

PROSPECTUS

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061794

NEIL AND FOX GROUP

95-E-6, Watson Lake M.D., Y.T.

REPORT for

AGEAN EXPLORATIONS, INC.

*La Teko Resources Ltd.*

by

P.H. Sevensma, Ph.D., P. Eng.

Peter H. Sevensma Consultants Ltd.

Burnaby, B.C.

January 24, 1977

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### ILLUSTRATIONS

Fig. 1  
Fig. 2

Location Map  
Claim Map

1" = 80 miles  
1" = 1500'

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1. INTRODUCTION

The writer examined the Neil and Fox showings during the 1969 and 1970 field seasons. Since that time, some minor trenching has been carried out and the showings were allowed to lapse due to the unfavorable exploration climate in the Yukon in 1970 and 1971.

Recently, these occurrences have been restaked on behalf of Agean Explorations, Inc., who have requested the writer to summarize the results of his previous investigations.

## 2. PROPERTY, LOCATION, ACCESS

The property consists of the following claims:

<u>Claims</u>	<u>Record No.</u>	<u>Date of Record</u>
Neil 1 - 8	YA 34 to YA 41	June 25, 1976
Fox 1 - 8	YA 11824 - YA 11831	November 12, 1976
Fox 9 - 16	YA 11832 - YA 11839	November 12, 1976

Location is at about Lat.  $61^{\circ} 17' N$ , Long.  $127^{\circ} 03' W$ , between elevations of 3900' and 6000', claim sheet 95-E-6, Watson Lake M.D., along the Yukon - Northwest Territory boundary.

This location is 3 miles North of Twin Lakes, which lie at elevation 3800' and are suitable for floatplane. Airmile distance to the nearest supply base, Watson Lake, is 96 miles to the SSW.

The timber-line is at about elevation 4200'; there are several creeks on the property capable of supplying water for exploratory drilling.

Potential road access is up the Coal River from the Alaska Highway, a distance of some 92 airmiles.

Along the Coal River, two properties are in that stage of exploratory development, where they may warrant improving an existing winter-road in the near future, which would bring the Neil-Luck within about 65 miles of road transportation.

The writer has not checked the present claimpost locations in the field.

## 3. HISTORY

The showings were previously covered by the Ram Group, at which time they were visited by Mr. Al Story for Conwest Explorations Ltd. in the late 1950's. Subsequently, they were staked as the Dell Group.

They have been known as the Sunset since 1965 or earlier, when they were restaked by Hugo Brodell of Watson Lake, Y.T., for the Brodell Syndicate.

Assay results of samples taken by Mr. Brodell at that time have been kindly made available to the writer by a member of the former syndicate.

On September 15, 1966, the claims were examined by George E. Midgley, P.Eng., Alberta, who reported on these claims on September 27th, 1966, and who submitted an amended report on October 28th, 1967. The latter report is available to the writer.

After a study made in 1968, the writer recommended an airborne magnetic survey, subsequently flown by Seigel Associates Limited on November 15, 1968, and filed as representation work.

The writer examined the property on October 5, 1969, under ideal weather conditions and only a minor sprinkling of snow above 5,000' on the North slopes. On October 6, 1970, a renewed visit by the writer found about 1' of snow on the property.

In the literature, brief mention is made of the property in G.S.C. paper 61-23, page 46.

The area is part of map 35-1964, Flat River sheet 95-E, on a scale of 1" = 4 miles, published by the G.S.C., prepared by Gabrielse, Roddick and Blusson, paper 64-52.

#### 4. AREAL GEOLOGY

The general claim area is underlain by Lower Cambrian or Late Precambrian argillite and dolomite, about 6 miles South of the Flat River Cretaceous (?) granodiorite to quartz monzonite batholith.

About 24 miles to the NNW, near the Northern boundary of this batholith there is a belt of skarn-type copper-lead-zinc showings low in silver, known as the Lucky Lake occurrence.

