ASSESSMENT REPORT

on

GEOPHYSICS

SUN CLAIMS

Sundown Creek, Moyie River Area

FORT STEELE MINING DIVISION

NTS 82 G/4 W

Latitude 49 13' N
Longitude 115 52' W

by

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GEOLOGIST

July 15, 1992

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1.00 INTRODUCTION

1.10 Location and Access

The Sun claims are located 30 kilometers due south of Cranbrook, B.C. and 5 kilometers south of Moyie Lake, in the Fort Steele Mining Division, centered approximately at Latitude 49 13' N, Longitude 115 52' W, reference map NTS 82 G/4 W (Figures 1 &2).

Good access by road exists from Highway 3/95 along the Sundown Creek logging road and a new logging road which crosses the lower portions of Sundown and Stone Creeks; both roads cross parts of the claim block. Elevation on the property ranges from 900 to 1500 meters with annual precipitation of about 30 cm.

1.20 Property

The Sun property consists of 32 two-post claims, Sun 1 to 32, staked in April and May of 1991 and registered to G.M. Rodgers of Skookumchuck, B.C. The claim location and configuration is shown in Figures 2 and 3 and Appendix 1 is a reference list of the claims.

1.30 Previous Work

Limited mineral exploration has occurred in the area of the Sun Claims. An occurrence of stratabound lead-zinc mineralization on the property has been staked in the past but only minimal work, such as hand trenching, was completed.

Cominco Ltd. holds the Ald claims to the northeast. Available assessment reports show geochemical analyses of rock chips from a deep petroleum exploration-related drill hole. Extensive anomalous lead, zinc and copper values were reported but the source of the mineralization was not determined.

Minnova holds the Stone claims to the southwest of the Sun claims. Two drill holes totalling 519.4 meters were completed in 1989 on targets defined by earlier geophysical (CSAMT and Gravity) surveys. One of the holes encountered strong concentrations of bedded iron sulfides.

A small previously operated gold deposit, the Midway Mine, occurs less than 500 meters north of the Sun claims. Gold mineralization occurs in a northerly-striking quartz vein which cross-cuts Middle Aldridge stratigraphy.

