GEOPHYSICAL INVESTIGATION OF THE KAL CLAIMS

(Electromagnetic and Magnetometer Surveys)

SELWYN PROJECT, EARN LAKE AREA, MAYO MINING DIVISION, Y.T.

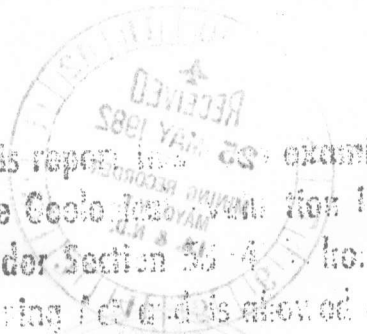
Lat: 62° 56'N Long: 135° 15'W NTS: 105 L14

Field Work performed within the period March 1 - April 4, 1982

Claims: KAL 1-80

May 12, 1982

Alan R. Scott



This report was examined by the Geological Survey for first under Section 36 (4) (a) (ii) of the Quartz Mining Act and is allowed as representation work to the amount of $ 16,000.

P Walker

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

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APPENDICES

Introduction

During the period March 1 to April 4, 1982, a linecutting and geophysical survey program was completed over portions of Anaconda's Selwyn Project claims. This report is concerned with the portion of that work done on the KAL claims.

The purpose of the Geophysical work was to define the location, and further investigate electromagnetic conductors detected on an airborne survey completed in the spring of 1981 (flown by Geoterrex and previously submitted by Carlson, 1981).

This report describes the methodology of the geophysical surveys conducted on the KAL claims, presents the data, and discusses the results.

Location and Access

Anaconda's Selwyn Project is located about midway between the towns of Mayo and Faro, Yukon Territory (Drawing 1). This winter's work was conducted out of a central base camp located on the north shore of Earn Lake, utilizing helicopter support for local access. Access to the base camp was by fixed wing aircraft from Whitehorse.

Ground Control

The location of the grids/traverses was chosen by reference to the helicopter EM survey flight path recovery and topographic maps. All base lines or traverses were turned off by compass, and cross lines by a nail board. Linecutting was accomplished by back sighting along pickets, and the quality of the lines is very good. Chaining of stations was by taut chain along the slope, with pickets placed at 25 meter intervals. The angle of slope was measured by inclinometer. The lines were tied in to topographic features wherever possible, for transfer to the location map (Drawing 2).

LOCATION MAP

SELWYN PROJECT

SCALE : 1 = 250.000

BUM GROUP

KAL GROUP

BUSH GROUP

CLARE GROUP

ACE GROUP

CAMP

RABBIT GROUP

WAD GROUP

MT MENZIE

WILKINSON RANGE

MACMILLAN RIVER

PELLY RIVER

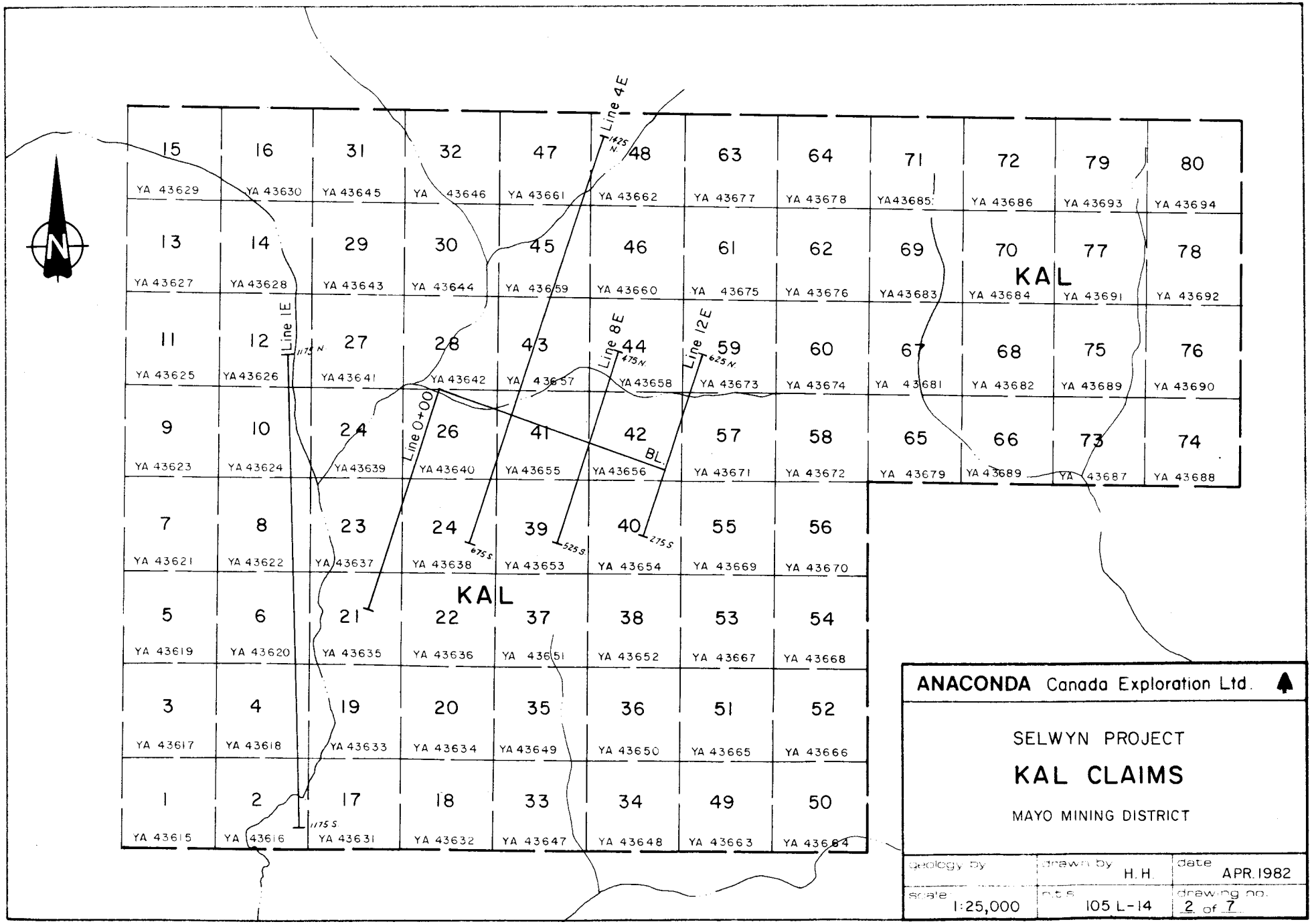
Lone Mtn

Earn Lake

Rugged Lake

63°00'

62°45'



ANACONDA Canada Exploration Ltd.

