

ARIS SUMMARY SHEET

District Geologist, Nelson

Off Confidential: 94.12.09

ASSESSMENT REPORT 23210

MINING DIVISION: Trail Creek

PROPERTY: Lily May  
LOCATION: LAT 49 03 40 LONG 117 49 50  
UTM 11 5434362 439323  
NTS 082F04W  
CLAIM(S): Jero 5  
OPERATOR(S): Vangold Res.  
AUTHOR(S): Wehrle, D.  
REPORT YEAR: 1993, 20 Pages  
KEYWORDS: Jurassic, Rossland group, Nelson Plutonic Rocks, Monzonites  
WORK  
DONE: Geophysical  
EMGR 11.0 km

|                     |     |
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ASSESSMENT REPORT ON THE  
LILY MAY CLAIM GROUP  
ROSSLAND, BRITISH COLUMBIA  
VLF-EM SURVEY

Trail Creek Mining Division  
NTS: 82 F/4 W  
Longitude: 117 49' 50"  
Latitude: 49 03' 40"

Owners: Antelope Resources  
Box 562 Rossland B.C.  
VOG 1Y0

Bryndon Ventures Inc.  
Suite 300-837 Homer St.  
Vancouver, B.C. V6B 2W2

Stan Endersby  
1124 Lee St.  
White Rock, B.C.  
V4B 4P4

Operators: Vangold Resources

Author: Dan Wehrle, Geologist

December 30, 1993

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

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TABLE OF CONTENTS

INTRODUCTION ..... 1  
LOCATION AND ACCESS ..... 1  
PHYSIOGRAPHY AND VEGETATION ..... 5  
PROPERTY DESCRIPTION AND EXPLORATION HISTORY ..... 5  
OBJECTIVE OF PRESENT WORK ..... 8  
INSTRUMENTATION AND THEORY ..... 8  
PROCEDURE ..... 9  
COMPILATION OF DATA ..... 10  
DISCUSSION OF RESULTS ..... 11  
CONCLUSIONS AND RECOMMENDATIONS ..... 11  
ITEMIZED COST STATEMENT ..... 13  
REFERENCES ..... 14  
AUTHOR'S QUALIFICATIONS ..... 15

LIST OF TABLES

Table 1 Lily May Claim Group List ..... 12

LIST OF FIGURES

Figure 1 Property location map ..... 3  
Figure 2 Index Map ..... 4  
Figure 3 Claim Map .....map envelope  
Figure 4 Map VLF-EM Field Data .....map envelope  
Figure 5 Map Fraser-filtered VLF Data .....map envelope

## INTRODUCTION

The VLF-EM data described in this report is being presented as assessment work for the following claims in the Lily May group:

| CLAIM            | TITLE NO. |
|------------------|-----------|
| Hattie           | 257611    |
| Antelope #1 Fr.  | 257646    |
| Antelope #2 Fr.  | 257647    |
| Antelope #3 Fr.  | 257648    |
| Antelope #4 Fr.  | 257649    |
| Antelope #16 Fr. | 257686    |
| Antelope #18 Fr. | 257688    |
| Jero 5           | 257558    |
| Jero 8           | 257586    |
| Bender #10       | 257690    |
| Bender #11       | 257691    |
| Bender #12       | 257692    |

The VLF-EM survey, covering 11.0 kilometers, was conducted from September 1, 1993 to December 1, 1993 over the Jero 5 claim of the Lily May group.