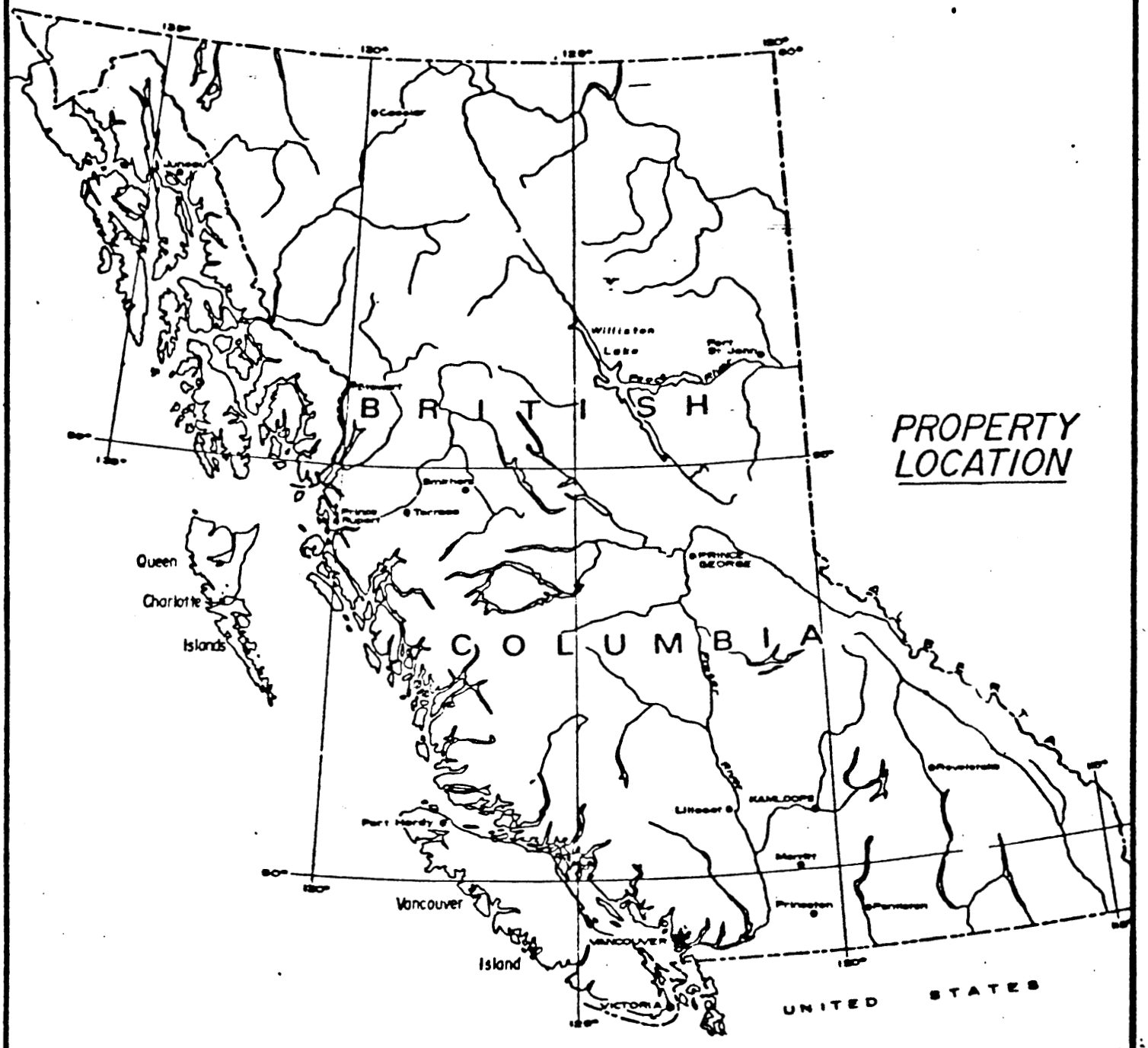


Figure 1
SUN CLAIMS

LOCATION MAP

SCALE
Km 100 50 0 100 200 300 400 Km

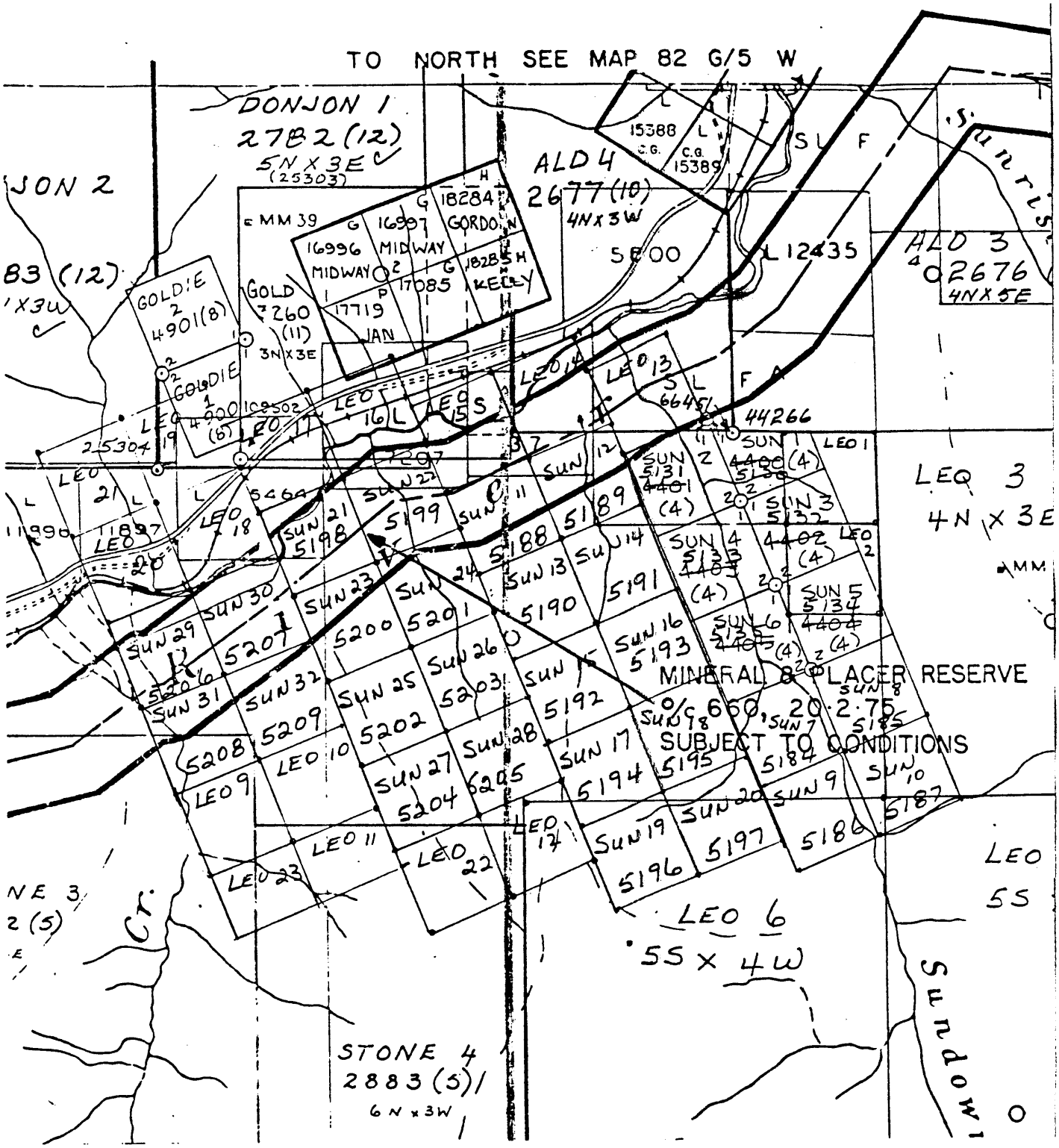


Figure 2. Sun Property Claim Map
NTS 82 G/4 W

1.40 Purpose of Survey

In early 1992 a series of VLF-EM and Magnetic geophysical surveys were conducted on the Sun claims in areas considered to be of possible economic interest. These surveys were intended to test for structures which might be associated with economic base metal mineralization.

2.00 GEOLOGY

2.10 Regional Geology

The Sun claims lie within the central portion of the Purcell Anticlinorium which is comprised of up to 11 kilometers of mostly fine-grained clastic and carbonate rocks. The oldest rocks of this Helikian age sequence are the deep water environment Aldridge Formation siltstones and quartzites. This formation is host to the world-class Sullivan orebody at Kimberley, B.C., approximately 50 kilometers north of the Sun claims. The Sullivan orebody originally contained about 160 million tons of 12% lead and zinc with significant silver and would be worth approximately 22 billion dollars at today's metal prices.

The Aldridge Formation is intruded by numerous gabbroic and dioritic composition sills and dikes. These are found in the vicinity of the Sullivan deposit and on the Sun claims.

The Aldridge Formation is overlain by shallower water quartzites, siltstones and silty carbonates of the Creston and Kitchener Formations. These units are not present in the immediate area of the Sun claims.

The Purcell Anticlinorium is cut by a number of late, regional northeast-trending faults which are believed to have been active during deposition of Purcell strata and thus may have influenced the deposition of Sullivan-type base metals as they were vented to the sea floor.

The Sun claims straddle the axis of the Moyie Anticline, a local feature of the Purcell Anticlinorium which extends southward into the U.S.A. In the vicinity of the Sun claims a northeast-oriented fault occurs along the axis of the anticline (Figure 3) . A series of base metal, gold and tourmalinite occurrences along this structure suggest it was a controlling influence on mineralizing processes.

