

061631

**MICROFILMED**

DATE \_\_\_\_\_

REPORT ON  
AIRBORNE ELECTROMAGNETIC SURVEY  
ON  
COAL LICENCE NO. 59 LAND

BIG SALMON MAP AREA, Y.T.  
105E - 15NW QUAD.  
61° 56' Lat. - 134° 52' Long.

W.M. SIROLA  
KERR ADDISON MINES LIMITED  
JUNE 25, 1977 TO JUNE 27, 1977

This report has been examined; declared acceptable as Representation Work under Section 32 and Schedule B of the Canada Mining Regulations and valued <sup>part of</sup> in the amount of \$ 27,941.55

Chief *[Signature]*  
Date: Dec. 15, 1977.

## TABLE OF CONTENTS

	<u>PAGE</u>
INTRODUCTION	1
SURVEY PERSONNEL	1
SURVEY PROCEDURE AND NAVIGATION	2
INSTRUMENTATION AND DATA RECORDING	2
DATA REDUCTION AND PRESENTATION	2
DISCUSSION OF RESULTS	2
STATEMENT OF QUALIFICATIONS	3
SCHEDULE OF ACCOMPANYING MAPS	6

# AIRBORNE ELECTROMAGNETIC REPORT

ON

COAL LICENCE NO. 58

BIG SALMON MAP AREA, Y.T.

105E - 15 (NW QUAD.)

KERR ADDISON MINES LIMITED

## INTRODUCTION

Applications to explore for coal within the lands bounded by the NW Quarter, NE Quarter and the SE Quarter of the area of land shown on mineral claim staking sheet 105E - 15 were made by Kerr Addison Mines Limited on September 15, 1976. Authority was granted on November 9, 1976, by the issuance of Licence Nos. 58, 59 and 60.

A proposed airborne combined magnetic and electromagnetic VLF survey was planned to cover the three coal licenced areas - totalling 700 km. At the start of the operations, the magnetic survey was cancelled because of instrumentation problems. At the end of three days of airborne work, the electromagnetic VLF survey was also cancelled because the results were non-interpretable. The electromagnetic VLF survey was flown by Kerr Addison Mines Limited during the period June 25 - 27, 1977. A Bell Jet Ranger 206B helicopter, on charter from Trans North Turbo Air, Carmacks, Y.T., was employed to fly the survey.

Six lines were flown for a total of 71 line kilometers. Three lines were re-run for a total of 31 kilometers. Lines were flown on a true east-west and west-east bearing with 805 meter flight line spacing.

## SURVEY PERSONNEL

Pilot	- Trans North Turbo, Whitehorse, Y.T.
Navigator	- J. Lund, 7631, 192nd St., Surrey, B.C.
Operator	- S. Maurer, 4245 East Hastings St., Vancouver, B.C.
Data Interpretation	- J. Lund and W.M. Sirola, 1505 - 195, 21st Street, West Vancouver, B.C.
Drafting	- F. Chow, 945 - 15th Street, West Vancouver, B.C.

All personnel are employees of Kerr Addison Mines Limited except the pilot, who is an employee of Trans North Turbo Air, and Mr. S. Maurer, owner of Sabre Electronics Ltd., Burnaby, B.C.

### SURVEY PROCEDURE AND NAVIGATION

The base map is on a scale of 1 = 50,000, topographical map compiled by Surveys and Mapping Branch, Department of Energy Mines and Resources. Flight lines were plotted prior to flying the survey. During the survey flight, the navigator announces control points by voice intercom to the operator, who records them onto the recording tape. The navigator marks the control points and corrects the flight lines on the base map.

An aircraft / terrain clearance of 150 - 200 ft. was maintained.

### INSTRUMENTATION AND DATA RECORDING

The VLF - EM receiver was manufactured by Sabre Electronic Instruments Ltd., Burnaby, B.C.