Some 12 miles NW of the Sunset group, a lead-zinc-tin showing with pyrite in a carbonate matrix is associated with the SW border of the intrusive stock; it carries some stannite and possibly geocronite (G.S.C., paper 64-52).

The geological assemblage of dolomites overlain by argillites and siltstones of Late Precambrian or Lower Cambrian age is part of a belt recognized as favourable for the occurrence of significant base-metal deposits in parts of Northern B.C. and in the Yukon Territory.

#### 5. LOCAL GEOLOGY

The property is underlain by a thick massive dolomite sequence, clearly over 500' thick, overlain by a sequence of thin-bedded argillites and quartzites extending to the top of the ridges.

Excellent bedding-attitudes were observed of N 30° W., with dips varying from 20° to 60° NE, with occasional local vertical attitudes.

Strong cleavages affect these units, in particular the argillites, giving them a phyllitic to slaty character. Cleavage attitudes are of the order of N 60° E/45° NW and N-S/55° W. The latter attitude is the more predominant one.

These beds have been identified as Cambrian and earlier (formation 12 a) on the G.S.C. map, and are overlain to the East by the Lower Cambrian carbonates (formation 15c). On the basis of the writer's experience along this belt, it is thought that the beds on the claims are Late Precambrian.

The only intrusive known in the claim area is a gabbroic mass about 70' wide with an andesite porphyry shell some 20' thick, striking about N 5° W, as observed by the writer. No other intrusives were seen in the claim area.

The attitude of the gabbroic mass, which clearly

widens at depth where cut by the erosion, and which appears to die out in the higher argillites, suggests that it has been barely unroofed.

Both isoclinal warping, with dips of from  $35^{\circ}$  to  $85^{\circ}$  NE, and minor drag folding have been observed by the writer, but the overall attitude is definitely a relatively shallow dip to the NE of the order of  $30^{\circ}$  -  $35^{\circ}$ .

## 6. SHOWINGS

The writer checked several of the showings as reported by the Brodell Syndicate on its field sketch, both as to location and grade (Fig. 2).

Originally, the terms limestone and limestone-breccia had been used; in the field, the rock is clearly dolomite, locally brecciated and/or quartz-veined.

Also, bornite and chalcocite were reported originally, but only chalcopyrite and bornite have been positively identified by the writer, malachite being the predominant mineral in the main showing, with some proportion of cuprite. The latter are obviously derived from patches of oxidized sulphides, some of which may have been either one of the above-named minerals, and may have included tetrahedrite.

The Brodell Syndicate assays may be summarized as follows (see figure 2):

### A. Copper Showings:

<u>Sample #</u>	<u>Description</u>	<u>Au.</u>	<u>Ag.</u>	<u>Cu.</u>
19835	Cemented Q + Cp., bo., cl.	tr.	1.50	5.25
19836	Q + D.br. + Cp., bo., cl.	.01	1.95	17.05
19837	Lge trench, D.br. + mal., bo., cl.	.01	1.10	35.80
19838	Float, Q + D.br. + mal., Cp., some cl.	.02	3.90	10.19
19846	D.br. + heavy mal., possible cl.	.01	0.80	18.20
Total of 6 samples		.06	9.85	93.27
Arithmetic average, 6 samples		<u>.01</u>	<u>1.64</u>	<u>15.35</u>

Abbreviations: Q = quartz; D.br.= Dolomite breccia; mal.= malachite; cp.= chalcopyrite; bo.= bornite; cl.= chalcocite.