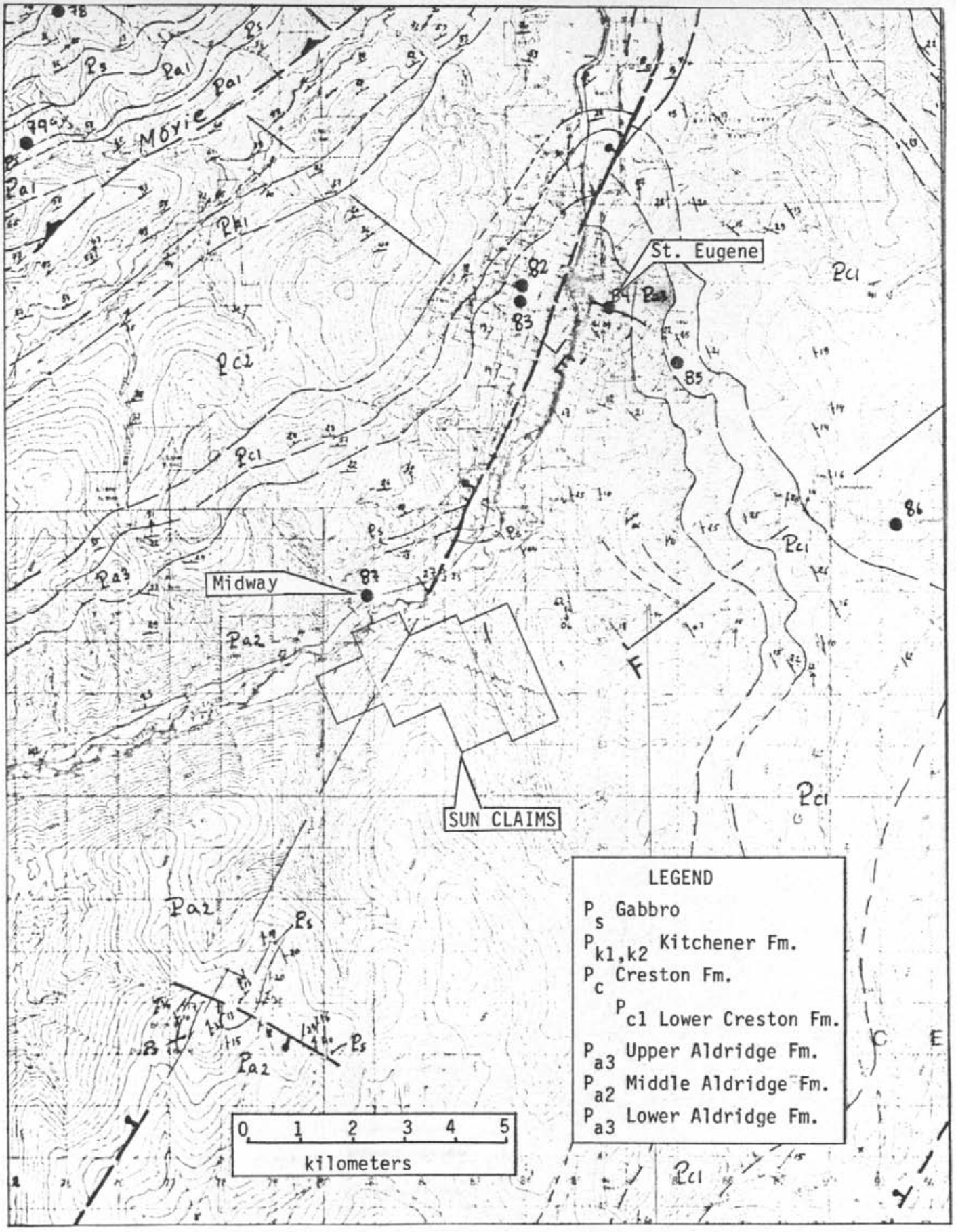


Figure 3. Sun Property Geology Map. Revised from B.C. MEMPR Open File Map No. 1988-14 by Hoy and Carter. Scale 1:100,000

2.20 Property Geology

The Sun claims are underlain by rocks of the Aldridge Formation, the same formation that hosts the world-class Sullivan orebody at Kimberley, 50 kilometers to the north. Regional mapping has defined a NNE-oriented anticline with gently dipping limbs. The Sun claims straddle the axis of this Moyie Anticline and bedrock on the property is of gently dipping Middle Aldridge siltstones and quartzites (Figure 3). These Aldridge rocks are intruded by gabbroic and dioritic composition sills and dikes of the Moyie Intrusions.

Disseminated lead and zinc mineralization within a quartzite bed on the property may be distal mineralization associated with a Sullivan style mineralizing process. The presence of stratabound mineralization and strong northeast structures provide opportunity for both stratabound and vein type economic base metal mineralization on the property.

