PETER E. WALCOTT & ASSOC. LTD.

A PRELIMINARY REPORT

ON

A SEISMIC REFRACTION SURVEY

Rancheria Area, Yukon Territory

60° 08'N, 131° 00'W

N.T.S. 105B-2 & 3

Claims Surveyed: Lease to Prospect #6926

Survey Dates: June 14th - 25th, July 25th, 1984

FOR

A.T. SYNDICATE

Vancouver, B.C.

BY

PETER E. WALCOTT & ASSOCIATES LIMITED

Vancouver, B.C.

FEBRUARY 1985

120062

GEOPHYSICAL SERVICES

This report has been examined by the Geological Evaluation Unit under Section 41 Yukon Placer Mining Act and is recommended as allowable representation work in the amount of $ 9,832.38.

D D Edmond

for Chief Geologist, Exploration and Geological Services Division, Northern Affairs Program for Commissioner of Yukon Territory.

TABLE OF CONTENTS

A P P E N D I X

INTRODUCTION.

Between June 14th and 25th, 1984, Peter E. Walcott & Associates Limited attempted to carry out a proposed five line seismic refraction survey over a lease to prospect on Swift Creek, located in the Rancheria area of the Yukon Territory, for the A.T. Syndicate.

However due to the late snow melt the numerous creeks were overflowing and could not be forded, and thus no profiles crossing the same could be undertaken - Swift Creek was over 100 feet wide at the road crossing and its waters flowed through the cab of the four wheel drive vehicle when an attempt was made to drive across it.

Surveying was then undertaken on three lines - Line 1, 2 and 5 - that were cut and chained by the geophysical crew.

Seismic refraction profiling was undertaken using a Nimbus ES - 1210F 12 channel seismograph with dynamite as the source of energy. Records were shot in both directions with a 15 metre geophone takeout spread.

The data are presented on time-distance plots bound in this report.

On July 25th an additional line - Line 0 - was profiled in the same manner.

PROPERTY, LOCATION & ACCESS.

The property is located in the Watson Lake Mining District of the Yukon Territory and consists of "Lease to Prospect #6926".

This lease is situated straddling Swift Creek some 500 metres northwest of the Pine Lake airstrip.

Access was obtained by means of 4 wheel drive vehicle along existing bush roads from the turnoff at Mile 723 on the Alaska Highway.

PREVIOUS WORK.

Previous work on the property consisted of some single channel hammer refraction profiling carried out along the claim line by Mark Management Ltd.

PURPOSE.

The purpose of the survey was to explore for the possible existence of a buried bedrock channel - the old Swift Creek bed - and possibly determine its location and thickness of gravels in an effort to locate economic occurrences of placer gold.

GEOLOGY.

The reader is referred to reports held by the A. T. Syndicate.

SURVEY SPECIFICATIONS.

The seismic refraction survey was carried out using a 12 channel signal enhancement seismograph - Model ES-1210F - manufactured by EG & G Geometrics of Sunnyvale, California.

Basically the system consists of the following: (1) the geophones, moving coil electromagnetic tranducers whose functions are to transform the mechanical energy of the arriving seismic waves into electric signals, (2) the amplifiers with adjustable gains where the signal strengths can be adjusted for optimized display (3) the filters where the incoming signals can be deleted of a variety of unwanted signals, i.e. noise, generated by wind, machinery, etc. (4) the CRT - cathode ray tube - with adjustable traces where the incoming signals are displayed on a daylight visible screen (5) the electro-sensitive plotter where a hard copy of the optimally adjusted display is obtained.

Records were obtained from shot points 45 or 50 metres apart along the survey lines using a geophone spread cable with 15 metre takeouts. The spread length was adjusted to that 5 to 10 metres geophone-shot point arrivals could be obtained for topsoil corrections. Shot points were staggered - 50 metres - in some cases in an effort to obtain better geophone locations and thus better coupling with the ground.

DISCUSSION OF RESULTS.

As can be seen from the time distance plots - travel time graphs - the thickness of gravel was considerably greater than envisioned with the result that two points recorded bedrock (V_3) head-wave arrivals from both shotpoints.

Larger shotpoint to detector distances were needed to overcome this but were not obtainable due to the previously mentioned restrictions by the creeks which also cause considerable noise, and by the lack of sufficient length of blasting cable.

Bedrock profiling was carried out on Line 0 using intercept times and delay times where applicable. As can be seen from the resulting profile depths ranged from 12 metres on the south to some 35 metres in the middle.

Depths to bedrock increased as the profiles moved downstream with suggested depths on Line 5 of some 70 metres on the claim line.

Further discussion will await the calculated bedrock profiles which have not been calculated in their entirety to date due to their low priority geophysical classification.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.

Between June 14th and 25th, and on July 25th, 1984, Peter E. Walcott & Associates Limited shot four seismic refraction profiles across the interpreted old stream bed of Swift Creek, near the Pine Lake airstrip, for the A.T. Syndicate in an effort to determine old buried stream channels.

Although the results have not been completely processed to date inspection of the travel-time graphs and calculations so far show the depths of the gravels? to be considerably more than anticipated with the need for investigation with rotary drilling rather than by a powerful backhoe as originally envisioned.

Respectfully submitted,

PETER E. WALCOTT & ASSOCIATES LIMITED

Peter E. Walcott, P.Eng.
Geophysicist

Vancouver, B.C.
February 1985

APPENDIX

COST OF SURVEY.

Peter E. Walcott & Associates Limited undertook the survey on a daily basis. Mobilization and reporting costs were to be billed in addition, so that to date the cost of services provided was $9,832.38.

PERSONNEL EMPLOYED ON SURVEY.

Name	Occupation	Address	Dates
Peter E. Walcott	Geophysicist	Peter E. Walcott & Assoc. 605 Rutland Court, Coquitlam, B.C. V3J 3T8	June 14th - 25th July 25th, 1984 Feb. 22nd - 24th 1985
D. Sloan	Geophysical Operator	"	June 14th - 25th 1984 July 25th, 1984
V. Pashniak	"	"	June 14th - 25th 1984
P. Charlie	"	"	July 25th, 1984
C. Speropoulos	Geophysical Assistant	"	"
J. Walcott	Typing	"	February 28th, 85

CERTIFICATION.

I, Peter E. Walcott, of the Municipality of Coquitlam, British Columbia, hereby certify that:

1. I am a Graduate of the University of Toronto with a B.A.Sc. in Engineering Physics, Geophysics Option, in 1962.

2. I have been practising my profession for the last 22 years.

3. I am a member of the Association of Professional Engineers of British Columbia and Ontario.

4. I hold no interest, direct or indirect, in the securities and/or properties of A.T. Syndicate nor do I expect to receive any.

