

87-40-15545

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

15,545

SUB-RECORDER RECEIVED	
JAN 23 1987	
M.R. #	\$
VANCOUVER, B.C.	

GROUND GEOPHYSICAL SURVEYS

SPRUCE CREEK OPTION

SHUKSAN 1-6, 13: KAREN 6-8: KULSHAN 1-3

Lat. 59° ^{33.1'} _{20'} Long. 133° ^{28.6'} _{30'}

ATLIN MINING DIVISION

NTS 104 N - 11 W, 12 E

FILMED

Owned by: ~~Surprise Lake Exploration~~ D.G. PURVIS

Work by: ^{Operator:} Placer Development Limited

STATEMENT OF EXPENDITURE ON

SPRUCE CREEK PROPERTY

Geophysical Survey		
Field Days	R. Cannon 5.5 days	
	R. Hodgson 5.5 days	
	<u>11 days</u>	
Data Interpretation and Report Writing		
R. Cannon	3 days	
Salaries and Benefits		
R. Cannon	8.5 x 350	\$ 2,975.00
R. Hodgson	5.5 x 250	1,375.00
Field Cost @ \$50/man/day x 11		\$ 550.00
Equipment Charges		
2 G-856 Magnetometers @ \$400/wk x 5.5/7		\$ 314.29
1 Kaypro Computer @ \$100/wk x 5.5/7		78.57
1 Geonics EM-16 @ \$200/wk x 5.5/7		157.14
Transportation		
Truck Rental	562.80 x 5.5/7	\$ 442.20
Airline Tickets	2 x \$520 x 5.5/7	817.14
Plotting, Drafting and Typing		<u>\$ 350.00</u>
TOTAL		\$ 7,059.34

RWC/stm
01.13.86

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GROUND GEOPHYSICAL SURVEYS (SPRUCE CREEK OPTION)

SUMMARY

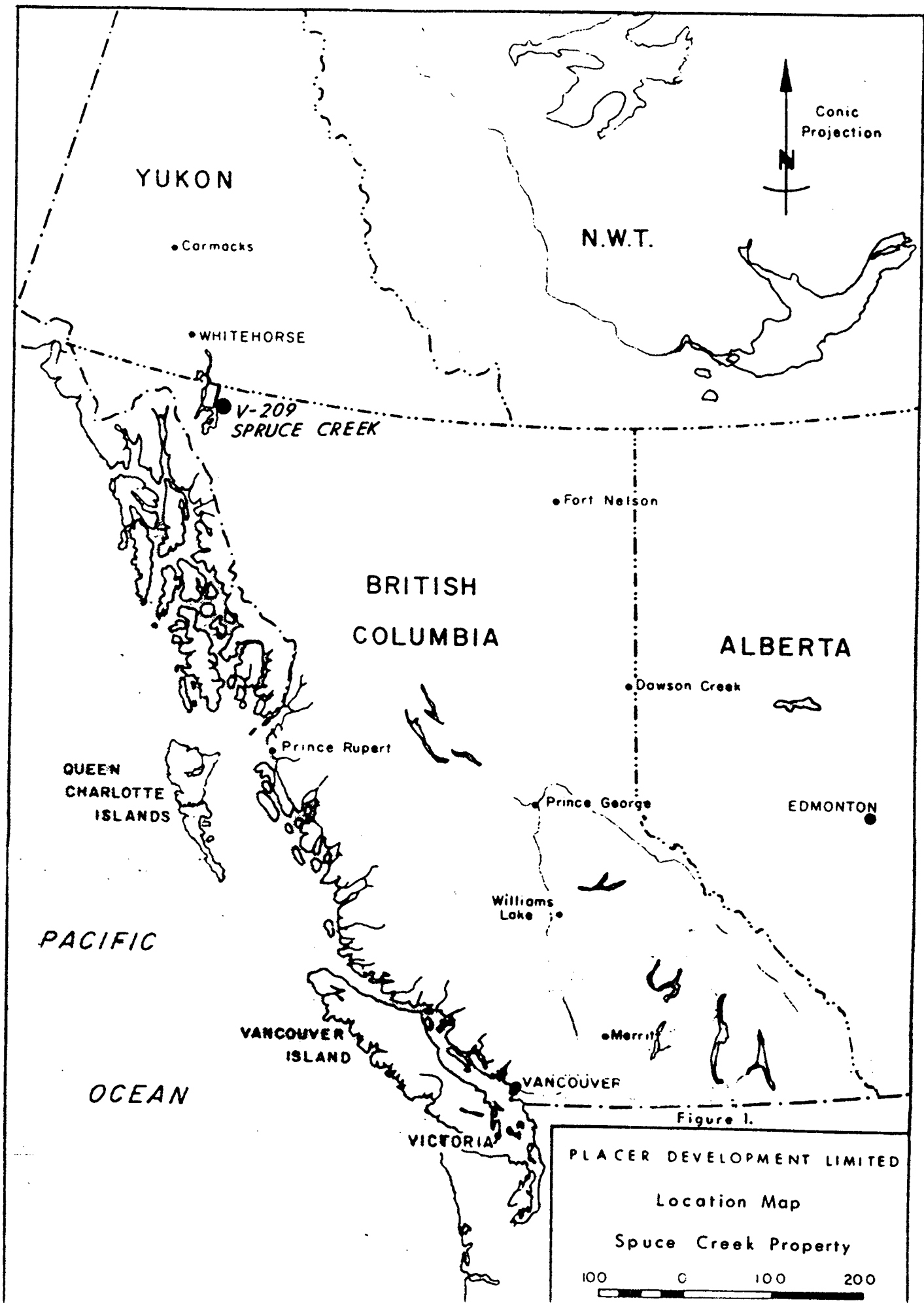
The 1986 geophysical surveys on the Spruce Creek and GV options were conducted during the middle of August. A total of 39 km of line were marked at 20 m intervals along lines 200 m apart. An additional 4.5 km of line was covered on last years grid (grid 1) as well as 16.5 km on an extention to this grid (grid 2). A new grid was put in covering part of the GV claim and 18 km of line was covered on this grid (grid 3). VLF-EM readings were taken at 20 m stations and magnetometer readings were taken at 10 m intervals. Anomalous magnetic readings were obtained in the SW corner of grid 2. Several VLF conductors were also detected on grid 2. The results obtained on grid 3 showed no anomalous magnetic results but numerous VLF conductors were detected.