3.00 GEOPHYSICS

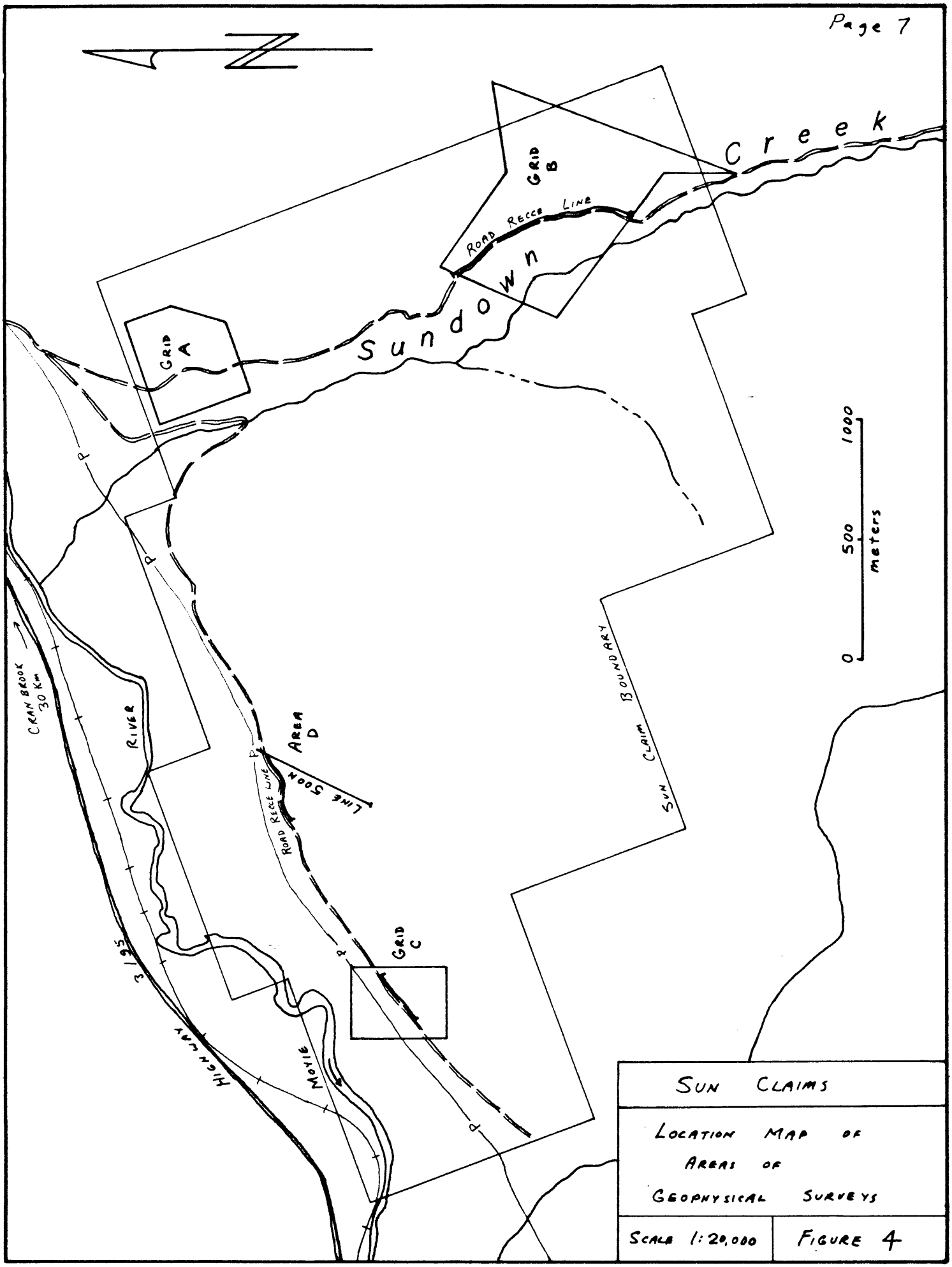
3.10 Introduction

On the Sun claims, 1.85 kilometers of reconnaissance VLF-EM surveying was done along roads and 9.3 kilometers of VLF-EM surveying was done along flagged and numbered grid lines. In addition, 350 meters of reconnaissance magnetic surveying was done along roads and a further 2.6 kilometers of magnetic surveying was done on the grid lines. A total of 14.125 kilometers were surveyed. Location of the recce road lines and grids is shown on Figure 4. Figures 6, 8 and 10 show grid survey plans of dip angle and Fraser Filter data with the strongest conductive zones identified. Figures 5, 7, 9 and 11 show profiles of both VLF-EM and Magnetic data. The VLF-EM data includes Field Strength (+ symbol), Dip Angle (. symbol) and Fraser Filter (x symbol) values.

3.20 VLF-EM Survey

3.21 Instrumentation and Survey Procedure

A Crone Radem VLF-EM receiver, manufactured by Crone Geophysics Ltd. of Mississauga, Ontario was used for the VLF-EM survey. Seattle, Washington (24.8 KHz) was used as the transmitting station.



SUN CLAIMS

LOCATION MAP OF AREAS OF GEOPHYSICAL SURVEYS

SCALE 1:20,000 | FIGURE 4

In all electromagnetic prospecting, a transmitter produces an alternating magnetic (primary) field by a strong alternating current usually through a coil of wire. If a conductive mass such as a sulfide body is within this magnetic field, a secondary alternating current is induced within it which in turn induces a secondary magnetic field that distorts the primary magnetic field. The VLF-EM receiver measures the resultant field of the primary and secondary fields, and measures this as the tilt or 'dip angle'. The Crone Radem VLF-EM receiver measures both the total Field Strength and the Dip Angle.

The VLF-EM uses a frequency range from about 15 to 28 KHz, whereas most EM instruments use frequencies ranging from a few hundred to a few thousand Hz. Because of its relatively high frequency, the VLF-EM can detect zones of relatively lower conductivity. This results in it being a useful tool for geologic mapping in areas of overburden but it also often results in detection of anomalies that are difficult to explain. However the VLF-EM can also detect sulfide bodies which have too low a conductivity for other EM methods to pick up.

For the survey on the Sun claims, readings were taken every 25 meters along survey lines spaced either 50 or 100 meters apart as shown on Figures 5 to 11. Grid lines were oriented to cross the inferred structures at approximate right angles.

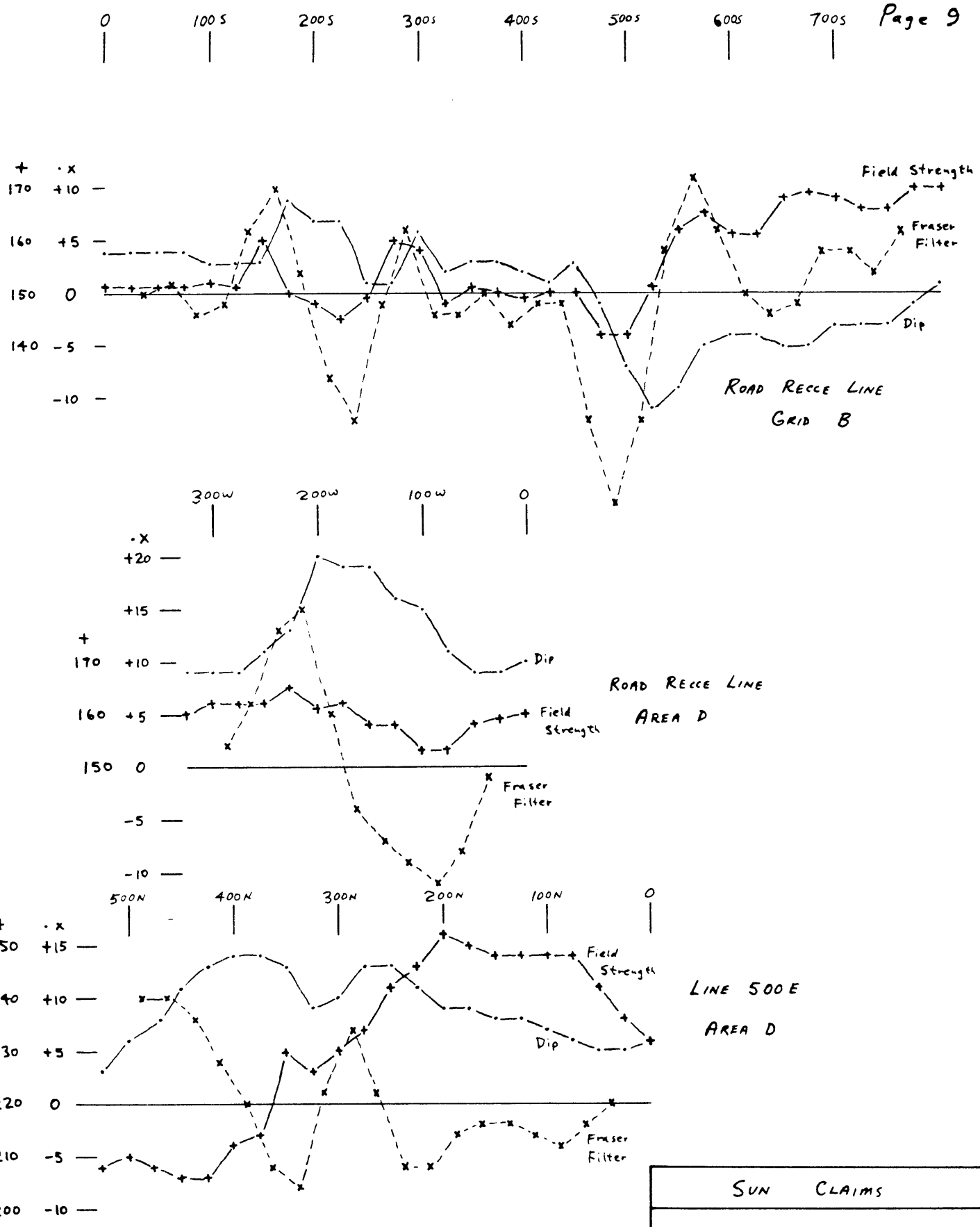
Results were reduced by applying the Fraser Filter, and the filtered values are plotted on Figures 6, 8 and 10 between the survey points, and between the dip readings. The higher positive Fraser Filter values are further defined as 'Conductive Zones'

The Fraser Filter is essentially a 4-point difference operator, which transforms zero crossings into peaks, and a low pass smoothing operator which induces the inherent high frequency noise in the data. Thus the noisy non-contourable data are transformed into less noisy contourable data. Another advantage of this filter is that a conductor which does not show up as a crossover on the unfiltered data quite often shows up on the filtered data.