The amplitude of the horizontal magnetic field is measured by a sensing coil mounted in a fibreglass bird, towed 50 feet below the helicopter. The coil is mounted axially horizontal and oriented for maximum coupling to the VLF - EM field. The signal originating from the VLF station near Seattle, Washington was utilized for the survey. The frequency is 18.6 KHz. The amplitude of the horizontal magnetic field is measured continuously and displayed on the receiver console as a relative field strength. An analogue output is provided for recording.

### DATA REDUCTION AND PRESENTATION

The flight lines and control points are presented on the 1 = 50,000 base plan maps. The VLF - EM field strength data is presented on the recording charts. No further reduction of this data was made because the data were found to be non-interpretable.

### DISCUSSION OF RESULTS

The results of the electromagnetic VLF - EM survey indicate that this system does not provide interpretable data for analysis. Test flights over the Carmacks area Tantalus Butte coal measure gave similar indications.

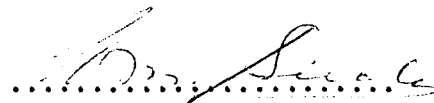
  
W.M. Sirola

Vancouver, B.C.  
November 21, 1977

STATEMENT OF QUALIFICATIONS

I, William M. Sirola of West Vancouver, B.C., do certify that:-

1. I have been an employee of Kerr Addison Mines Limited since January 1961.
2. I have held the position of Resident Geologist and Exploration Manager for Kerr Addison Mines Limited, Western Canada since 1961.
3. I am a member of The Association of Professional Engineers of B.C.



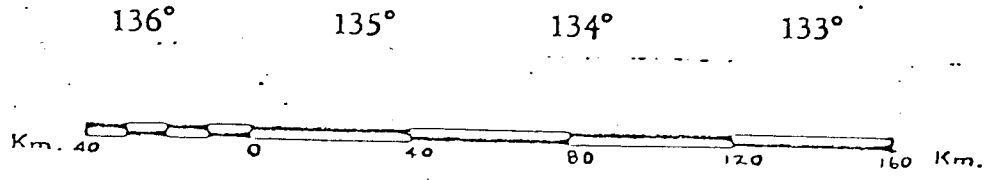
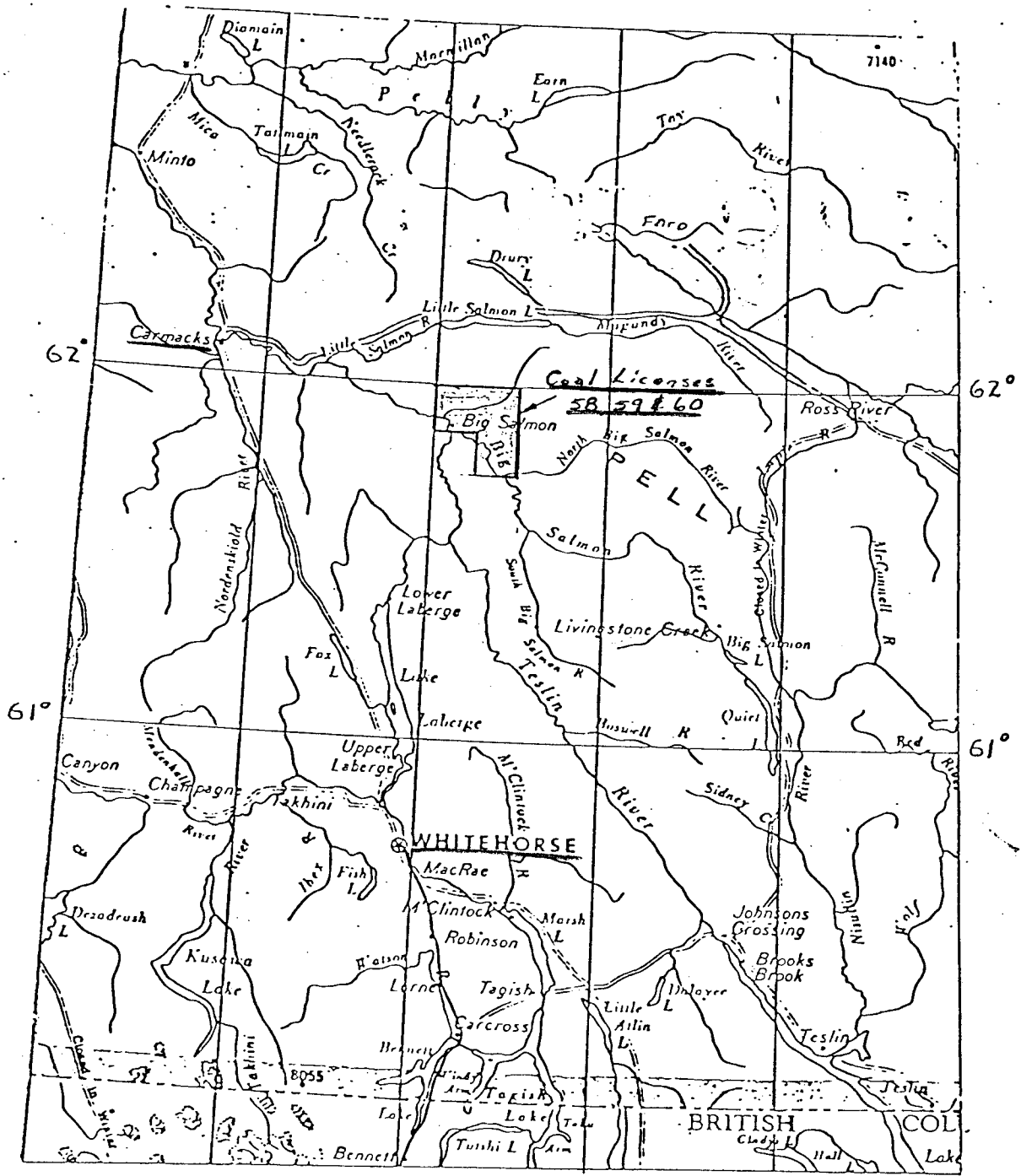
W.M. Sirola