INTRODUCTION

The extension on grid 1 (Grid 2) was laid out to make sure there was sufficient overlap of the magnetic anomalies located in last years program. The new grid was established with lines at 295° Az to cover several features which showed up in the airborne survey as well as in an airphoto interpretation. The line-cutting and marking of the grid was under the supervision of Dave Hayward of Atlin, B.C.

LOCATION AND ACCESS

The property encompasses the area of Spruce Creek and Dominion Creek which are tributaries of Pine Creek. Access to the property, located immediately east of Atlin, is by means of a 2 or 4 wheel drive vehicle along good gravel roads which branch off the Surprise Lake road approximately 6 km from Atlin.



YUKON

• Carmacks

N.W.T.

Conic
Projection

• WHITEHORSE

• V-209
SPRUCE CREEK

• Fort Nelson

BRITISH
COLUMBIA

ALBERTA

• Dawson Creek

QUEEN
CHARLOTTE
ISLANDS

• Prince Rupert

EDMONTON

• Prince George

PACIFIC

Williams
Lake

OCEAN

VANCOUVER
ISLAND

• Merritt

• VANCOUVER

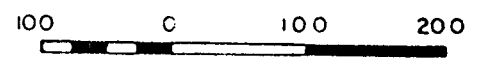
VICTORIA

Figure 1.

PLACER DEVELOPMENT LIMITED

Location Map

Spruce Creek Property



PROPERTY STATUS

The property consists of the following claims:

<u>NAME</u>	<u>UNITS</u>	<u>ANNIV. DATE</u>	<u>RECORD NO.</u>
Shuksan 1	12	July 28	1359
Shuksan 2	20	July 28	1360
Shuksan 3	3	July 28	1361
Shuksan 4	12	September 2	2027
Shuksan 5	16	September 2	2028
Shuksan 6	20	September 2	2016
Shuksan 13	20	September 2	2023
Karen 6	20	July 28	1369
Karen 7	20	July 28	1370
Karen 8	8	July 28	1371
Kulshan 1	8	January 27	2587
Kulshan 2	12	July 15	2574
Kulshan 3	8	July 15	2575

GEOPHYSICAL SURVEYS

VLF-EM an magnetometer surveys were conducted along 39 kms of line.

The VLF-EM survey was carried out using the transmitting station of Lualualei, Hawaii. The direction to the station was 215° Az, therefore readings were taken facing azimuth 305° on grids 1 and 2, and facing 125° on grid 3 at 20 m intervals along the line.

Magnetometer readings were taken at 10 m stations and correction for drift and diurnal changes were made by use of a base station recording magnetometer.

