226	< 1	0.07	38	400	8	4	9	24	0.13	< 10	< 10	73	< 10
57124	205 226	< 1	0.04	66	280	52	2	7	96	0.17	< 10	< 10	66	< 10
57125	205 226	1	0.10	40	450	12	2	14	44	0.29	< 10	< 10	126	< 10
57126	205 226	1	0.12	12	110	2	< 2	2	14	0.04	< 10	< 10	23	< 10
57127	205 226	6	0.10	16	60	4	< 2	2	14	< 0.01	< 10	< 10	14	< 10
57128	205 226	< 1	0.07	97	210	12	2	12	15	0.21	< 10	< 10	142	< 10
57129	205 226	2	0.17	41	570	14	< 2	12	40	0.27	< 10	< 10	99	< 10
57130	205 226	2	0.10	45	180	24	2	10	27	0.22	< 10	< 10	94	< 10
57131	205 226	9	0.09	32	400	1535	2	7	47	0.30	< 10	< 10	84	< 10
57132	205 226	< 1	0.12	68	430	26	4	12	31	0.30	< 10	< 10	123	< 10
57133	205 226	10	0.17	53	370	44	4	12	16	0.33	< 10	< 10	140	< 10

CERTIFICATION: *Bharti D'Ma*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
5175 Timberlea Blvd., Mississauga,  
Ontario, Canada L4W 2S3  
PHONE: 416-824-2806

To: BHARTI LAAMANEN MINING INC.  
131 FIELDING RD., P.O. BOX 700  
LIVELY, ON  
POM 2E0

Project: 92-500-004  
Comments: ATTN: H. TRACANELLI

Page Number :2-A  
Total Pages :2  
Certificate Date: 22-DEC-92  
Invoice No. :19226343  
P.O. Number :67951  
Account :KDU

## CERTIFICATE OF ANALYSIS A9226343

SAMPLE	PREP CODE	Au oz/T FA+AA	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
57134	205 226	-----	0.8	1.74	4	10	< 0.5	< 2	2.20	2.5	34	96	122	3.23	< 10	< 1	0.18	< 10	0.74	430
57135	205 226	-----	0.2	2.47	< 2	10	< 0.5	< 2	1.67	< 0.5	22	142	37	3.78	< 10	< 1	0.11	< 10	2.15	800
57136	205 226	-----	0.2	3.52	2	10	< 0.5	< 2	1.45	< 0.5	22	201	18	5.72	< 10	< 1	0.14	< 10	2.77	1160
57137	205 226	-----	0.4	3.55	2	< 10	< 0.5	< 2	2.48	< 0.5	172	194	675	12.20	< 10	< 1	0.01	< 10	2.57	1245
57138	205 226	-----	0.4	4.28	4	< 10	< 0.5	< 2	2.01	< 0.5	21	197	18	6.91	< 10	< 1	0.08	< 10	3.06	1410
57139	205 226	-----	0.2	2.70	< 2	< 10	< 0.5	< 2	1.44	< 0.5	11	103	8	4.03	< 10	< 1	0.06	20	1.65	825
57140	205 226	-----	0.4	0.38	< 2	< 10	2.0	< 2	>15.00	< 0.5	4	17	8	0.43	< 10	< 1	0.03	10	0.16	2810
57141	205 226	-----	0.4	0.25	4	< 10	< 0.5	< 2	>15.00	< 0.5	7	21	6	0.47	< 10	< 1	0.07	10	0.14	2950
57142	205 226	-----	0.2	0.62	14	20	< 0.5	< 2	>15.00	< 0.5	12	80	16	1.01	< 10	< 1	0.20	20	0.30	2410
57143	205 226	-----	0.4	0.42	124	20	< 0.5	< 2	>15.00	< 0.5	9	21	9	0.72	< 10	< 1	0.19	10	0.21	2800
57144	205 226	-----	0.4	0.55	6	30	< 0.5	< 2	>15.00	< 0.5	10	21	10	1.08	< 10	< 1	0.27	10	0.41	2820
57145	205 226	-----	0.4	2.78	4	10	11.0	< 2	14.48	< 0.5	11	129	15	2.77	< 10	< 1	0.15	10	0.48	2380
57147	205 226	-----	0.4	1.92	8	70	0.5	< 2	3.24	0.5	15	116	24	3.12	< 10	< 1	0.42	< 10	1.08	1070
57148	205 226	-----	0.8	2.20	< 2	100	10.0	< 2	3.74	1.0	14	113	39	4.15	< 10	< 1	0.82	< 10	1.15	1000
57149	205 226	-----	1.0	2.23	4	70	0.5	< 2	1.11	2.0	19	427	31	4.17	< 10	< 1	0.69	30	2.28	830
57150	205 226	-----	0.4	2.08	6	80	< 0.5	< 2	0.93	2.0	14	147	27	3.26	< 10	< 1	0.47	30	1.36	630
300091	205 226	-----	0.4	1.90	6	70	< 0.5	< 2	0.98	< 0.5	16	184	30	3.32	< 10	< 1	0.39	30	1.28	670

CERTIFICATION: *Bharti D. Ma*



**Chemex Labs Ltd.**  
 Analytical Chemists • Geochemists • Registered Assayers  
 5175 Timberlea Blvd., Mississauga,  
 Ontario, Canada L4W 2B3  
 PHONE: 416-624-2806

To: BHARTI LAAMANEN MINING INC.  
 131 FIELDING RD., P.O. BOX 700  
 LIVELY, ON  
 P0M 2E0

Project: 92-500-004  
 Comments: ATTN: H. TRACANELLI

Page Number : 2-B  
 Total Pages : 2  
 Certificate Date: 22-DEC-92  
 Invoice No. : A9226343  
 P.O. Number : 87651  
 Account : KDU

**CERTIFICATE OF ANALYSIS A9226343**

SAMPLE	PREP CODE	Mo ppm	Na %	NI ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Ti ppm	V ppm	W ppm	Zn ppm
57134	205 226	357	0.10	59	260	210	4	9	61	0.25	< 10	< 10	80	< 10
57135	205 226	< 1	0.13	69	260	14	< 2	10	21	0.28	< 10	< 10	99	< 10
57136	205 226	< 1	0.08	79	260	26	2	6	18	0.30	< 10	< 10	115	< 10
57137	205 226	< 1	0.04	367	260	32	2	9	22	0.27	< 10	< 10	114	< 10
57138	205 226	< 1	0.05	71	420	8	4	11	37	0.41	< 10	< 10	138	< 10
57139	205 226	7	0.14	34	800	10	2	11	43	0.30	10	< 10	97	< 10
57140	205 226	3	0.01	6	90	2	2	1	77	0.06	< 10	10	9	< 10
57141	205 226	1	0.01	14	110	4	2	1	94	0.06	< 10	< 10	7	< 10
57142	205 226	1	0.02	45	320	8	2	2	101	0.07	< 10	10	13	< 10
57143	205 226	1	0.02	17	100	12	2	1	102	0.05	< 10	< 10	7	< 10
57144	205 226	1	0.01	15	100	6	< 2	2	62	0.05	< 10	< 10	9	< 10
57145	205 226	697	0.01	30	220	6	6	2	53	0.09	< 10	< 10	42	< 10
57147	205 226	37	0.07	31	450	38	2	9	27	0.23	< 10	< 10	64	< 10
57148	205 226	208	0.06	31	380	86	2	10	47	0.16	< 10	< 10	60	< 10
57149	205 226	34	0.09	120	790	238	2	12	13	0.19	10	< 10	84	< 10
57180	205 226	6	0.06	29	460	148	< 2	8	8	0.22	10	< 10	58	< 10
300051	205 226	12	0.07	40	620	50	2	9	18	0.21	10	< 10	66	< 10