B. Silver-Lead Showings

<u>Sample #</u>	<u>Description</u>	<u>Au.</u>	<u>Ag.</u>	<u>Pb.</u>	<u>Zn.</u>
19840	D.br. + gn.	.01	57.40	37.75	7.80
19841	D.br. + gn.	.02	27.85	71.87	tr.
19842	D.br. + gn.	.005	36.40	43.25	.05
19843	D.br. + gn.	.005	18.15	17.60	1.00
19844	D.br. + gn., massive shwg.	tr.	48.40	63.18	4.50
19845	Dissem. gn. in gray Dol.	tr.	3.30	2.67	4.35
19847	Dissem. gn. in altered Dol.	.005	31.10	15.65	tr.
Total of 7 samples:		.045	222.60	251.97	17.70
Arithmetic average, 7 samples		<u>.006</u>	<u>31.80</u>	<u>36.00</u>	<u>2.53</u>

Average silver-lead ratio: 0.88  
 Minimum silver-lead ratio: 0.39  
 Maximum silver-lead ratio: 1.98

Note: All original notations "Limestone" have been changed to "Dolomite" by the writer, as a result of his examination.

C. Samples taken by G.E. Medgley, P. Eng., on the main showing (No. 5, figure 2) are reported as follows:

<u>No.</u>	<u>Width</u>	<u>Description</u>	<u>% Cu.</u>
1	7'	Leached material	15.75
2	-	Selected from dump	27.36
3	18"	Footwall rock	0.44

D. The writer took check samples in 1969, and estimated the high grade part of the main showings, which is a mass of limonitized sulphides and malachite averaging at least in the 15% - 30% Cu. range across the 7' (long or wide ?) exposure.



These check samples are as follows:

<u>Location</u>	<u>Sample No.</u>	<u>Width</u>	<u>oz/t.Au.</u>	<u>oz/t.Ag.</u>	<u>% Cu.</u>
Main showing 5	Estimated	7'	-	-	15 - 30.0
HW dolomite 5	140	10' wide 5' high	.01	.5	1.86
Dissem. Cp. in D., 5 - 4	141	Float for 600'	.005	.3	.60
Float patch 15 (19846)	142	?	.01	4.0	15.35
9 - 14	Estimated	Pods & veinlets	Not assayed, silver-lead-zinc.		

Location 9 - 14, represented by the Brodell samples 19840 - 19845 and 19847, is an irregularly brecciated area with much gossan cementing dolomite fragments and  $\pm$  1" wide galena veinlets. Some of the patches are 3' wide; they occur over a length of some 300' and disappear under talus and grassy overburden. Trenching to fresh material is required to assess this occurrence.

#### E. Description of Copper Occurrences

The main showing was initially a remarkably high grade mass of limonitized sulphides and malachite and some cuprite. As originally exposed in the pit, it was limited by a HW bedding plane in the dolomite. The overlying dolomite shows patches and veinlets of quartz and chalcopryrite, some bornite and possibly some chalcocite, as well as malachite.

The original exposure in the bottom of the pit was 7' long and visible for a thickness of about 2'.

Additional trenching subsequently exposed a limonite gossan in the bottom of the pit for a thickness of 4' and a length of about 10'. Total length and thickness are unknown. This gossan, assaying 2.1% Cu., and 1.82 oz/t. Ag., is surmounted by a copper - oxide capping about 8" thick and assaying 35.3% Cu., and 0.28 oz/t. Ag. (Assay Report 6481-2, Whitehorse Assay Office, October 14, 1970).

These samples, of respectively 4.7 lbs. and 6 lbs. were taken by the writer and are representative samples.

The strike and depth extensions of this gossan mass is covered by soil and slide.

About 30' to the SE, the 60' - 70' wide gabbroic intrusive is exposed in argillite. To the N.W., the mineralized dolomite is found in float for at least 600' and is said to extend for two or three claim lengths to the most Northerly No. 1 occurrence. A light snow-cover in this area precluded following the float much further. In places, this float is said to run much higher in copper than the writer's sample 141 of 0.6% Cu.

There is always some quartz associated with the lower grade mineralization and the same is true to the South. Intermittent float is found, and in location 15, there is abundant good grade float; a snow-filled trench failed to locate the mineral in place. This occurrence is highly siliceous.

A number of samples were taken by Mt. Grant personnel in 1970 in trenches dug along the contact. These samples assayed 2% - 2.5% Cu., but no widths were reported and on October 6, 1970, one foot of snow precluded an examination of these trenches by the writer.