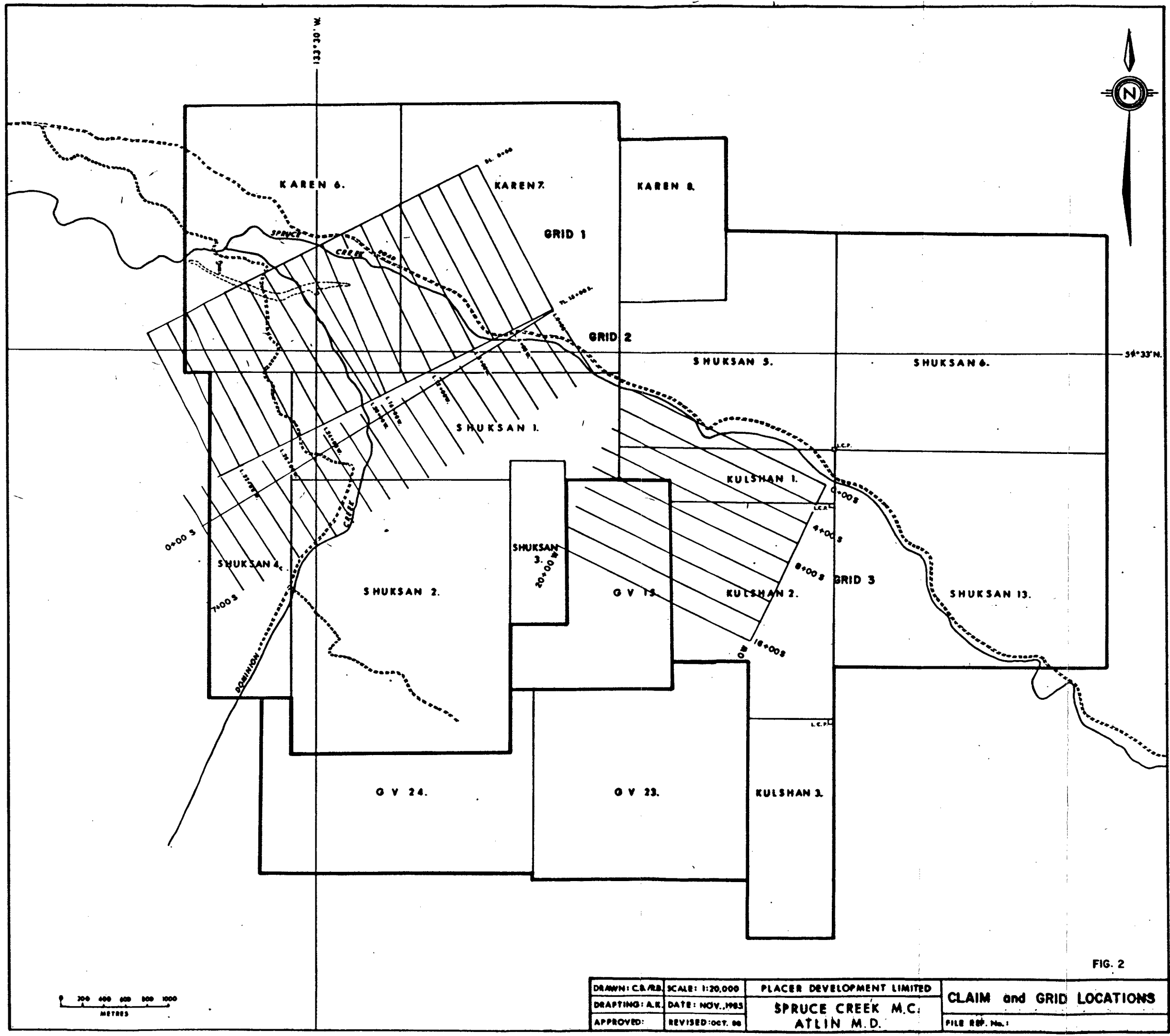


FIG. 2

DRAWN: C.B./R.B.	SCALE: 1:20,000	PLACER DEVELOPMENT LIMITED	CLAIM and GRID LOCATIONS
DRAFTING: A.K.	DATE: NOV., 1985	SPRUCE CREEK M.C.	
APPROVED:	REVISED: OCT. 86	ATLIN M.D.	
			FILE REF. No. 1

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EQUIPMENT USED

The magnetometer survey was conducted using two Geometrics G-856A portable proton magnetometers (memory-mag). One was used in the field mode (Ser. No. 27503) while the other was used in a base station mode (Ser. No. 27502). The internal clocks were synchronized before commencement of the survey and subsequent daily readings were dumped out to floppy disc in a Kaypro I portable computer. The data from the two magnetometers were merged and corrected for diurnal drift from an established base station value. The corrected results were plotted as field profiles and also stored on disc for eventual transfer to a Univac 1108 for final plotting.

The VLF-EM survey employed a Geonics EM-16 (Ser. No. 25) which used the following transmitting station:

Lualualei NPM 23.4 Khz

VLF readings were also entered onto floppy disc in a Kaypro I computer and field profiles of In-Phase, Quadrature and Fraser Filter data were plotted. The stored data was transferred to a Univac 1108 for final processing and plotting.

SURVEY RESULTS

The magnetometer survey results were plotted as plan maps of stacked profiles at a scale of 1:5000 (see plates in folder at back of report).

The VLF-EM survey results were plotted as stacked In-phase, Quadrature and Fraser Filter profiles on plan maps at a scale of 1:5000. The Fraser Filter data was calculated as per the method put forth by D.C. Fraser (1969, Contouring of VLF-EM data: Geophysics, v. 34, p. 958 - 967). See plates in the folder at the back of report.

DISCUSSION OF RESULTS

MAGNETOMETER SURVEY

Elevated magnetometer readings were detected on just three lines of Grid 2 in an area in which serpentinized float was found. The area is as listed:

Line 3800 W, 320 S to 320 N

Line 2600 W, 0 to 300 N

Line 3400 W, 150 N to 260 N

No magnetic effects of any significance were found on Grid 3 or on the additional lines of Grid 1.

VLF EM-16 SURVEY

Several strong VLF conductors were detected on Grid 2 and have been numbered 1 through 7, there appears to be no correlation between these conductors and the magnetometer results. The spikey nature of conductors 4 - 7 possibly indicates a rock type change in this area.

Numerous VLF conductors were detected on Grid 3 and are indicative of carbonaceous sediments. The additional 4 lines on Grid 1 showed extensions to known conductors as well as 2 new conductors.