Peter E. Walcott, P.Eng.

Vancouver, B.C.

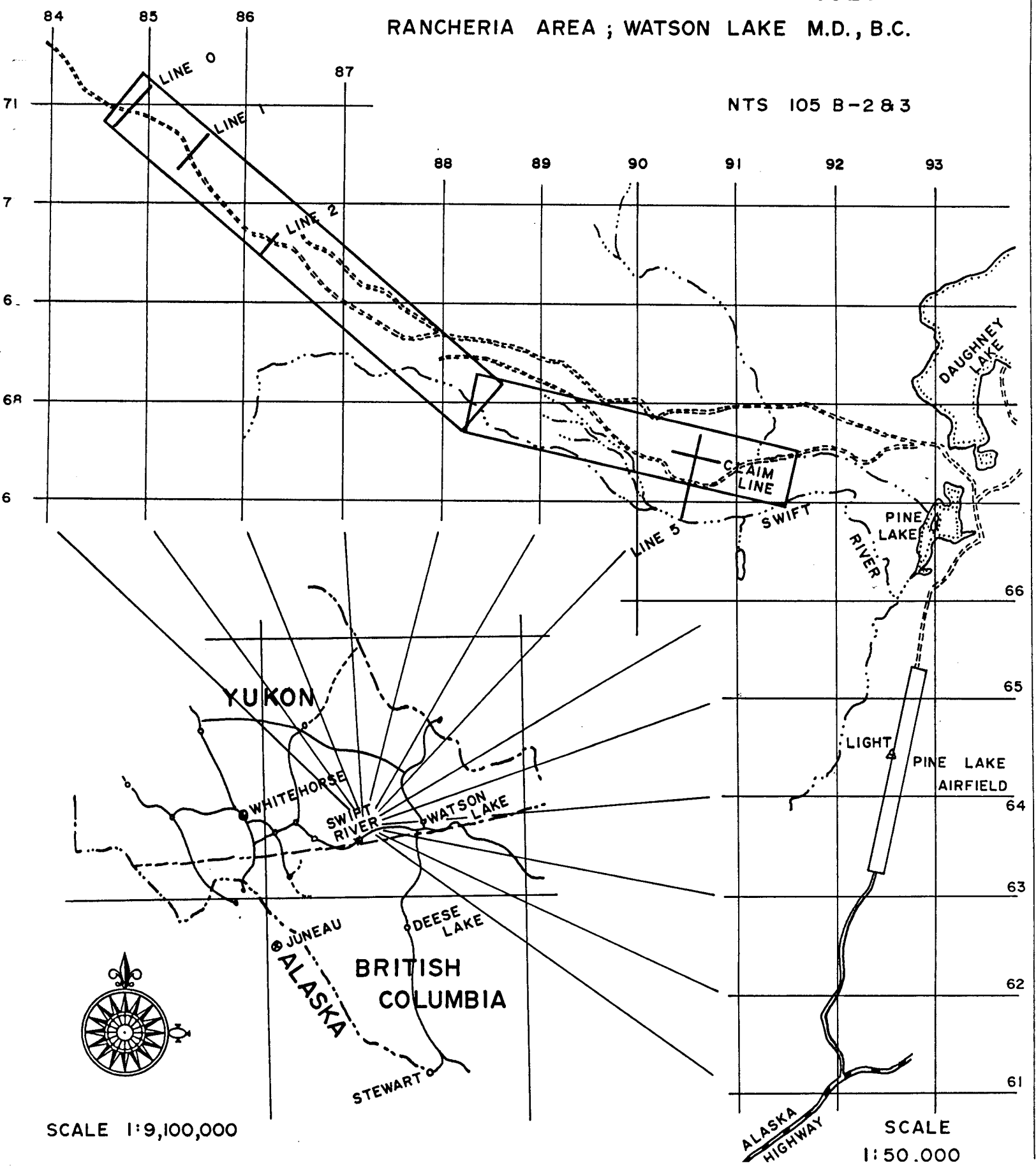
February 1985

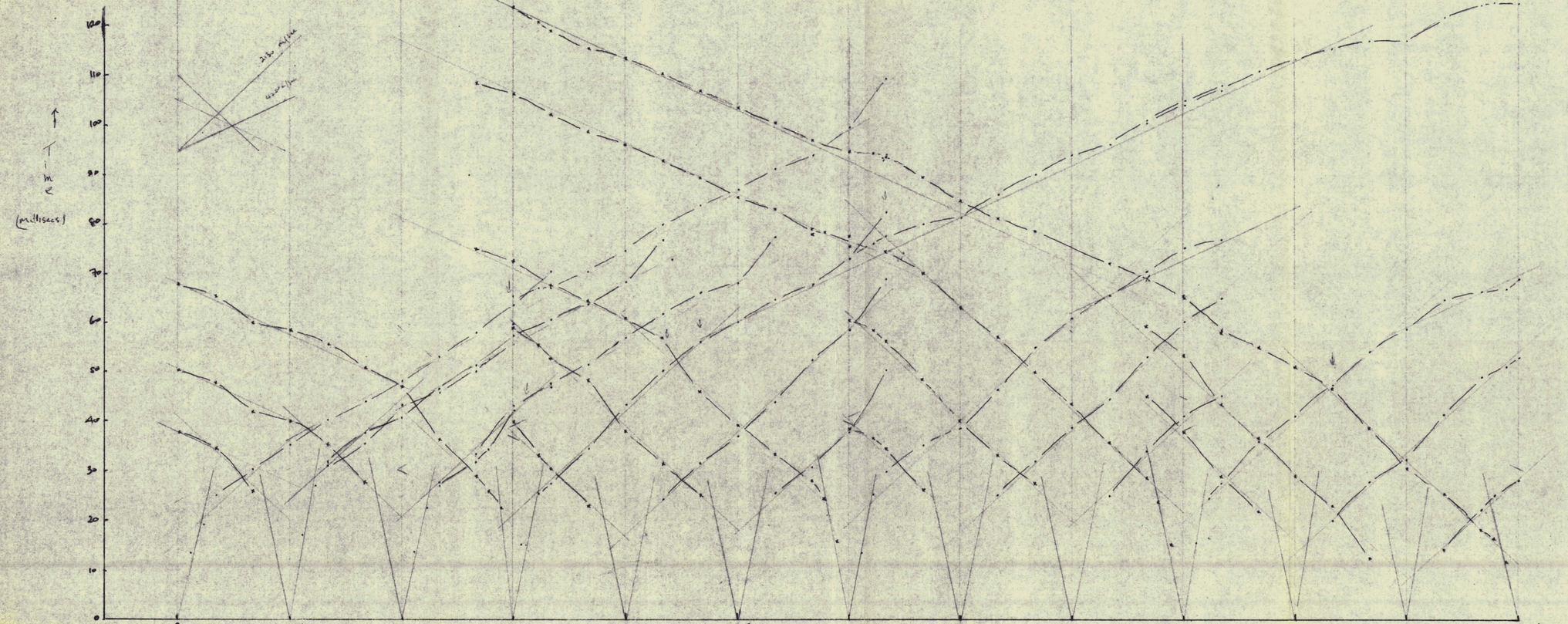
A.T. SYNDICATE

LOCATION MAP

LEASE TO PROSPECT # 6926

RANCHERIA AREA ; WATSON LAKE M.D., B.C.





A.T. Syndicate

Seismic Survey

Prince Lake Area

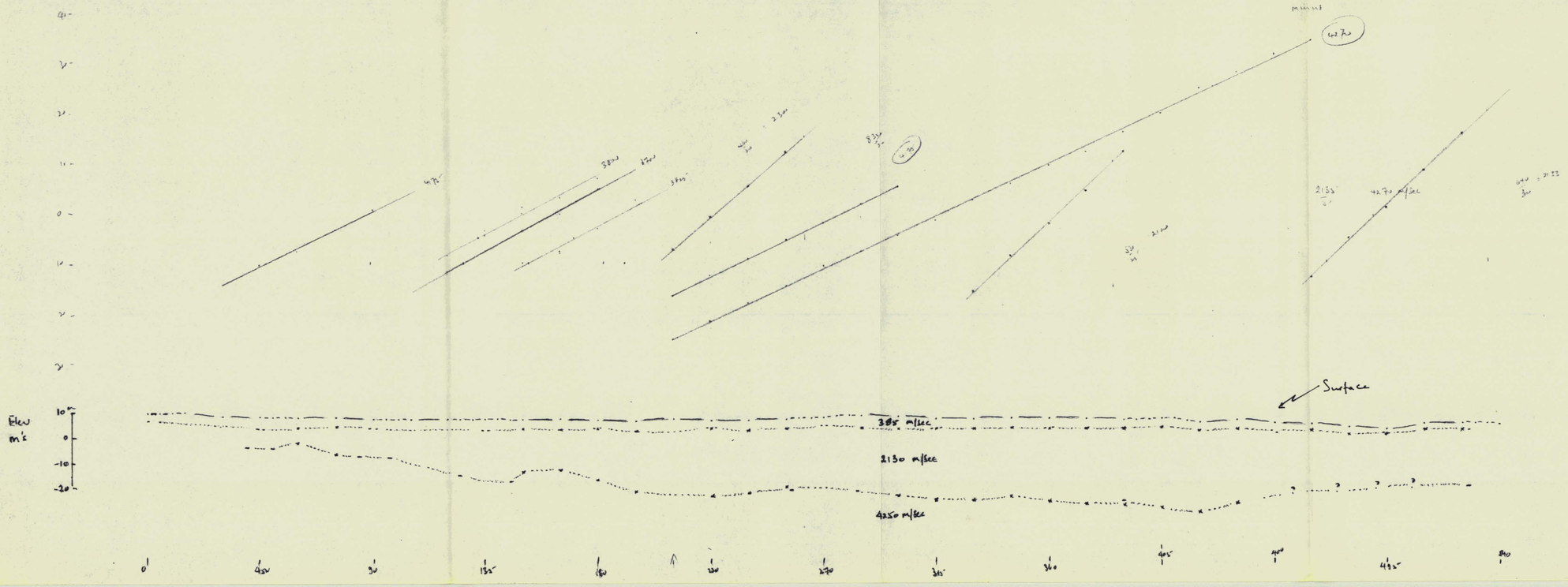
L-0

Time - Distance Plot

Horizontal Scale 1:100

Vertical Scale 1:50

120067 (5)



A.T. Syndicate

Seismic Survey

Pine Lake Area

L-0

Bedrock Profile

Scale 1" : 1000

12006J (6)