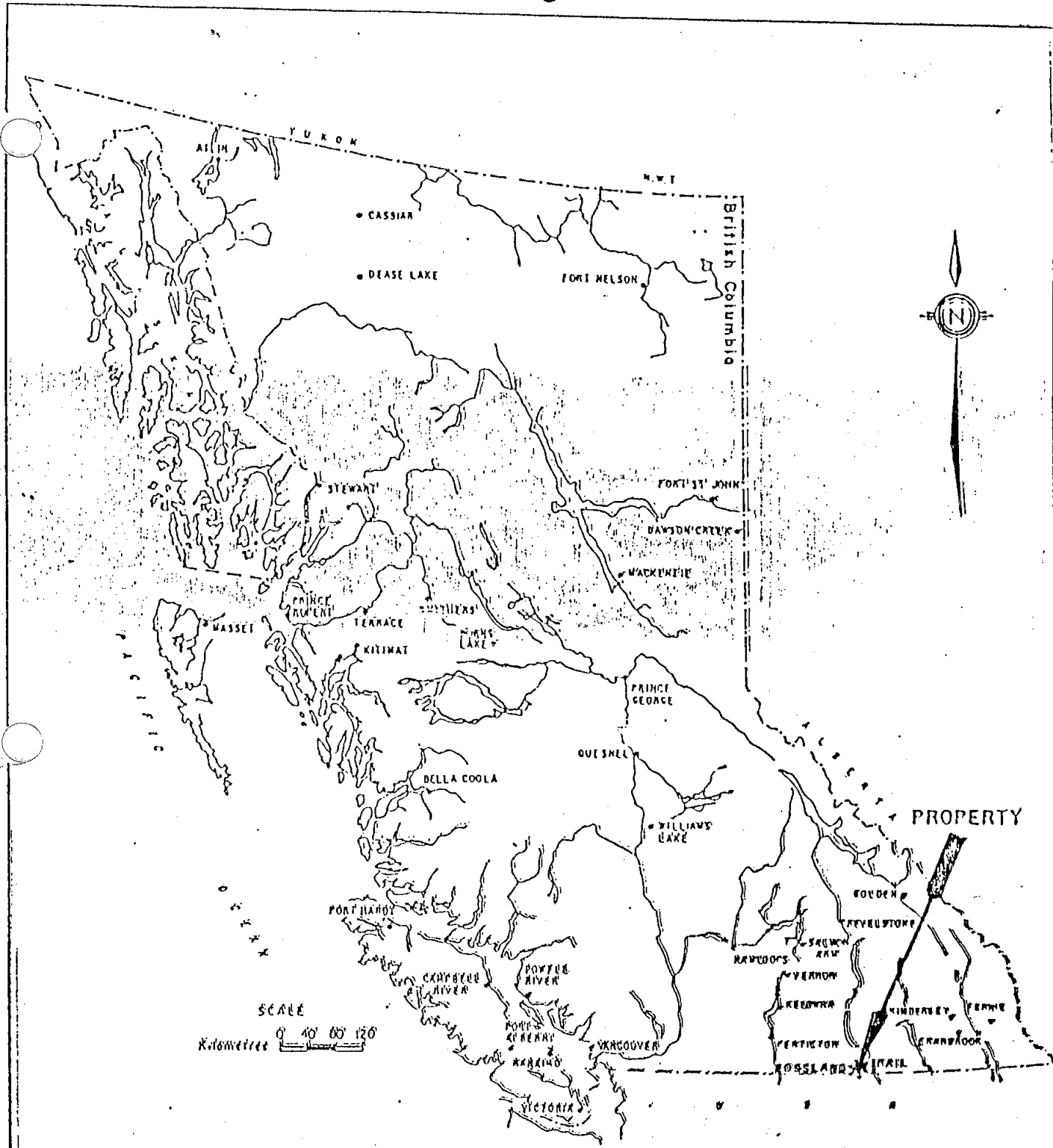
The survey forms part of an on-going exploration program whose goal is to locate and define economic concentrations of mineral bearing sulfides along shear zones marginal to the monzonite intrusion which underlies the City of Rossland, British Columbia.

## LOCATION AND ACCESS

The Lily May claim group is located immediately south and southwest of the city of Rossland, B.C. (Figure 1 and 2). Rossland is located approximately 6 kilometers south-westerly from the City of Trail, B.C. and about 7 kilometers north of the United States border.

Geographic coordinates of the approximate center of the Lily May claim group are longitude 117 49' 50" W; latitude 49 03' 40" N on N.T.S. Map Sheet 82 F 4/W.

Rossland and vicinity is served by major provincial highways and by Castlegar airport located 26 kilometers north of Trail B.C. Access to the property is good along many 4-wheel drive logging, power-line and hunting roads. The VLF grid lies approximately 0.1 kilometers east of the Patterson Highway; and 8 kilometers north of the Canada/U.S.A. border.



