

86-625-15207

GEOPHYSICAL AND PROSPECTING

REPORT

FILMED

ON THE

ROSE CLAIM GROUP

GEOLOGICAL BRANCH
MINING DIVISION
ASSESSMENT REPORT

15,207

OSOYOO MINING DIVISION

8 E/12

LATITUDE: 49°43.7 NORTH

LONGITUDE: 119°55.7 WEST

OWNER/OPERATOR

ALMADEN RESOURCES CORP.

807 - 475 HOWE STREET

VANCOUVER, BRITISH COLUMBIA

PREPARED BY: D. DYLAN WATT, B.SC.

SUBMITTED: OCTOBER 30, 1986

SUB-RECEIVED
PROCESSED
OCT 30 1986
M.R. #
VANCOUVER B.C.

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INTRODUCTION

In late September 1985, Almaden Resources Corporation staked the Rose claim over ground showing anomalous silver values in soils and stream sediments. Reconnaissance geophysical surveys indicated anomalous conductors on the ground which prompted staking of the Dale and Lake claims in early November. At this time, the Rose #2 and Rose #3 claims were staked over a known silver showing found to be an open ground immediately to the east of the Dale claims. Further geophysical work and prospecting have followed, and the claims have been grouped as the Rose claim group. This report will detail the work done to date.

PROPERTY

The Rose group consists of 5 contiguous MGS claims totalling 79 units as follows:

CLAIM NAME	NO. OF UNITS	RECORD NO.	TAG NO.	EXPIRY DATE
Rose	20	2325	98476	30 Sept/86
Dale	14	2346	98475	5 Nov/86
Lake	15	2347	98477	5 Nov/86
Rose #2	15	2357	107171	15 Nov/86
Rose #3	15	2358	107172	15 Nov/86

These claims were staked between September 27 and November 13, 1985 and are currently held by Almaden Resources Corp. of Vancouver, B.C.

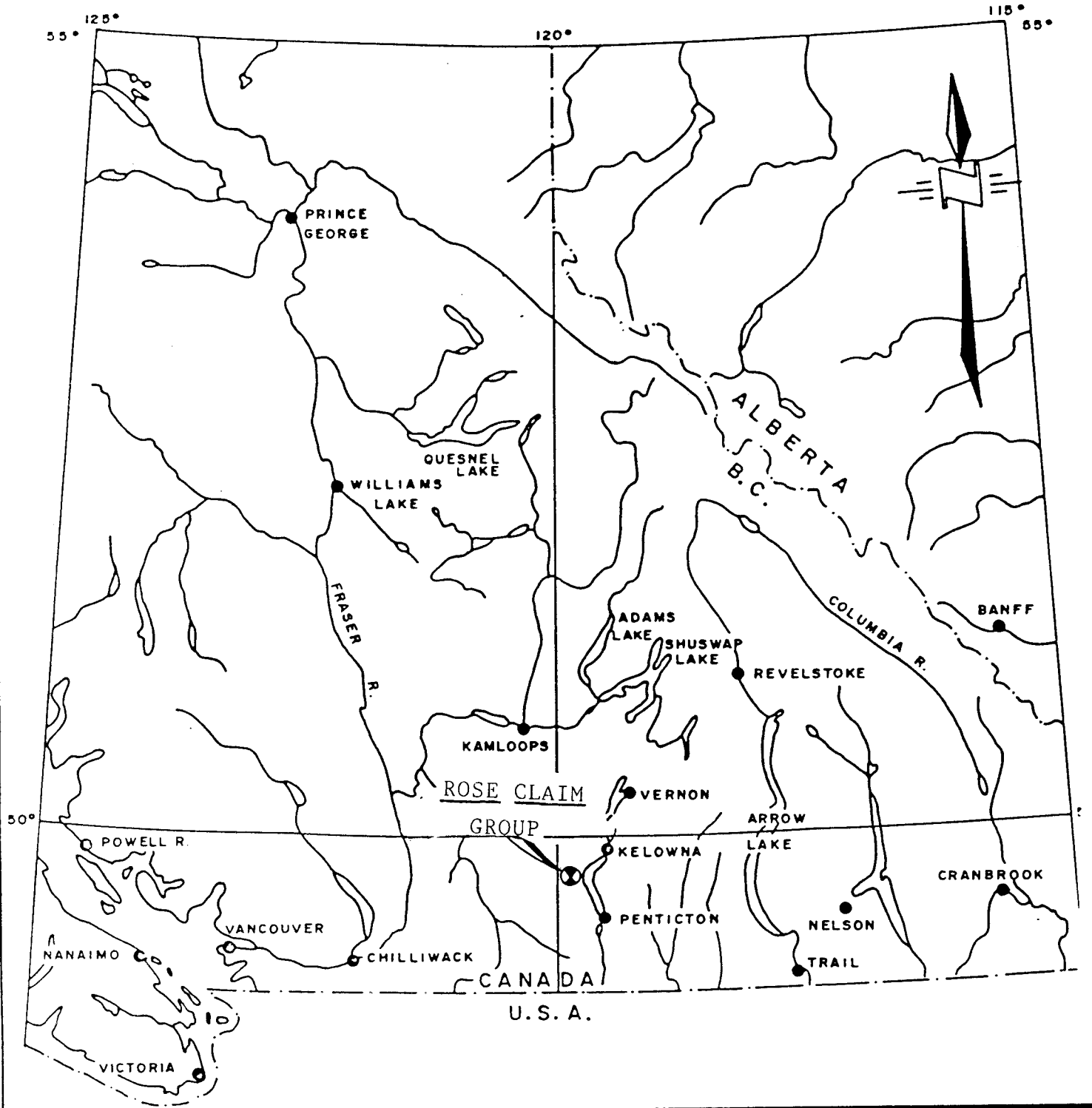
LOCATION AND ACCESS

The claim block is located in the Okanagan District of south-central British Columbia approximately 30 km northwest of Penticton. The geographic centre of the property lies at 49°44'N and 119°56'W.