## 7. CONCLUSIONS

Many copper-showings follow a dolomite - argillite contact. Where intruded by a gabbroic intrusive, abundant copper-oxides overlie a mineralized dolomite bed assaying 2.1% Cu. and 1.82 <sup>oz</sup>/t. Ag. In addition, there is a 300' long zone containing abundant silver-bearing galena in brecciated dolomite, the width of which is not fully exposed.

The main copper-showing is of considerable interest and suggests a significant source of copper nearby. The presence

of copper-showings over a length of 2 - 3 miles along the argillite - dolomite contact, with the best showing near a gabbroic intrusive, suggests a potentially large zone which warrants much more investigation than has been carried out so far.

The helicopter-borne aeromagnetic survey carried out in 1968 by Seigel Associates with a Scintrex NPM-1 nuclear resonance airborne magnetometer, at 660' line-spacing and a mean terrain clearance of 300' and covering 45 line-miles showed a 200 - 250 gammas 3000' long anomaly parallel to the argillite - dolomite contact and 500 - 1000' East of the exposure near the main showing and down-dip from it.

This lends support to the hypothesis that a larger somewhat magnetic sulphide mass could occur down-dip from the main showing, the more scattered showings representing a bedding-controlled leakage halo.

#### 8. FURTHER EXPLORATION

Additional work should consist of:

- a) Geological and magnetic mapping on a scale of 1000' covering the favourable contact.
- b) Trenching and detailed mapping of the most prominent showings.
- c) Shallow drilling to about 150' from an existing suitable shelf above the main showing, using a Winkie-drill.

Our cost estimate is as follows:

Stage 1

Air-photo topo-maps, 1" = 1000'	\$ 1,200.00
Geologist and helper, 6 weeks	5,000.00
Magnetic surveying, 10 line-miles @ \$200.00	2,000.00
Trenching crew, one month	2,500.00
Cobra Drill, Rental and supplies	2,000.00
Radio, Telephone	500.00
Camp installation	2,500.00
Fixed wing and helicopter	2,500.00
Assaying, 50 samples @ \$16.00	800.00
Supplies and food, 100 man-days @ \$12.00	1,200.00
	<hr/>
	\$ 20,200.00
Engineering and Contigencies, 20%	4,000.00
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Field budget	\$ 24,200.00
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Stage 2

Drilling 6 holes of 150' @ \$16.00	\$ 15,000.00
Radio, Telephone	500.00
Fixed wing and helicopter	2,500.00
Supplies and food, 80 man-days @ \$12.00	1,000.00
Assaying, 50 samples @ \$16.00	800.00
	<hr/>
	\$ 19,800.00
Engineering and Contigencies, 20%	4,000.00
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Field budget	\$ 23,800.00
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Total Field budget	\$ 48,000.00
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SUMMARY AND RECOMMENDATIONS

The Neil-Luck Group of claims covers an East-dipping dolomite - argillite contact of Late Precambrian or Lower Cambrian age which exhibits a number of copper-occurrences, one of which is high-grade and carries abundant copper-oxides.

This showing lies near the West flank of a 3000' long magnetic anomaly and adjacent to a small, barely unroofed gabbroic intrusive.

There is also a zone of silver-lead with minor zinc within the dolomite.

This situation fully warrants detailed exploration, for which a field-budget of \$48,000.00 is recommended, to consist of geologic and magnetic mapping, hand-trenching and shallow drilling.

Respectfully submitted,

A handwritten signature in black ink, reading "P.H. Sevensma", is written over a horizontal line. The signature is stylized and cursive.