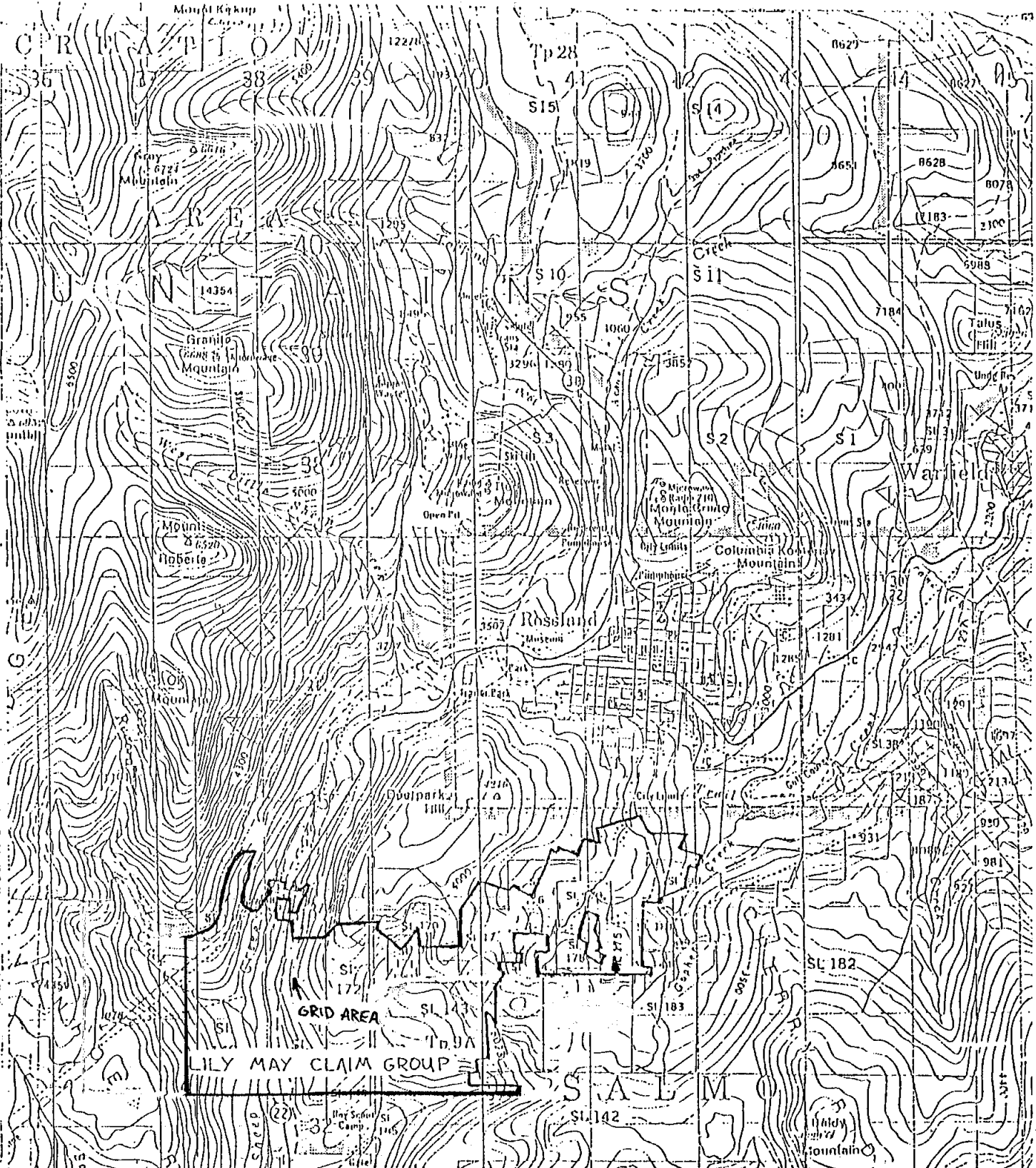
ROSSELAND PROPERTY  
 TRAIL CREEK MINING DIVISION, B. C.

PROPERTY LOCATION MAP  
 PROVINCE OF BRITISH COLUMBIA

SCALE:

DATE: /93

FIGURE: 1



|                               |             |
|-------------------------------|-------------|
| INDEX MAP                     |             |
| <p>1000 0 2000<br/>METERS</p> |             |
| DATE: /93                     | FIGURE: 2   |
| SCALE: 1:50,000               | NTS 8ZF/4 W |

## PHYSIOGRAPHY AND VEGETATION

Relief on the Lily May claim group is approximately 430 meters with moderate to locally steep slopes. An existing system of gravel and 4-wheel drive roads provide good access to much of the property and the remainder could be reached by bulldozer.

The region has been affected by continental glaciation. Two ice directions have been recorded with the final advance being south to southwest. The Lily May claim group is almost totally blanketed by a thin cover of glacial till on the order of 3 to 6 meters in thickness. Consequently, outcrop is limited.

The property is moderately forested with Interior Douglas Fir and Lodgepole Pine. There are numerous localized stands of Cedar, Poplar and Birch. As a result of virtual clear cut logging in the early 1900's few stands of merchantable timber occur. Most surface rights within the claim group are privately owned.