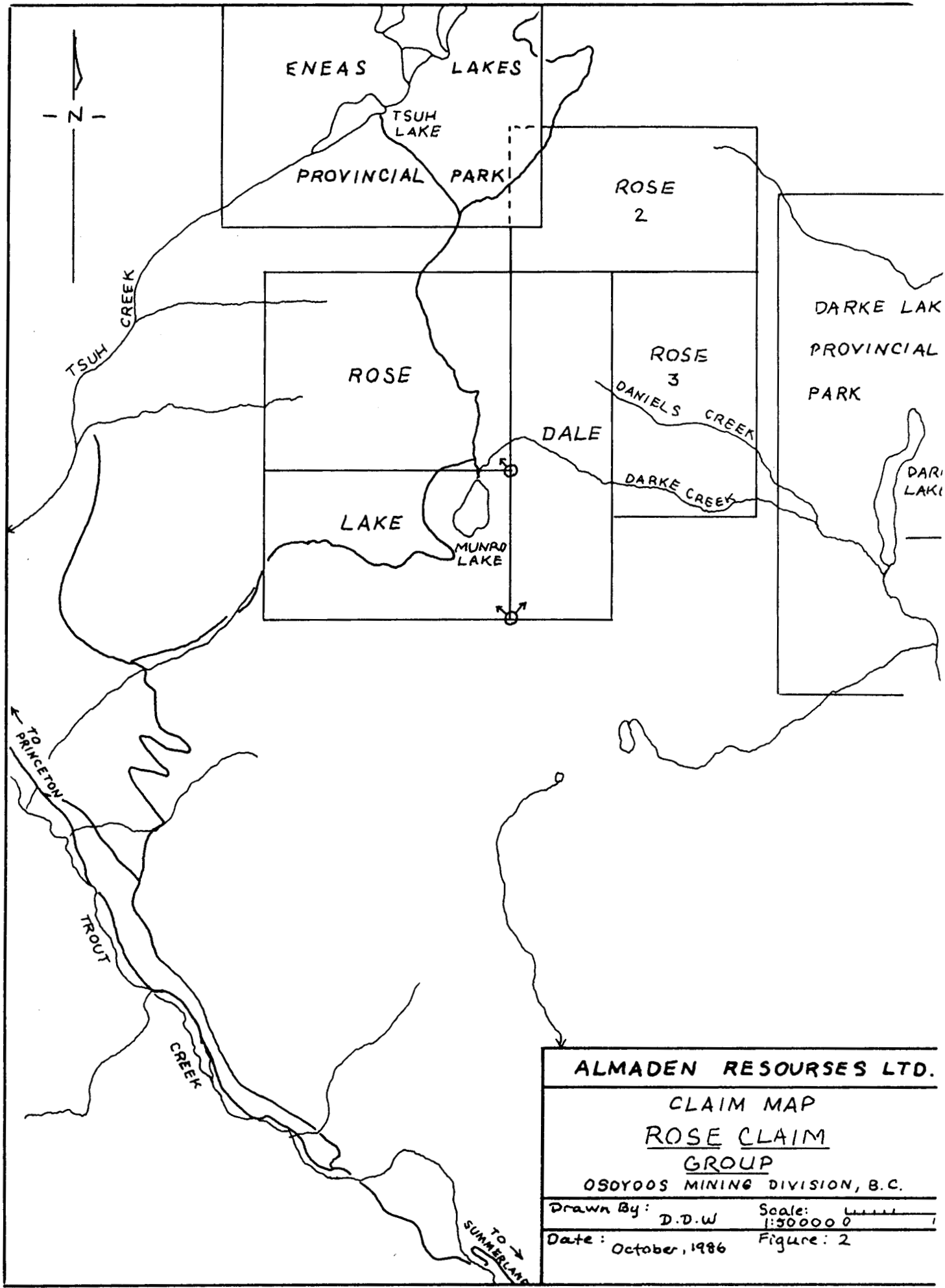
Access to the claims is made by following the Summerland-Princeton Highway which heads west from Highway 97 up the valley of Trout Creek. Approximately 20 km west of Summerland, at Kirton, a poorly maintained gravel road heads northerly up the valley of O'Hagan Creek to the property.

PHYSIOGRAPHY AND VEGETATION

The claims cover portions of a S to SE-trending ridge known locally as Baldy Mountain. The west half of the claim block (Rose and Lake Claims) covers a gently rolling plateau with elevations of 5000 - 5500' a.s.l. The eastern portion of the



ALMADEN RESOURCES CORP.	
LOCATION MAP	
ROSE CLAIM GROUP	
Scale: 1" = 64 Miles	DDW 10/86



ALMADEN RESOURCES LTD.

CLAIM MAP
ROSE CLAIM
GROUP

OSDYOOS MINING DIVISION, B.C.

Drawn By: D.D.W Scale: 1:50000

Date: October, 1986 Figure: 2

block (Dale, Rose 2, and Rose 3) covers the steeply dipping east slope of the plateau where elevations drop to approximately 3600' at the claim boundary.

Vegetation on the property consists primarily of thick stands of balsam, spruce and pine. Occasional swamps occur in the western portion of the claim group, which feed small streams flowing off the plateau. Munro Lake, a small, till-dammed glacial pond, is completely surrounded by the Lake claim.

The entire area is covered with glacial overburden, and outcrops on the claims are confined to bluffs at the edges of the plateau. Previous trenching on the Rose claim has exposed bedrock at depths of 1 to 3 m; however, one drill hole on the claim encountered 40 m.

GEOLOGY

The Rose group is situated at the eastern edge of the Coast Batholith Intrusions. The regional geology of the area west of Okanagan Lake is dominated by granitic rocks of the Jurassic Valhalla and Nelson Intrusive complexes. The Rose group is interpreted by Canadian Occidental geologists to lie in a "constriction zone" between two batholiths of the Nelson Complex, which was intruded by Valhalla rocks of granitic to quartz monzonite composition. These have in turn been intruded by narrow aplite dykes and larger quartz latite dykes. The latter occur in the Rose claim as well as in the vicinity of the Cache showing. Fracturing in the area varies from moderate to strong, with most fracture sets following the trend of northeast striking faults.

Alteration and mineralization on the Rose claim is said to be related to a weakly mineralized calc-alkaline porphyry Cu-Mo system. Low rank alteration is pervasive with local narrow envelopes of sericitized country rock enclosing mineralized fractures and quartz veins. Some faults are reportedly strongly chloritized. Weak chalcopyrite-molybdenite mineralization associated with pyrite (averages 61 ppm Cu and 32 ppm Mo in 1974 trenches) occurs in a zone approximately 850 m x 240 m exposed in Canadian Oxy's trenches. Analysis of previous samples after the release of government stream silt sample results in 1977, indicated highly anomalous silver values in the area. Bedrock analysis, however, failed to locate the source of the silver and drill cuttings.

The Cache showings and the Glad showings (2 miles south of the Rose group) are thought to be part of a precious metal-rich halo to the base metal mineralization exposed on the Rose claims. These showings expose silver mineralization and quartz veining in zones of altered silicified granodiorite which trend northeast. Mineralization consists of chalcopyrite, pyrite, and specular hematite as replacements or in quartz veins. The Ministry of Mines Annual Report for 1967 reports mention of wire silver shipments from an adit in the vicinity of the Cache showing.

EXPLORATION HISTORY

The ground now covered by the Rose claim group has been actively explored since 1966 when this region was extensively tested in the wake of the discovery and development of the Brenda Mines Mo-Cu orebody.

Lakeland Base Metals discovered low grade Cu-Mo mineralization (known as the Jass showing) after follow-up of anomalous silt samples. Geochemical soil sampling, trenching and approximately 60 m of percussion drilling resulted from options to Brenda Mines Ltd. and Brenmac Mines Ltd.

In 1966-67, Koporak Mines Ltd. was investigating a silver occurrence on their Cache claims, which are currently covered by the Rose 2 claim. Road building, trenching, and an induced polarization survey failed to resolve Ag anomalies in soils around a reported occurrence of wire silver. Kerr-Addison surveyed the Cache showing and the Glad showing, approximately two miles to the south, using airborne magnetic techniques in 1969.

The area was inactive until 1973 when Canadian Occidental Petroleum Ltd. re-staked the Jass showing (area of the Rose claim). In 1974 this company carried out geological, geochemical and ground magnetic surveys. A number of Cu-Mo-Zn anomalies were outlined, and the three best targets were drill-tested.

In 1976, the G.S.C. released survey results from a large scale stream sediment geochemistry programme which showed significantly anomalous silver values in streams draining the Munro Lake plateau. As a result, Canadian Oxy reanalyzed all soil and drill core samples for Ag. One diamond drill hole totalling 170 m tested the highest anomaly.

In 1981, Canadian Occidental performed a total of 400 m of trenching over a significant Ag-Pb-Zn anomaly in the NW corner of their grid.

SURVEY PROCEDURES

VLF-EM Survey

Since Canadian Occidental's grid lines were still recognizable, it was decided that surveying their grid system would benefit Almaden Resources by relating the results of the current survey to the geological, geochemical and geophysical data collected by Canadian Oxy during the course of their work. For this reason, the usual reconnaissance grid spacing of 50 m stations on lines 100 m apart was modified to 100 ft. (31 m) stations on 400 ft. (120 m) lines over large geochemical anomalies, and 800 ft. (240 m) lines over smaller anomalies.