A.T. Syndicate

Seismic Survey

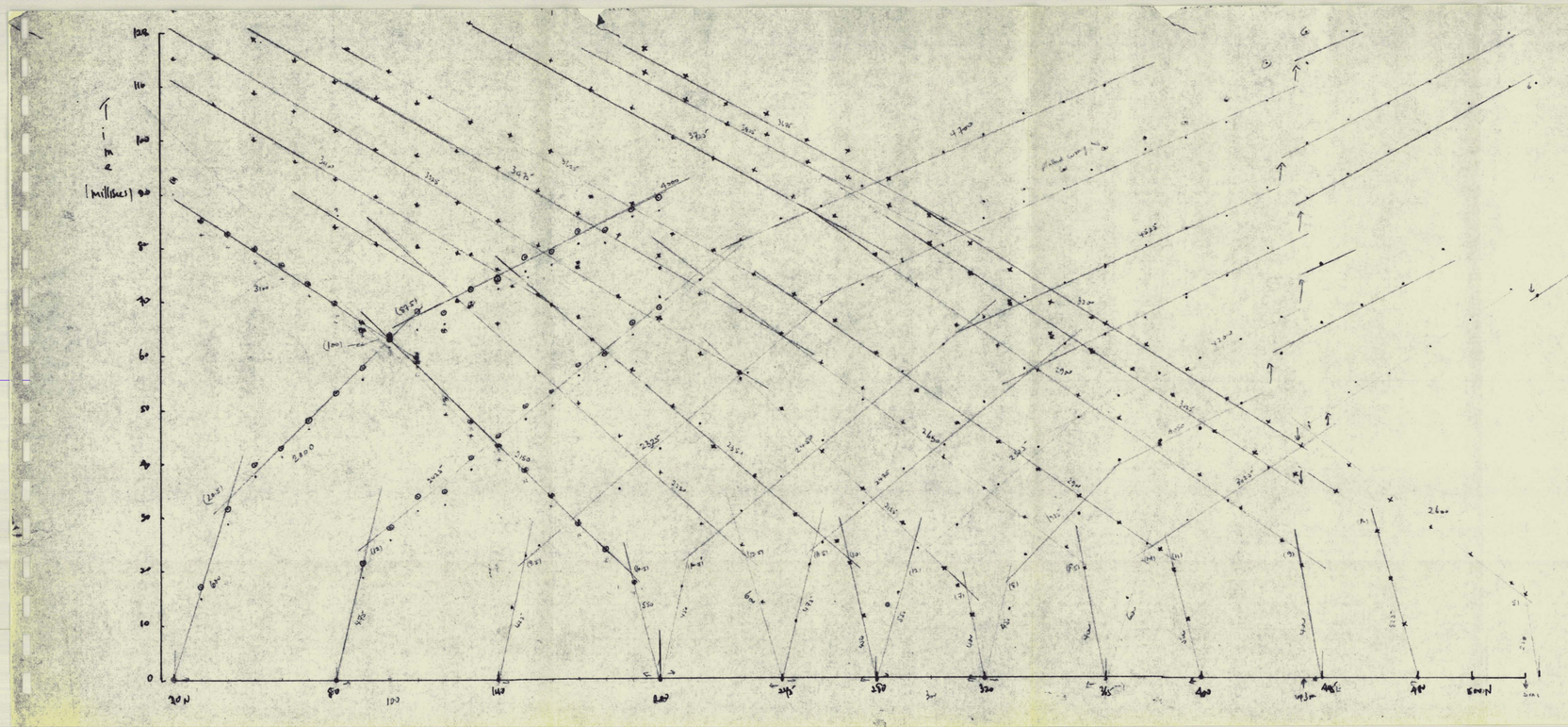
Pine Lake Area

L-1

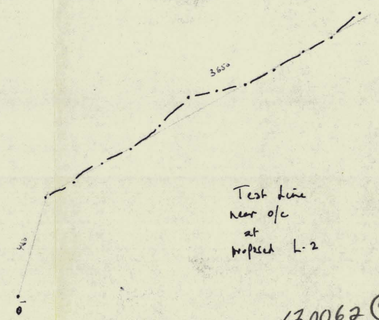
Time - Distance Plot

Horizontal Scale 1:1000

Vertical Scale 1:500



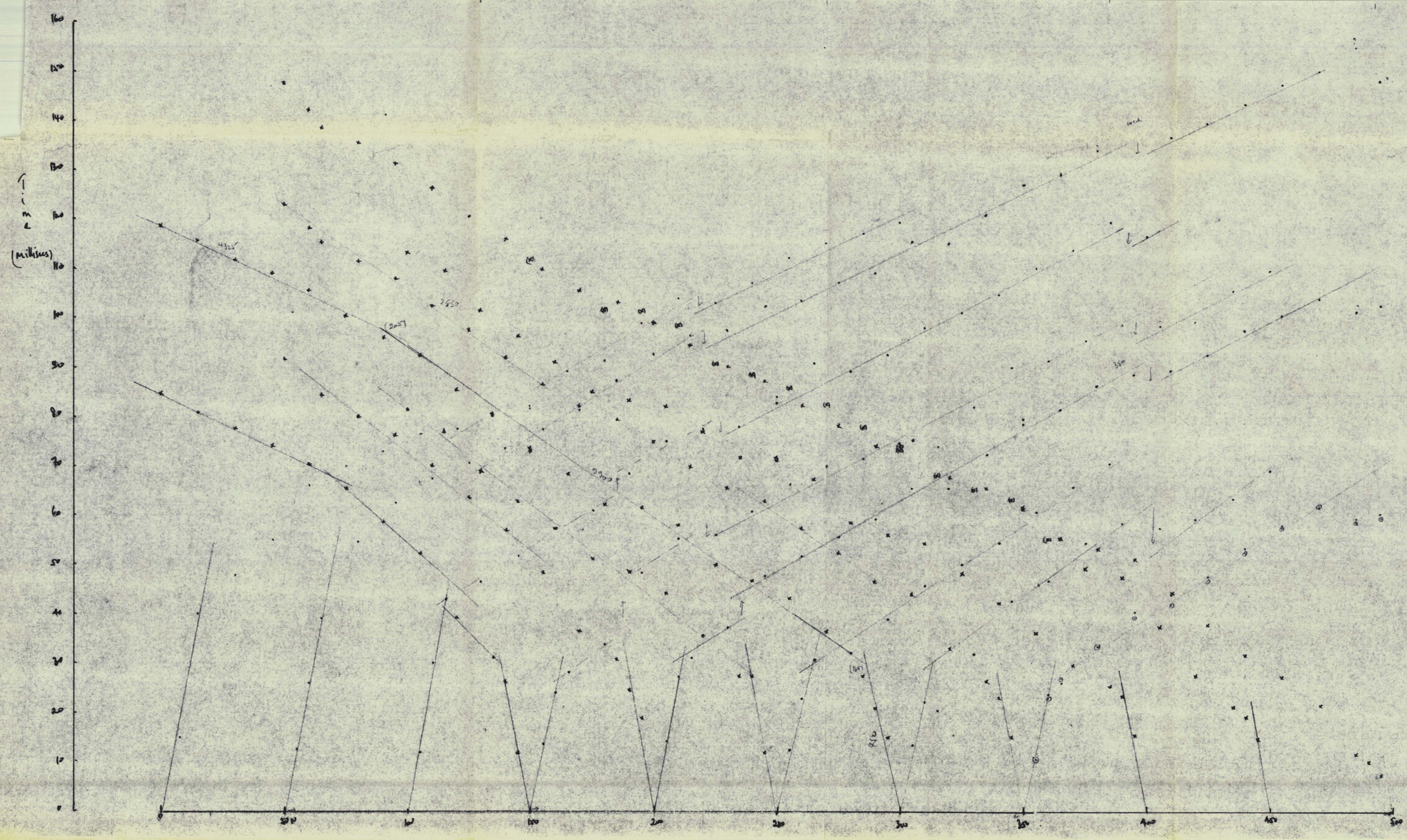
	ft/sec	ft/sec
V_1 =	4500	1475
V_2 =	11500	11970



$d_1 = \frac{1000}{2}\sqrt{\frac{3200}{11500}} = 452$

Test line
near o/c
at
Proposed L-2

120062 (7)