3.22 Discussion of Results

Grid A

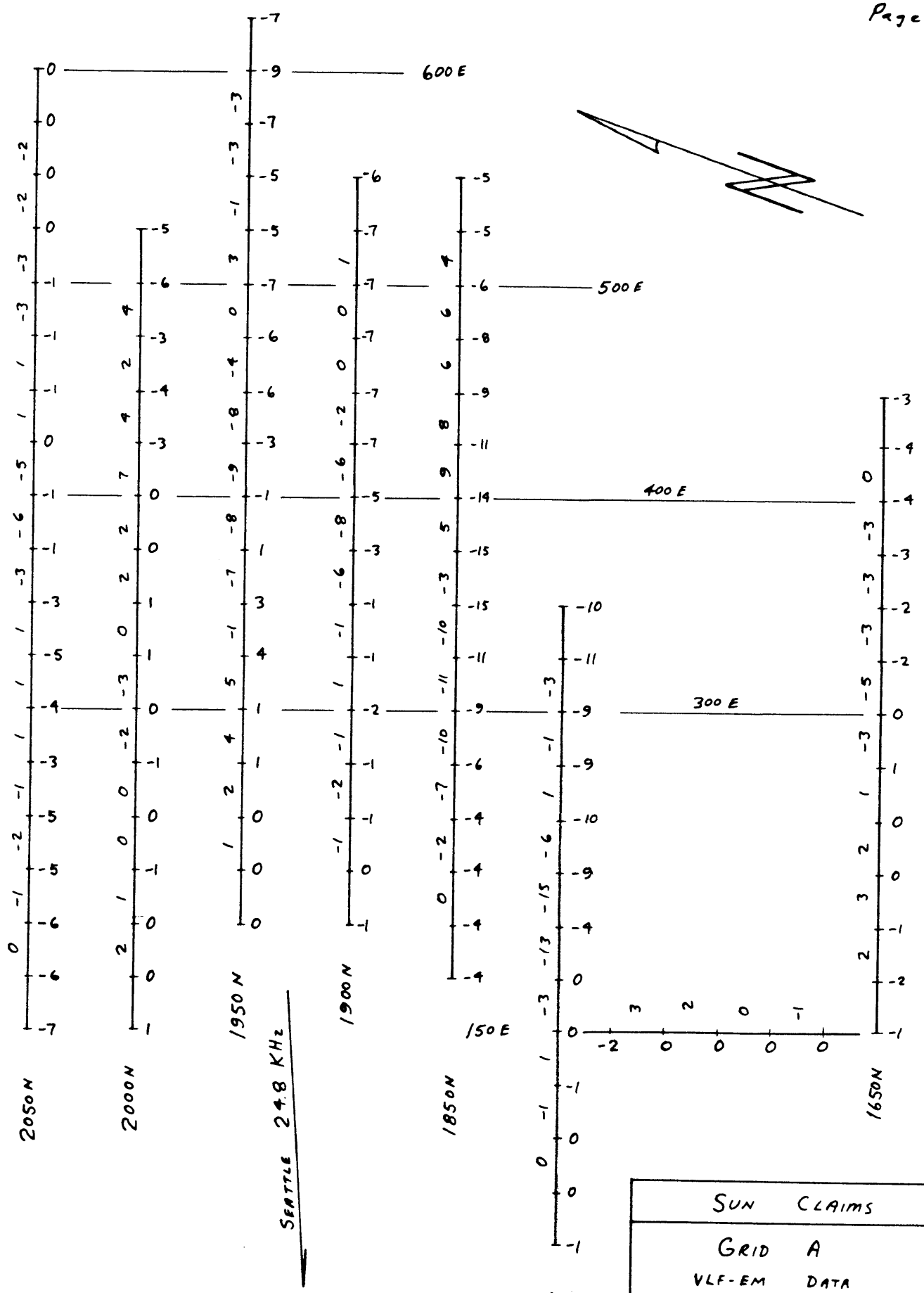
Grid A (Figures 6 & 7) covers a showing of stratabound lead-zinc mineralization within north-striking shallow dipping Aldridge stratigraphy. The grid lines were oriented N70E to cross strata at roughly 90 degrees. Weak anomalies were detected on Line 2000 N (at 425 E), Line 1950 N (at 300 E) and Line 1850 N (at 425 E). There is no apparent correlation of these zones and thus no strong bedding-parallel conductor was identified.