Readings were taken using a Phoenix VLF-2 model receiver tuned to the Seattle, Wa., Cutler, Me, and Annapolis, Md. transmitting stations (24.8, 24.0 and 21.8 KHz, respectively). These readings were plotted (using Krone's convention), interpreted, and the results plotted on a plan map. (See Appendices)

Prospecting

Two days were spent prospecting ground on the Rose 3 claim searching for indications of the Cache showings (whose location was only vaguely described in the B.C. Mines Annual Report for 1966). A total of 4 km² was investigated in a roughly circular traverse (see sketch). Samples of outcrop were taken where staining indicated the presence of mineralization, and these outcrops were appropriately marked. No workings were found during these traverses. However, upon later discussion with A.D.K. Burton, the engineer for Koparak Mines in 1966, it was found that the Cache showings are located somewhat to the south, and downhill from the traverses completed by Almaden personnel.

RESULTS AND INTERPRETATION

VLF-EM Survey

Most of the anomalies observed at this line spacing (120 - 240 m) are "one-line" anomalies (See Figure 7). Closer line spacing (60 m between lines) would be necessary to further define them. These anomalies are scattered over the entire survey area; however, two parallel anomaly trends are apparent in the southern part of the grid.

Anomaly #4 stretches 600 m from 36+00E, 6+80N to 48+00E, 20+50N. A further extension to 56+00E, 26+50N is possible, but is only reflected in the Cutler reading on that line. Aerial photos indicate a structural trend along this anomaly which continues on through anomalies on the 84E, 88E, and 92E lines, a strike length of over 2000 m. Conductivity over the 600 m is good, but fades east of the 48E line.

Anomaly #2 parallels the trend of #1, 200 m to the north. The anomaly extends from 20+00E, 2+30N to 40+00E, 19+20N. Readings on the 48+00E line do not show any extension of the anomaly, indicating a strike length of 1000 m open to the south.

Preliminary interpretation of VLF sections (Figs. 4,5,6) indicates that Anomaly #1 dips to the north at between 45° and 90° and the depth to the centre of the anomaly lies between 200 and 300 ft. (60-100m). Dip measurements from Anomaly #2 show common dip readings of 80°N and a depth to anomaly centre at 250-300 ft. (80-100 m).

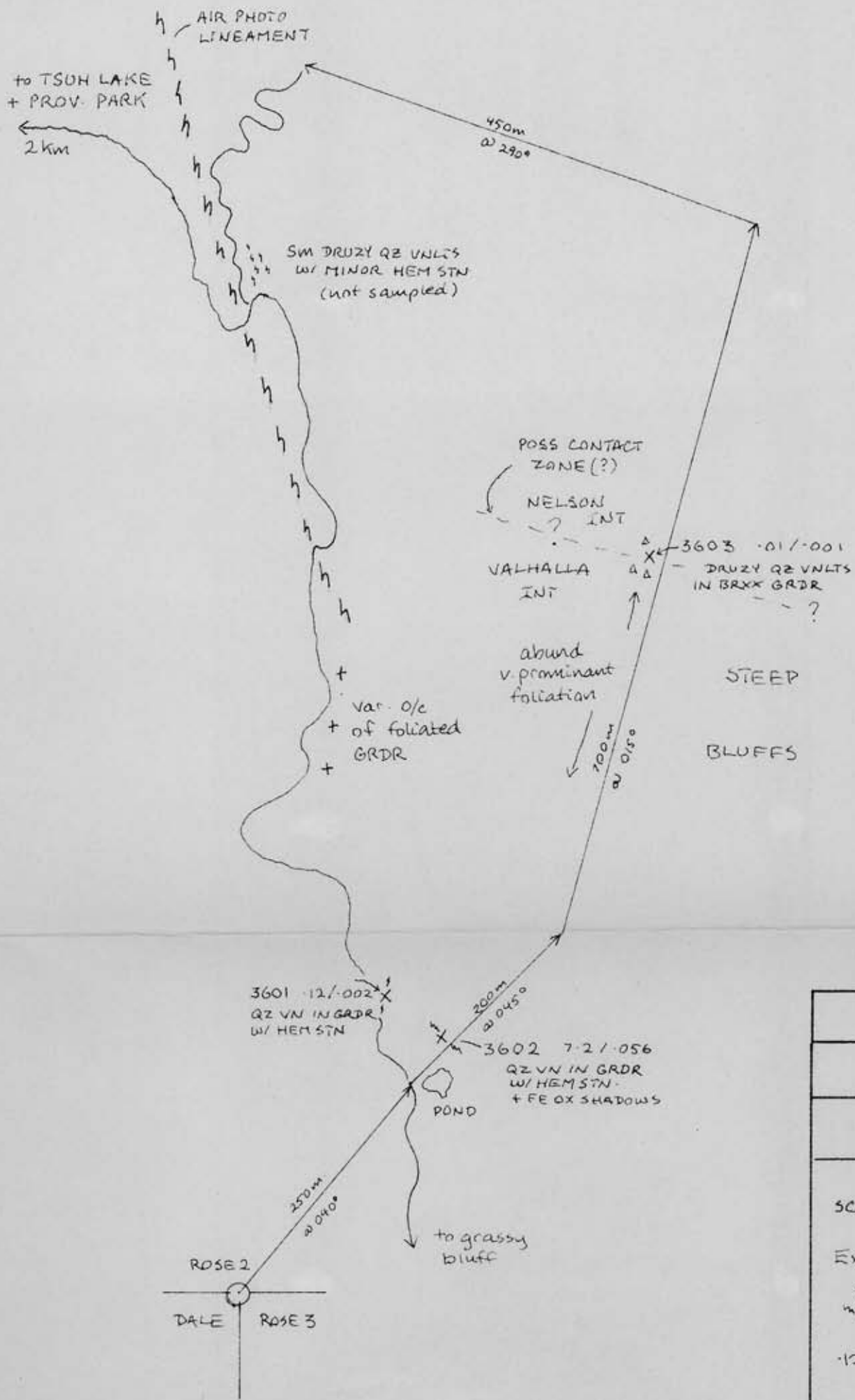
The trend of both anomalies is between 040° and 050° in the area of strongest conductivity. An interesting point is that this trend is similar to mineralization exposed at the Cache showings. It is thought that Anomalies #1 and #2 are related to fracture zones or shears in the underlying granodiorite.

Prospecting

In searching for the Cache showing, three separate quartz veins showing signs of mineralization were sampled (see Appendix for Assay Certificate). All three veins outcropped along steep bluffs in the eastern part of the Rose #2 claim (see Figure 3). Results were as follows:

SAMPLE NO.	DESCRIPTION	Oz/ton	Oz/ton
		Au	Ag
3601	Roadside quartz vein material in granite. Red hematite stain with goethite shadows.	0.002	0.12
3602	50 m E of road 10" quartz vein o/c in granite. Similar stain and goethite shadows as 3601.	0.056	7.2
3603	400 m ENE of road 4" quartz vein in 15" brecciated granite (?). Some druzy crystals Red hematite stain	0.001	0.01

While not of economic grade, Sample 3602 shows definite signs of anomalous silver mineralization, and efforts should be made to locate any more quartz veins outcropping in this area.



ALMADEN RESOURCES	
PROSPECTING TRAVERSE	
ROSE 2 CLAIM	
scale 1:5000	drawn by: DDW
Explanation:	Fig. 3
x = sample location	
"m = strike of vein or structure	
·12/002 = sample assay	Ag (02/t) / Ag (02/t)

CONCLUSIONS

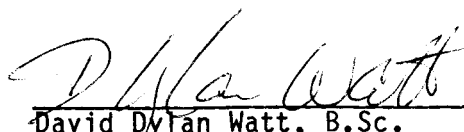
The work carried out on the Rose claim group in October and November of 1985 indicates potential for the discovery of as yet unknown silver mineralization in the area. VLF-EM surveys outlined two conductors of significant strike length as well as multiple "one-line" anomalies on the Rose and Lake claims. Both claims should be tested in further detail to outline known anomalies and to discover possible new anomalies. It is recommended that these anomalies be tested using induced polarization methods and that overburden drilling techniques be used to test for silver mineralization.

Geophysical surveys and more prospecting should also be implemented on the Cache showings to augment previous soil geochemistry. These techniques might combine to better locate the reported wire silver showing.