A.T. Syndicate

Seismic Survey

Price Lake Area

L-2

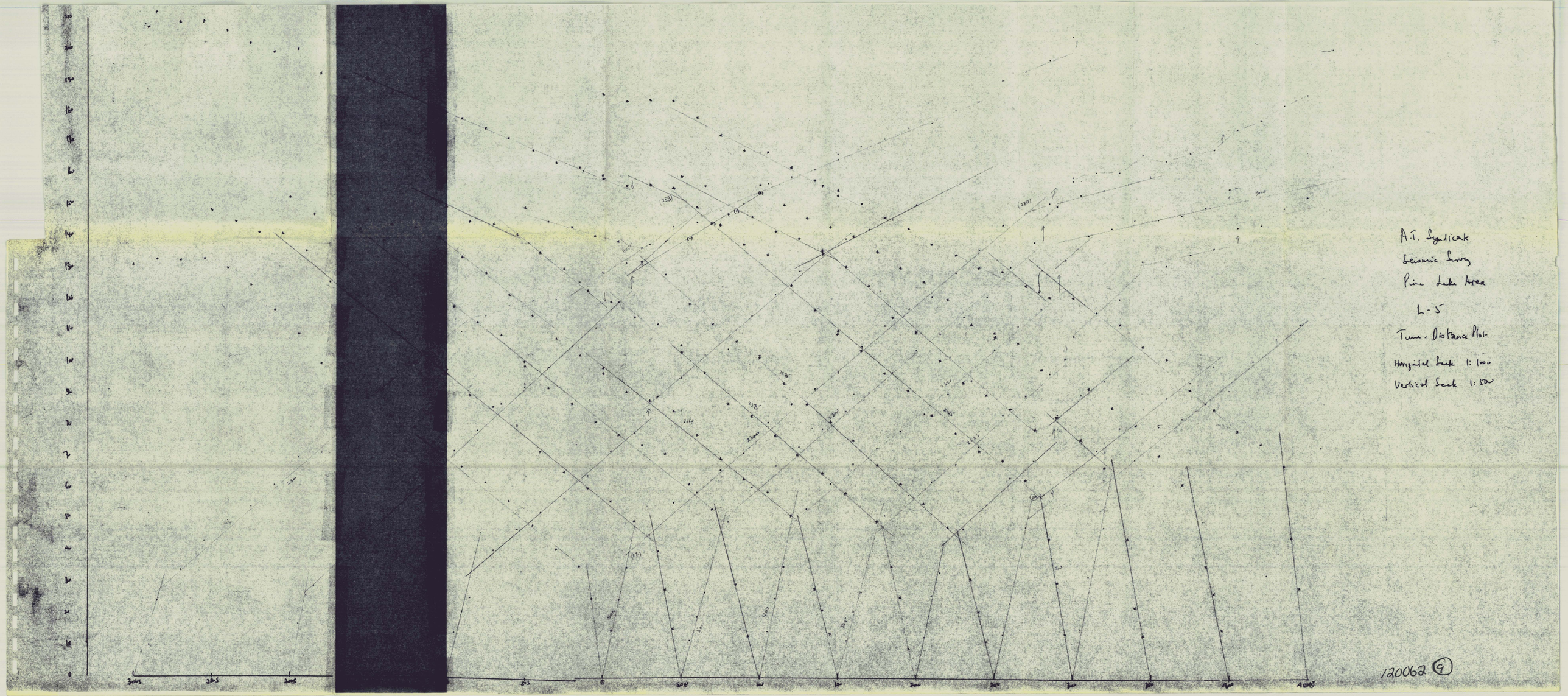
Time - Distance Plot

Horizontal Scale 1: 1000

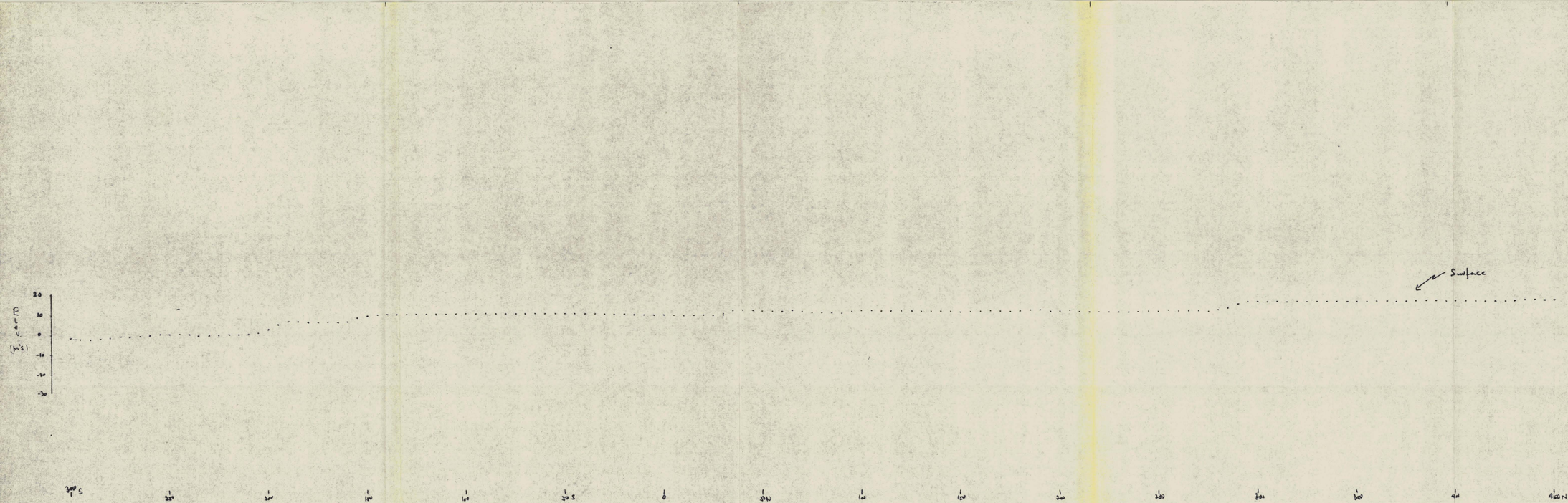
Vertical Scale 1: 500

0 = re Shoot by mistake

120062 (8)


A.T. Syndicate
Seismic Survey
Pine Lake Area
L-5
Time-Distance Plot
Horizontal Scale 1: 1000
Vertical Scale 1: 500