SELWYN PROJECT

KAL CLAIMS

MAYO MINING DISTRICT

geology by	drawn by H.H.	date APR. 1982
scale 1:25,000	n.t.s. 105 L-14	drawing no. 2 of 7

Claims

The KAL claims are located 5 kms east of Kalzas Mountain. The NTS sheet for the area is 105 L14. Grant numbers and claim names are listed below:

YA 43615-YA 43694	KAL 1-80

Geology

The Selwyn project area lies within the Paleozoic aged Selwyn Basin of the Yukon Territory. Units consist of chert, shale and coarser grained clastic sedimentary rocks. Minor Tertiary high level intrusives and cretaceous biotite quartz monzonites occur. The property geology has been described in more detail by Carlson (1982).

Geophysical Surveys

Electromagnetic Surveys - HLEM

An Apex Parametrics Max Min II electromagnetometer was used for the horizontal loop (HLEM) survey. A back up unit was also available in the event of malfunction. All survey lines were previously slope chained and inclinometer surveyed to maintain close tolerances on the coil spacing and coplanarity of the HLEM survey. Corrections were applied to the HLEM data for the normally small changes from the selected coil spacing of 100 meters for the KAL grid.

Magnetometer Survey

A Geometrics Unimag I was used for the magnetometer survey, and a Unimag II as a base station for correction of diurnal variation. Base station readings were obtained at least hourly at the Earn Lake camp, and maximum observed drift from base reading to reading during the time of the survey, was normally less than 20 gammas.

Discussion of Results

Five lines were cut, chained, and surveyed with magnetics and HLEM on the KAL claims. The results are plotted on Drawings 3-7.

The location of HLEM conductors and apparent widths have been picked from the 444 Hz in phase data and are noted on the profile as well as the topographic profile. It should be noted that if conductor locations are picked on the out of phase, somewhat different locations are often obtained. For example on line 0 (Drawing 4) the two in phase picks at about 525 S and 675 S appear as one very broad zone to the out of phase. As close control on coil separations and coplanarity were maintained on the survey, these ambiguities are believed to be a reflection of a complex geological environment (multiple conductors of varying conductivity) as opposed to such coil misorientations.

Magnetic anomalies have been picked at their half amplitude width. This does not imply a width estimate of the source.

On line KAL 1 (Drawing 3), wide HLEM conductors are defined at about 850N and 1050N, and poorly defined at 225N and 450N. Narrow conductors are located at 700N, 0, 125S, 230S, 545S, and 955S. Several relatively low amplitude magnetic highs have been noted on the pfofile. These magnetic highs do not correlate directly with HLEM conductors on line KAL 1, but often closely flank a conductor, such as at 850N.

A broad multiple conductor zone, labelled A on the profiles, with coincident magnetic highs trends north east from line 0 (station 500-700S) to line 400E (125S - 375S) to line 800E (50S-450S) to line 1200E (100N-200S). The amplitude of the magnetic anomalies is strongest on line 0 and weakest on line 1200E. The width and amplitude of the in phase HLEM response is greatest on line 800E.

Feature B is a subparallel zone of high magnetics and discontinuous flanking HLEM conductors (which are of much lower amplitude than for feature A).

Line 400E, which extends to the north of the other survey lines, detected several other magnetic highs and HLEM conductors, which are indicated on the profile.

Conclusions

The ground geophysical work on the KAL claims confirmed the presence and defined the location of a complex sequence of EM conductors and magnetic anomalies that were originally indicated by the 1981 airborne survey.

Prospecting, geological mapping, and geochemical work is required as the next stage of follow up on these anomalies. Should positive results be forthcoming from that work, fill in lines and extension of the geophysical grid work should be initiated, including gravimetric surveys to aid in target selection.

Respectfully submitted

Alan Scott
Geophysicist

Distribution:

(2) Mining Recorder ✓
(1) IME - Vancouver
(1) J. Corbett, Chief Geophysicist
(1) R. Hall, Project Geologist

Appendix I

STATEMENT OF EXPENDITURES - KAL CLAIMS
(linecutting, magnetometer, and electromagnetic surveys)

1.	Salaries		
	Eastern Assoc. contract linecutting, Mar. 21-25, 27, 28, 2 men, 7 days @ 240/man =	3,150	
	T. Crebs, geophysicist, Mar. 27-29, 3 days @ 190	570	
	F. Thrane, tech. Mar. 27-29, 3 days @ 100 =	300	
	M. Archambault, geologist, Mar. 23, 24, 28 3 days @ 125	375	
	D. Washburn, helper, Mar. 24 1 day @ 80 =	80	
			4,475
2.	Expenses		
	Meals, accommodations, travel expenses =	1,025	
	Camp costs: 24 man days @ 45/man day =	1,080	
			2,105
3.	Charter Aircraft		
	Fixed Wing (ALCAN) supply & personnel flights =	2,316	
	Helicopter (TNTA) 18.4 hours @ 450 =	8,280	
			10,596
4.	Equipment Rentals		
	MacMin II + Backup: 2 x 3 days @ 50 =	300	
	Unimag I + Unimag II: 2 x 3 days @ 15 =	90	
			390
5.	Charges per survey day (towards drafting, supervision, report)		
	3 days geophysical survey @ 200/survey day =	600	
			600
	TOTAL EXPENDITURES		18,166

Appendix II

Certification

I, Alan R. Scott, of 4013 W. 14th Avenue, Vancouver, B.C., am employed as a professional geophysicist by Anaconda Canada Exploration Ltd. and have knowledge of the work performed and costs incurred per this report. I further attest that:

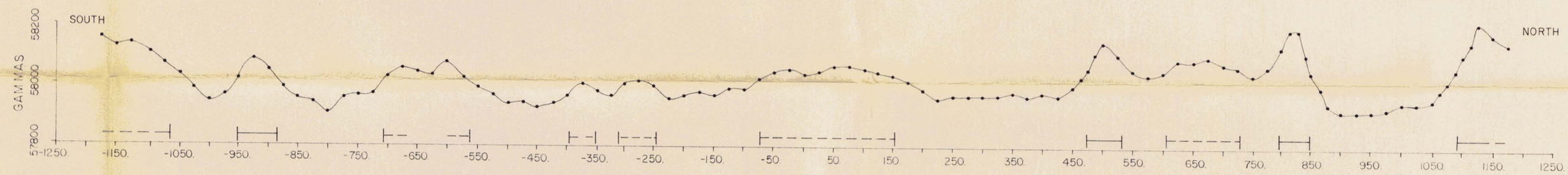
1. I graduated with a B.Sc. (geophysics) from the University of B.C. in 1970.