AUTHOR'S QUALIFICATIONS

I, David Dylan Watt, of Vancouver, British Columbia, do hereby certify that:

- 1) I am a geologist residing at 309-1996 Trutch Street, Vancouver, British Columbia.
- 2) I am a graduate of the University of British Columbia, holding a Bachelor's Degree in Science (1984) in the field of Geology and I have been employed as an exploration geologist in Canada and the U.S. since my graduation.
- 3) I have collected, or aided in the collection of, all data and observations recorded in this report.
- 4) I have no interest in the property described herein.



David Dylan Watt, B.Sc.

20 October 1986.

ENDORSEMENT

I, Duane Poliquin, P.Eng., hereby certify that:

- 1) I am a geological engineer with a B.Sc. in Engineering from the University of Saskatchewan received in 1962.
- 2) I am a Registered Professional Engineer in the Province of British Columbia and Manitoba.
- 3) I have been continuously practising my profession since 1962 and have offices at 807 - 475 Howe Street, Vancouver, British Columbia, V6C 2B3.
- 4) Mr. Dylan Watt is a geologist in my employ and his work on the Rose claims and the report he has prepared were all done under my supervision.

Respectfully submitted,



Duane Poliquin, P.Eng.

20 October 1986

REFERENCES

- Little, H.W., 1961 Geology Kettle River (West Half); Geol. Surv., Canada, Map 15-1961.
- Carr, J.M., 1967 Description of Property of Lakeland Base Metals and Kaparak Mines Ltd.; Annual Report of B.C. Minister of Mines, 1967, pp. 213-215.
- Hendrick, M.P., 1981 Trenching Report on Mun Claims, Private report to Canadian Occidental Petroleum Ltd.; Assessment Report 10445 Minerals Resources Branch, B.C. Ministry of Energy, Mines and Petroleum Resources.
- Wallis, R.H., 1977 Silver and Gold Geochemistry of the Mun Claim Group; Assessment Report 6399, B.C. M.E.M.P.R.
- MacDonald, C.C., 1977 Diamond Drilling on the Mun Claims; Assessment Report 6558, B.C.M.E.M.P.R.
- Hornbrook, E.R.W.
et al, 1981 National Geochemical Reconnaissance; 1:2,000,000 Coloured Compilation Map series, Southeastern British Columbia (82E,F, K, L and M); G.S.C. Open File 736.
- Dawson, J.M., 1985 Report on the Munro Lake Silver Property for Almaden Resources.

APPENDIX I

ACME ANALYTICAL LABORATORIES LTD.
 852 E. HASTINGS, VANCOUVER B.C.
 PH: (604) 253-3158 COMPUTER LINE: 251-1011

DATE RECEIVED SEPT 23 1986

DATE REPORTS MAILED Oct 2/86

ASSAY CERTIFICATE

SAMPLE TYPE : ROCK - CRUSHED AND PULVERIZED TO -100 MESH.
 Ag** AND Au** BY FIRE ASSAY

ASSAYER Dean Toye DEAN TOYE . CERTIFIED B.C. ASSAYER

HAWK MOUNTAIN RESOURCES FILE# 86-2820A

PAGE# 1

SAMPLE	Ag** oz/t	Au** oz/t
3601	.12	.002
3602	7.22	.056
3603	.01	.001

APPENDIX II
STATEMENT OF COSTS

Mob/Demob

(3 return trips to Penticton)	
2 geologists for 6 days @ \$150/man/day	\$ 1,800.00
Food @ \$20/man/day	240.00
1800 km @ \$.10/km	180.00

Field Work

2 geologists for 13 days @ \$150/man/day	3,900.00
Food @ \$20/man/day	520.00
Motel @ \$40/man/night	1,200.00

Transportation

Four wheel drive for 13 days @ \$20/day	260.00
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Equipment & Supplies

VLF-EM unit for 13 days @ \$20/day	260.00
Supplies (flagging tape, sample bags, etc.)	100.00

Assay Costs

3 samples Au/Ag Assay @ \$11.25	33.75
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Report Preparation

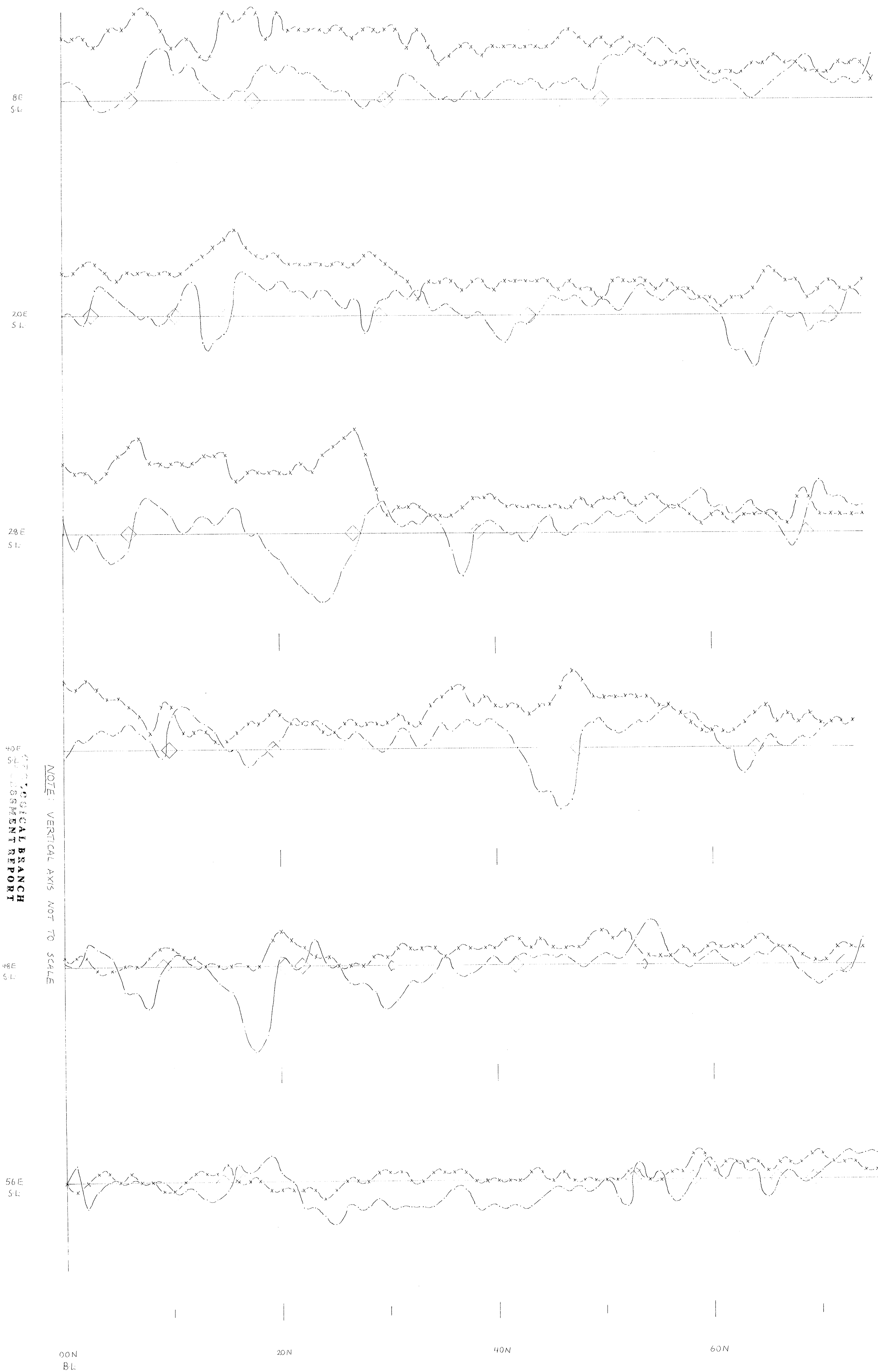
1 geologist for 10 days @ \$250 day	1,500.00
1 engineer for 1 day @ \$400/day	400.00
Supplies, typing, copying	<u>100.00</u>