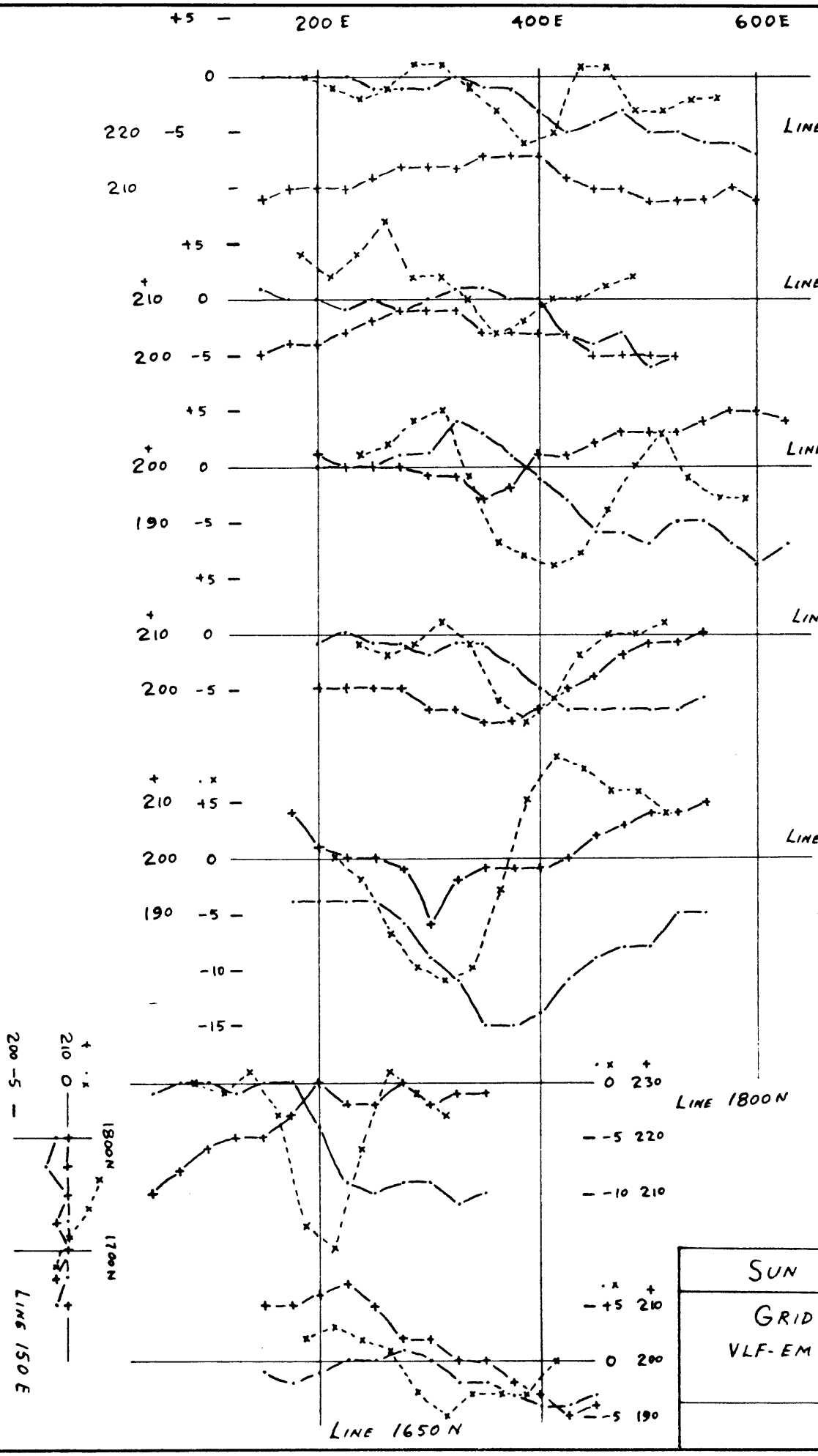
SUN CLAIMS

VLF-EM PROFILES

FIGURE 5



SUN CLAIMS
GRID A
VLF-EM DATA
DIP ANGLES & FRASER FILTER VALUES
SCALE 1:2500 — FIGURE 6



SUN CLAIMS

GRID A

VLF-EM PROFILES

FIGURE 7

Grid B

Grid B covers an inferred NW-SE structure detected on the Sundown Creek road with a reconnaissance VLF-EM line (Figure 5). This response was not further delineated by the grid survey (Figures 8 & 9) and is evidently not a continuous conductor.

The three easternmost survey lines appear to have crossed a stronger north-south oriented conductor which may be a bedding-parallel zone. Further VLF-EM surveying, with east-west oriented lines, should be done to better define this zone.

Grid C

Grid C covers a manganese rich possible shear zone exposed by new road building immediately above the gas pipeline and west of Sundown Creek (Figure 4). A reconnaissance road survey across this zone produced a conductive response coincident with the zone (Figure 10). Further grid surveying (Figures 10 and 11) identified a weak broad anomaly which curves across the area of the survey.

Area D

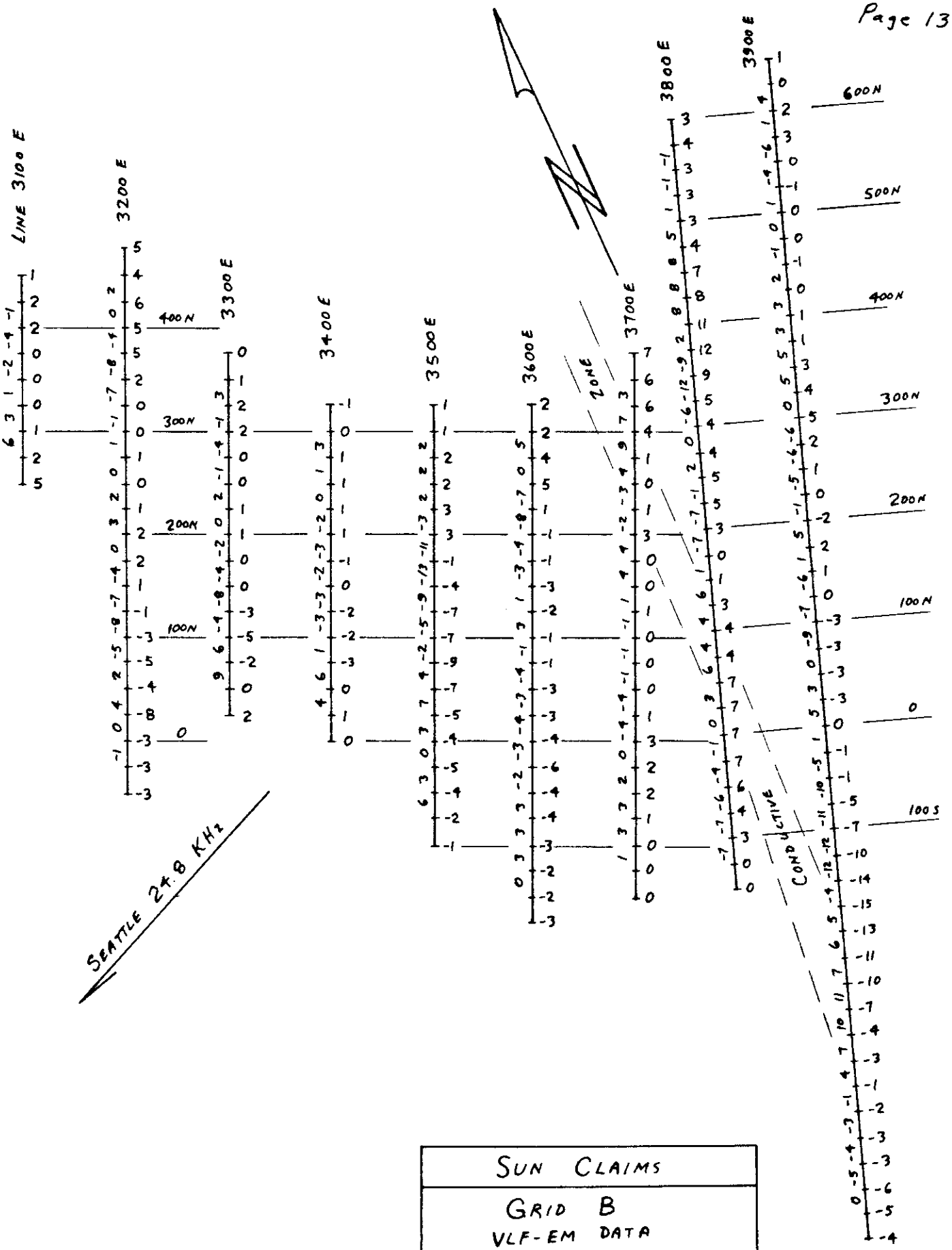
A road recce line in Area D (Figure 4) detected a fault zone of undetermined orientation. Fault breccia is exposed by new road building. One grid line was subsequently run at 025 Azimuth to cross an inferred 120 degree structure. A weak response at 300 N (Figure 5) may be the southern extension of the fault structure. Further work could be done to identify the orientation of the zone.