Although the property is covered with snow for upwards of four months per year, it is accessible year round. This allows all but surface geological mapping to be conducted.

## PROPERTY DESCRIPTION AND EXPLORATION HISTORY

The Lily May claim group consists of 26 contiguous claims located immediately south and southwest of the City of Rossland (figure 2 and 3). Of these, 14 are Crown Granted Mineral Claim, 6 are Fractional Mineral Claims, 2



are Modified Grid Mineral Claim, 3 are 2-Post Mineral Claims and 1 is a Reverted Crown Granted Mineral Claim (table 1).

The Lily May claim was first recored in the district after gold and silver were found there in 1887-1889. This was followed by the discovery and development of the Le Roi, Center Star, War Eagle and other famous mines in the Rossland camp some 2 kilometers to the northwest. This development produced over 3 000 000 ounces of gold and an equal amount of silver until closure in 1928.

Between 1889 and 1938 the Crown Granted Mineral Claims of this group were staked by different owners. As a result a limited amount of production and development occured, approximately 535 tons. In 1947, Rossland Mines Ltd. assembled a land package including this group. Until 1956 they carried out exploration and underground development work leading to calculation of ore reserves, a mill feasibility study and production of 1077 tons of Pb-Zn-Ag ore freom the Bluebird-Mayflower zone.

Between 1962 and 1967 ground electromagnetic, magnetometer, potentiometer land soil surveys of selected claims under various option agreements, including Noranda Inc. and Northwood Mining Ltd., were carried out. Between 1972 and 1980 part of this group was leased by Ross Island Mining Co. Ltd. (previously Rossland Mines Ltd.) to Standonray Mines who produced 6450 tons of Pb-Zn-Ag ore from the Bluebird zone.

In the period from 1981 through 1986 Bryndon Ventures Inc. (previously Ross Island Mining Co. Ltd.) updated the ore reserve calculation of the Bluebird-Mayflower zone and carried out surface geophysical surveys, trenching and 631 meters of diamond drilling along the Gopher-Homestake, Bluebird Mayflower and North shear zones.

In 1987 this group, along with other claims, was optioned by Bryndon Ventures Inc. to Antelope Resources Inc., culminating in a joint venture agreement between these two parties with Antelope as operator to carry out exploration in the Rossland area. Additional surface geophysical surveys (VLF-EM, magnetometer, Pulse EM and IP/resistivity) were carried out followed by 6 641.3 meters of diamond drilling.

In the fall of 1990, Antelope optioned the Jero 5, 7 and 8 claims from Gunsteel Resources Inc. and formed the Lily May claim group. At approximately the same time, the partners Antelope and Bryndon initiated a diamond drill program.

The Lily May claim group is jointly owned by Bryndon Ventures Inc. , Antelope Resources Inc, and Gunsteel Resources Inc. under the terms of option agreements between these parties. Antelope Resources Inc. is the operator.

## OBJECTIVE OF PRESENT WORK

Numerous workings and extensive exploration on the core claims of the Lily May group show an East-West mineralized vein system traversing the ground. A VLF-EM geophysical program was designed to test for any anomalous extensions of this vein system through the Jero 5 claim area on the south west corner of the group.

## INSTRUMENTATION AND THEORY

A VLF-EM receiver, Model 27, manufactured by Sabre Electronic Instruments Ltd. of Burnaby, B.C. was used for the VLF electromagnetic survey. This instrument is designed to measure the electromagnetic component of the very low frequency field (VLF-EM). The source of the primary field used was the U.S. Navy submarine transmitter at Seattle, Washington which transmits at a frequency of 18.6 KHz.

In electromagnetic prospecting, a transmitter produces an alternating magnetic field (primary) by a strong alternating current usually through a coil of wire. If a conductive mass such as a sulfide body is within the magnetic field, a secondary alternating current is induced within it which in turn produces a secondary magnetic field which can be detected at surface through deviations of the normal VLF field.

VLF means very low frequency, about 15 to 25 kilocycles per second. Relative to frequencies generally used in geophysical exploration, this is actually very high. Consequently, the high frequency of the VLF-EM method

results in numerous anomalies from lower conductive sources such as swamp edges, creeks, topographic highs, electrolyte-filling faults or shear zones as well as porous horizons, graphite, carbonaceous sediments, lithological contacts as well as sulfide bodies of too low a conductivity for other EM methods to pick up. On the other hand the tendency for VLF to respond to poor conductors has aided in mapping faults and rock contacts as well as picking up sulfide bodies of too low a conductivity for conventional EM methods and too small for induced polarization.