CONCLUSIONS AND RECOMMENDATIONS

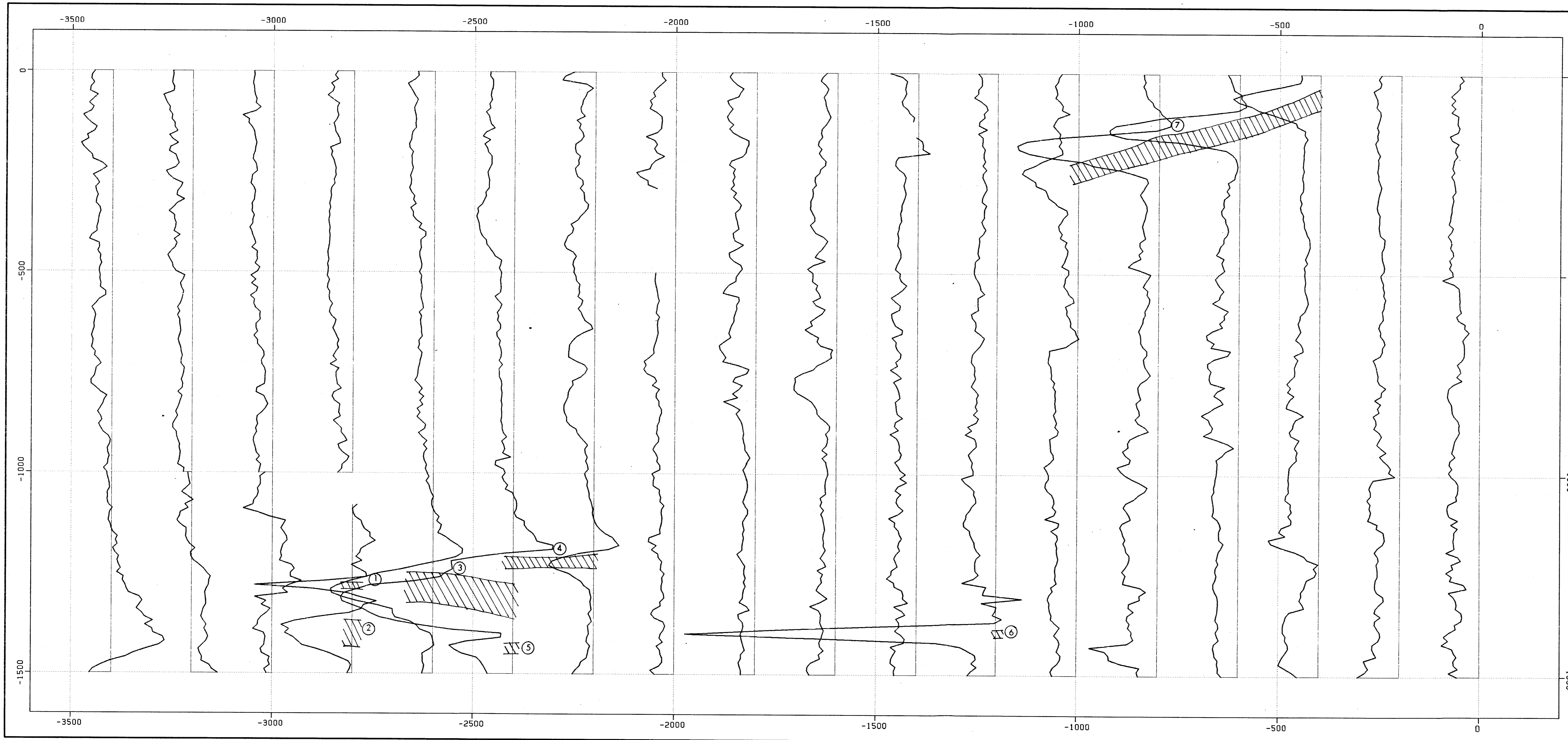
It was concluded that the main area of interest was on the north ends of Lines 3400 W - 3800 W.

It is recommended tha mapping and soil sampling should be carried out in the vicinity of the anomalous magnetics as this area has some outcrop and is amenable to geochemistry. Further work would depend on the results of the soil survey.