2. That I am a member of the Society of Exploration Geophysicists, and of the Association of Professional Engineers, Geologists, and Geophysicists of the Province of Saskatchewan.

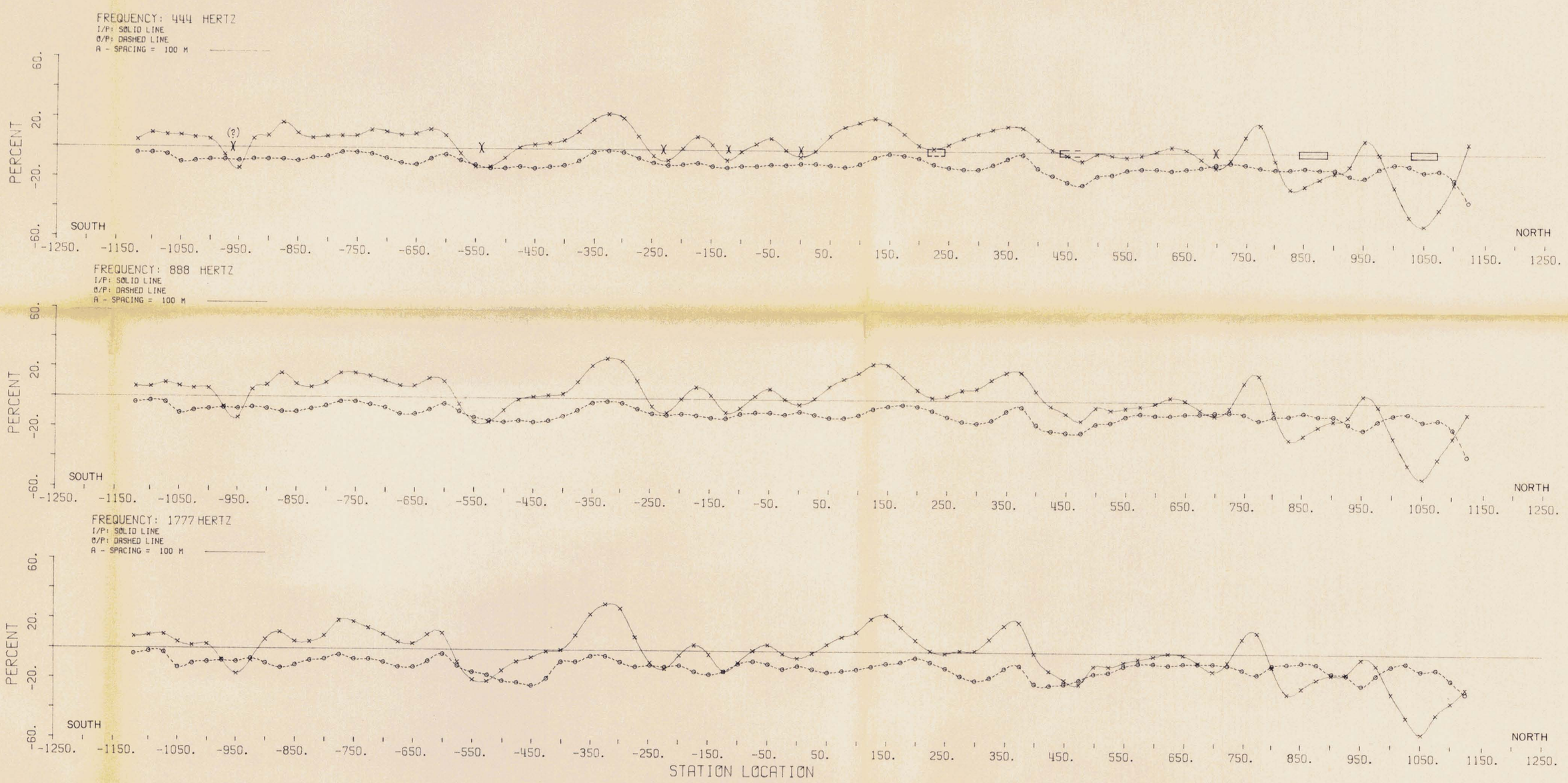
3. That I have been practicing my profession for the past twelve years.

Alan R. Scott
P. Geophysicist

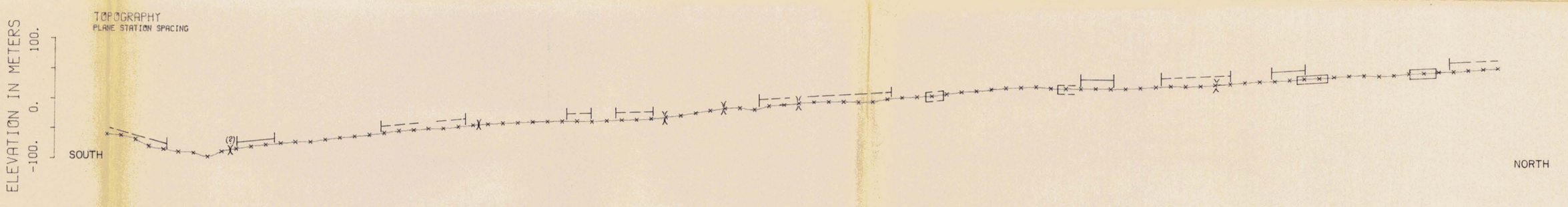
MAGNETOMETER



HORIZONTAL LOOP - EM



SELWYN PROJECT --LINE KAL 1



LEGEND

Magnetic Anomaly

HLEM Conductor (I/P - 444 Hz)