Sub-total	\$ 10,493.75
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Less: P.A.C. withdrawl	<u>(2,180.00)</u>
------------------------	-------------------

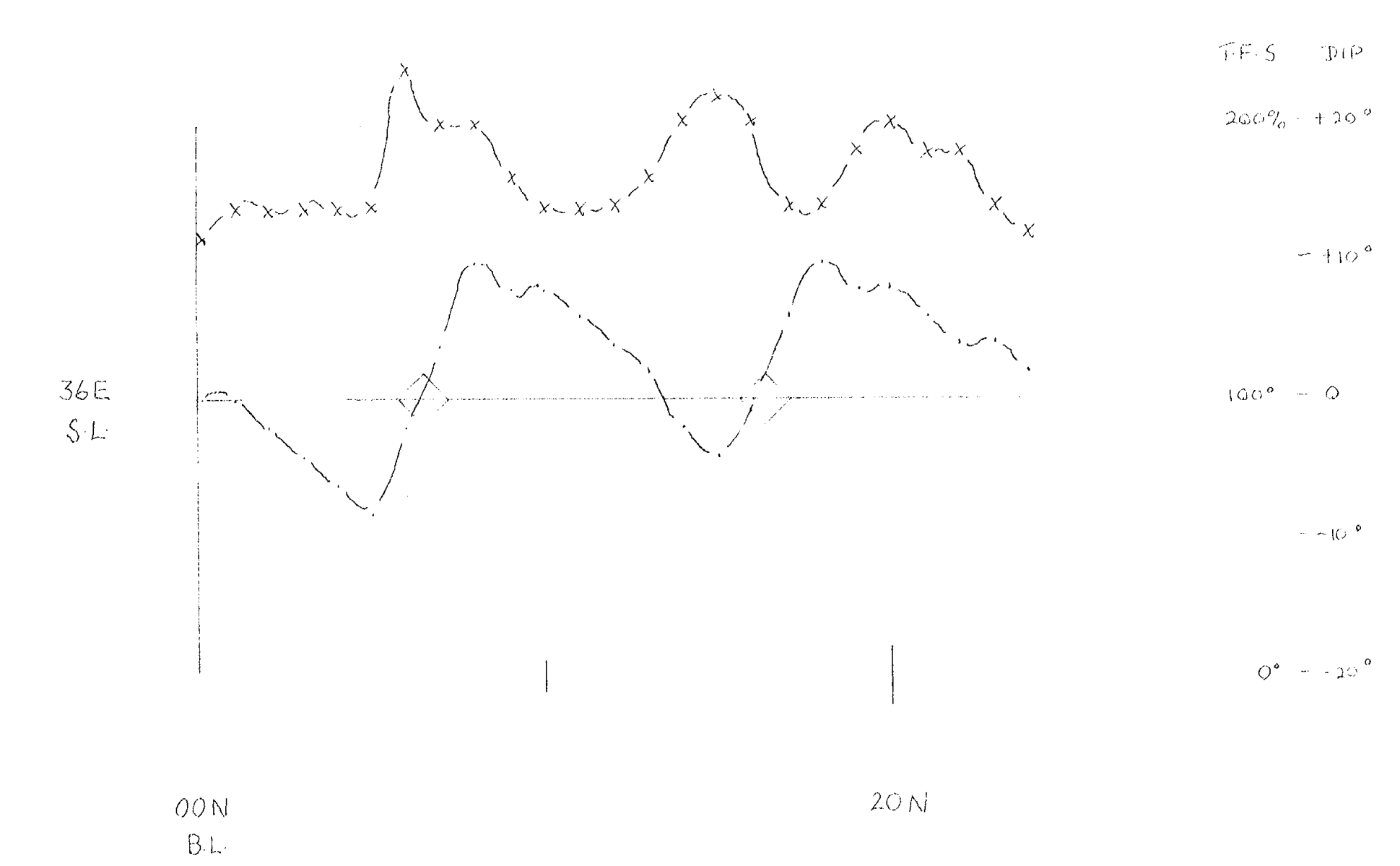
Total Applicable:	\$ 8,313.75 =====
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15,207