R. W. Cannon

R.W. Cannon

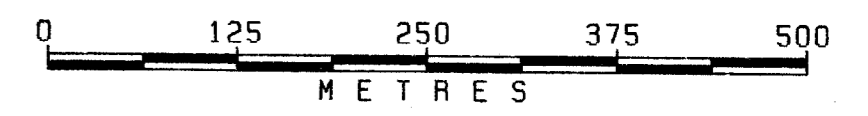
RWC/stm
10.14.86



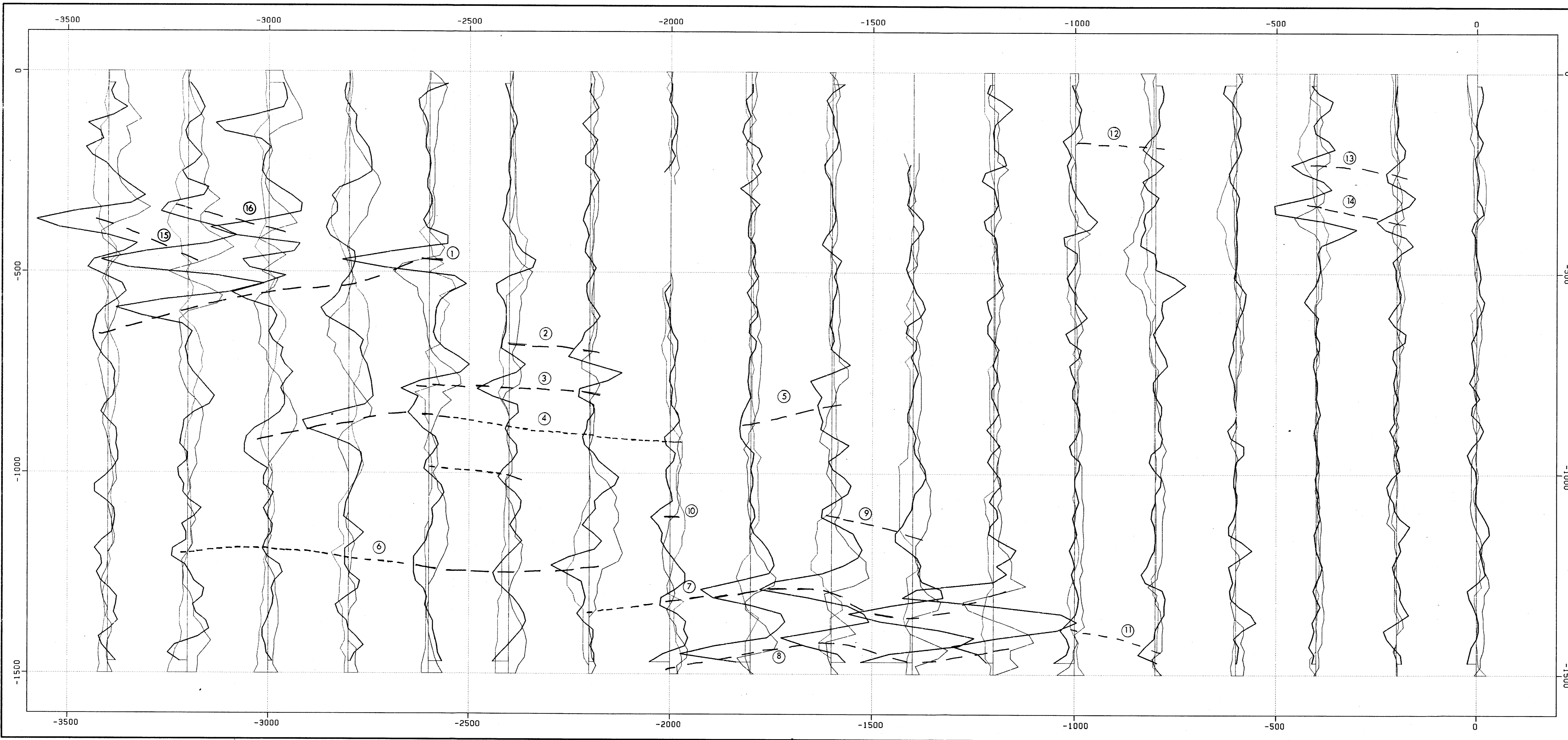
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DATA PLOTTED ON THIS MAP:
 FIELD FILE
 PROFILES: MAG EXPL-V-209.SURPRISELK/MAGS
 SCALE: 200 UNITS / CM
 BASE LEVEL: 57500



DRAWN RC		PLACER DEVELOPMENT LIMITED SPRUCE CREEK VENTURE MAGNETOMETER PROFILES GRID 1. <small>NB. 86-10-V 209-38-0001</small>
DATE 86/08/14		
SCALE 1:5000		



SPRUCE CREEK VENTURE
 VLF EM-16 PROFILES (HAWAII)

LIGHT LINE - QUADRATURE
 MEDIUM LINE - IN-PHASE
 DARK LINE - FRASER FILTER

**GEOLOGICAL BRANCH
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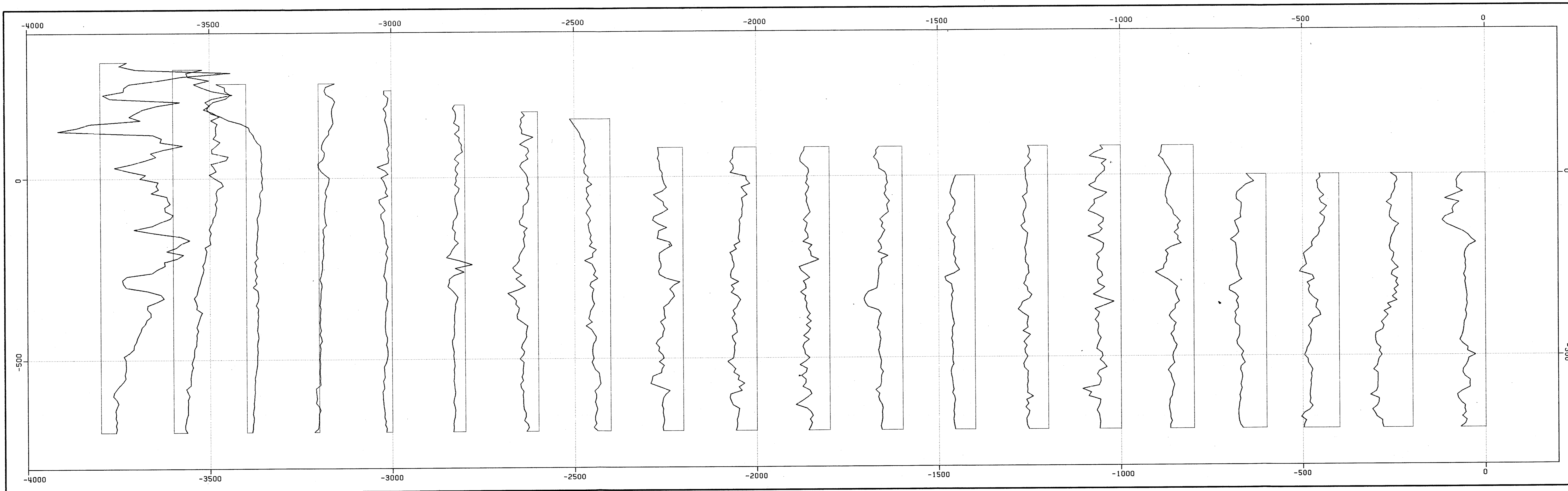
15,545

DATA PLOTTED ON THIS MAP:

FIELD FILE
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 SCALE: 20.0 UNITS / CM
 BASE LEVEL: 0.0
 PROFILES: IP EXPLXV-209.SURPRISELK/IP1
 SCALE: 20.0 UNITS / CM
 BASE LEVEL: 0.0
 PROFILES: IP EXPLXV-209.SURPRISELK/IP1
 SCALE: 20.0 UNITS / CM
 BASE LEVEL: 0.0
 FRASER FILTER APPLIED



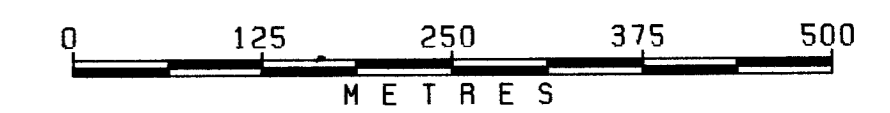
DRAWN RC		PLACER DEVELOPMENT LIMITED	
DATE 86/08/19		SPRUCE CREEK VENTURE	
SCALE 1:5000		VLF EM-16 PROFILES (HAWAII)	
		GRID 1.	
		NO. 86-10-V-209-38-0002	



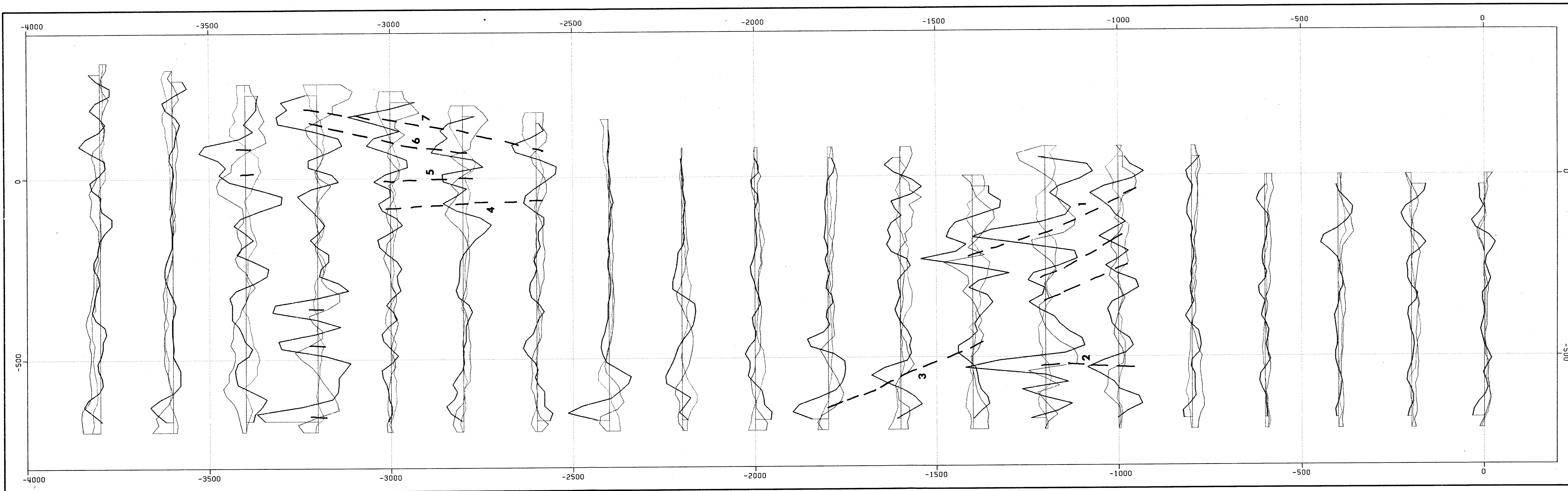
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DATA PLOTTED ON THIS MAP:
 FIELD FILE
 PROFILES: MAG EXPL*V-209.SURLK/MAG
 SCALE: 200 UNITS / CM
 BASE LEVEL: 57500



PLACER DEVELOPMENT LIMITED	
DRAWN RC	SPRUCE CREEK VENTURE
DATE 86/08/18	MAGNETOMETER PROFILES
SCALE 1:5000	GRID 2.
NO. 86-10-V-209-3B-0003	



SPRUCE CREEK VENTURE
 VLF EM-16 PROFILES (HAWAII)

LIGHT LINE - QUADRATURE
 MEDIUM LINE - IN-PHASE
 DARK LINE - FRASER FILTER

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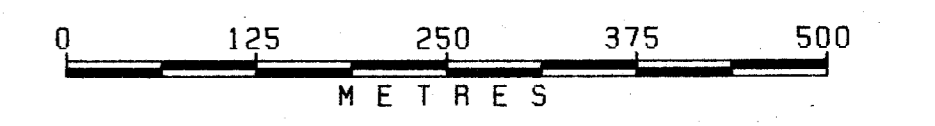
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FIELD FILE