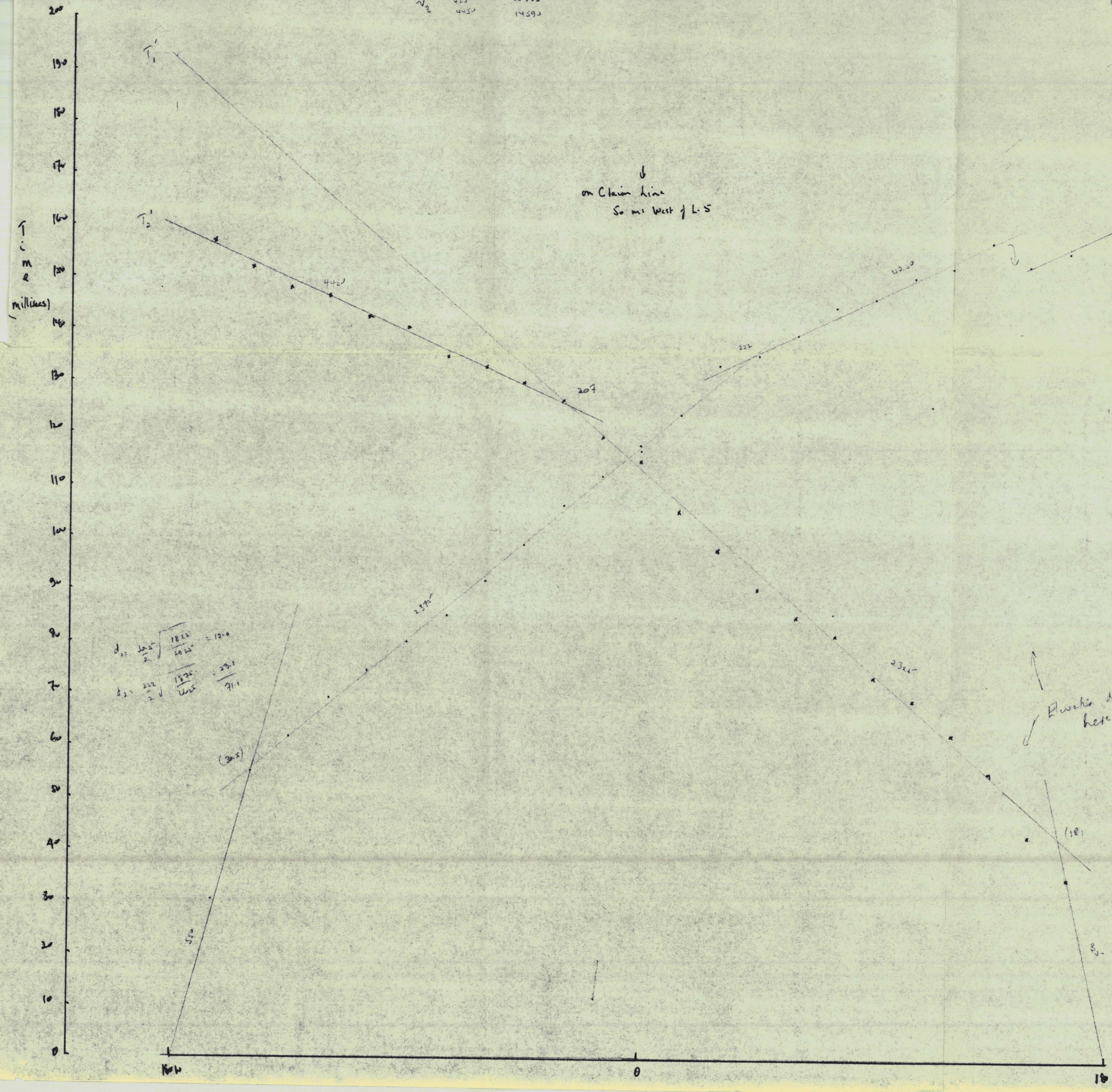
120062 (9)



A.T. Syndicate
Seismic Survey
Prince Lake Area
L-5
Bedrock Profile
Scale 1:1000

120062 (10)

		m/sec	ft/sec
Velocity	V_1	550	1800
		425	1400
	V_2	2375	7790
		2325	7625
	$\sqrt{\ }_2$	4250	13935
		4450	14590



on Claim Line
50 m West of L-5

A.T. Syndicate
Seismic Survey
Pine Lake Area
C. L.
Time Distance Plot
Horizontal Scale 1:1000
Vertical Scale 1:500

$d_1 = \frac{222}{2}\sqrt{\frac{1821}{4925}} = 120$

$d_2 = \frac{222}{2}\sqrt{\frac{1375}{4425}} = \frac{392}{71.1}$

Elevation difference between here

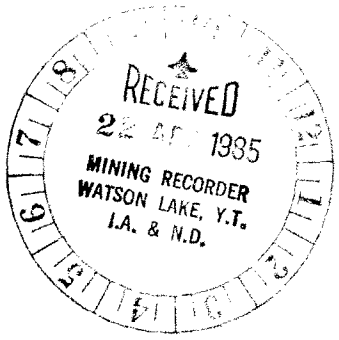
Range Calc

$d_1 = \frac{18}{2}\sqrt{\frac{1900}{2750}} = 7.5$

$d_2 = \frac{207}{2}\sqrt{\frac{2125}{6775}} = \frac{58}{65 \text{ m}}$

120062 (11)

PETER E. WALCOTT & ASSOC. LTD.



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FOR

A.T. SYNDICATE

Vancouver, B.C.

copy to Rimmer & Major

BY

PETER E. WALCOTT & ASSOCIATES LIMITED

Vancouver, B.C.

APRIL 1985

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DISCUSSION OF RESULTS.

As observed on the time distance plots - travel time graphs - the thickness of the gravels was condiserably greater than envisioned with the result that few geophone locations recorded bedrock (V_3) head - wave arrivals from reversed shotpoints.

Larger shotpoint to detector distances were needed to overcome the above but were not obtainable due to the previously mentioned restrictions by the creeks, which also cause considerable noise, and by the lack of sufficient length of blasting cable.

The data were corrected for topography i.e. reduced to a common datum plane. Average velocities from the collected data on an individual line basis - the velocity of the second layer V_2 varied from line to line - were used to make the topographic adjustments.

The data were interpreted on the basis of a three layer case, i.e. a low velocity surface layer, a clay layer and the underlying bedrock. Graditional or inversional velocities within the clay layer which could give rise to more layers and greater depths to bedrock were not considered.

The "plus-minus" method of interpretation was used to determine depths to bedrock at geophone locations which recorded bedrock head-wave arrivals from reversed shot points, shown by the heavier line on the bedrock profile, while the intercept time was used to make depths determinations at shot points giving rise to data from separate parts of the assumed clay - bedrock interface, illustrated by the lighter line.

Depths to bedrock increased slightly from Line 0 to Line 2, and showed a dramatic increase on Line 5, some 5 kilometres downstream.

No bedrock channels were evident from the reversed shot data but some suggestion of the possible existence of such can be seen from individual calculated depths on Lines 1 and 2.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.