CERTIFICATION: *Bharti D Mo*



# Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers  
6176 Timberlea Blvd., Mississauga,  
Ontario, Canada L4W 2S3  
PHONE: 416-624-2808

To: BHARTI LAAMANEN MINING INC.  
181 FIELDING RD., P.O. BOX 700  
LIVELY, ON  
POM 2E0

Project: 92-5000-004  
Comments: ATTN: H. TRACANELLI

Page Number : 1-A  
Total Pages : 1  
Certificate Date : 21-DEC-92  
Invoice No. : 19228344  
P.O. Number : 67851  
Account : KDU

## CERTIFICATE OF ANALYSIS A9226344

SAMPLE	PREP CODE	Au oz/T 7A+AA	Ag ppm AA5	Al % (ICP)	Ba ppm (ICP)	Be ppm (ICP)	Bi ppm (ICP)	Ca % (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Cz ppm (ICP)	Cu ppm (ICP)	Fe % (ICP)	K % (ICP)	Mg % (ICP)
57146	205 226	<0.0005	0.4	7.00	200	1.0	< 2	4.12	< 0.5	20	174	66	8.28	2.18	1.13

CERTIFICATION: *Bharti Laamanen*





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Analytical Chemists • Geochemists • Registered Assayers  
6175 Timberlea Blvd., Mississauga,  
Ontario, Canada L4W 2S3  
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P.O. Number : 67851  
Account : KDU

## CERTIFICATE OF ANALYSIS A9226344

SAMPLE	PREP CODE	Mn Ppm (ICP)	Mo Ppm (ICP)	Ni Ppm (ICP)	Ni Ppm (ICP)	Pb Ppm AAS	Sr Ppm (ICP)	Tl Ppm (ICP)	V Ppm (ICP)	W Ppm (ICP)	Zn Ppm (ICP)
57146	205 226	1400	86	1.84	45	440	12	181	87	10	108

CERTIFICATION: *Bharti D'Ma*



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Total Pages : 1  
Certificate Date: 21-DEC-92  
Invoice No. : 19226344  
P.O. Number : 67651  
Account : KDU

## CERTIFICATE OF ANALYSIS A9226344

SAMPLE	PREP CODE	Au os/T FA+AA	Ag ppm AAS	Al % (ICP)	Ba ppm (ICP)	Be ppm (ICP)	Bi ppm (ICP)	Ca % (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Cr ppm (ICP)	Cu ppm (ICP)	Fe % (ICP)	K % (ICP)	Mg % (ICP)
57146	205 226	<0.0005	0.4	7.00	200	1.0	< 2	4.12	< 0.5	20	174	66	8.28	2.18	1.13

CERTIFICATION: *Yhai D Ma*



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## CERTIFICATE OF ANALYSIS A9226344

SAMPLE	PREP CODE	Mn ppm (ICP)	Mo ppm (ICP)	Na & (ICP)	Ni ppm (ICP)	P ppm (ICP)	Pb ppm AAS	Sr ppm (ICP)	Tl & (ICP)	V ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)
57146	205 226	1400	86	1.84	45	440	12	181	0.25	87	10	108

CERTIFICATION: *Phai Ma*

## 9.0 CONCLUSIONS

All of the work which was carried out on the BLMi Richardson Lake Property in Rhodes Township which included prospecting - geology, geophysics, surface trenching and diamond drilling and has resulted in the generation of a significant amount of useful exploration data.

By carefully reviewing the generated data it has been possible to determine or conclude that certain volcanogenetic sequences trending across the BLMi property may have the potential to host mineral deposits.

The various types of work that have been carried out have indicated the along strike and down dip presence of highly altered and deformed felsic metavolcanic rocks which host disseminated to strataform massive sulphides horizons of pyrite-pyrrhotite with lesser amounts of sphalerite-galena and chalcopyrite.

Although most of the assay returns were not overly encouraging, it was shown through the surface trenching and diamond drilling parts of the program that the overall geological makeup is far more complex than originally thought.

The overall geological makeup is such that it may represent or is indicative of an environment where volcanogenetic massive sulphide mineral deposits might be found. Further, more detailed investigations utilizing all of the available generated data will have to be carried out in an attempt to assess the full potential of this significant property.

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## 10.0 RECOMMENDATIONS

The evaluation of the exploration program data and conclusions would clearly suggest that additional, more advanced exploration work should be undertaken along those identified favourable areas on the BLMI property in an attempt to fully assess the mineral potential.

The next stage of work that would have to be carried out on the property might consist of a more advanced diamond drilling program consisting of 5000 to 10000 feet. It is believed that it would be most advantageous to test the down dip extension of the favourable horizon from the 500 to 1000 foot level. More advanced forms of geophysics such as "Down the Hole EM" surveys may be attempted.

Before any more serious, highly expensive forms of exploration should be carried out, it may be most advantageous to carry out detailed academic type work utilizing the local University and the geological-geophysical staff members at the O.G.S., MND & M, etc.

At this point in time there is a great amount of information available that should be carefully assessed. The careful assessment of the data shall allow for the most effective means of identifying potential targets and possibly giving a better change for an increased success rate.

**APPENDIX III**

**SUPPORTING FIELD SAMPLE COLLECTION INFORMATION**

### **APPENDIX III**

#### **Assay Tags and Assay Request Forms**

The following are copies of the original assay tags that were written up in the field etc. subsequent to a sample being collected and bagged. Each of the samples was submitted for assaying to Chemex Labs Ltd.

Copies of the assay request forms have also been included. The inclusion of this type of information could be very useful in the future as a quick reference source, if and when attempts are made to re-evaluate the report data, etc.

The following samples were collected by:

Harold Tracanelli	300201 to 300242 from surface trenches
David A. Langdon	301951 to 301992 from surface trenches
Harold Tracanelli	300051 to 300071 from diamond drill core
Harold Tracanelli	57076 to 57100 from diamond drill core
Harold Tracanelli	57101 to 57150 from diamond drill core

A total of 180 samples were collected for the purpose of assaying during the 1992 Richardson Lake Program.

The David A. Langdon "ART" samples as are found within the body of this report are not listed here within this appendix.

It is believed that no such tags were written up for these samples, although the sample numbers, locations, etc. would probably have been recorded within his field book. David Langdon's field book along with some of his notes were not recovered after his death in August of 1992.

In addition, those samples collected by Gabriel Valenzuela and Efrain Gonzalez (Cambrian College Attachments) during their geological investigations of the southern and northwestern parts of mining claim S-1095079, have not been included in this appendix but have been listed within the "Prospecting and Related Geological Investigations and Evaluations".

Some thought was given to conducting assaying procedures on the Langdon/Valenzuela and Gonzalez samples, but due to the unforeseen circumstances, this work was not carried out.

The following is a listing of the assay tags which correspond to the trench mapping carried out by Harold J. Tracanelli, Exploration Geologist.