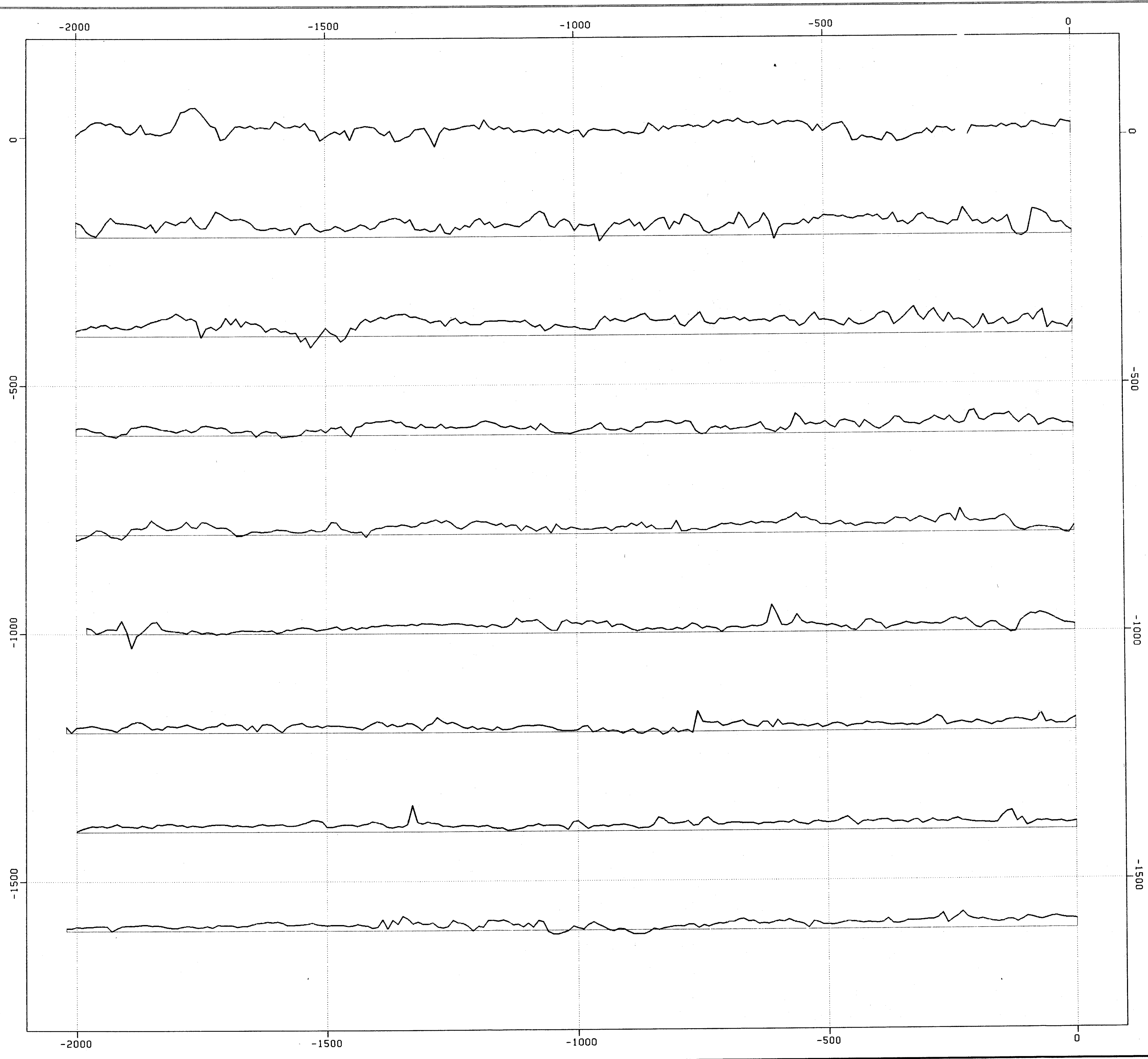
PROFILES: 00 EXPL*V-209.SURLK/00
 SCALE: 20.0 UNITS / CM
 BASE LEVEL: 0.0

PROFILES: 1P EXPL*V-209.SURLK/IP
 SCALE: 20.0 UNITS / CM
 BASE LEVEL: 0.0

PROFILES: 1P EXPL*V-209.SURLK/IP
 SCALE: 20.0 UNITS / CM
 BASE LEVEL: 0.0
 FRASER FILTER APPLIED



PLACER DEVELOPMENT LIMITED	
DRAWN RC	SPRUCE CREEK VENTURE
DATE 86/08/14	VLF EM-16 PROFILES (HAWAII)
SCALE 1:5000	GRID 2.
NO. 86-10-V 209-38-0004	



