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05/88

GEOPHYSICAL REPORT  
 on the  
 GENESIS NORTH, GENESIS CENTRAL  
 GENESIS SOUTH CLAIM GROUPS

SUB-RECORDER  
 RECEIVED  
 AUG 10 1987  
 M.R. # ..... \$ .....  
 VANCOUVER, B.C.

Kamloops Mining Division

NTS 92-I/11W and 92-I/14W

FILMED

Latitude 50° <sup>48'</sup> ~~46'~~ N - Longitude 121° <sup>28'</sup> ~~27'~~ W  
<sup>49'24"</sup> ~~49'24"~~ Property Centre <sup>29'12"</sup>

LOG NO: 0127 RD.  
 ACTION: Date received report  
 back from amendments.  
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 FILE NO: 87-473

Owner/Operator  
 SAMARKAND RESOURCES INC.  
 P.O. Box 11569 Vancouver Centre  
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Report Prepared By  
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**GEOLOGICAL BRANCH  
 ASSESSMENT REPORT**

August 1987

16,403

SUB-RECORDER  
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 JAN 22 1988  
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 VANCOUVER, B.C.

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## 1. INTRODUCTION

The Genesis property is located approximately 200 km northeast of Vancouver near the town of Cache Creek in south-central British Columbia.

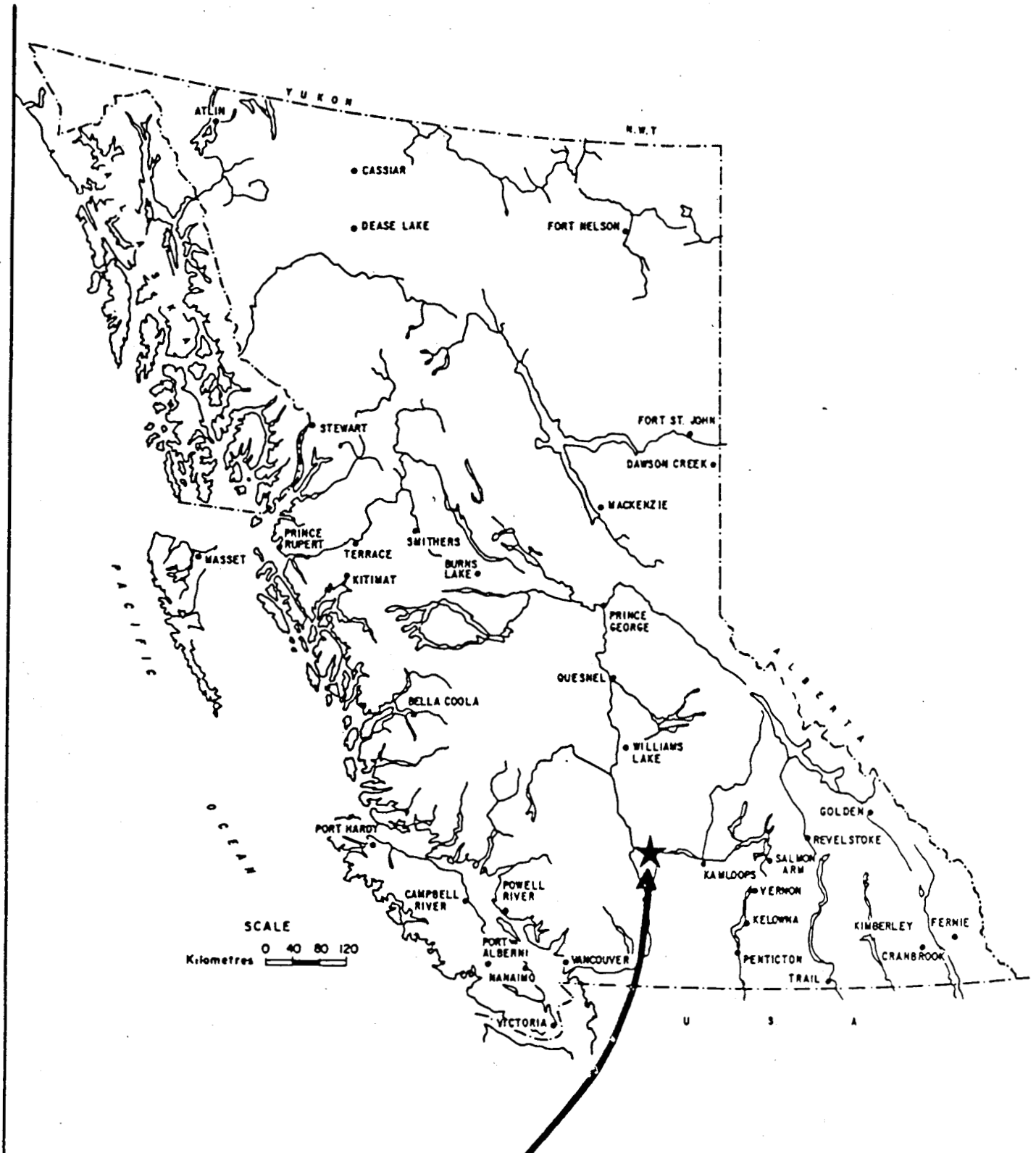
The property covers rocks belonging to the Nicola Group. These rocks have the potential to host massive sulphide deposits of volcanogenic origin.