N<sup>o</sup> 300201 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92

CORE SIZE: 1

DRILLHOLE: A-12

FOOTAGE: \_\_\_\_\_

REMARKS: Rep. grst. HFT

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

N<sup>o</sup> 300202 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: \_\_\_\_\_

FOOTAGE: \_\_\_\_\_

REMARKS: Rep Grab HFT

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

N<sup>o</sup> 300203 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: \_\_\_\_\_

FOOTAGE: \_\_\_\_\_

REMARKS: Rep grab HFT

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

N<sup>o</sup> 300204 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: A-12

FOOTAGE: grab Rep

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

N<sup>o</sup> 300205 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: \_\_\_\_\_

CORE SIZE: \_\_\_\_\_

DRILLHOLE: \_\_\_\_\_

FOOTAGE: \_\_\_\_\_

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

N<sup>o</sup> 300206 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: chunks over 3" H

FOOTAGE: \_\_\_\_\_

REMARKS: HFT

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

Nº 300207 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: \_\_\_\_\_

FOOTAGE: grab HIT (DA)

REMARKS: Py trace CPU

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

Nº 300208 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: \_\_\_\_\_

FOOTAGE: grab HIT

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

Nº 300209 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: A-12

FOOTAGE: Grab HIT

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

Nº 300210 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: \_\_\_\_\_

FOOTAGE: grab of constant looking

REMARKS: Med HIT

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

Nº 300211 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July

CORE SIZE: Med abundance

DRILLHOLE: broken boulder from

FOOTAGE: water filled part of

REMARKS: trench Sulph

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

Very gr. CPU/SPH in fractures  
fine Nº 300212 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92 highly

CORE SIZE: Most abundant

DRILLHOLE: Diss CPU in siliceous

FOOTAGE: meta sed ment

REMARKS: boulder from water filled

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: HIT

ROCK GEOCHEM.

Nº 300213 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92  
CORE SIZE: least abundant  
DRILLHOLE: Silicified gtz-carb  
FOOTAGE: cpy. py breccia matrix  
REMARKS: HIT  
ASSAY: boulder from water filled trench  
Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.  
OTHER: boulder water filled trench  
ROCK GEOCHEM.

Nº 300214 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92  
CORE SIZE: least abundant  
DRILLHOLE: boulder from water  
FOOTAGE: filled trench  
REMARKS: HIT  
ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.  
OTHER: \_\_\_\_\_  
ROCK GEOCHEM.

Nº 300215 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92  
CORE SIZE: \_\_\_\_\_  
DRILLHOLE: Selective grabover  
FOOTAGE: 24' HIT  
REMARKS: \_\_\_\_\_  
ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.  
OTHER: \_\_\_\_\_  
ROCK GEOCHEM.

Nº 300216 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92  
CORE SIZE: Selective high grade  
DRILLHOLE: grab with visible  
FOOTAGE: galena in fresh  
REMARKS: rock  
ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.  
OTHER: HIT  
ROCK GEOCHEM.

Nº 300217 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92  
CORE SIZE: \_\_\_\_\_  
DRILLHOLE: grab sample. Measure  
FOOTAGE: epidote rich rock  
REMARKS: with dark light colour sch  
ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.  
OTHER: \_\_\_\_\_  
ROCK GEOCHEM.

Nº 300218 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92  
CORE SIZE: \_\_\_\_\_  
DRILLHOLE: Coarse chip-channel  
FOOTAGE: over 22" 11-oxide  
REMARKS: probena  
ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.  
OTHER: \_\_\_\_\_  
ROCK GEOCHEM.

Nº 300219 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92

CORE SIZE: Selective pb/zn

DRILLHOLE: high grade sample

FOOTAGE: \_\_\_\_\_

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

Nº 300220 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92

CORE SIZE: grab from

DRILLHOLE: silica-carb Alt

FOOTAGE: Zone, Fine trace

REMARKS: dup pb

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

Nº 300221 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 15/92

CORE SIZE: Selective grab

DRILLHOLE: 11. deep oxidized

FOOTAGE: rock

REMARKS: HIF

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

Nº 300222 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 16/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: grab near flow with

FOOTAGE: trace dup - sharp

REMARKS: q. pyrite

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: A-12

ROCK GEOCHEM.

Nº 300223 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: \_\_\_\_\_

CORE SIZE: grab int Vol Rk

DRILLHOLE: do whole Rk

FOOTAGE: \_\_\_\_\_

REMARKS: A-12

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

Nº 300224 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: \_\_\_\_\_

CORE SIZE: Sub rounded silicified

DRILLHOLE: metased horizon with

FOOTAGE: trace dup pyr, sph. Calc

REMARKS: trace thru out

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

Nº 300225 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 16/92  
CORE SIZE: banded siliceous  
DRILLHOLE: iron formation  
FOOTAGE: grab sample same fr.  
REMARKS: HIT  
ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.  
OTHER: \_\_\_\_\_  
ROCK GEOCHEM.

Nº 300226 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 16  
CORE SIZE: \_\_\_\_\_  
DRILLHOLE: Sulphide stringer zone  
FOOTAGE: fr. Amph. → py. pyrr.  
REMARKS: -CPG  
ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.  
OTHER: \_\_\_\_\_  
ROCK GEOCHEM.

Nº 300227 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 16/92  
CORE SIZE: gray siliceous tuff  
DRILLHOLE: Int. felsic  
FOOTAGE: A-12  
REMARKS: 903 Au.  
ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.  
OTHER: \_\_\_\_\_  
ROCK GEOCHEM.

Nº 300228 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: \_\_\_\_\_  
CORE SIZE: Sub rounded, source like  
DRILLHOLE: staped dark green  
FOOTAGE: siliceous fragments  
REMARKS: rock with 10-15% py  
ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.  
OTHER: \_\_\_\_\_  
ROCK GEOCHEM.

Nº 300229 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 16/92  
CORE SIZE: well mineralized  
DRILLHOLE: fracture  
FOOTAGE: 013- pyrr. py trace cpy  
REMARKS: \_\_\_\_\_  
ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.  
OTHER: \_\_\_\_\_  
ROCK GEOCHEM.

Nº 300230 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: \_\_\_\_\_  
CORE SIZE: Mylonite from fault  
DRILLHOLE: gouged Amphibolites  
FOOTAGE: 013- carb. pink sp. par  
REMARKS: trace rest. over 3" → 4"  
ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.  
OTHER: \_\_\_\_\_  
ROCK GEOCHEM.

Nº 300231 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Jul 11/92

CORE SIZE: poorly developed

DRILLHOLE: Stringers & chips of

FOOTAGE: py cpy & inclusions of

REMARKS: sphalerite x-cut Aug

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

Nº 300232 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: \_\_\_\_\_

CORE SIZE: Channel across 6"

DRILLHOLE: Moss - semi moss

FOOTAGE: py with visible inclusions

REMARKS: of cpy sph - tr. gal.

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: Sulphide zone

ROCK GEOCHEM.  above Carbox

Nº 300233 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 16/92

CORE SIZE: Channel across 21"

DRILLHOLE: across strike of heavily

FOOTAGE: oxidized carb. cast H<sub>2</sub>O

REMARKS: below sulph zone

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

Nº 300234 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: \_\_\_\_\_

CORE SIZE: Rusty clay ochre

DRILLHOLE: below Sulphide

FOOTAGE: Zone

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

Nº 300235 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: \_\_\_\_\_

CORE SIZE: Channel sample over 43"

DRILLHOLE: H. w rock above sulph zone

FOOTAGE: Faulted - sericite - chl. Alt

REMARKS: fine to medium s of py. py

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: fine dia <sup>sp</sup>

ROCK GEOCHEM.  Sph/gal.