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SELWYN PROJECT

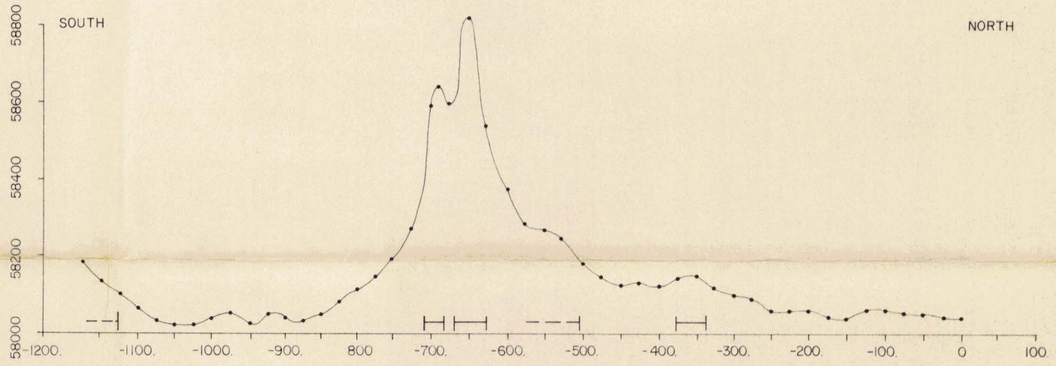
GEOPHYSICAL SURVEY PROFILES

KAL CLAIMS

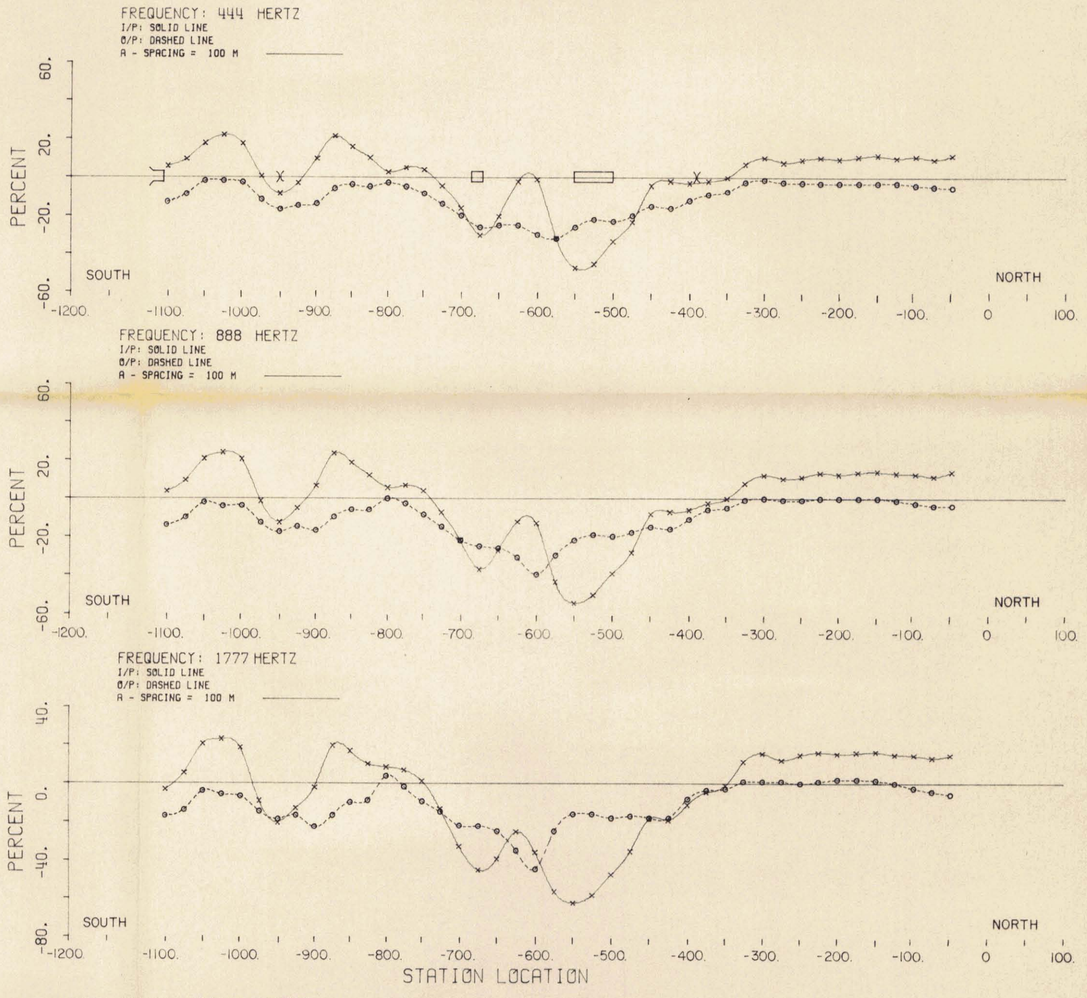
LINE KAL-1

geology by:	drawn by: C.D.	date: APR. 1982
scale: 1:5000	n.t.s. 105 L-14	drawing no. 3 of 7