Between June 14th and 25th, and on July 25th, 1984, Peter E. Walcott & Associates Limited shot four seismic refraction profiles across the interpreted old stream bed of Swift Creek, near the Pine Lake airstrip, for the A. T. Syndicate in an effort to determine old buried stream channels.

Calculations on the results gave no definite indication of any bedrock depression, but offered some suggestion for the possible existence of the same on Lines 1 and 2. In any event the depths here are considerably more than anticipated with the need for investigation with rotary drilling rather than by a powerful backhoe as originally envisioned.

As a result the writer does not recommend the carrying out of such based on the results of the seismic surveying.

Respectfully submitted,

PETER E. WALCOTT & ASSOCIATES LIMITED

Peter E. Walcott, P.Eng.
Geophysicist

Vancouver, B.C.

April 1985

APPENDIX

COST OF SURVEY.

Peter E. Walcott & Associates Limited undertook the survey on a daily basis. Mobilization and reporting costs were extra, so that the total cost of services provided was $13,364.53.

PERSONNEL EMPLOYED ON SURVEY.

Name	Occupation	Address	Dates
Peter E. Walcott	Geophysicist	Peter E. Walcott & Assoc. 605 Rutland Court, Coquitlam, B.C. V3J 3T8	June 14th - 25th July 25th, 1984 Feb. 22nd - 24th, Mar. 1st - Apr. 10 1985
D. Sloan	Geophysical Operator	"	June 14th - 25th, 1984 July 25th, 1984
V. Pashniak	"	"	June 14th - 25th, 1984
P. Charlie	"	"	July 25th, 1984
C. Speropoulos	Geophysical Assistant	"	"
J. Walcott	Typing	"	February 28th, 198 April 11th, 1985
G. MacMillan	Draughting	"	February 23rd, Mar. 25th - 27th, 1985

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I, Peter E. Walcott, of the Municipality of Coquitlam, British Columbia, hereby certify that:

1. I am a Graduate of the University of Toronto with a B.A.Sc. in Engineering Physics, Geophysics Option, in 1962.

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Peter E. Walcott, P.Eng.

Vancouver, B.C.