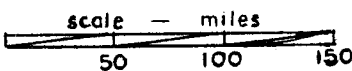
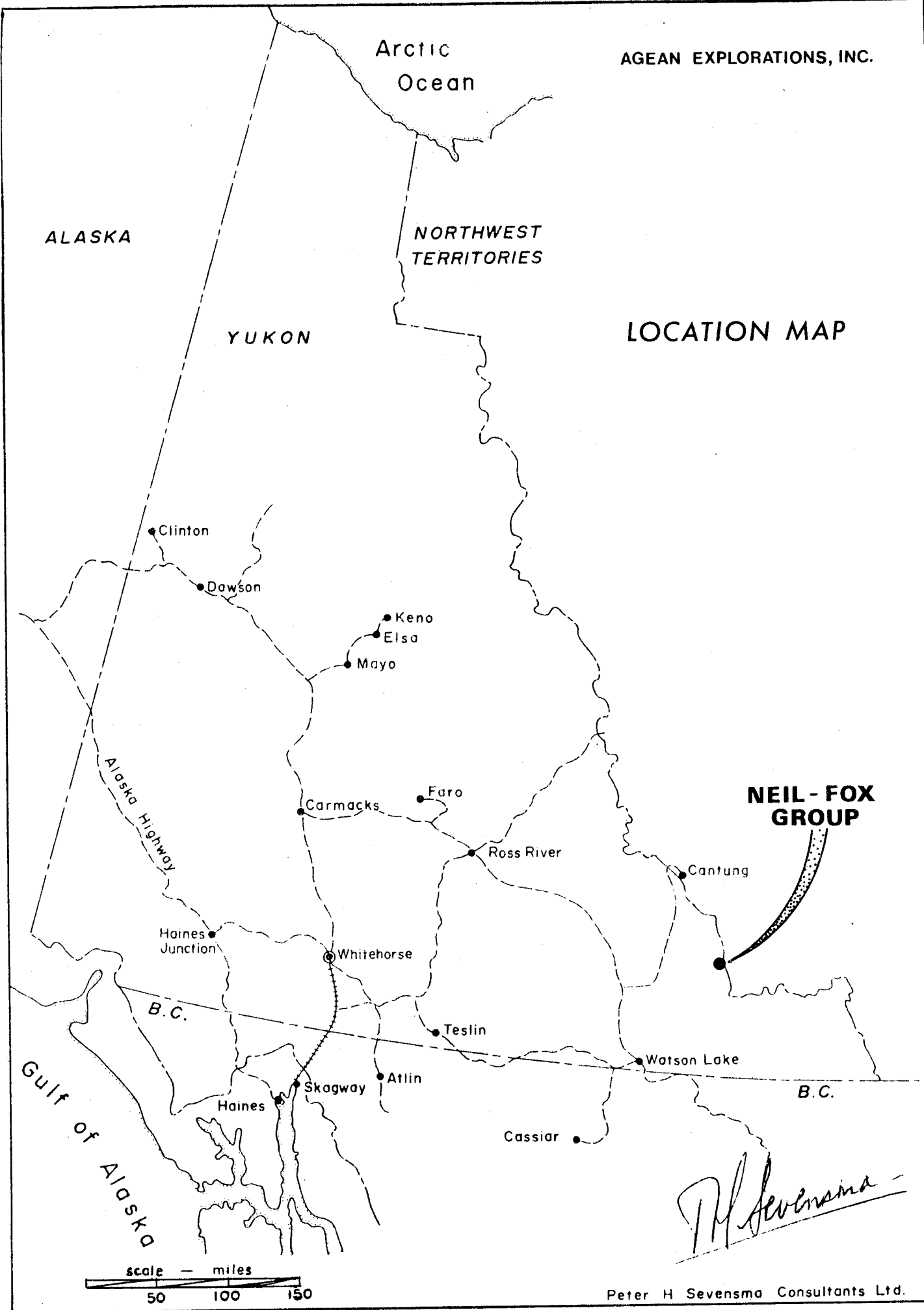
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January 24, 1977