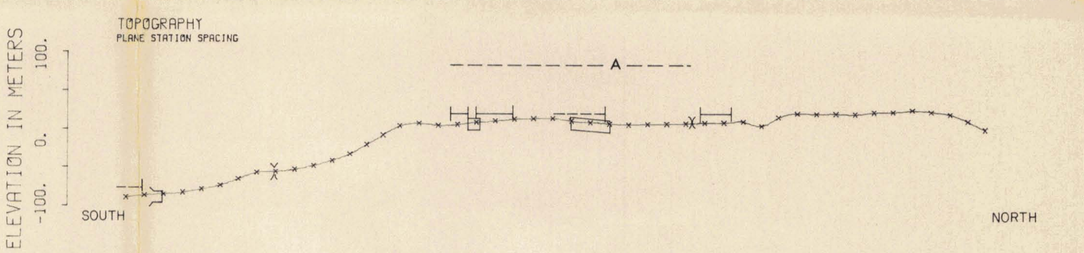
MAGNETOMETER



HORIZONTAL LOOP - EM



SELWYN PROJECT --LINE KAL 0 WEST



LEGEND

- Magnetic Anomaly
- HLEM Conductor (I/P-444 Hz)
- -- A -- Anomalous Zone

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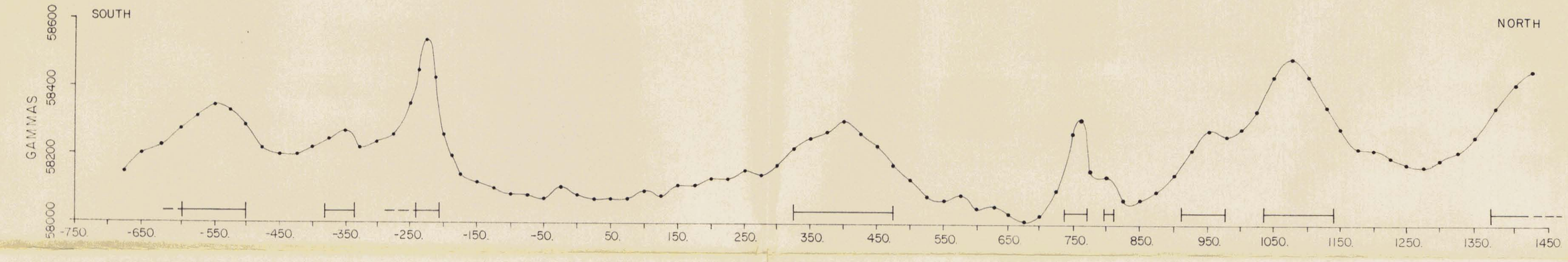
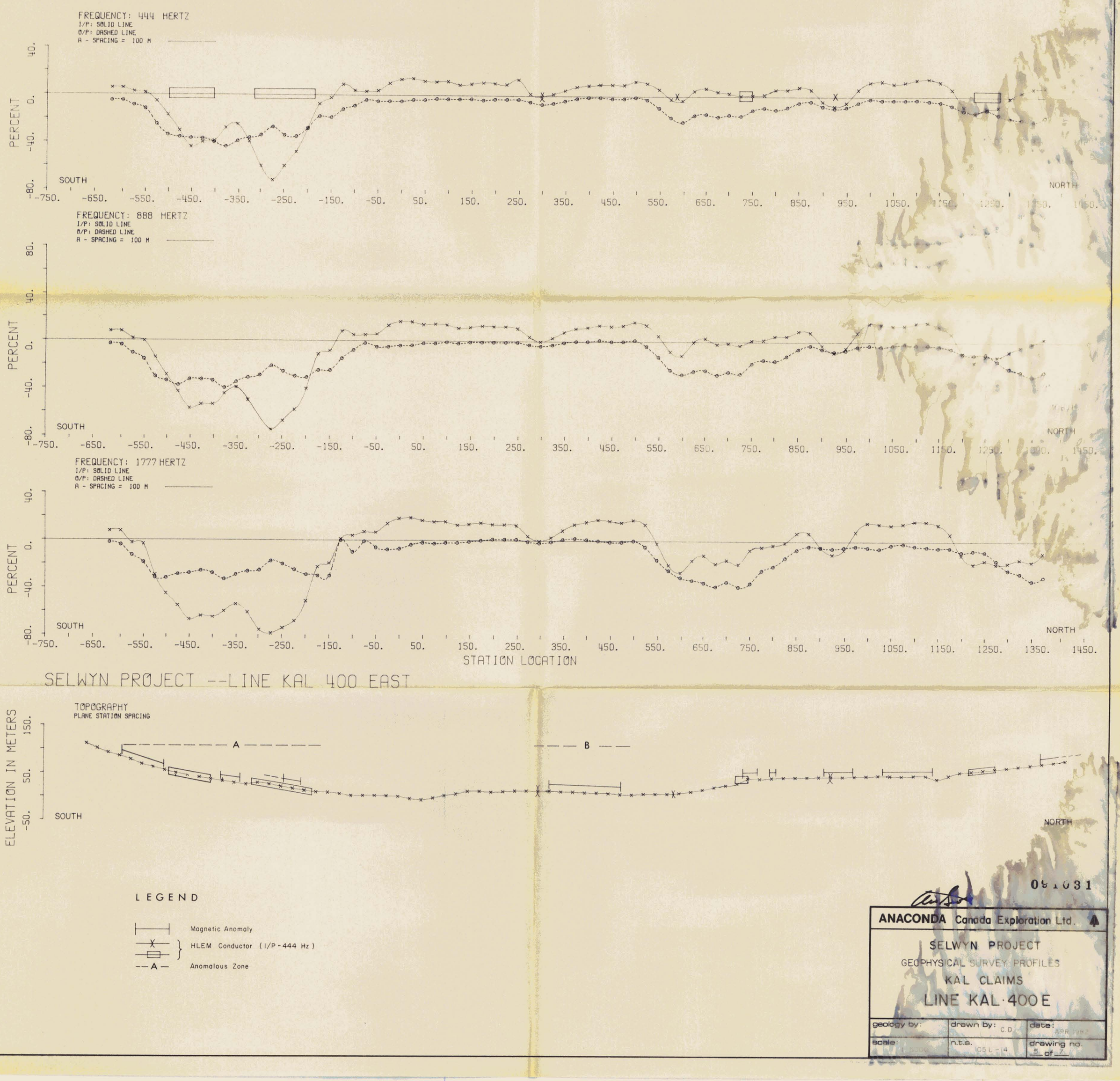
SELWYN PROJECT
GEOPHYSICAL SURVEY PROFILES
KAL CLAIMS
LINE KAL-0W

geology by:	drawn by: C.D.	date: APR. 1982
scale: 1:5000	n.t.s. 105 L-14	drawing no. 4 of 7