Nº 300236 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 16/92

CORE SIZE: Moss to semi

DRILLHOLE: Moss py in sulph zone

FOOTAGE: (lense) chip - channel

REMARKS: over 10"

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

N<sup>o</sup> 300237 H

**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 16CORE SIZE: light brown clayDRILLHOLE: in fracture inFOOTAGE: metre of 6 chmsREMARKS: Sulphide zoneASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM. N<sup>o</sup> 300238 H

**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 16/92CORE SIZE: light coloured Pb/ZnDRILLHOLE: in a white to greenFOOTAGE: highly alt carbonateREMARKS: Pr. Chip over 17"ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM. N<sup>o</sup> 300239 H

**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 16/92CORE SIZE: Coarse dark cubicDRILLHOLE: to irregular form byFOOTAGE: in a grey glz richREMARKS: rock - granularASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.OTHER: large chip over 8"-94ROCK GEOCHEM. N<sup>o</sup> 300240 H

**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 16/92CORE SIZE: light green colouredDRILLHOLE: carb altered Rx withFOOTAGE: fundy disc gal of lightREMARKS: honey coloured sph galASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM. N<sup>o</sup> 300241 H

**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 16/92CORE SIZE: Coarsely dark pyriteDRILLHOLE: with trace pyrr - cpyFOOTAGE: chip sample over 29"

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM. N<sup>o</sup> 300242 H

**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: July 16/92CORE SIZE: Sulphide bearing 20-25%DRILLHOLE: Py in siliceous altFOOTAGE: Coarse grainedREMARKS: pyroclastic rockASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

The following is a listing of the assay tags which correspond to the trench mapping carried out by David A. Langdon, Assistant Exploration Geologist.



Nº 301952 H ✓



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-14

CORE SIZE: 993 ICP-96

DRILLHOLE: -

FOOTAGE: 2' CHANNEL

REMARKS: LONG TRENCH  
0+75E 1+75S

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

Nº 301951 H ✓



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-14

CORE SIZE: 993 ICP-96

DRILLHOLE: \_\_\_\_\_

FOOTAGE: 5.5' CHANNEL SAMPLE

REMARKS: LONG TRENCH  
0+75E 1+75S

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

Nº 301954 H ✓



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-14

CORE SIZE: \_\_\_\_\_

DRILLHOLE: \_\_\_\_\_

FOOTAGE: 2' 9" CHANNEL

REMARKS: LONG TRENCH  
0+75E 1+75S

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: 993

ROCK GEOCHEM.

Nº 301953 H ✓



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-14

CORE SIZE: 993 ICP-96

DRILLHOLE: \_\_\_\_\_

FOOTAGE: 4' CHANNEL

REMARKS: LONG TRENCH  
0+75E 1+75S

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: \_\_\_\_\_

ROCK GEOCHEM.

Nº 301956 H ✓



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-14

CORE SIZE: \_\_\_\_\_

DRILLHOLE: 4" 1+25E 0+75W

FOOTAGE: 4' CHANNEL SAMPLE

REMARKS: LONG TRENCH END

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: 993

ROCK GEOCHEM.

Nº 301955 H ✓



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-14

CORE SIZE: \_\_\_\_\_

DRILLHOLE: \_\_\_\_\_

FOOTAGE: 2' CHANNEL

REMARKS: LONG TRENCH  
0+75E 1+75S

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: 993

ROCK GEOCHEM.

Nº 301958 H ✓



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-14

CORE SIZE: \_\_\_\_\_

DRILLHOLE: 1+29E 0+80N

FOOTAGE: 1' CHANNEL 2" X 1/2"

REMARKS: N. END LONG TRENCH

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: 993

ROCK GEOCHEM.

Nº 301957 H ✓



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-14

CORE SIZE: \_\_\_\_\_

DRILLHOLE: 1+27E 0+78N

FOOTAGE: 4' CHANNEL 1 3/4" X 1/2"

REMARKS: N. END LONG TRENCH

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: 993

ROCK GEOCHEM.

Nº 301960 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-15

CORE SIZE: A-12

DRILLHOLE: \_\_\_\_\_

FOOTAGE: SAME AS 959  
4+6'S 0+40E

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: A-12 WHOLE ROCK

ROCK GEOCHEM.

Nº 301959 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-15

CORE SIZE: \_\_\_\_\_

DRILLHOLE: COMPOSITE GRAB

FOOTAGE: 4+6'S 0+40E  
ON SMALL TRENCH

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: 993

ROCK GEOCHEM.

Nº 301962 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-15

CORE SIZE: A-12 ✓

DRILLHOLE: 0+62E 5+60S

FOOTAGE: COMPOSITE GRAB OF

REMARKS: BX 4' DEPT OF  
GWH.

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: A-12 WHOLE ROCK

ROCK GEOCHEM.

Nº 301961 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-15

CORE SIZE: A-12 ✓

DRILLHOLE: COMPOSITE GRAB OF

FOOTAGE: SW 1 0+62E 5+54S

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: A-12 WHOLE ROCK

ROCK GEOCHEM.

Nº 301964 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-15

ORE SIZE: A-12

DRILLHOLE: COMPOSITE GRAB

FOOTAGE: 0164E 5+745

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: A-12 WHOLE ROCK

ROCK GEOCHEM.

Nº 301963 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-15

ORE SIZE: A-12

DRILLHOLE: COMPOSITE GRAB

FOOTAGE: GARRA 0162E5+75

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: A-12 WHOLE ROCK

ROCK GEOCHEM.

Nº 301966 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-15

ORE SIZE: FR 15 GR 17:50 AMP

DRILLHOLE: 0+53E 6+205

FOOTAGE: \_\_\_\_\_

REMARKS: A-12

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: A-12 WHOLE ROCK

ROCK GEOCHEM.

Nº 301965 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-15

ORE SIZE: \_\_\_\_\_

DRILLHOLE: COMPOSITE GRAB

FOOTAGE: OF 5.10M 17.20 FOOT

REMARKS: 0+51E 6+125

ASSAY: (Ag, Au) Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: 993

ROCK GEOCHEM.

Nº 301968 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-15

ORE SIZE: A-12

DRILLHOLE: COMPOSITE GRAB

FOOTAGE: GRAB 0+23E 6+985

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: A-12 WHOLE ROCK

ROCK GEOCHEM.

Nº 301967 H



Chemex Labs Ltd.  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-15

ORE SIZE: \_\_\_\_\_

DRILLHOLE: RE-ANALYZED GRAB

FOOTAGE: 5.10M 17.20

REMARKS: 0+28E 6+315

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: 993

ROCK GEOCHEM.

Nº 301970 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 02-07-15

CORE SIZE: \_\_\_\_\_

DRILLHOLE: GRAVE ROAD

FOOTAGE: 02 Tr Co 100 Py Tr Pb

REMARKS: 0+90E 0+14N Py Pb Co

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: 993

ROCK GEOCHEM.

Nº 301972 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: \_\_\_\_\_

CORE SIZE: \_\_\_\_\_

DRILLHOLE: GRAVE ROAD

FOOTAGE: 1 Tr Co 100 Py Tr Pb

REMARKS: 0+91E 0+00

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: 993

ROCK GEOCHEM.

Nº 301969 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 02-07-15

CORE SIZE: \_\_\_\_\_

DRILLHOLE: BLACKBURN

FOOTAGE: LONG TRENCH

REMARKS: 0+89E 0+17N

ASSAY: (Ag) Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: 993

ROCK GEOCHEM.

Nº 301971 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 02-07-15

CORE SIZE: \_\_\_\_\_

DRILLHOLE: GRAVE ROAD

FOOTAGE: 1 Tr Co 100 Py Tr Pb

REMARKS: 0+82E 0+08N

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: 993

ROCK GEOCHEM.

Nº 301974 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 02-07-15

CORE SIZE: \_\_\_\_\_

DRILLHOLE: GRAVE ROAD

FOOTAGE: 1 Tr Co 100 Py Tr Pb

REMARKS: 0+80E 0+27S

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: 993

ROCK GEOCHEM.

Nº 301973 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 02-07-15

CORE SIZE: \_\_\_\_\_

DRILLHOLE: GRAVE ROAD

FOOTAGE: 1 Tr Co 100 Py Tr Pb

REMARKS: 0+91E 0+00

ASSAY: (Au) Ag, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: 993

ROCK GEOCHEM.