VLF data may have anomalies, and it would be nearly impossible to differentiate between those that are geologically significant and those that are not. Thus, VLF-EM data preferably should not be interpreted without a good geological knowledge of the property and or other geophysical and geochemical surveys.

#### PROCEDURE

Dip angle readings were taken at 15 meter intervals along a grid established from line 100E to line 900E. Readings were always made with the instrument pointed away from the 18.6 KHz transmitter station at Seattle, Washington.

Due to the proximity of the City of Rossland, local cultural effects such as powerlines and fences hampered the survey and meaningful readings could not be taken in those areas.

## COMPILATION OF DATA

The VLF-EM field results were reduced for plotting by applying the Fraser-filter. This is essentially a 4-point difference operator which transforms zero crossings into peaks, and a low pass smoothing operator which reduces the inherent high frequency noise in the data. Thus, noisy, non-contourable data are transformed into a less noisy, contourable form. Another advantage is that a conductor that does not show up as a crossover on the unfiltered data. The original field data is recorded on Figure 4 (map pocket). The filtered data was plotted at reading station midpoints and the positive values contoured at 10 degree intervals beginning at zero (figure 5 map pocket).

## DISCUSSION OF RESULTS

A moderately strong east-west trend is evident for the anomalies, roughly paralleling the trend of known mineralized structures. There are 12 weak to moderate anomalous trends. They range from 300-900 meters in strike length, 20 to 50 meters each in width and separated by 10 to 90 meters of non anomalous readings.

The conductive trend is open both to the east and west of the grid. This suggests that the known mineralized vein system on the core claims of the Lily May group extends through the Jero 5 claim area. The regular pattern of the anomalies suggests that similar trends lie to the north and south of the grid. However, the West Kootenay Power line near the north of the grid obscures readings.

## CONCLUSIONS AND RECOMMENDATIONS

The VLF-EM responded well to the known mineralized trends of the area. Extension of the mineralized vein system present at the core of the Lily May claim group onto the Jero 5 claim area seems likely. It is quite possible that these conductive trends represent areas of increased sulfide content in the host Rossland volcanics.

In addition, there are areas of increased conductivity along the main trends. These anomalous areas could be further tested by back hoe trenching, followed up by rock geochemical sampling.

- Table 1

LILY MAY CLAIM GROUP

| Crown Granted Mineral Claims       | Title No. |
|------------------------------------|-----------|
| Esmeralda Fraction                 | L. 2980   |
| Modena                             | L. 1694   |
| Rhoderick Dhu                      | L. 1493   |
| Fairview                           | L. 1058   |
| Copper Queen                       | L. 1210   |
| Homestake                          | L. 936    |
| Bluebird                           | L. 1053   |
| Hattie Brown                       | L. 1047   |
| Alcome Fraction                    | L. 11468  |
| Monday                             | L. 995    |
| Tuesday                            | L. 1278   |
| Richmond                           | L. 1508   |
| Lily May                           | L. 1052   |
| Black Horse                        | L. 1059   |
| Reverted Crown Grant Mineral Claim |           |
| Hattie                             | 257611    |
| Fractional Mineral Claims          |           |
|                                    | Title No. |
| Antelope #1 Fr.                    | 257646    |
| Antelope #2 Fr.                    | 257647    |
| Antelope #3 Fr.                    | 257648    |
| Antelope #4 Fr.                    | 257649    |
| Antelope #16 Fr.                   | 257686    |
| Antelope #18 Fr.                   | 257688    |
| Modified Grid Mineral Claim        |           |
|                                    | Title No. |
| Jero 5                             | 257558    |
| Jero 8                             | 257586    |
| 2-Post Mineral Claim               |           |
|                                    | Title No. |
| Bender #10                         | 257690    |
| Bender # 11                        | 257691    |
| Bender #12                         | 257692    |

ITEMIZED COST STATEMENT

Consolidated Cost Statement

|           |  |           |
|-----------|--|-----------|
| Labour:   | Dan Wehrle - Geologist                 |           |
|           | - 4 days report writing @ \$250.00/day | \$1000.00 |
|           | - 10 days field work @ \$250.00/day    | \$2500.00 |
|           | Jill Moore - Geological Assistant      |           |
|           | - 30 days field work @ \$100.00/day    | \$3000.00 |
| Expenses: | Truck maintenance and gas              | \$1500.00 |
|           | @ \$50.00/day 30 days                  |           |
|           | VLF rental 27 days                     | \$600.00  |



REFERENCES

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B.C.; G.S.C. Memoir 77.
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Post Intelligencer, Seattle, Wash.