KERR ADDISON MINES LIMITED

November 20, 1977.

SCHEDULE OF ACCOMPANYING MAPS

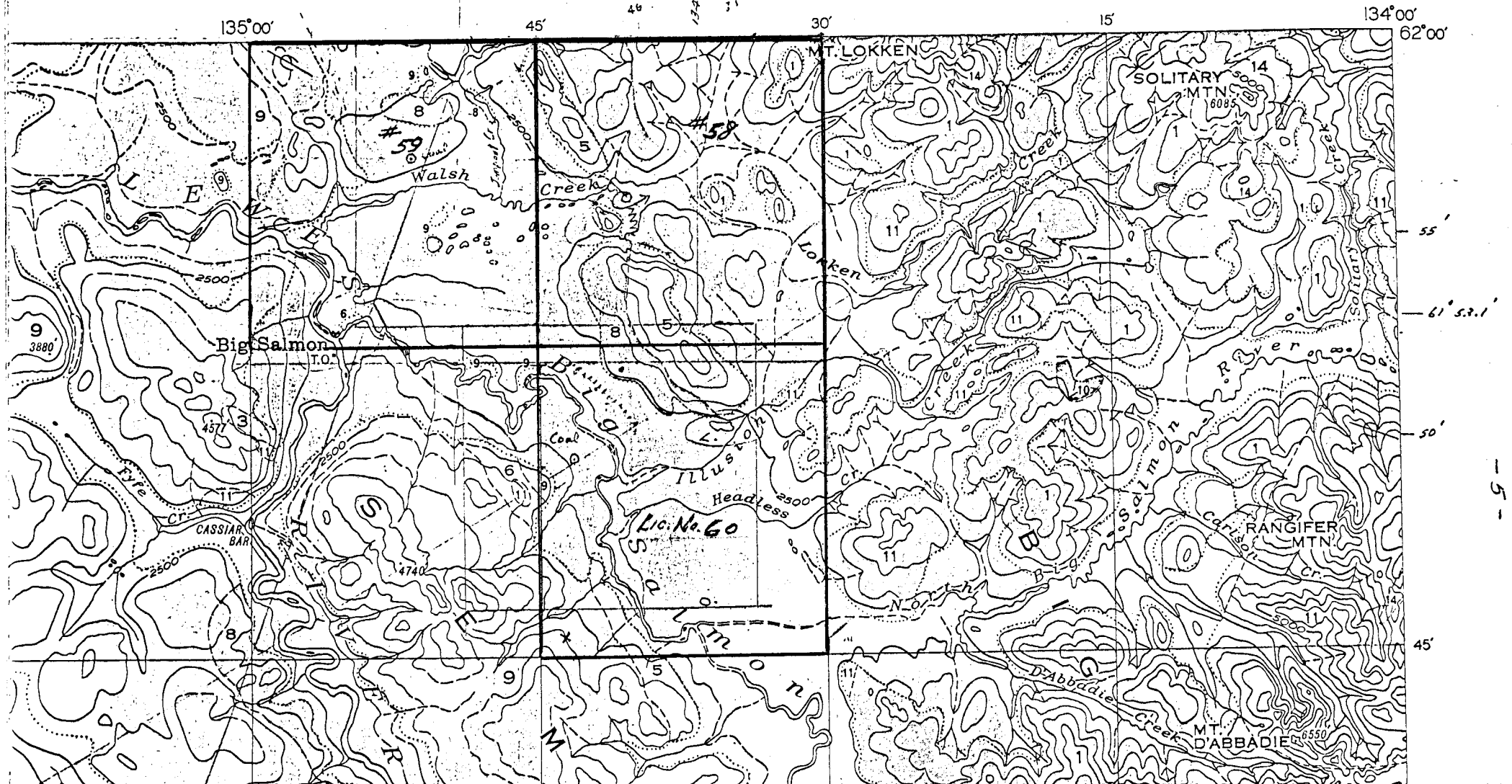
Figure 1	Location Map - Key Map	Page 4
Figure 2	Location & Plan of Property	Page 5
Figure 3	Aero Electromagnetic Survey, Plan of Flight Lines	In Pocket
Figure 4 - 9	Aero E.M. Survey Tapes	In Pocket



Scale : 1 : 2,000,000

Figure 1 - Location Map - KEY MAP

Issued 1936



105 E NTS.

KERR ADDISON MINES LIMITED  
BIG SALMON COAL PROJECT  
1976-1977  
LOCATION & PLAN OF PROPERTY  
COAL EXPLORATION LICENCES  
Nos. 58, 59 and 60  
SCALE 1=125,000