MAGNETOMETER



HORIZONTAL LOOP - EM



SELWYN PROJECT --LINE KAL 400 EAST

LEGEND

- Magnetic Anomaly
- HLEM Conductor (I/P - 444 Hz)
- --A-- Anomalous Zone

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SELWYN PROJECT

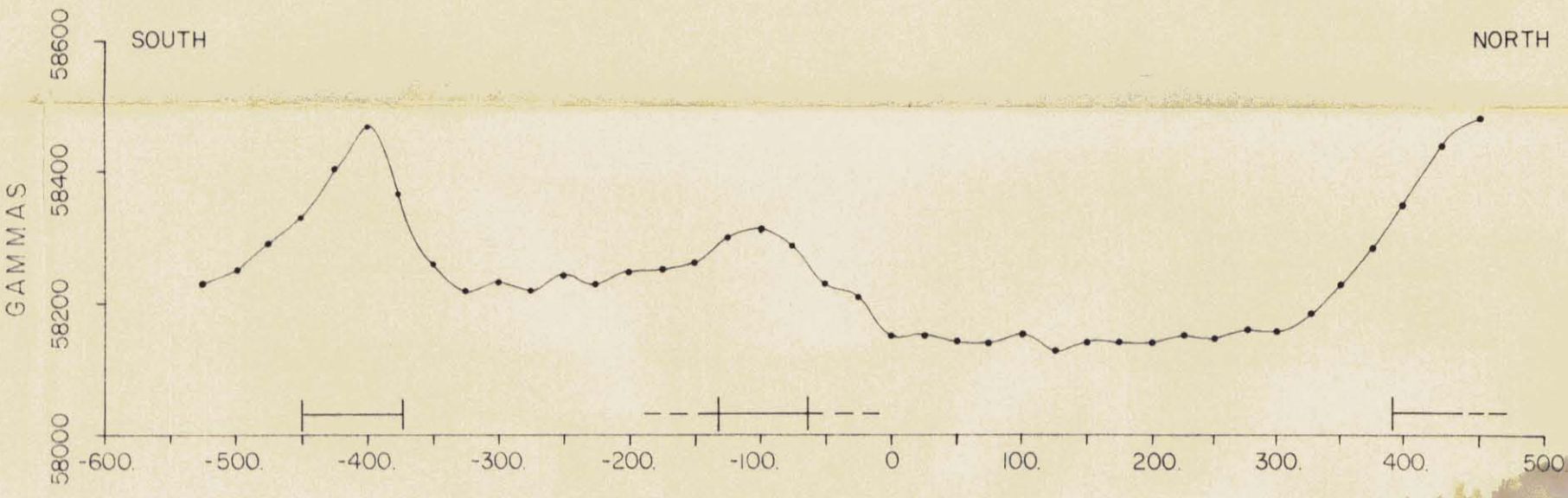
GEOPHYSICAL SURVEY PROFILES

KAL CLAIMS

LINE KAL-400E

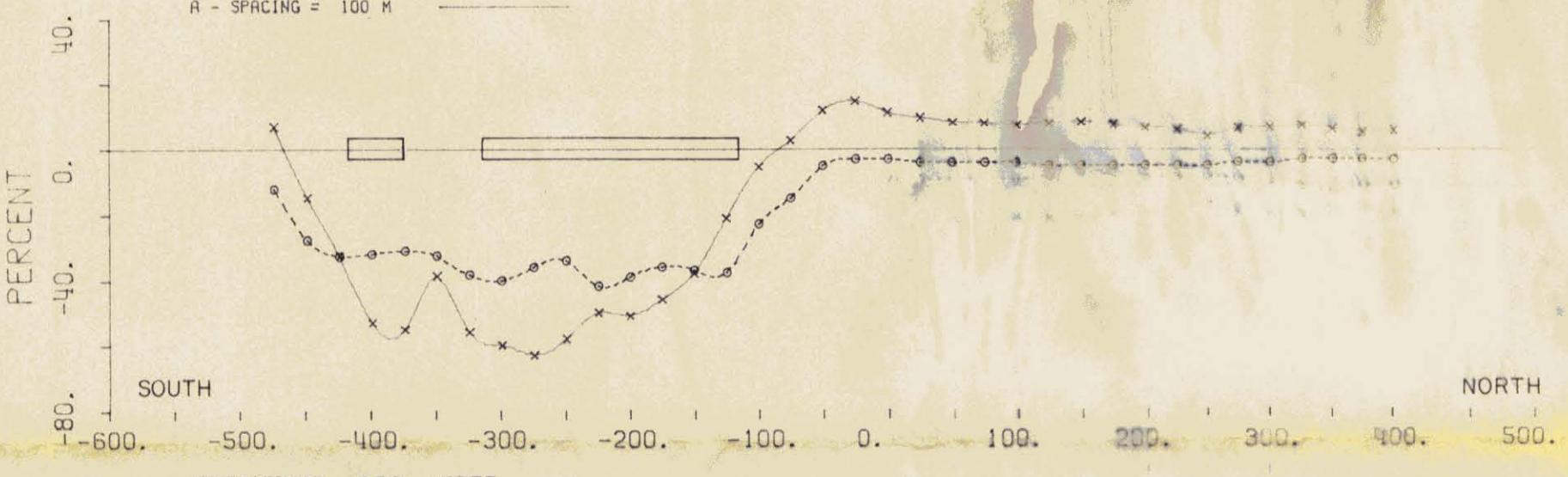
geology by:	drawn by: C.D.	date: APR 1984
scale: 1:5000	n.t.s. 105 L-14	drawing no. 5 of 7