AUTHOR'S QUALIFICATIONS

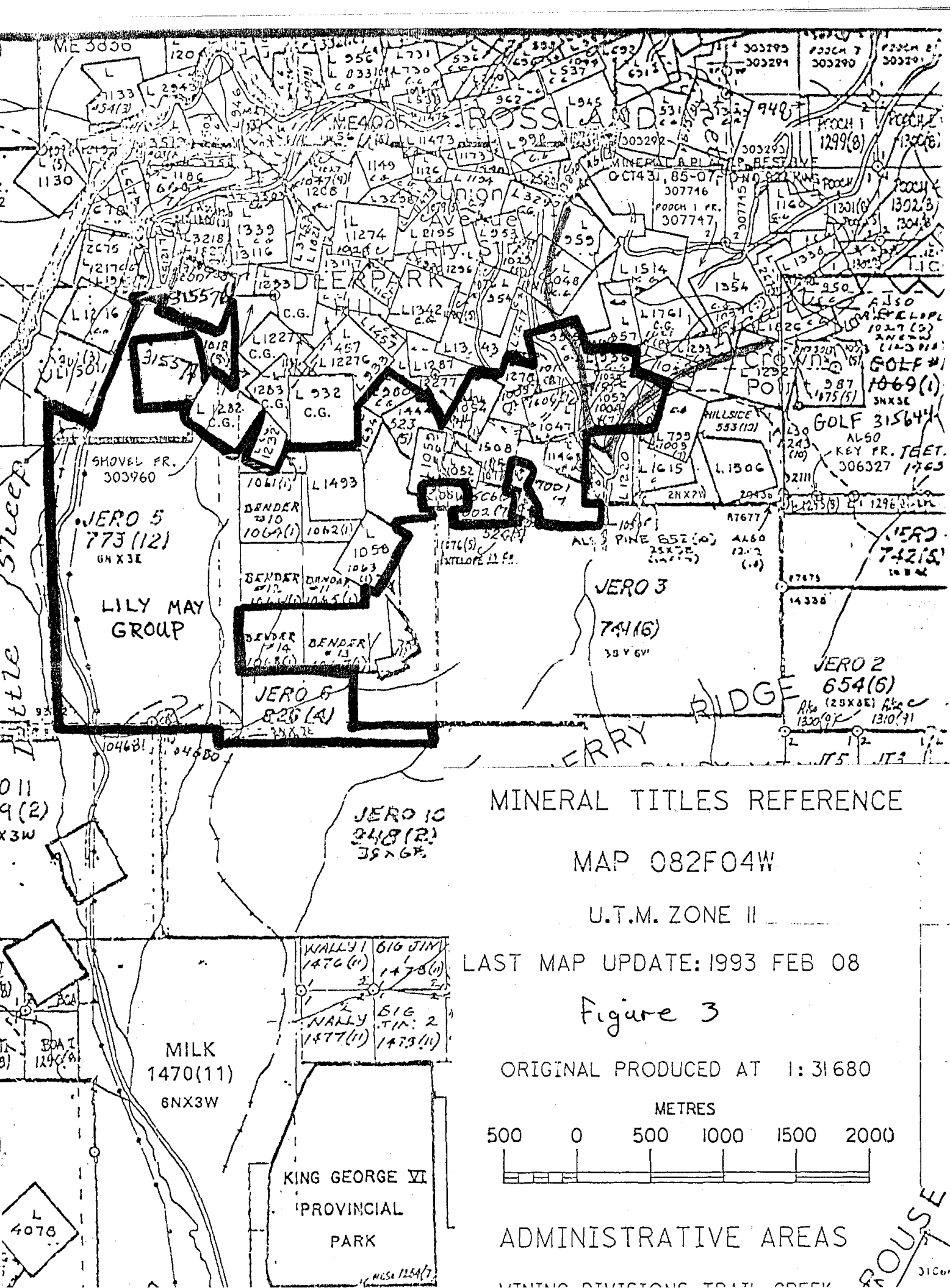
I, Dan M. Wehrle, of the City of Rossland, in the Province of British Columbia do hereby certify that:

1. I am a geologist residing at 1619 Spokane St., Rossland B.C. VOG 1Y0
2. I am a graduate of the University of Saskatchewan in Geology B.Sc. Honors 1985.
3. I have been employed with various companies as an exploration assistant geologist since 1979.
4. This report is based on an analysis of work supervised by myself.
5. I have not received, nor expect to receive, any interest direct or indirect in the properties mentioned in this report.