Figure 2

105 E/15 W

1:50,000

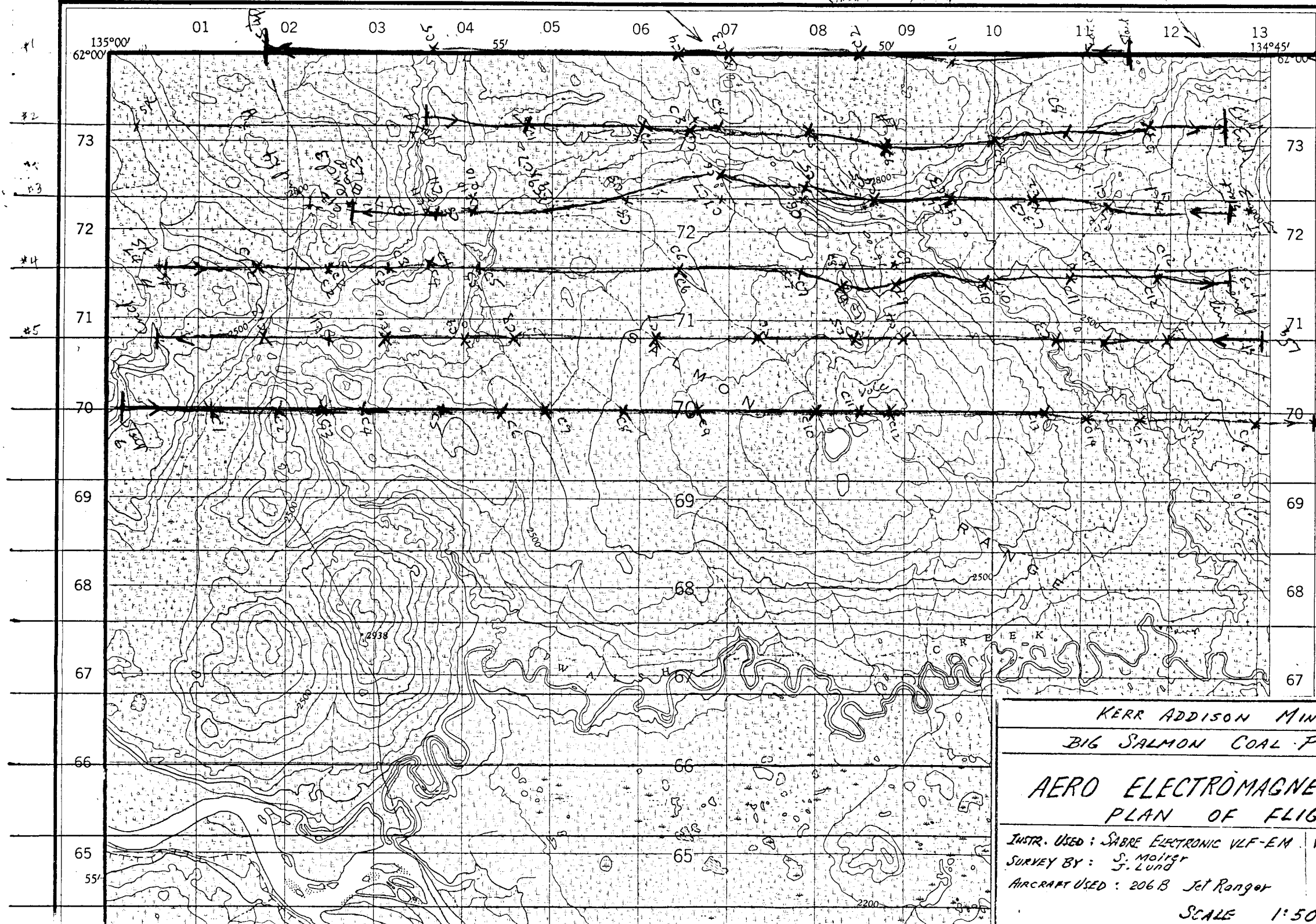
CANADA

EDITION 1

105 E/15 W

Refer to  
this map as:

105E/15 WEST  
EDITION 1 ASE  
SERIES A 722



Line 1  
Line 2 & Line 2 Re-run  
Line 3 & Line 3 Re-run  
Line 4 & Line 4 Re-run  
Line 5  
Line 6