MAGNETOMETER

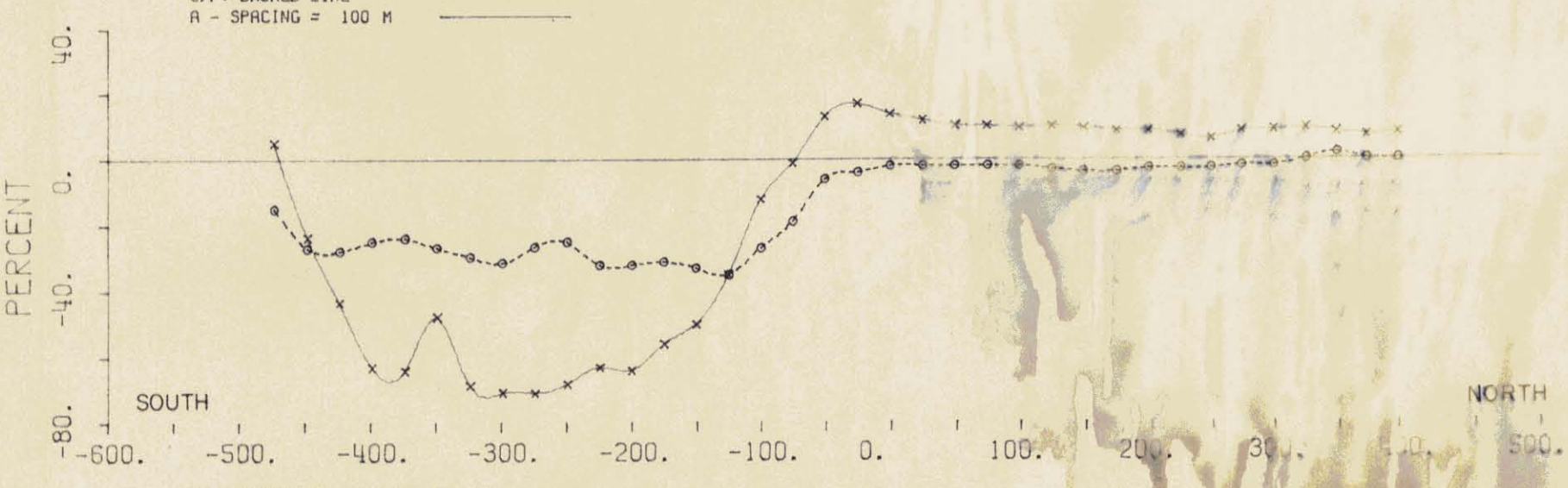


HORIZONTAL LOOP - EM

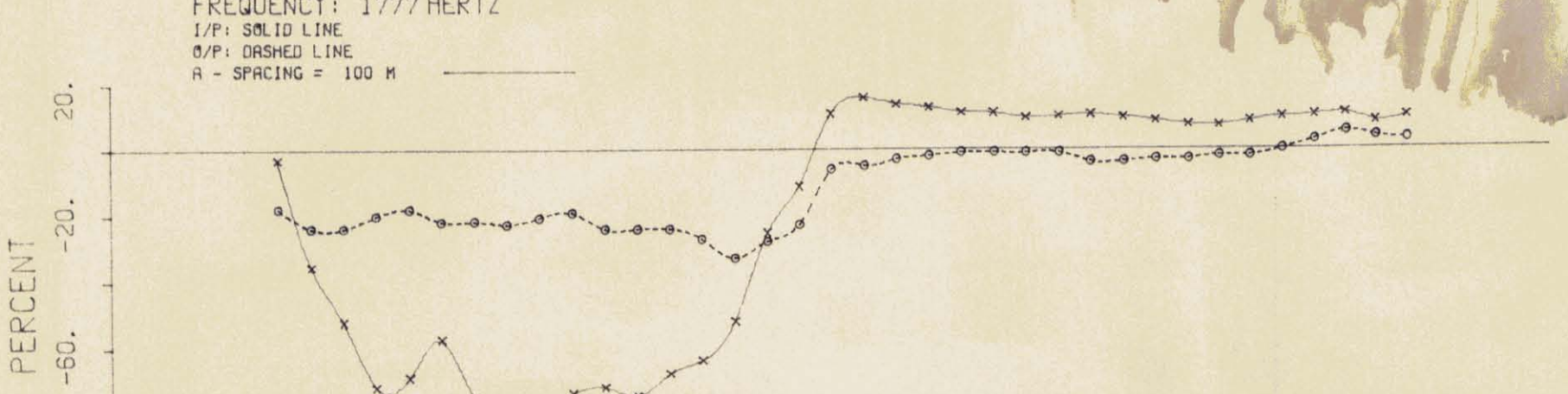
FREQUENCY: 444 HERTZ
I/P: SOLID LINE
O/P: DASHED LINE
A - SPACING = 100 M



FREQUENCY: 888 HERTZ
I/P: SOLID LINE
O/P: DASHED LINE
A - SPACING = 100 M



FREQUENCY: 1777 HERTZ
I/P: SOLID LINE
O/P: DASHED LINE
A - SPACING = 100 M



STATION LOCATION

SELWYN PROJECT --LINE KAL 800 EAST

ELEVATION IN METERS

LEGEND

- Magnetic Anomaly
- HLEM Conductor (I/P-444 Hz)
- --A-- Anomalous Zone

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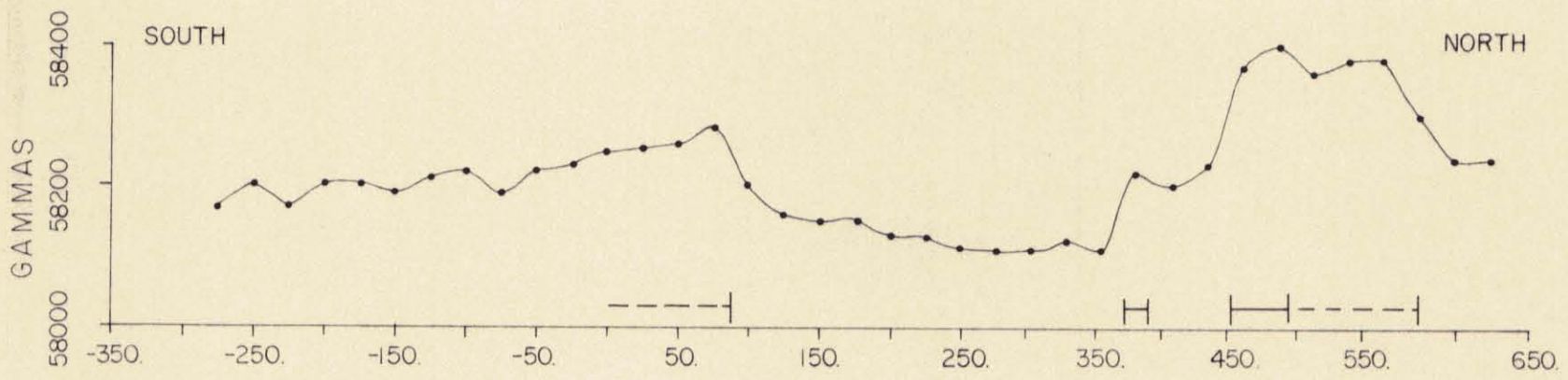
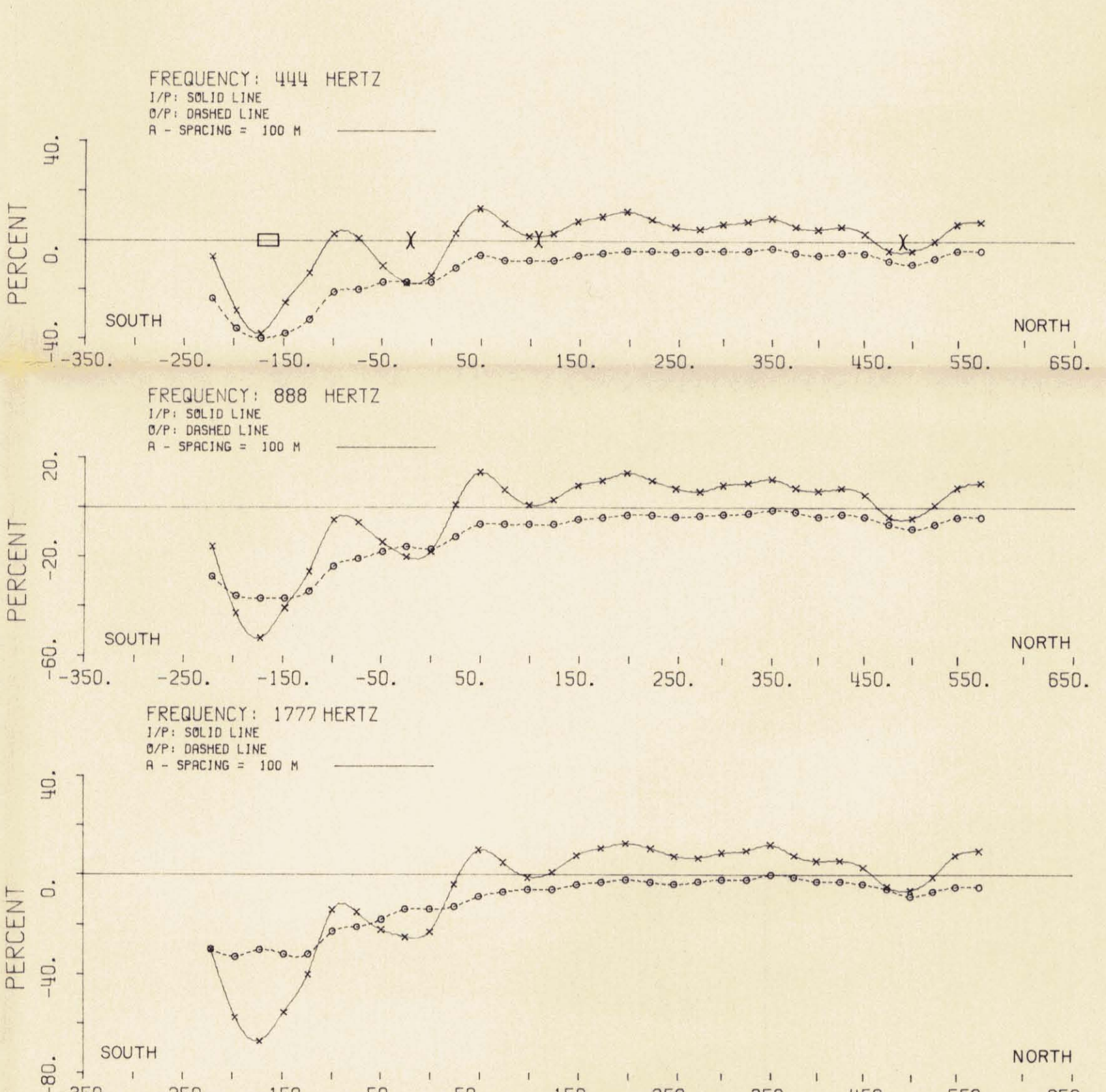
SELWYN PROJECT
GEOPHYSICAL SURVEY PROFILES
KAL CLAIMS
LINE KAL-800E