Nº 301976 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-16

CORE SIZE: LONG TRENCH

DRILLHOLE: CALMUD in Tr-7905N

FOOTAGE: ASSAY Q7/CARB/2719 GRAB  
1+27E 0160N

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: ICP-96

ROCK GEOCHEM.

Nº 301975 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-15

CORE SIZE: \_\_\_\_\_

DRILLHOLE: 0148E 0132N

FOOTAGE: 2-2' channel carb

REMARKS: med sand fr. disc on

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: 993

ROCK GEOCHEM.

Nº 301978 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-16

CORE SIZE: LONG TRENCH

DRILLHOLE: FRONTIER ALT FELSIC VALC  
in Tr-1919 Co. 1919 Dk

FOOTAGE: 1+27E 0160N

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: ICP-96

ROCK GEOCHEM.

Nº 301977 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-16

CORE SIZE: LONG TRENCH

DRILLHOLE: CARBONATZONE

FOOTAGE: in 1919 DISS Ca  
1+27E 0160N

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: ICP-96

ROCK GEOCHEM.

Nº 301980 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-16

CORE SIZE: RIDGE

DRILLHOLE: 3+03E 0155N

FOOTAGE: ALT FELSIC VALC  
in Tr-1919 Co. 1919 Dk

REMARKS: ICP-96 A-12

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: A-12 WHOLE ROCK

ROCK GEOCHEM.

Nº 301979 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: LANG 92-07-16

CORE SIZE: LONG TRENCH

DRILLHOLE: GRAB CONTACT ZONE

FOOTAGE: OF MAG DIFFERENTIAL  
ALT FELSIC VALC  
in Tr-1919 Co. 1919 Dk

REMARKS: 1+27E 0160N

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: ICP-96

ROCK GEOCHEM.

Nº 301982 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-16

CORE SIZE: 3+05E 0+76N

DRILLHOLE: GRAB OF 1 U1 SEL  
INT DIKE (HER?)

FOOTAGE: A-12

REMARKS: A-12

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: A-12 WHOLE ROCK

ROCK GEOCHEM.

Nº 301981 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-16

CORE SIZE: RIDGE TRENCH

DRILLHOLE: 3+05E 0+57N

FOOTAGE: GRAB MASS FV 2045

REMARKS: 71.5035AV

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: 993

ROCK GEOCHEM.

Nº 301984 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-16

CORE SIZE: STOGE TRENCH

DRILLHOLE: RM TUFF / ASM TUFF

FOOTAGE: 1+05E, 1+12N

REMARKS: A-12

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: A-12 WHOLE ROCK

ROCK GEOCHEM.

Nº 301983 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-16

CORE SIZE: RIDGE TRENCH

DRILLHOLE: 3+05E, 1+02N

FOOTAGE: GRAB OR RM FLOW

REMARKS: 1710015 Ag

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: 993-A4

ROCK GEOCHEM.

Nº 301986 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-16

CORE SIZE: DOG LEG TRENCH

DRILLHOLE: DRILL HOLE 012 STAGE

FOOTAGE: 1 1/2 Py

REMARKS: 1+12NE 0635

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: 993-A4

ROCK GEOCHEM.

Nº 301985 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-16

CORE SIZE: RIDGE TRENCH

DRILLHOLE: 3+05E, 1+02N

FOOTAGE: 1+12E, 1+76N

REMARKS: A-12

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: A-12 WHOLE ROCK

ROCK GEOCHEM.

Nº 301988 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-14  
CORE SIZE: CARBONE WERTZ  
DRILLHOLE: RMT in Ploga Tr-1%  
FOOTAGE: 5P  
REMARKS: 1+88NE L04005  
ASSAY: (Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg, WO<sub>3</sub>, U, U<sub>2</sub>, As, Sb, Bi, Te.  
OTHER: ICP-96  
ROCK GEOCHEM.

Nº 301987 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-16  
CORE SIZE: DOG LEG TRENCH  
DRILLHOLE: CARBONATE  
FOOTAGE: 1 1/2 G. in Tr-1% 50  
REMARKS: 1+38NE 0+485  
ASSAY: (Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg, WO<sub>3</sub>, U, U<sub>2</sub>, As, Sb, Bi, Te.  
OTHER: ICP-96  
ROCK GEOCHEM.

Nº 301990 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: REDGE TRENCH  
CORE SIZE: HOSE, 0+59N  
DRILLHOLE: RED DURE SIZE  
FOOTAGE: ASS. BY ZONE  
REMARKS:  
ASSAY: (Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg, WO<sub>3</sub>, U, U<sub>2</sub>, As, Sb, Bi, Te.  
OTHER: 993  
ROCK GEOCHEM.

Nº 301989 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-16  
CORE SIZE: REDGE TRENCH  
DRILLHOLE: COUNTRY ROYALTY  
FOOTAGE: AKUNA MASS. BY ZONE  
REMARKS: HOSE, 0+54N  
ASSAY: (Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg, WO<sub>3</sub>, U, U<sub>2</sub>, As, Sb, Bi, Te.  
OTHER: 993  
ROCK GEOCHEM.

Nº 301992 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-16  
CORE SIZE: BX TRENCH  
DRILLHOLE: BX DYKE  
FOOTAGE: A-12  
REMARKS:  
ASSAY: (Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg, WO<sub>3</sub>, U, U<sub>2</sub>, As, Sb, Bi, Te.  
OTHER:  
ROCK GEOCHEM.

Nº 301991 H ✓



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: 92-07-16  
CORE SIZE: REDGE TRENCH  
DRILLHOLE: RIT FLOW in  
FOOTAGE: 1 1/2 P. Composite  
REMARKS: C.P. across of HOSE, 0+50N  
ASSAY: (Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg, WO<sub>3</sub>, U, U<sub>2</sub>, As, Sb, Bi, Te.  
OTHER: 993  
ROCK GEOCHEM.

The following is a listing of the assay tags which correspond to the drill core logging and sampling of drill holes RL-92-01, RL-92-02, RL-92-03 and RL-92-04. The sampling was carried out by Harold J. Tračanelli, Exploration Geologist.



Nº 300051 H



Chemex Labs Ltd.

212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 02/92

CORE SIZE: ARGM

DRILLHOLE: RL-92-03

FOOTAGE: 224.6 - 232.7

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: ICP-32

ROCK GEOCHEM.

Nº 300052 H



Chemex Labs Ltd.

212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 10/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: RL 92-04

FOOTAGE: 196.0' - 188.35'

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: ICP-32

ROCK GEOCHEM.  ICP-32

Nº 300053 H



Chemex Labs Ltd.

212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 10/92

CORE SIZE: RL 92-04

DRILLHOLE: \_\_\_\_\_

FOOTAGE: 188.35 - 189.40

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: ICP-32

ROCK GEOCHEM.

Nº 300054 H



Chemex Labs Ltd.

212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 10/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: RL 92-04

FOOTAGE: 189.40 - 193.35

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: ICP-32

ROCK GEOCHEM.

Nº 300055 H



Chemex Labs Ltd.

212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 10/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: RL 92-04

FOOTAGE: 193.35 - 199.0

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: ICP-32

ROCK GEOCHEM.

Nº 300056 H



Chemex Labs Ltd.

212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 10/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: RL 92-04

FOOTAGE: 232.65 - 235.45

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>O<sub>8</sub>, As, Sb, Bi, Te.

OTHER: ICP-32 877 AW

ROCK GEOCHEM.