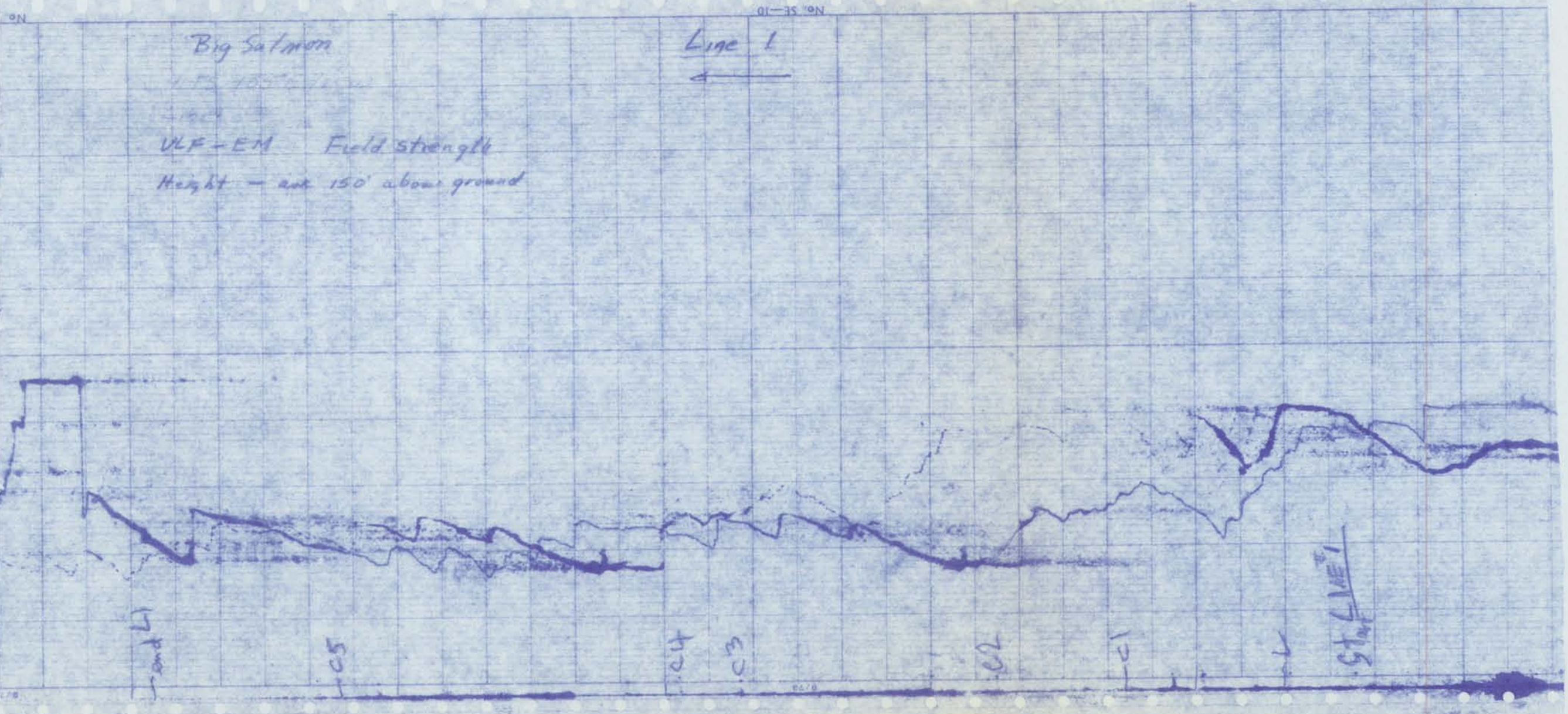
Figure 3

KERR ADDISON MINES LIMITED  
BIG SALMON COAL PROJECT, Y. T.

**AERO ELECTROMAGNETIC SURVEY  
PLAN OF FLIGHT LINES**

INSTR. USED: SABRE ELECTRONIC VLF-EM VLF signal origin: Seattle, USA  
SURVEY BY: S. MOISER J. LUND VLF frequency: 18.6 KHz  
AIRCRAFT USED: 206 B Jet Ranger NTS - 105E-15W (north)

SCALE 1:50,000



Kerr Addison Mines Ltd.  
BIG SALMON CONC PROJECT, Y.T.  
AEROELECTROMAGNETIC SURVEY

---

EM unit manufactured by SHORE ELECTRONICS LTD,  
Burnaby, B.C.  
Transmitter Station - VLF, Seattle, Wash., U.S.A.  
Frequency used - 18.6 kHz  
Aircraft used - 206 B Jet Ranger  
Survey Date - June 25-27, 1977