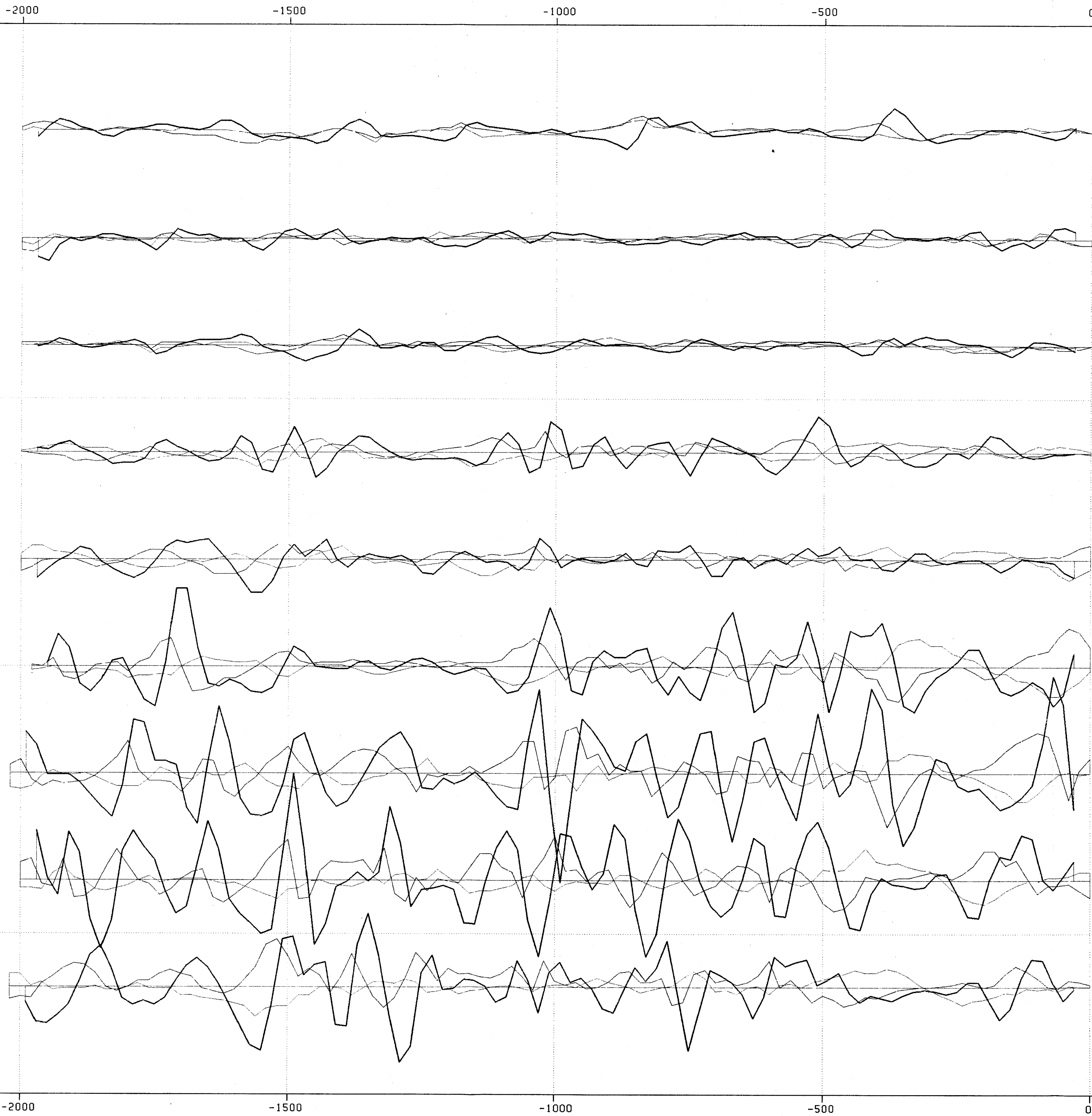
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DATA PLOTTED ON THIS MAP:
 FIELD FILE
 PROFILES: MAG EXPL*V-209.SPCK/MAG
 SCALE: 200 UNITS / CM
 BASE LEVEL: 57700



PLACER DEVELOPMENT LIMITED	
DRAWN RC	SPRUCE CREEK VENTURE
DATE 86/08/14	MAGNETOMETER PROFILES
SCALE 1:5000	GRID 3.
NO. 86-10-V209-38-0005	



SPRUCE CREEK VENTURE
 VLF EM-16 PROFILES (HAWAII)

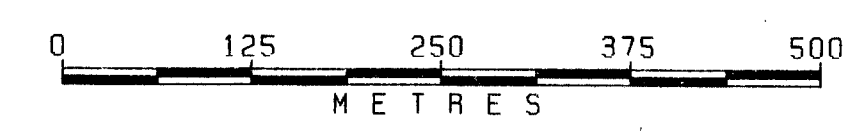
LIGHT LINE - QUADRATURE
 MEDIUM LINE - IN-PHASE
 DARK LINE - FRASER FILTER

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DATA PLOTTED ON THIS MAP:

	FIELD	FILE
PROFILES:	QD	EXPL*V-209.SPCK/QD
SCALE:		20.0 UNITS / CM
BASE LEVEL:		0.0
PROFILES:	IP	EXPL*V-209.SPCK/IP
SCALE:		20.0 UNITS / CM
BASE LEVEL:		0.0
PROFILES:	IP	EXPL*V-209.SPCK/IP
SCALE:		20.0 UNITS / CM
BASE LEVEL:		0.0
		FRASER FILTER APPLIED



PLACER DEVELOPMENT LIMITED	
DRAWN RC	SPRUCE CREEK VENTURE
DATE 86/08/14	VLF EM-16 PROFILES (HAWAII)
SCALE 1:5000	GRID 3.
NO. 86-10-V209-3B-0006	