Nº 300057 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 10/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: RL 92-04

FOOTAGE: 235.45 - 243.3

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U, U<sub>6</sub>, As, Sb, Bi, Te.

OTHER: ICP-32 877 Δ

ROCK GEOCHEM.

Nº 300058 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 10/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: RL 92-04

FOOTAGE: 233.4 - 235.5

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U, U<sub>6</sub>, As, Sb, Bi, Te.

OTHER: ICP-32

ROCK GEOCHEM.

Nº 300059 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 10/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: RL 92-04

FOOTAGE: 243.3 - 249.0

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U, U<sub>6</sub>, As, Sb, Bi, Te.

OTHER: ICP-32

ROCK GEOCHEM.

Nº 300060 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 10/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: RL 92-04

FOOTAGE: 361.8 - 364.8

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U, U<sub>6</sub>, As, Sb, Bi, Te.

OTHER: ICP-32 877 Δ

ROCK GEOCHEM.

Nº 300061 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 11/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: RL 92-04

FOOTAGE: 479.0 - 484.0

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U, U<sub>6</sub>, As, Sb, Bi, Te.

OTHER: ICP-32

ROCK GEOCHEM.

Nº 300062 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 11/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: RL 92-04

FOOTAGE: 503.0 - 509.0

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U, U<sub>6</sub>, As, Sb, Bi, Te.

OTHER: ICP-32

ROCK GEOCHEM.

Nº 300063 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 11/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: RL 92-04

FOOTAGE: 509.0 - 514.8

REMARKS: ICP-32

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te. ✓

OTHER: ICP-32

ROCK GEOCHEM.

Nº 300064 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 11/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: RL 92-04

FOOTAGE: 118.5 - 121.5

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te. ✓

OTHER: ICP-32

ROCK GEOCHEM.

Nº 300065 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 15/92

CORE SIZE: grab sample ✓

DRILLHOLE: \_\_\_\_\_

FOOTAGE: Int-mag. intrusion

REMARKS: PK

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: A-12 - ICP-32

ROCK GEOCHEM.

Nº 300066 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 15/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: RL 92-01

FOOTAGE: 523.6 - 528.3

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: A-12 - ICP32

ROCK GEOCHEM.

Nº 300067 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 15/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: RL 92-02 ✓

FOOTAGE: 422.45' - 428.0'

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: A-12 - ICP-32

ROCK GEOCHEM.

Nº 300068 H



**Chemex Labs Ltd.**  
212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 15/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: RL 92-02

FOOTAGE: 506.0' - 512.0'

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te. ✓

OTHER: A-12

ROCK GEOCHEM.

Nº 300069 H



**Chemex Labs Ltd.**

212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 15/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: KL92-03

FOOTAGE: 354.0' - 359.0'

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te. ✓

OTHER: A-12 ✓

ROCK GEOCHEM.

Nº 300070 H



**Chemex Labs Ltd.**

212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 15/92

CORE SIZE: \_\_\_\_\_

DRILLHOLE: KL92-04

FOOTAGE: 113.0' - 119.6'

REMARKS: \_\_\_\_\_ ✓

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te.

OTHER: A-12-1CP-32

ROCK GEOCHEM.

Nº 300071 H



**Chemex Labs Ltd.**

212 Brooksbank Avenue  
North Vancouver, B.C. V7J 2C1  
Ph. (604) 984-0221 Telex 04-352597

DATE: Dec 15/92 ✓

CORE SIZE: \_\_\_\_\_

DRILLHOLE: KL92-01

FOOTAGE: 53.0' - 59.0'

REMARKS: \_\_\_\_\_

ASSAY: Ag, Au, Cu, Mo, Pb, Zn, Sn, Hg,  
WO<sub>3</sub>, U<sub>3</sub>U<sub>8</sub>, As, Sb, Bi, Te. ✓

OTHER: A-12

ROCK GEOCHEM.



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57076

Date Dec 02/92

Place R1-92-03

Width 252.0-262.7

Description

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57077

Date Dec 02/92

Place R1-92-03

Width 262.7-264.9

Description

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57078

Date Dec 02/92

Place R1-92-03

Width 287.2-293.3

Description

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57079

Date Dec 02/92

Place R1-92-03

Width 293.3-299.4

Description

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57080

Date Dec 04/92  
Place RL 92-03  
Width 299.4 - 305.5  
Description

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57081

Date Dec 02/92  
Place RL 92-02  
Width 305.5 - 311.7  
Description

ICP-32  
BTW-AU  
Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57082

Date Dec 07/92  
Place RL 92-03  
Width 264.3 - 267.0  
Description Sheared - all  
altered upper  
contact with  
metagabbro dyke

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57083

Date Dec 03/92  
Place RL 92-04  
Width 23.0' - 29.1'  
Description

ICP-32  
Assay For  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57084

Date Dec 08/92

Place RL 92-04

Width 36.9 - 40.50

Description

ICP-32 877 Au

Assay For

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57085

Date Dec 08/92

Place RL 92-04

Width 40.5 - 46.0

Description

ICP-32

Assay For

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57086

Date Dec 08/92

Place RL 92-04

Width 52.0 - 57.2

Description

ICP-32

Assay For

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57087

Date Dec 09/92

Place RL 92-04

Width 31.4 - 36.1

Description

ICP-32

Assay For

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57088

Date Dec 09/92

Place R192-04

Width 97.0 - 101.4

Description

Assay For ICP-32

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57089

Date Dec 09/92

Place R192-04

Width 121.5 - 122.3

Description

ICP-32 BT1 AU

Assay For

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57090

Date Dec 09/92

Place 122.3 - 129.0

Width R192-04

Description

Assay For ICP-32

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57091

Date Dec 09/92

Place R192-04

Width 129.0 - 135.7

Description

Assay For ICP-32

P.A.P. 10775





BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57092

Date Dec 10/92

Place RL 92-04

Width 135.7-141.9

Description

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57093

Date Dec 10/92

Place RL 92-04

Width 141.9-148.0

Description

Assay For ICP 32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57094

Date Dec 10/92

Place RL 92-04

Width 148.0-152.1

Description

Tr - 1% light colored  
yellow-brn sph  
with rare blue aggl

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57095

Date Dec 10/92

Place RL 92-04

Width 152.1-155.2

Description

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57096

Date Dec 10/92

Place RL 92-04

Width 155.2-164.7

Description ✓

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57097

Date Dec 10/92

Place RL 92-04

Width 164.7-169.45

Description ✓

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57098

Date Dec 10/92

Place 172.8-179.4

Width RL 92-04

Description ✓

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57099

Date Dec 10/92

Place RL 92-04

Width 169.45-172.8

Description ✓

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57100

Date Dec 10/92

Place RL92-04

Width 179.4-186.0

Description

ICP-32

Assay For

F.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57101  
ICP-32 877-A0

Date Oct 22/92

Place RL 92-01

Width 238.4-243.0 = 4.60'

Description F.G. Grey. Felsic.  
tuff, alt. zone. Silicif-  
ication - carbonate veins  
throughout section

Assay For Au.  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57102  
ICP-32, 877 A0

Date Oct 27/92

Place RL 92-01

Width 216.0-232.0 = 6'

Description Highly altered  
and fine grained interbed  
within grey tuff.  
Silicified-chl. Tr. - V. O.Py.