The geophysical program described in the following report was undertaken in order to assess the potential of the property for hosting exhalative volcanogenic massive sulphide deposits.

Recent exploration work on neighbouring claims located immediately south of the Genesis property has been conducted within the belt of Nicola volcanics that underlies the Genesis property. This work has been performed by major companies such as Esso Minerals Canada, Noranda Exploration Co., Bethlehem Copper Corp. and Selco Division of B.P. Resources Canada Limited.

## 2. SUMMARY

The Genesis property is comprised of three claim groups, namely the Genesis North Group (82 units), Genesis Central Group (84 units) and the Genesis South Group (95 units).



**GENESIS CLAIMS**

|  |                     |
|--|---------------------|
| <i>Spirex Geoservices Ltd.</i>             |                     |
| <b>GENESIS CLAIMS</b>                      |                     |
| <b>LOCATION MAP</b>                        |                     |
| KILOMETERS<br>0      100      200      300 |                     |
| <i>Kamloops Mining Division</i>            |                     |
| SCALE: 1: 8,000,000                        | DATE: <i>May 85</i> |

Figure 1

The property is centered 5 km west of the town of Cache Creek and extends 8 km north and 12 km south.

Access to the claims is via several points along Highways 1, 12 and 91 using 2 wheel drive gravel roads.

The Genesis property is underlain by a long, relatively narrow, north-northwesterly trending belt of submarine volcanics and sediments belonging to the Nicola Group. Rock types include basic to acidic volcanoclastics and flows with intercalated argillic sediments.

The geophysical exploration program described in this report was conducted in 3 areas within the 261 unit property. Exploration consisted of Genie EM, Proton Magnetometer and VLF-EM surveying. Limited geological mapping was also conducted. Geophysical and geological plans were prepared at a scale of 1:5000 for the various surveys. Results of the program show that a number of significant geophysical anomalies are located within rock assemblages which are favourable hosts to a) volcanogenic massive sulphide deposits, b) gold and/or silver structurally related deposits and c) gold, silver and/or base metal skarn deposits. These areas, as well as unexplored areas within the property, require additional exploration.

A comprehensive exploration program is recommended to further evaluate the Genesis property.

3. PROPERTY

The Genesis property consists of 19 contiguous mineral claims containing 261 units. The property is subdivided into 3 groups. Claim data is as follows:

| <u>Claim Name</u> | <u>Record #</u> | <u>Units</u> | <u>Recording Date</u> |
|-------------------|-----------------|--------------|-----------------------|
| Genesis 1         | 6192            | 12           | May 10, 1985          |
| 2                 | 6193            | 15           | May 10, 1985          |
| 3                 | 6194            | 16           | May 10, 1985          |
| 4                 | 6195            | 16           | May 10, 1985          |
| 5                 | 6196            | 18           | May 10, 1985          |
| 6                 | 6197            | 18           | May 10, 1985          |
| 7                 | 6198            | 20           | May 10, 1985          |
| 8                 | 6199            | 20           | May 10, 1985          |
| 9                 | 6200            | 16           | May 10, 1985          |
| 10                | 6201            | 16           | May 10, 1985          |
| 11                | 6202            | 20           | May 10, 1985          |
| 12                | 6203            | 20           | May 10, 1985          |
| 13                | 6204            | 9            | May 10, 1985          |
| 14                | 6205            | 12           | May 10, 1985          |
| 15                | 6206            | 18           | May 10, 1985          |
| 16                | 6207            | 1            | May 10, 1985          |
| 17                | 6208            | 20           | May 10, 1985          |
| 18                | 6209            | 1            | May 10, 1985          |
| 20                | 6211            | 1            | May 10, 1985          |

The Genesis South Group consists of the Genesis 1 - 6 claims. The Genesis Central Group contains the Genesis 7 - 11 claims. The Genesis North Group contains the Genesis 12 - 18 and Genesis 20 claims.