SEATTLE
24.8 KHz. N →

◇ = crossover

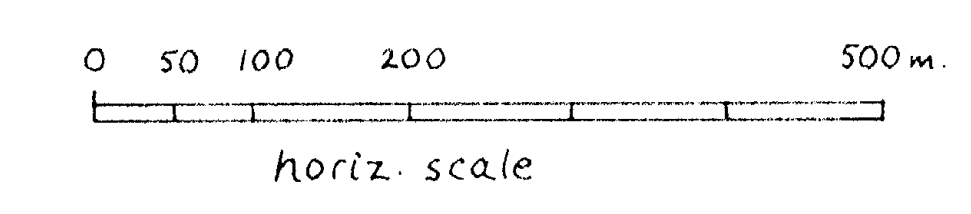


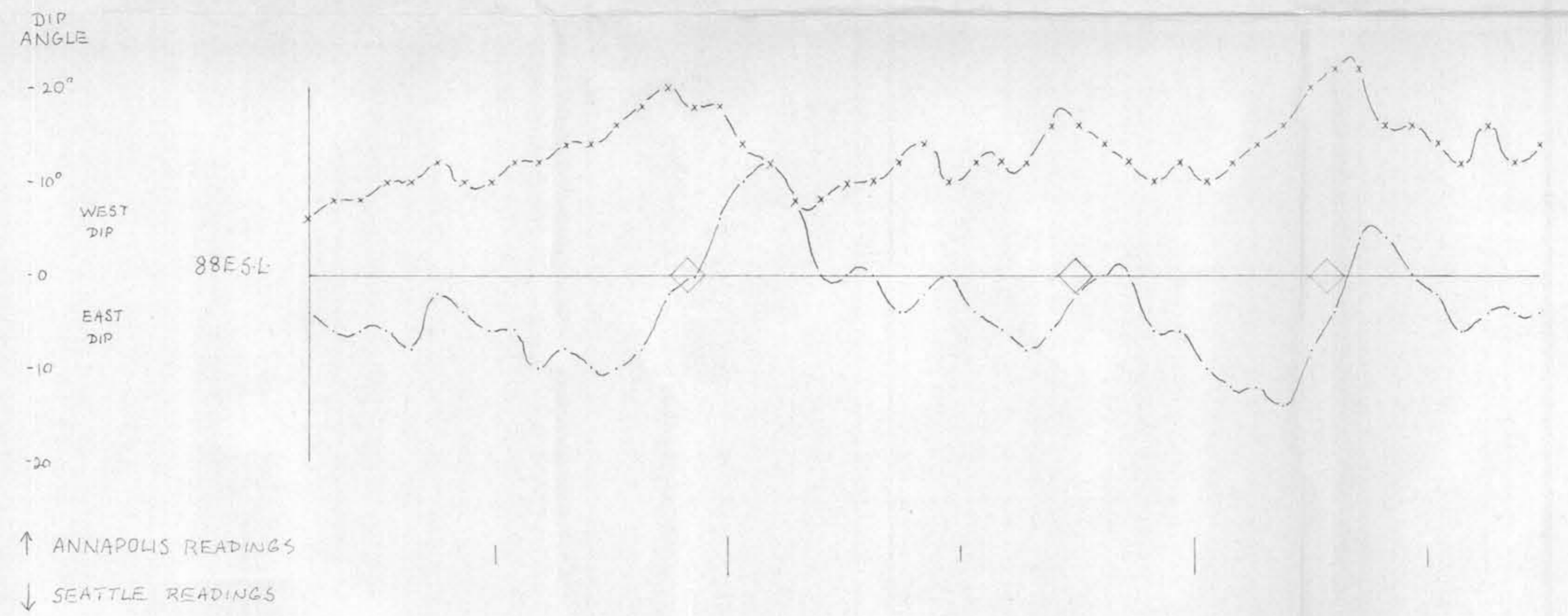
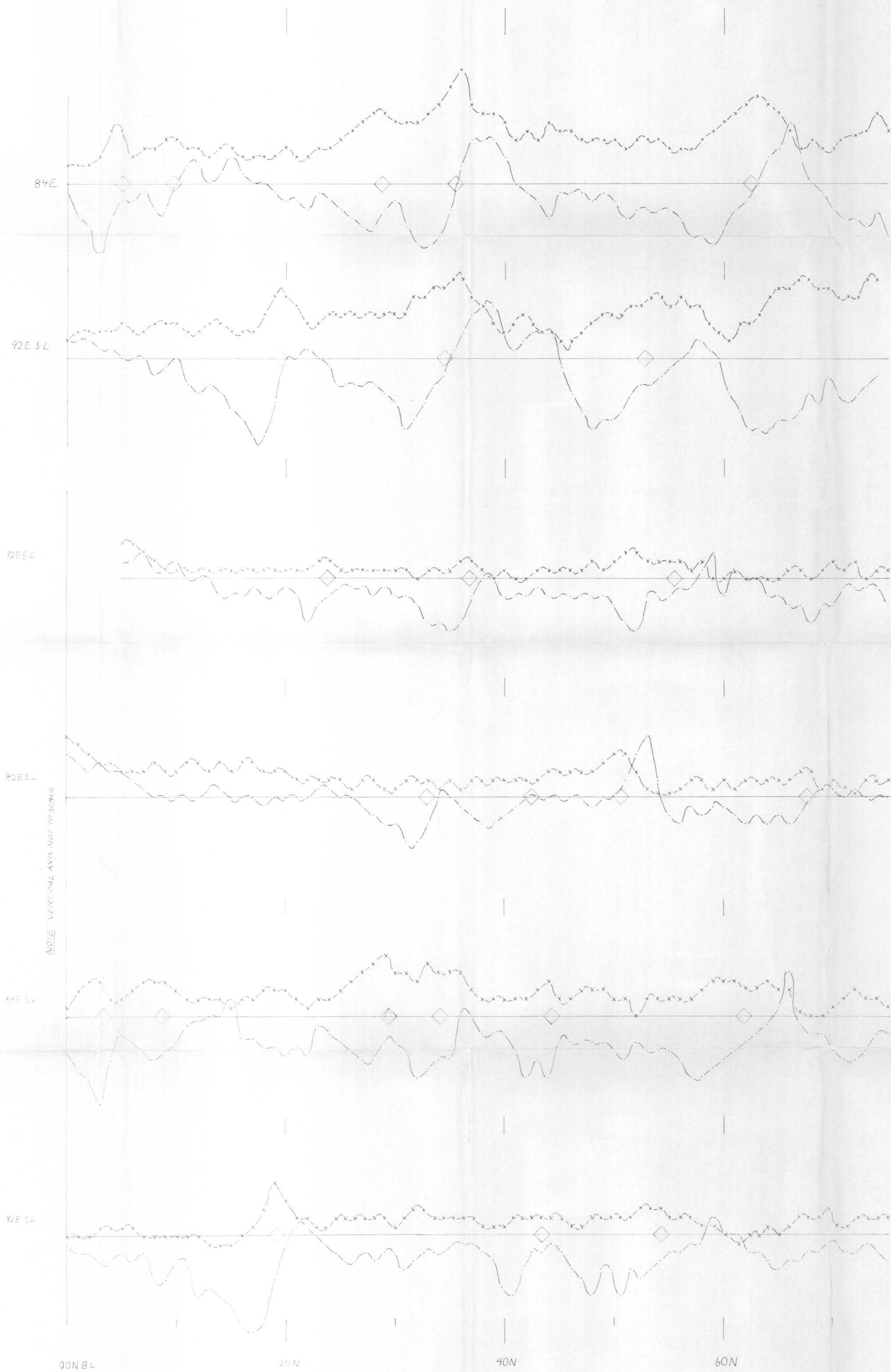
TOTAL FIELD
STRENGTH
400%

DIP
ANGLE
120°

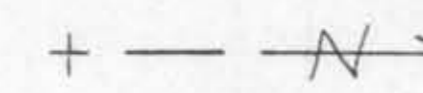
150% - 110°
100% - 0°
50% - 10°
0% - 20°

ALMADEN RESOURCES
ROSE CLAIMS
MUNRO LAKE B.C.
FIG. 4
VLF-EM SECTIONS
SEATTLE TRANSMITTER





SEATTLE
24.8 KHz



ANNAPOLIS
21.4 KHz

◇ = crossover

TOTAL FIELD/DIP ANGLE
STRENGTH
(-x-x-) (---)

200% 20°

10°

N dip

100% 0°

S dip

10°

0 20°

80N

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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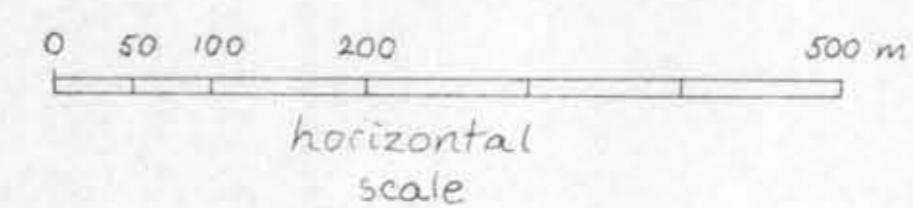
ALMADEN RESOURCES