Assay For Au.  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57103  
ICP-32 877 AU

Date Oct 23/92

Place RL 92-01

Width 304.3-310.0 = 6.3

Description Chl. Silica -  
carb altered tuff

Assay For  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57104  
ICP-32 877 AU

Date Oct 28/92

Place RL 92-01

Width 310-313' = 3.0'

Description Carb-silica  
alt. tuff with  
tru cpy-py

Assay For  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57105  
ICP-32, B77 Au

Date Oct 29/92

Place RL 92-01

Width 518.0 - 523.5

Description Red-brown

andesitic porphyry

X-cut by carb-spm

chl. qtz veins ±

Assay For Au

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57106  
ICP-32, B77 Au

Date Oct 29/92

Place RL 92-01

Width 528.3 - 529.4 = 1.10'

Description Carb-spm

chl. qtz vein in

andesite porphyry

Assay For Au

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57107  
ICP-32, B77 Au

Date Oct 30/92

Place RL 92-02

Width 12.90 - 15.00

Description

Assay For Au/Ag

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57108  
ICP-32

Date Oct 30/92

Place RL 92-02

Width 37.5 - 39.9

Description

Assay For Au

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57109

ICP-32

Date Oct 30/92

Place RL 92-02

Width 42.5 - 46.65

Description

Assay For Ag

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57110

ICP-32, 817 AU

Date Oct 30/92

Place RL 92-02

Width 63.70 - 72.65

Description

Assay For Ag

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57111

ICP-32, ~~817 AU~~

Date Nov 26/92

Place RL 92-02

Width 102.4 - 106.4

Description Diss. Sulp.

Stringer Zone

5% - 7% sulp.

Py < Cpy

Assay For Ag - Cu

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57112

ICP-32, ~~817 AU~~

Date Nov 26/92

Place

Width

Description Same as

57111

Assay For Ag - Cu

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57113

1CP-32, ~~877 AD~~

Date Nov 27/92

Place RL 92-02

Width 117.0' - 122.0'

Description

Assay For

*AD*  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57114

1CP-32, ~~877 AD~~

Date Nov 26/92

Place RL 92-02

Width 122.0' - 126.0'

Description

Assay For

*AD*  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57115

1CP-32, 877 AD

Date Nov 26/92

Place RL 92-02

Width 126.0 - 128.4

Description

Assay For

*AD*  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57116

1CP-32

Date Nov 26/92

Place RL 92-02

Width 128.4 - 134.4

Description

Assay For

*AD*  
P.A.P. 10775



BELL-WHITE LABS  
Halleybury, Ontario

Sample A 57117

1CP-32

Date Nov 26/02

Place PL 92-02

Width 213.3 - 222.0'

Description

Assay For

P.A.P. 10775



BELL-WHITE LABS  
Halleybury, Ontario

Sample A 57118

1CP-32

Date Nov 26/02

Place PL 92-02

Width 239.4 - 215.55

Description

Assay For

P.A.P. 10775



BELL-WHITE LABS  
Halleybury, Ontario

Sample A 57119

1CP-32

Date Nov 26/02

Place PL 92-02

Width 245.85 - 252.30'

Description

Assay For

P.A.P. 10775



BELL-WHITE LABS  
Halleybury, Ontario

Sample A 57120

1CP-32

Date Nov 27/02

Place PL 92-02

Width 293.2 - 299.2

Description Intensely brecciated upper int. felsic contact rock. Tr.

has pyrite inclusions

Assay For

P.A.P. 10775





BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57121

ICP-32

Date NOV 28/02

Place PL 92-02

Width 298.2 - 302.65

Description

Assay For ~~Ag, Pb, Zn, Cu~~

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57122

ICP-32

Date NOV 28/02

Place PL 92-02

Width 302.65 - 303.3

Description

Assay For ~~Ag, Pb, Zn, Cu~~

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57123

ICP-32

Date NOV 28/02

Place PL 92-02

Width 303.3 - 307.9

Description

Assay For ~~Ag, Pb, Zn, Cu~~

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57124

ICP-32

Date NOV 28/02

Place PL 9202

Width 307.9 - 312.4

Description

Assay For ~~Ag, Pb, Zn, Cu~~

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57125

ICP-32

Date Nov 29/02

Place RL 92-02

Width 327.90-330.70

Description

Bio all in Tnt  
Lappill. tuff mega  
fragment in tuff

Assay For ~~As~~

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57126

ICP-32

Date Nov 29/02

Place RL 92-02

Width 347.5-348.75

Description

Assay For ~~As~~

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57127

ICP-32

Date Nov 27/02

Place RL 92-02

Width 355.0-357.8

Description

Assay For ~~As~~

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57128

ICP-32

Date Nov 27/02

Place RL 92-02

Width 432.6-435.75

Description

Assay For ~~As~~

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57129

ICP-32

Date Nov 30/92

Place RL 92-03

Width 6.2' - 11.0'

Description Sulphide stringer  
below the north end  
of the fault trench

Assay For ~~Ag, Cu~~

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57130

ICP-32, B77 AU.

Date Nov 30/92

Place RL 92-03

Width 24.7' - 26.7'

Description

Assay For ~~Ag, Cu~~

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57131

ICP-32

Date Nov 30/92

Place RL 92-03

Width 61.55' - 64.0'

Description

Assay For ~~Ag, Pt, Au, Cu~~

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57132

ICP-32

Date Nov 30/92

Place RL 92-03

Width 64.9' - 70.0'

Description

Assay For ~~Ag, Zn~~

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57133

14-32

Date Dec 01

Place RL 92-03

Width 79.2-85.35

Description

Bio altered  
Amphibole and  
biotite

Assay For ~~As~~  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57134

Date Dec 01/02

Place RL-92-03

Width 127.3-134.0

Description

ICP-32

Assay For ~~As, Pb, Zn, Cu~~  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57135

Date Dec 02/92

Place RL 92-03

Width 164.5-170.4

Description

ICP-32

Assay For ~~As~~  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57136

Date Dec 03/92

Place RL 92-03

Width 170.4-173.3

Description

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57137

Date Dec 02/92

Place PL 92-03

Width 173.3-176.0

Description

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57138

Date Dec 02/92

Place PL 92-03

Width 176.0-180.0

Description 179.8

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57139

Date Dec 02/92

Place PL 92-03

Width 179.8-182.8

Description

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57140

Date Dec 02/92

Place PL 92-03

Width 182.8-189.0

Description

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57141

Date Dec 02/92

Place RL 92-03

Width 109.0 - 194.0

Description

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57142

Date Dec 02/92

Place RL 92-03

Width 194.0 - 199.0

Description

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57143

Date Dec 02/92

Place RL 92-03

Width 199.0 - 204

Description

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57144

Date Dec 02/92

Place RL 92-03

Width 204 - 210.0

Description

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57145

Date Dec 02/92

Place RL92-03

Width 210-212.6

Description

Assay For ICP-32

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57146

Date Dec 02/92

Place RL9203

Width 212.6-219.6

Description

B7740

Assay For ICP-24

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57147

Date Dec 02/92

Place RL92-03

Width 219.6-224.6

Description

Assay For ICP-32

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57148

Date Dec 02/92

Place RL92-03

Width 232.7-233.6

Description

Assay For ICP-32

P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57149

Date Dec 02/92

Place R-92-03

Width 238.6-244.0

Description

Assay For ICP-32  
P.A.P. 10775



BELL-WHITE LABS  
Haileybury, Ontario

Sample A 57150

Date Dec 02/92

Place R-92-03

Width 244.0-252.0

Description

Assay For ICP-32  
P.A.P. 10775



L18+00S

L22+00S

L24+00S

L26+00S

S-109500-3

3000  
2000  
1000  
S-0+00E  
1000  
2000  
3000

- LEGEND:**
- 1 FIELD METAVOLCANIC  
Z1 LAMINATED FLINT CONCRETIONS
  - 2 UNDIFFERENTIATED METAVOLCANIC  
S2 M. VE. FLOW, S. FISS. WITH  
NOR. E. DIRECTIONAL ALTERNATION  
S3 ALKALINE (SODIUM) AND LITE STRESSES
  - 4 MAIN METAVOLCANICS  
M1 M. VE. IN FLOWING METAVOLCANICS  
F1 FLOWING METAVOLCANICS

- 5 M. VE. METAVOLCANIC  
M2 METAVOLCANIC  
M3 METAVOLCANIC
- 6 METAVOLCANIC  
M4 METAVOLCANIC
- 7 METAVOLCANIC  
M5 METAVOLCANIC

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M99 METAVOLCANIC
- 102 METAVOLCANIC  
M100 METAVOLCANIC

**NOTE:**  
 THIS AREA IS THOUGHT TO HAVE  
 BEEN DISCOVERED BY DAVID A. LANGDON  
 IN 1962. THE NAME "S-109500-3"  
 THE MAIN METAVOLCANICS AND NOTES HAVE  
 NOT YET BEEN LABELLED AND ARE REARED  
 LIST.  
 THIS MAP WAS GENERATED FROM DATA  
 BY DAVID A. LANGDON.