Dan M. Wehrle, Geologist



December 30, 1993  
Rossland, British Columbia



MINERAL TITLES REFERENCE

MAP 082F04W

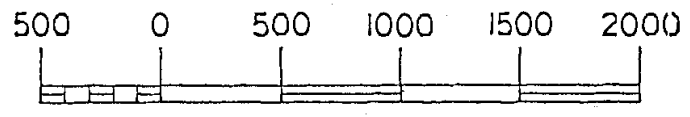
U.T.M. ZONE II

LAST MAP UPDATE: 1993 FEB 08

Figure 3

ORIGINAL PRODUCED AT 1:31680

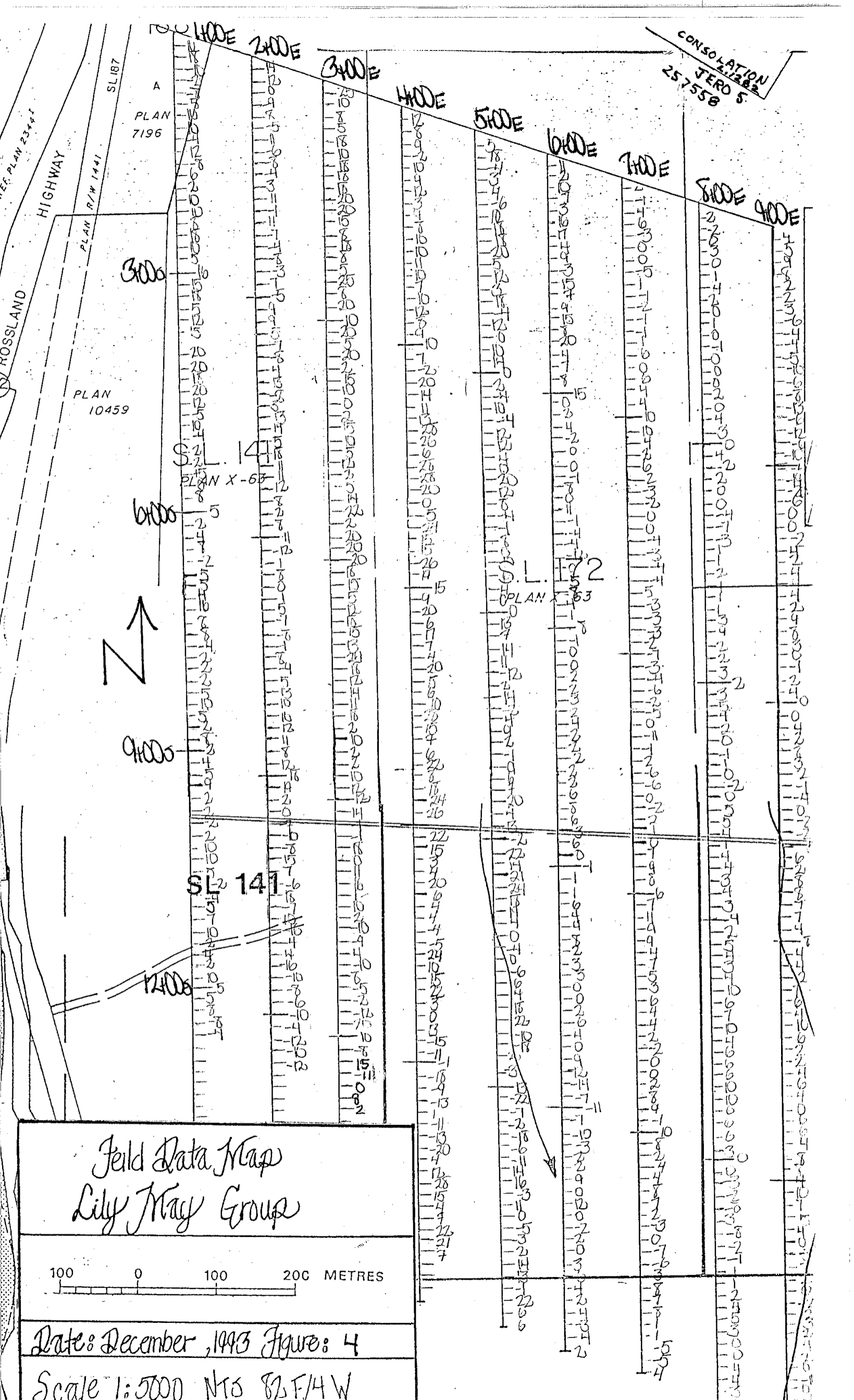
METRES



ADMINISTRATIVE AREAS

MINING DIVISIONS TRAIL CREEK

ROUSE  