ROSE CLAIMS

FIG 5

VLF-EM SECTIONS

SEATTLE/ANNAPOLIS TRANSMITTERS



200% 20°

10°

N dip

100% 0°

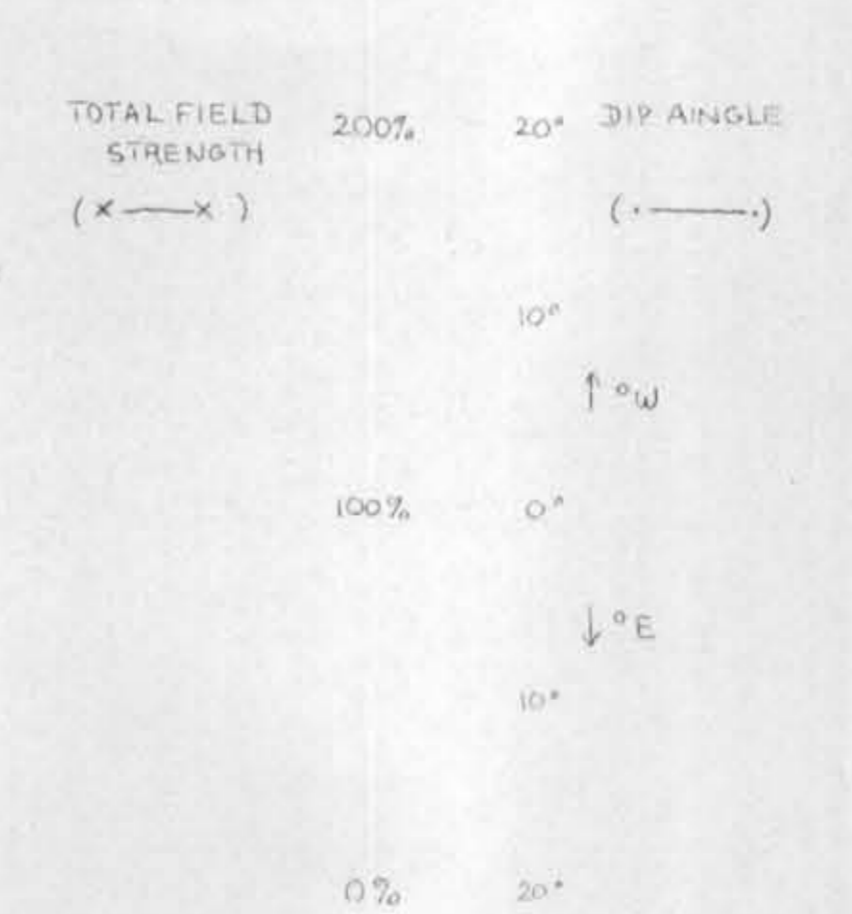
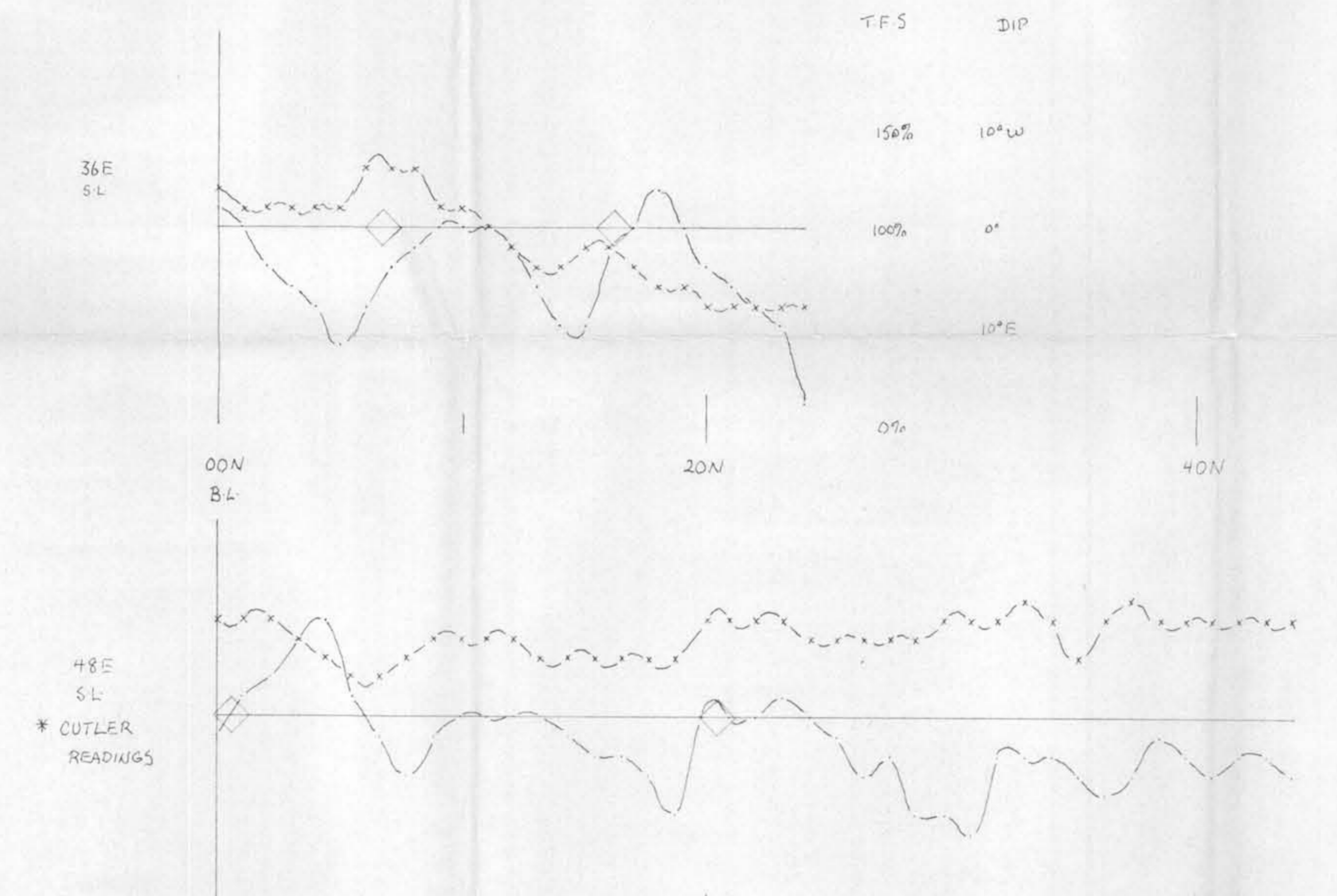
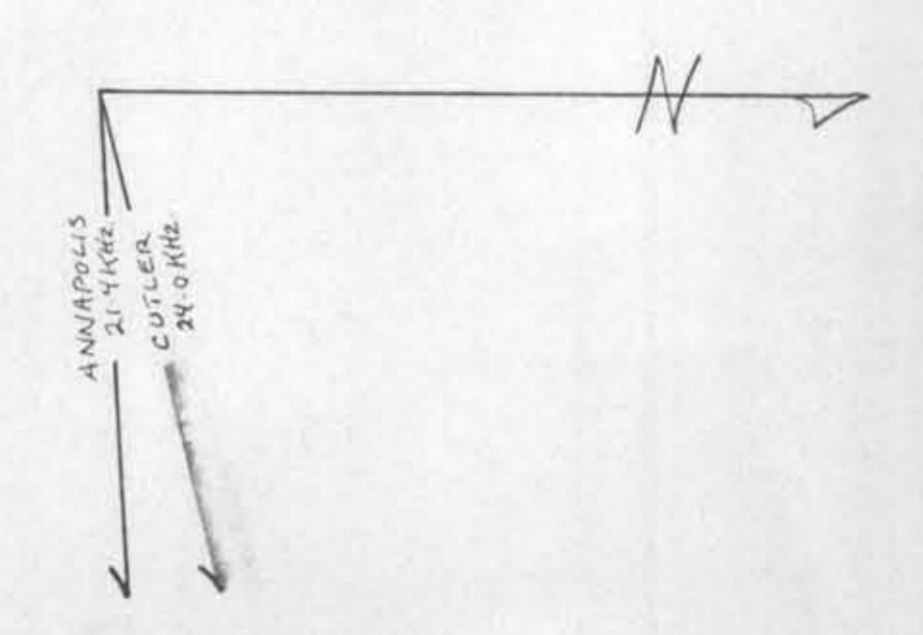
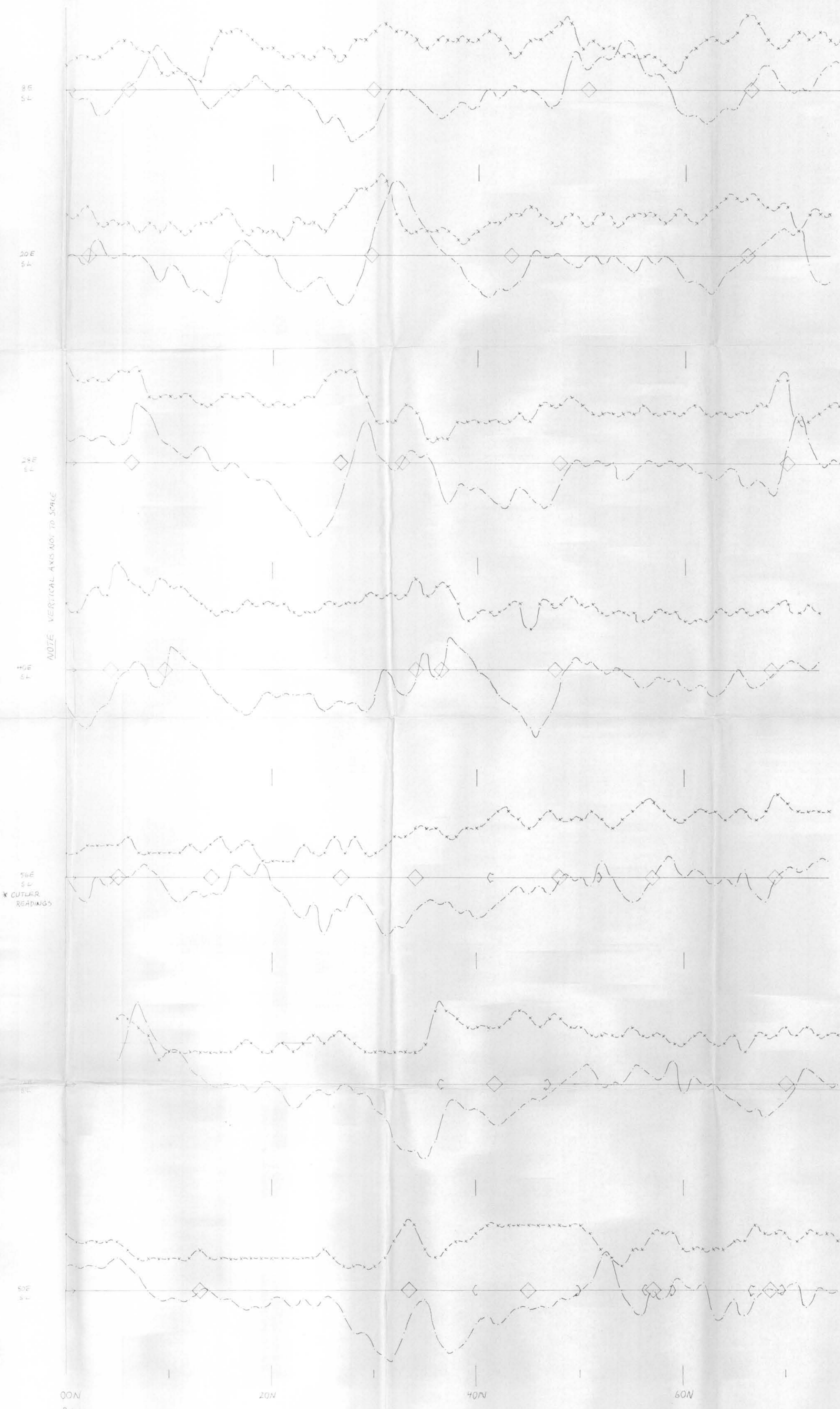
T.F.S.