S-109500-3

SUMI

LAKE

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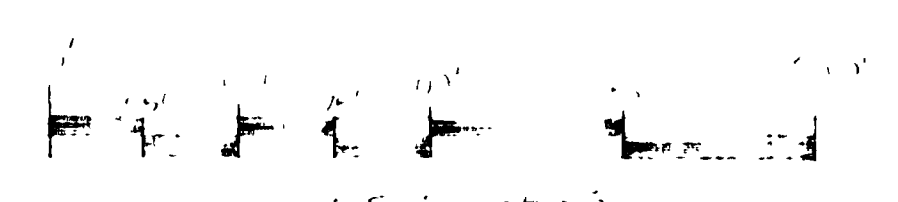
LAKE

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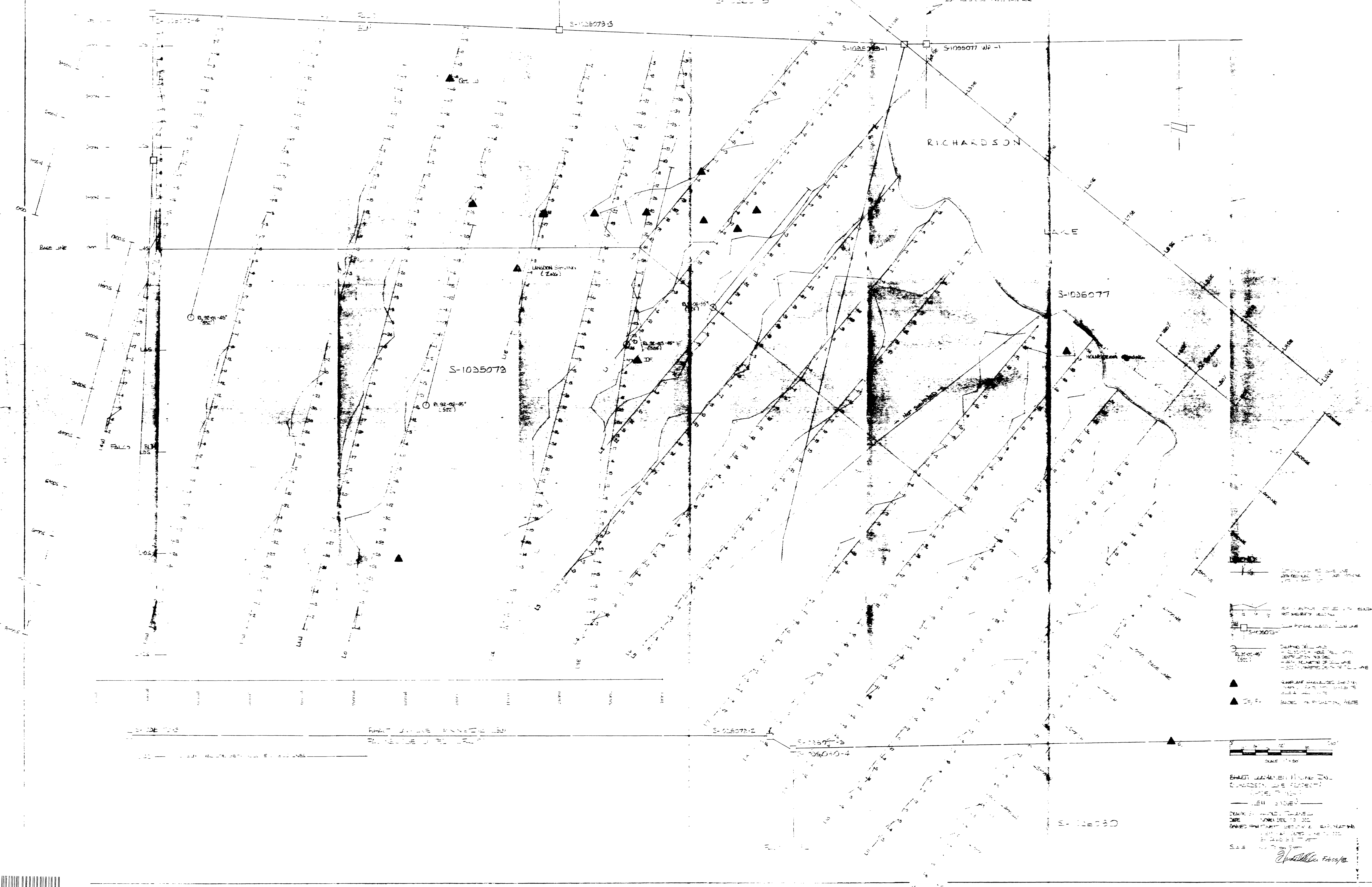
LAKE



DAVID A. LANGDON  
 1962  
 THE LATE DAVID A. LANGDON  
 MAP GENERATED FROM DATA

DAVID A. LANGDON  
 1962  
 THE LATE DAVID A. LANGDON  
 MAP GENERATED FROM DATA





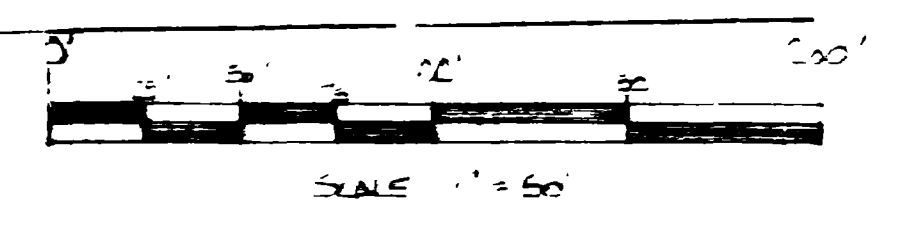
RICHARDSON

S-1035077

S-1035073

LUNSDON SPRING (Zona)

- DASHED LINE WITH ARROWS  
 INDICATES PROPOSED ROUTE
- SOLID LINE WITH ARROWS  
 INDICATES EXISTING ROUTE
- CIRCLE WITH A DOT  
 POINT OF INTERSECTION  
 (ELEVATION)
- TRIANGLE  
 BENCHMARK OR CONTROL POINT
- SQUARE  
 CORNER OR POINT OF INTERSECTION
- DASHED LINE  
 INDICATES PROPOSED BOUNDARY
- SOLID LINE  
 INDICATES EXISTING BOUNDARY



RICHARDSON LAKE PROJECT  
 SURVEY MAP  
 DRAWN BY: [Signature]  
 DATE: [Date]  
 SCALE: 1" = 50'  
 [Signature]