31601



CONSOLIDATION  
JERO S.  
257558

PLAN  
7196

PLAN  
10459



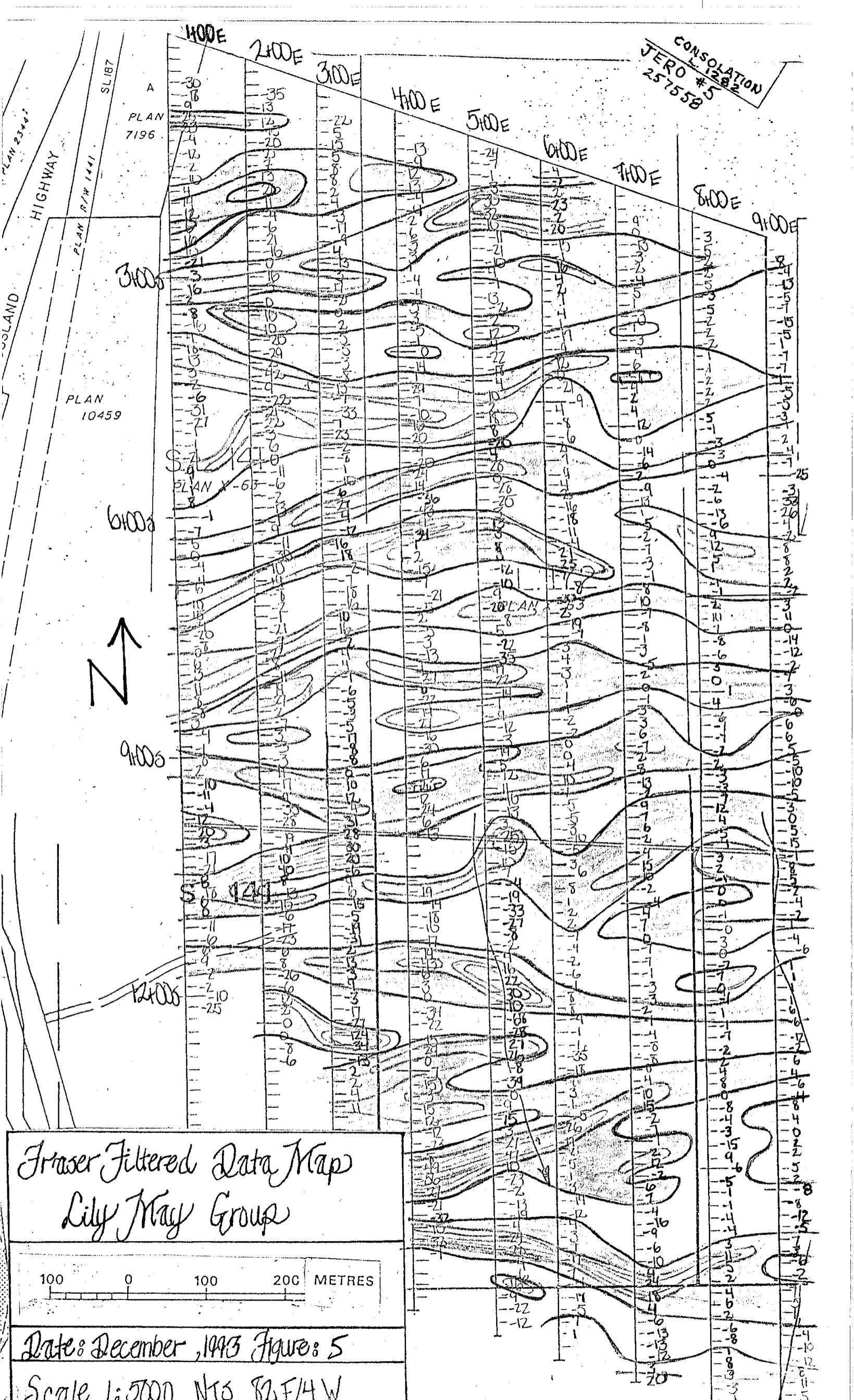
SL 141

100 0 100 200 METRES

Date: December, 1993 Figure: 4

Scale 1:5000 NTS 82 F/4 W

CONSOLIDATION  
JERO #5  
257558



# Fraser Filtered Data Map Lily May Group

100 0 100 200 METRES

Date: December, 1993 Figure: 5

Scale: 1:5700 NTS R/W 14 W