Figure 4

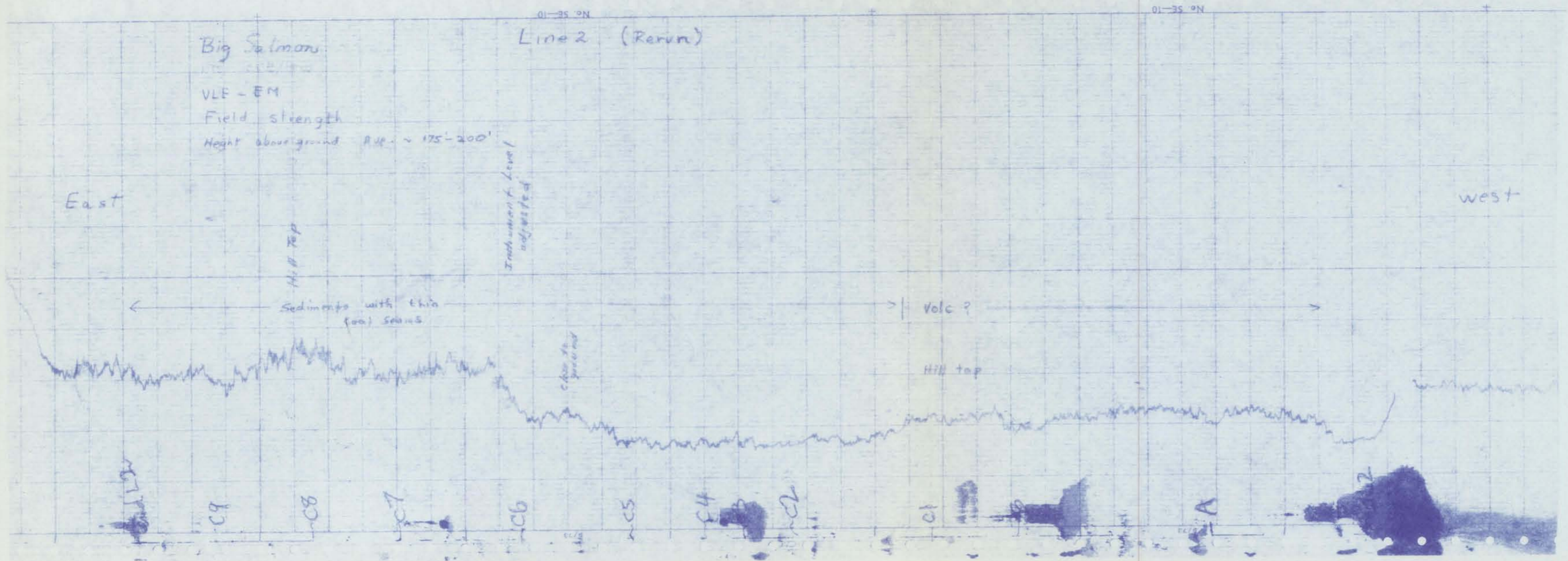


Fig. 5

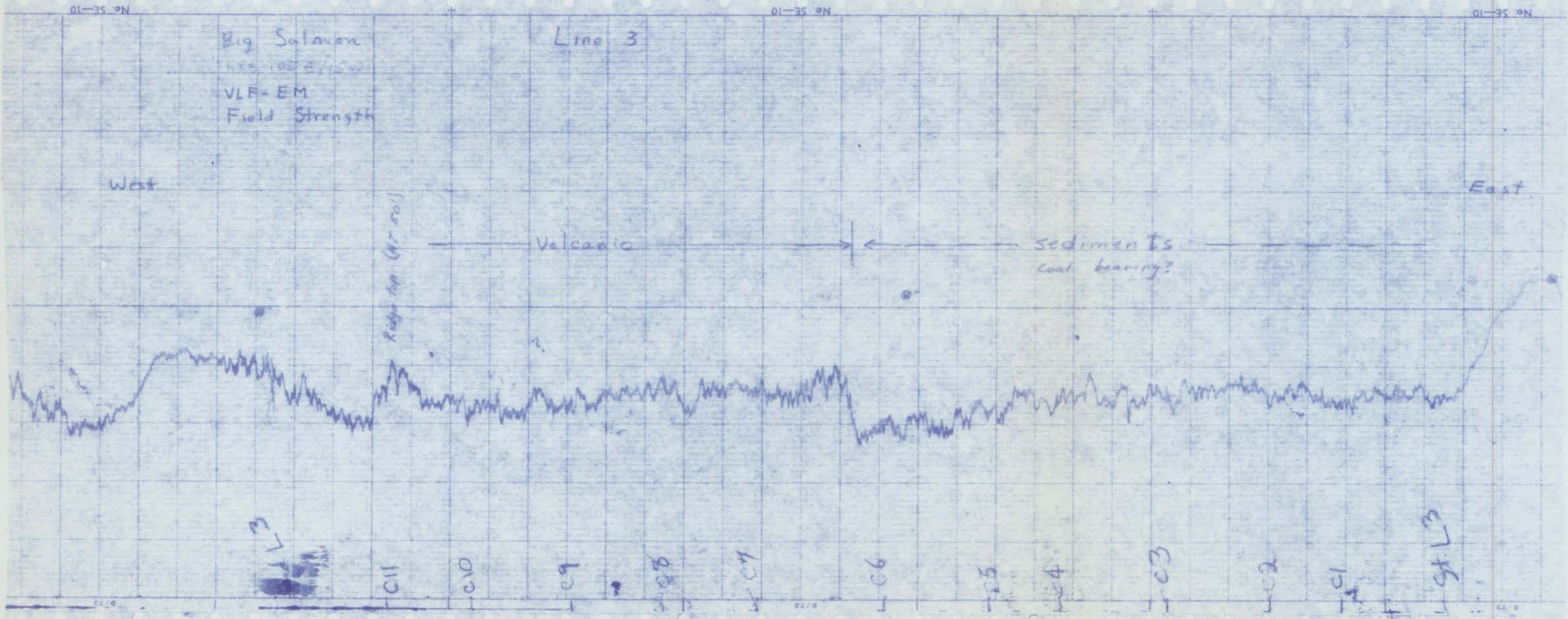


Fig. 6



01-35 '88

Big Salmon  
Mts 105 E/15W  
VLF - EM  
Field Strength

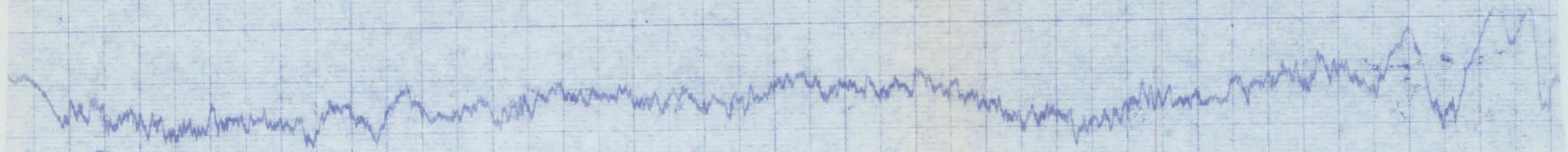
Line 5

West

East

← Volcanic →

Crack



end 5

C12

C11

C10

C9

C8

C7

C6

105 W

C4

C3

C2

C1

st. 15

Fig. 8

Big Salmon  
NTS 105 E/15 W  
VLF-EM  
Field Strength

Line 6

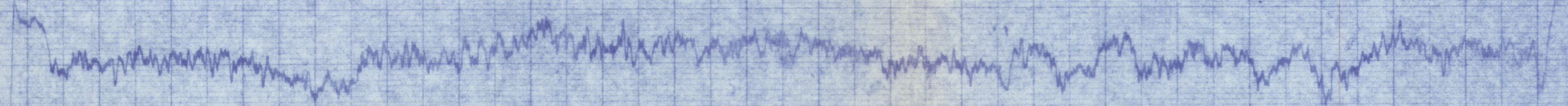
East

West

Creek

Creek

Hill (H/L)



1st 16

C16

C15

C14

C13

C12 HT

C11

C10

C9

C8

C7

C6

C5

C4

C3

C2 HT

C1

1st 6

Fig. 9