geology by:	drawn by: C.D.	date: APR 1982
scale: 1:5000	n.t.s. 105 L-14	drawing no. 6 of 7

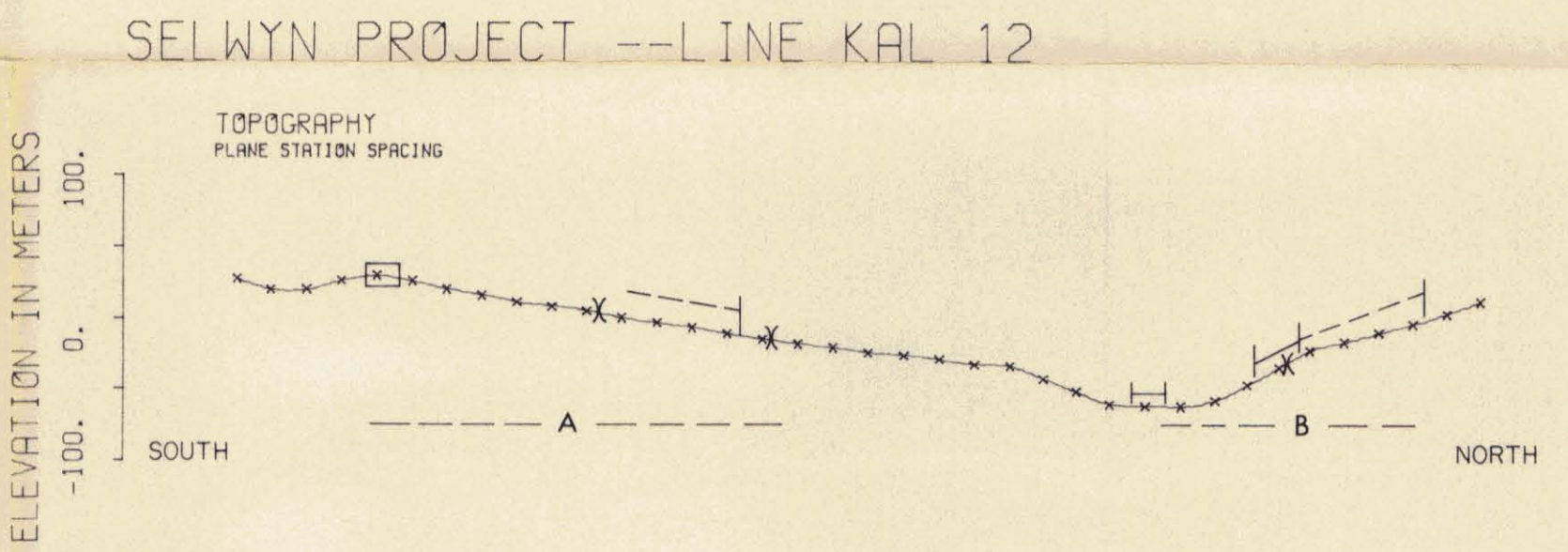
MAGNETOMETER



HORIZONTAL LOOP - EM



SELWYN PROJECT --LINE KAL 12



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LEGEND

- Magnetic Anomaly
- HLEM Conductor (I/P - 444 Hz)
- --A-- Anomalous Zone

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SELWYN PROJECT

GEOPHYSICAL SURVEY PROFILES

KAL CLAIMS

LINE KAL-12

geology by:	drawn by: C.D.	date: APR. 1982
scale: 1:5000	n.t.s. 105 L-14	drawing no. 7 of 7