3.30 Magnetic Survey

A Geometrics model G816 portable proton precession magnetometer capable of detecting magnetic variations of one gamma was used for the magnetic survey. Repeat readings were taken along the survey lines in a 'closed loop' system of surveying to allow correcting for diurnal variation.

Magnetic surveying was done along some of the lines used for the VLF-EM survey (Figures 5, 9 and 11).

No significant anomalies were detected. Small scale fluctuations shown on the profiles are interpreted to be due to short term magnetic interference. During all of the surveying, repeat readings at individual stations commonly fluctuated by 10 or 20 gammas.



SUN CLAIMS	
GRID B VLF-EM DATA DIP ANGLES & FRASER FILTER VALUES	
SCALE 1:5000	FIGURE 8

600 N 400 N 200 N 0 200 S 400 S

+ · ×
240 +5
230 0
220 -5

LINE 3900 E

+ · ×
230 +10
220 +5
210 0
200 -5
-10

LINE 3800 E

+
220
· ×
210 +5
200 0
190 -5
GAMMAS
57500
57450

LINE 3700E

MAG L. 3700 E

+ · ×
210 +5
200 0
190 -5
GAMMAS
57500
57450

LINE 3600 E

MAG. L. 3600 E

+ · ×
220 +5
210 0
200 -5
GAMMAS
57500
57450

LINE 3500 E

MAG. L. 3500E

+ · ×
210 +5
200 0
57550
GAMMAS
57500

LINE 3400 E

MAG L. 3400 E

+ · ×
250 +5
240 0
230 -5
220 -10

LINE 3300 E

+
250
240
· ×
230 +5
220 0
210 -5
200

LINE 3200 E

400 N 200 N 0

400 N 300 N

230
220 +5
210 0
-5

LINE 3100E

+ FIELD STRENGTH
· DIP
× FRASER FILTER

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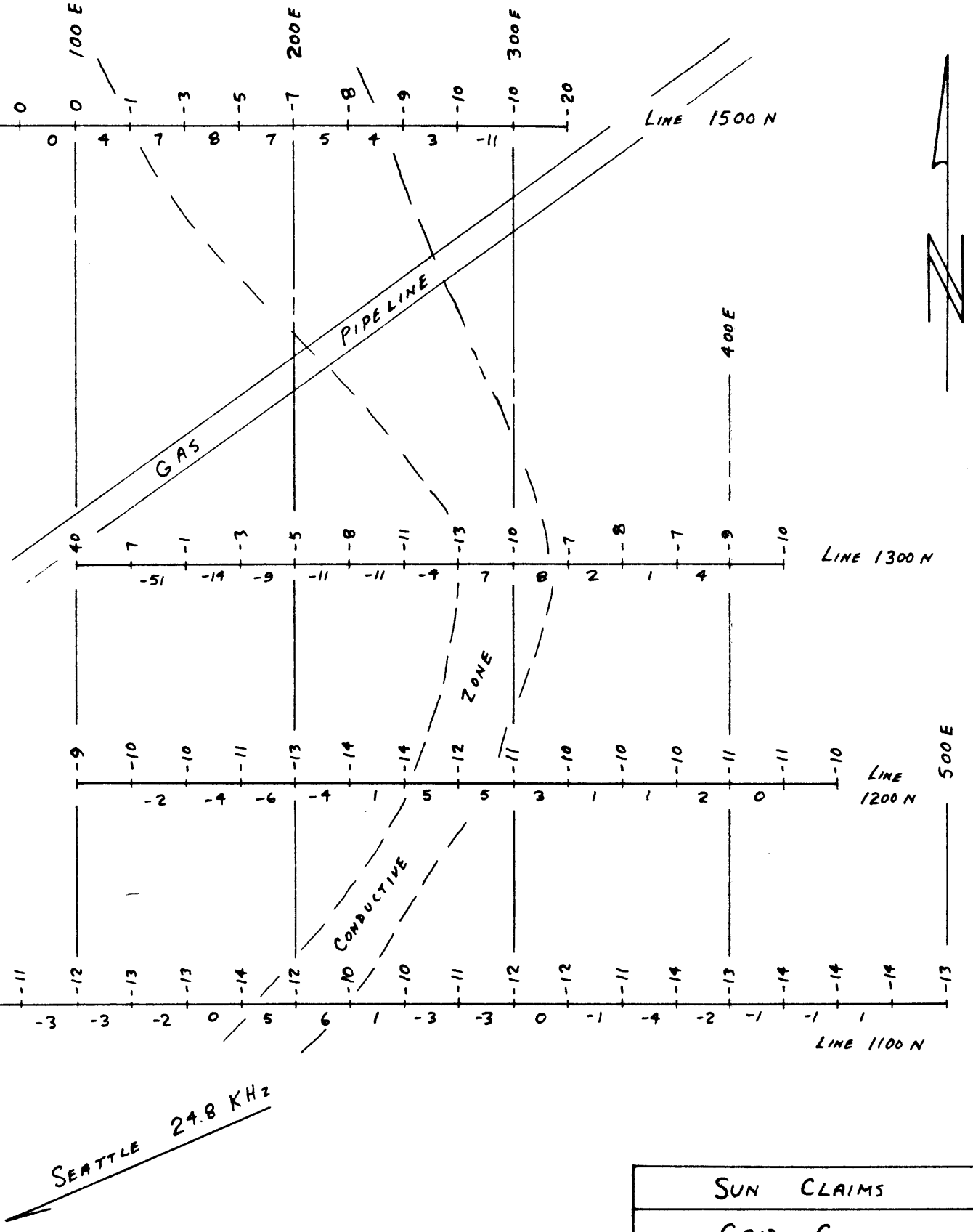
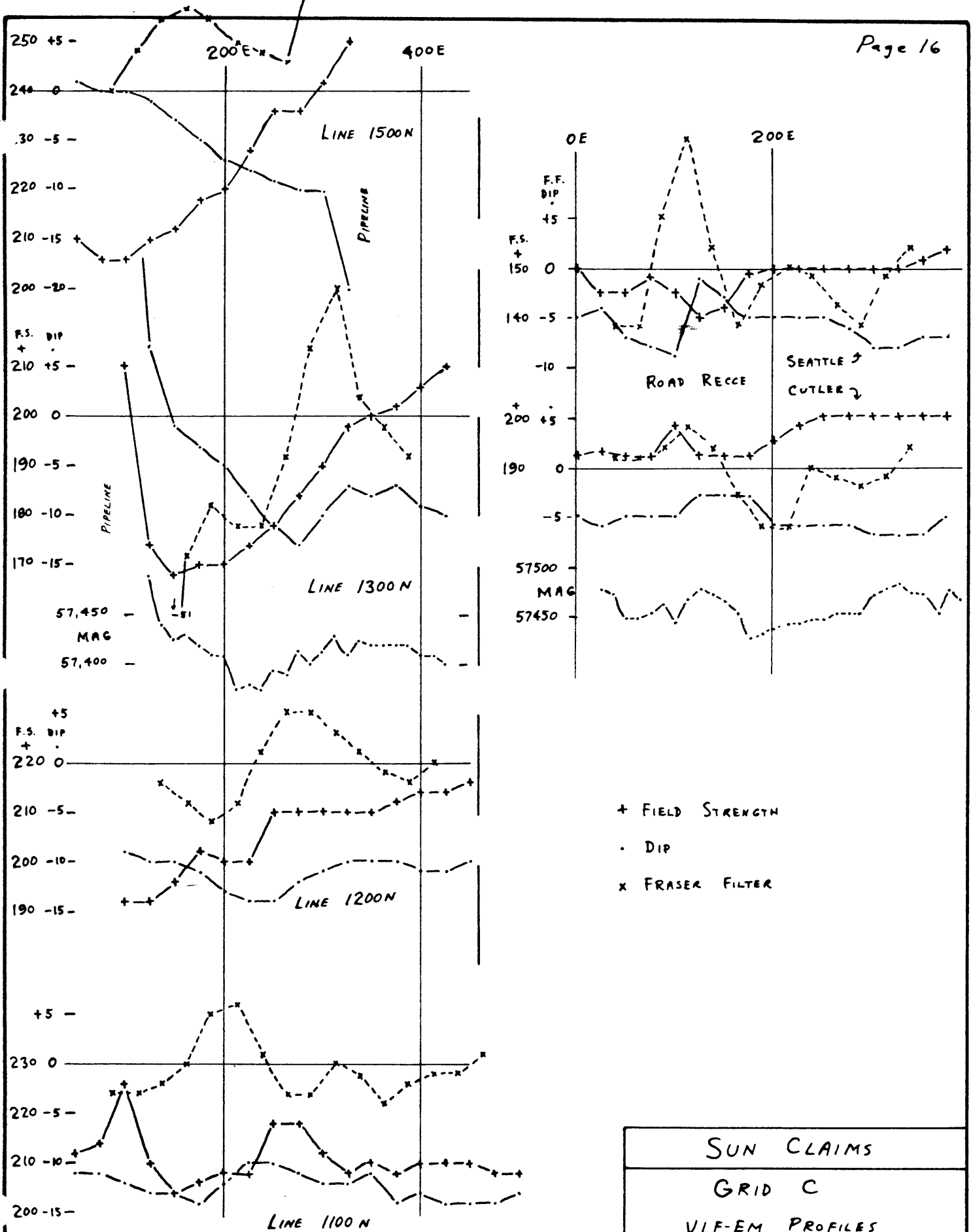
SUN CLAIMS

GRID B
VLF-EM DATA
DIP ANGLES & FRASER FILTER VALUES

FIGURE 9



SUN CLAIMS	
GRID C VLF-EM DATA DIP ANGLES & FRASER FILTER VALUES	
SCALE 1:2500	FIGURE 10



SUN CLAIMS
GRID C
VLF-EM PROFILES
FIGURE 11

4.00 CONCLUSIONS