S dip

0 20°

40N

60N



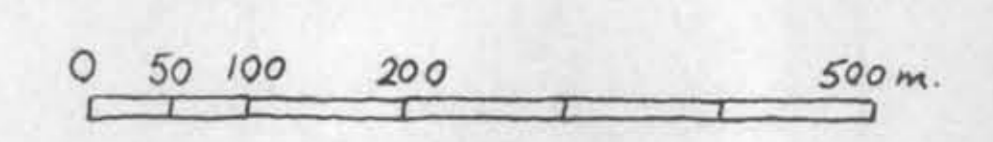
ALMADEN RESOURCES

ROSE CLAIMS

MUNROLAKE, B.C.

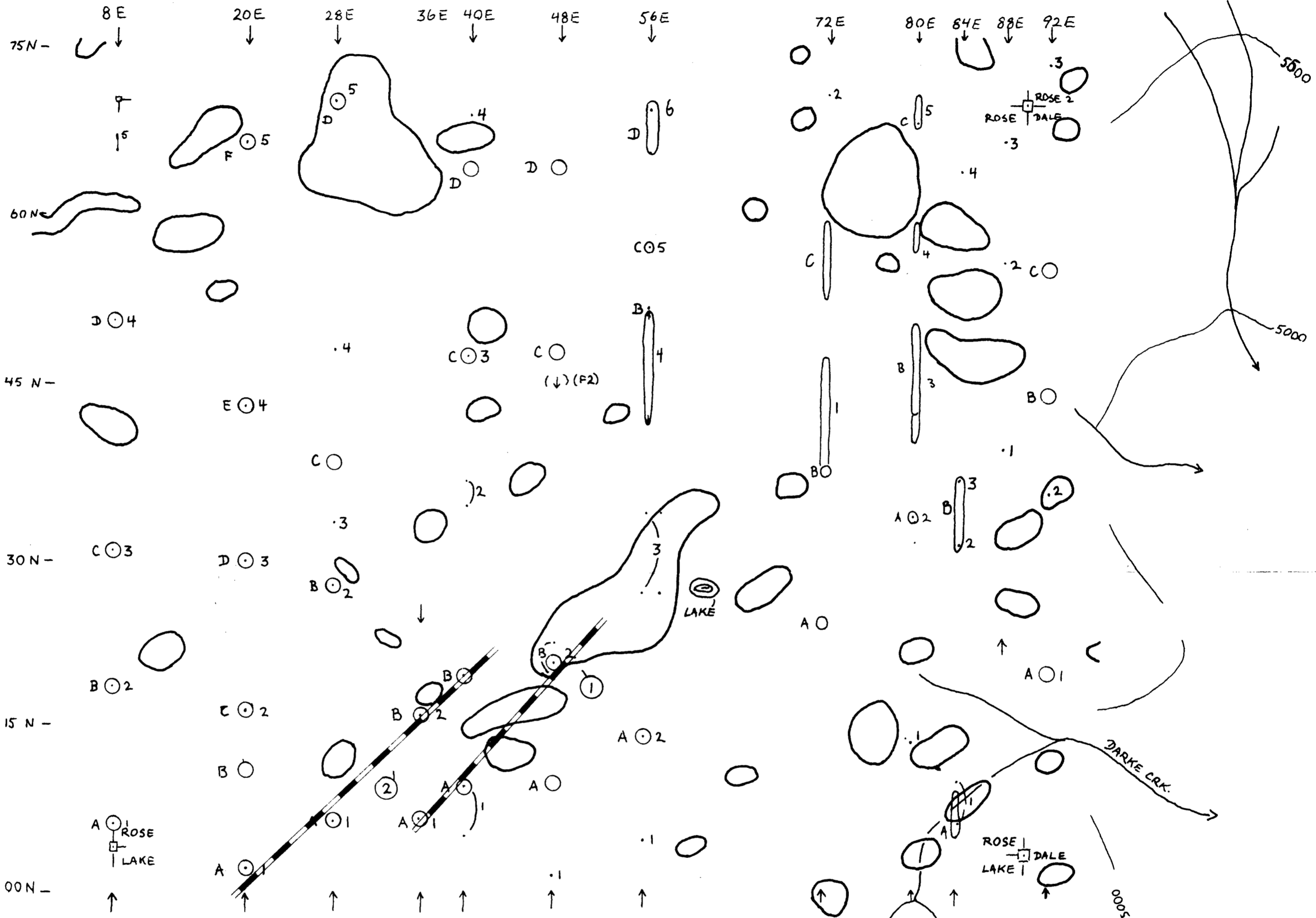
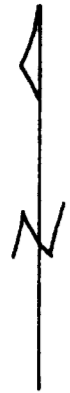
82E/12W
FIG. 6

VLF-EM SECTIONS
ANNAPOLIS TRANSMITTER



GEOLOGICAL BRANCH
ASSESSMENT REPORT

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LEGEND

□ claim corner post
5000 — elev. a.s.l.

VLF-EM RESULTS

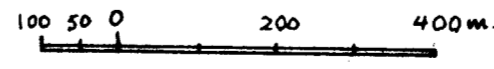
- 1 - ANNAPOLIS/CUTLER CROSSOVER
- A ○ SEATTLE CROSSOVER
- A 1 ○ CONCURRENT CROSSOVERS
- ① CONDUCTOR

○ CANOXY SOIL GEOCHEM ANOMALY (> 2 PPM AG)

O'HAGAN CRK.

CUTLER 24.0 KHz
ANNAPOLIS 21.4 KHz

SEATTLE TRANSMITTER 24.8 KHz.



**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

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ALMADEN RESOURCES

ROSE CLAIMS

1977 SOIL GEOCHEMISTRY
1986 VLF-EM ANOMALY
COMPILATION PLAN
FIG. 7