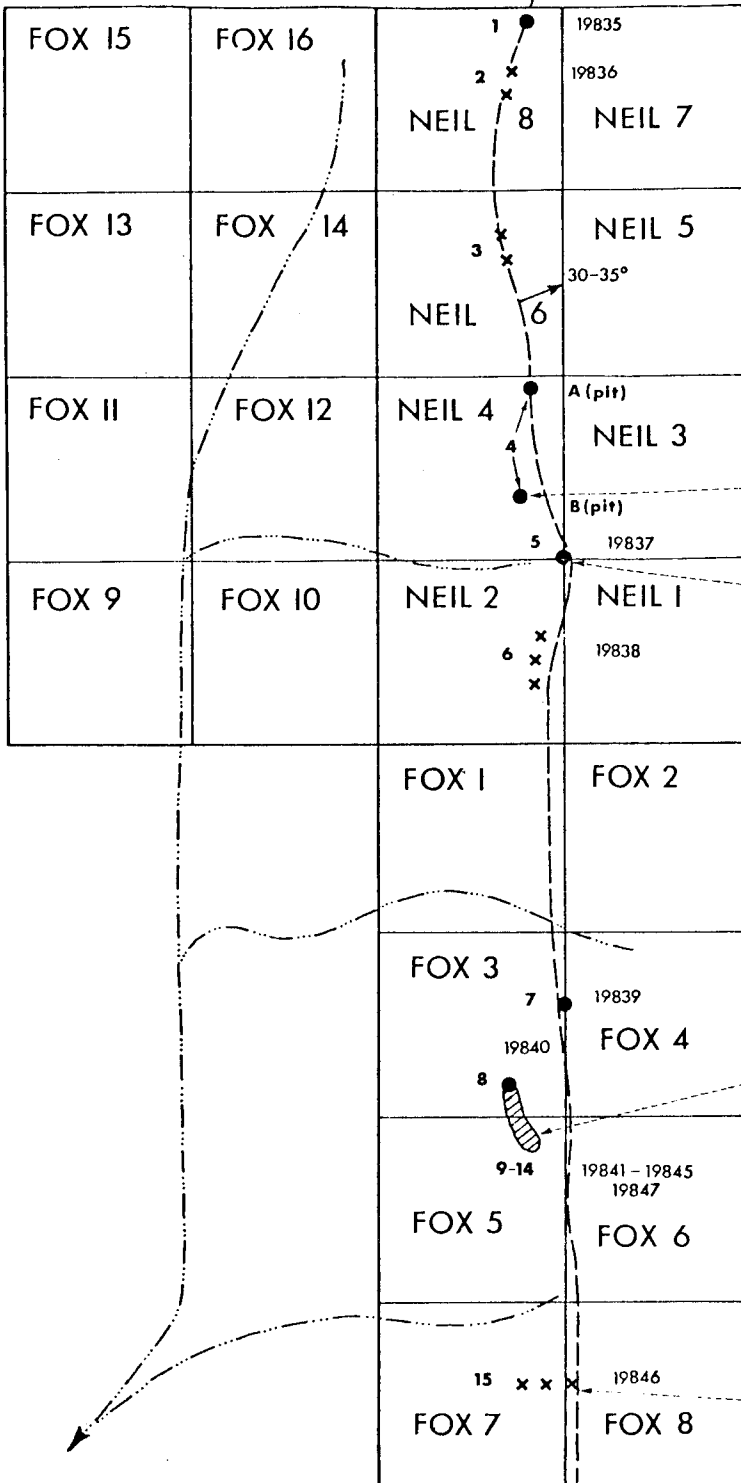
LOCATION MAP

**NEIL - FOX  
GROUP**



YUKON TERRITORY

N. W. T.



LEGEND

● In place

xx Float

Silver-Lead zone

19835-46 Brodell Syndicate sample numbers

1-14 Showing numbers

Trace of contact

*P. H. Sevensma*

AGEAN EXPLORATIONS, INC

NEIL-FOX GROUP — CLAIM MAP

LOCATION OF SHOWINGS

Nahanni M.D. - N.W.T. & WATSON LAKE M.D. - Y.T.

95-E-6

Peter H. Sevensma Consultants Ltd., Vancouver, B.C.

January, 1977

Scale: 0 1500'

Fig: 2