VLF-EM surveying on reconnaissance road lines and three grids on the Sun claims has identified conductive zones which should be further evaluated. These zones may be related to economic base metal mineralization.

Further VLF-EM surveying could be done to better define and delineate the conductive zones. Subsequent work should consist of soil geochemistry and trenching.

The magnetic survey over some of the VLF-EM lines did not detect any strong anomalies.

5.00 STATEMENT OF EXPENDITURE

13 days including drafting and report, @ $225/day	$2925.00
Truck rental 8 days @ $50.00/day	400.00
VLF-EM and Mag rental 11 days @ $30.00/day	330.00
Field Supplies	37.00
Total Expenditure	$3692.00

6.00 AUTHOR'S QUALIFICATIONS

As author of this report I, Peter Klewchuk, certify that:

1. I am an independent consulting geologist with offices at 246 Moyie Street, Kimberley, British Columbia.

2. I am a graduate geologist with a BSc degree (1969) from the University of British Columbia and an MSc degree (1972) from the University of Calgary.

3. I am a Fellow in good standing of the Geological Association of Canada.

4. I have been actively involved in mining and exploration geology, primarily in the province of British Columbia, for the past 18 years.

5. I have been employed by major mining companies and provincial government geological departments.

Dated at Kimberley, British Columbia, this 15th day of July, 1992.

Peter Klewchuk

APPENDIX 1. List of Claims

Claim	Record Number	Record Date
Sun 1	5130	April 22, 1991
2	5131	"
3	5132	"
4	5133	"
5	5134	"
6	5135	"
7	5184	May 5, 1991
8	5185	"
9	5186	"
10	5187	"
11	5188	"
12	5189	"
13	5190	"
14	5191	"
15	5192	"
16	5193	"
17	5194	"
18	5195	"
19	5196	"
20	5197	"
21	5198	"
22	5199	"
23	5200	"
24	5201	"
25	5202	"
26	5203	"
27	5204	"
28	5205	"
29	5206	"
30	5207	"
31	5208	"
32	5209	"

SITUATED IN THE FORT STEELE MINING DIVISION OF THE PROVINCE OF BRITISH COLUMBIA, *NTS 82 G/4 W*