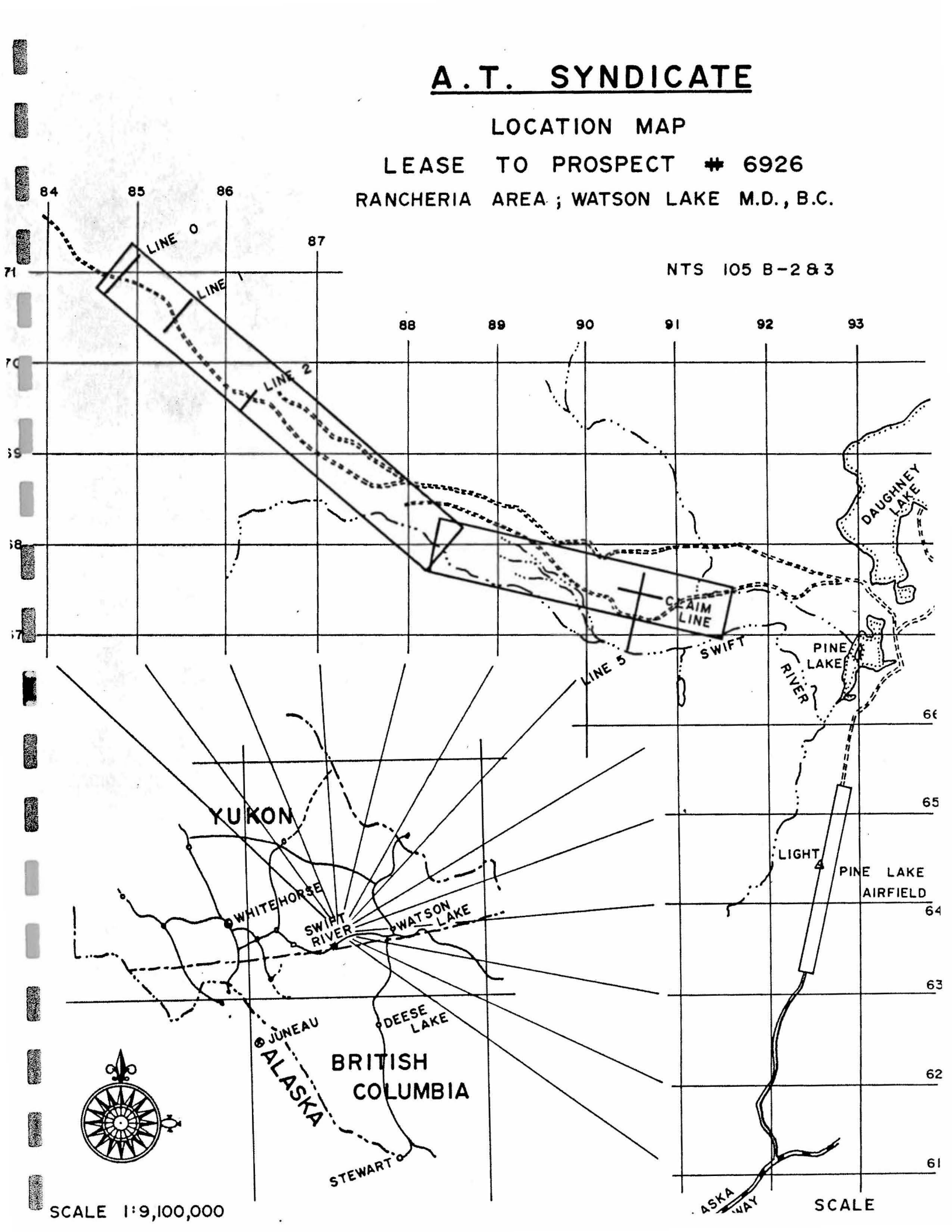
1985

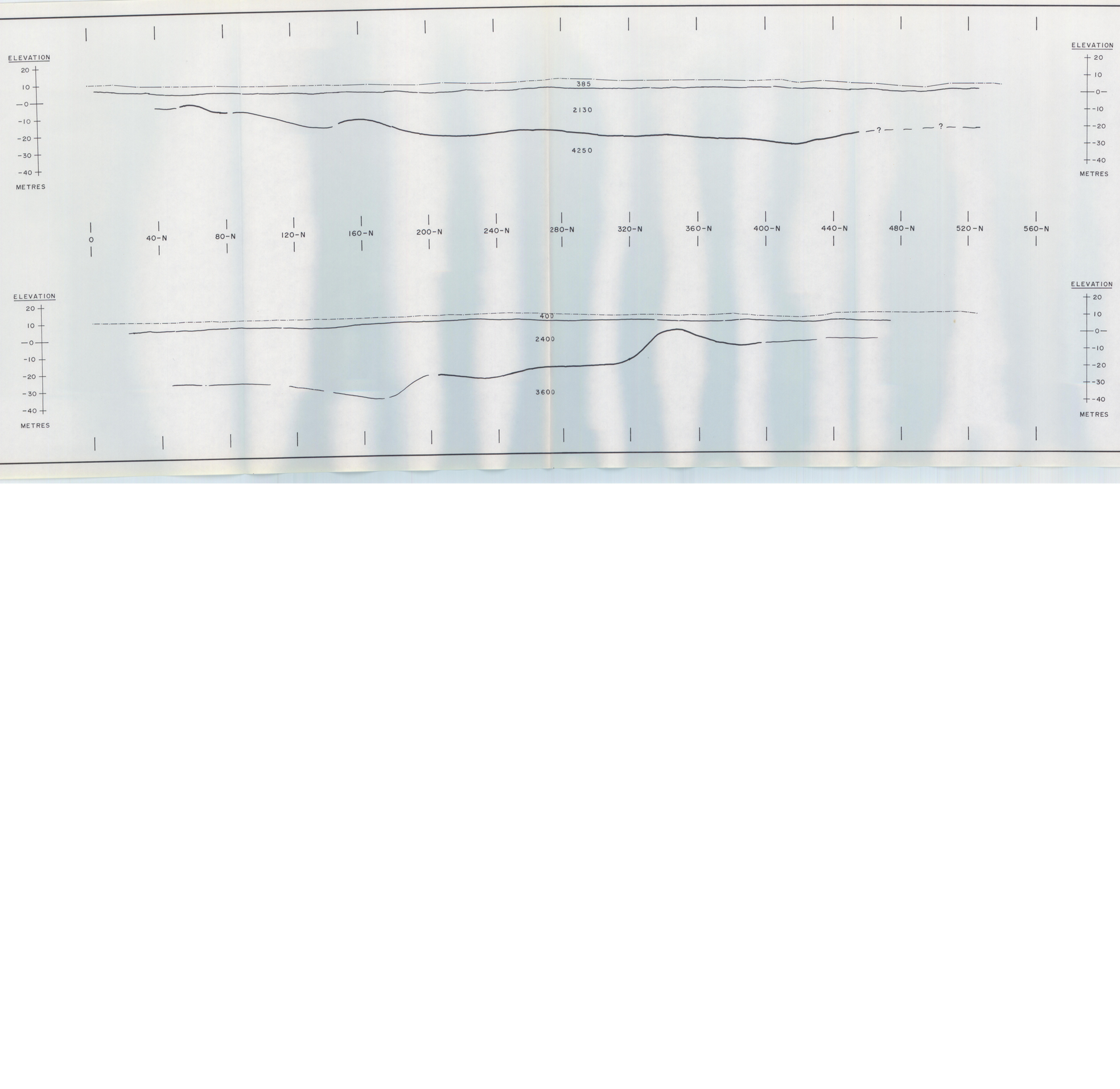
A.T. SYNDICATE

LOCATION MAP

LEASE TO PROSPECT # 6926

RANCHERIA AREA ; WATSON LAKE M.D., B.C.





A.T. SYNDICATE

PINE LAKE AREA

SEISMIC SURVEY

BEDROCK PROFILES

LINES "0" & "1"

SCALE 1:1,000

SURVEY BY *PETER E. WALCOTT & ASSOCIATES*

MAY – JUNE / 1984

A.T. SYNDICATE

PINE LAKE AREA

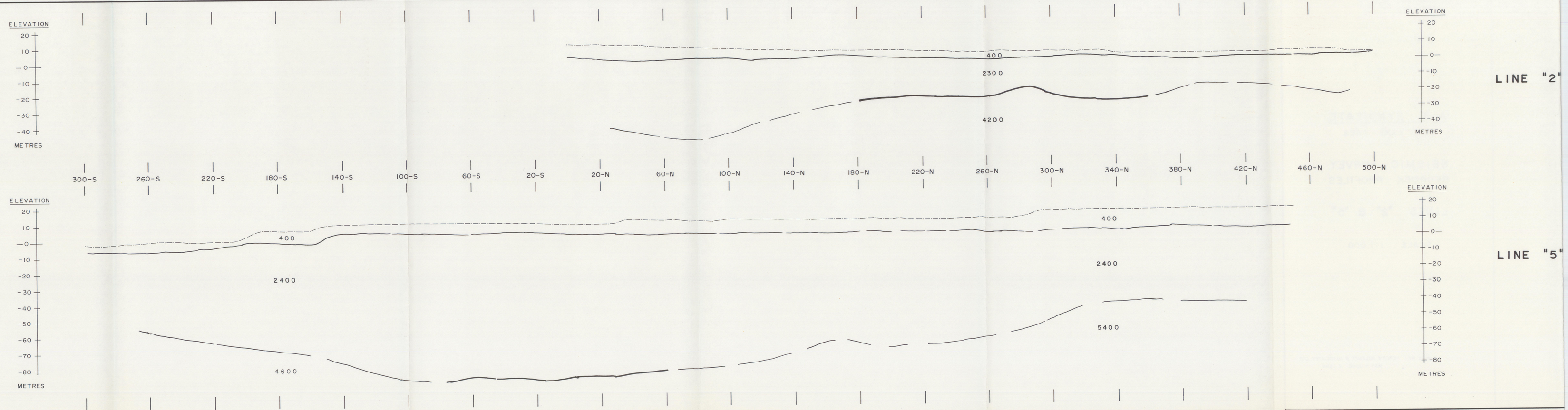
SEISMIC SURVEY
BEDROCK PROFILES

LINES "2" & "5"

SCALE 1:1,000

SURVEY BY *PETER E. WALCOTT & ASSOCIATES LTD.*

MAY — JUNE / 1984


ELEVATION
20
10
0
-10
-20
-30
-40
METRES
300-S
260-S
220-S
180-S
140-S
100-S
60-S
20-S
20-N
60-N
100-N
140-N
180-N
220-N
260-N
300-N
340-N
380-N
420-N
460-N
500-N
400
2300
4200
LINE "2"
ELEVATION
20
10
0
-10
-20
-30
-40
METRES
ELEVATION
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
METRES
400
2400
4600
400
2400
5400
LINE "5"
ELEVATION
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
METRES