The claims are owned and operated by Samarkand Resources Inc. of P.O. Box 11569, Suite 2640, 650 West Georgia Street, Vancouver, B.C.

#### 4. LOCATION AND ACCESS

The centre of the property lies approximately 5 km west of Cache Creek at  $50^{\circ} 46'$  north latitude and  $121^{\circ} 23'$  west longitude. The southern property boundary is located approximately 3 km south of the Ashcroft Manor on highway #1. The northern property boundary is just south of highway 12 about 2 km west of Carquile on highway 97. The Genesis property extends for about 20 km north-northwest between these areas.

Access to the property is gained at several points along highways 1, 12 and 97 by way of 2 and 4 wheel drive range roads (see Figure 2).

#### 5. PHYSIOGRAPHY AND VEGETATION

Relief is gentle to moderate with elevations ranging from 1500 to 4500 feet above sea level.

The climate is semi-arid with annual rainfall varying from 11 to 14 inches. Temperatures vary from up to  $40^{\circ}\text{C}$  in summer to as low as  $-35^{\circ}\text{C}$  in winter.

The vegetation consists of grasslands, sage brush and cactus at lower elevations, with increasing amounts of pine and fir at higher elevations.

Rock outcrop is limited to slopes and valleys.



## 6. REGIONAL GEOLOGY

The Genesis claims lie within a north-northwest trending belt of Triassic volcanic and sedimentary rocks belonging to the Nicola Group (Figure 2). Rock types include basic to acidic volcanoclastics and flows with intercalated argillic sediments and their metamorphic equivalents. The belt is bounded on the east unconformably by sediments of the Ashcroft Formation, which consists of argillite, siltstone, sandstone and conglomerate. A fault contact with the Permian Cache Creek Complex and with unnamed Cretaceous sediments forms the western boundary of the belt. The Cretaceous sediments consist of conglomerate, sandstone and minor shale with coal horizons. The Cache Creek Complex consists of basalt, pillow basalt, diabase and gabbro intrusions, massive carbonate with argillite and tuffaceous interbeds, (the Marble Canyon Formation), and local basalt and chert sequences with small bodies of ultramafic rock.

## 7. REGIONAL EXPLORATION HISTORY

The first major survey of the Ashcroft area was made by S. Duffell and K.C. McTaggart as shown in the G.S.C. Memoir No. 262 (1952).

Several studies, (Ladd 1977, 1979 and Travers 1978) were conducted in the late seventies. The second major publication was compiled by J.W.H. Monger, G.S.C. 1980-82, and W.S. McMillan, B.C.M.M.P.R. 1969-75 and 1977-80. The results of this work are presented in the G.S.C. Open File 980.

The area was subject to exploration activity in the 1960's and early 1970's by major mining companies and Vancouver juniors. Exploration targets were porphyry copper deposits.

Most of the recent work has been south of Cache Creek near Red Hill. Noranda Exploration Co., Bethlehem Copper Corp. and Guichon Explorco Limited are some of the companies who have worked on the gossan zones at Red Hill. Recent studies by D. Gamble (1980-81) have recognized the potential for volcanogenic stratabound sulphide deposits within the Nicola Group near Red Hill. The Selco Division of B.P. Canada Limited is now actively exploring this area.

Geochemical and geophysical work has been conducted on the ground west of Cache Creek by Vancouver juniors in the early seventies. Results reported included gold, copper, zinc and lead anomalies (Assessment Reports 3153, 4068 and 9177).

## 8. PROPERTY EXPLORATION HISTORY

The area covered by the Genesis property has received very little previous exploration. There are two government assessment reports documenting past exploration programs.

Report No. 3153 written by C.A. Lannle, P.Eng. in 1971 describes a soil geochemical survey for Cu, Pb and Zn, and a magnetometer survey conducted on the McLean claim group. Results of this program show a strong zinc anomaly with weak lead association stretching for over 600 m. The cause of this anomaly was never adequately explained.

Report No. 4068 prepared by G.B. Phelps, P.Eng. in 1972 describes a Cu soil geochemical survey conducted on the Ham and Eggs claim group. Results show a moderate copper geochemical anomaly trending north-northeast for approximately 1 km. However, the location map from the assessment report does not provide enough information to adequately correlate this anomaly to known topography in the area. It appears that the anomaly lies in the western portion of the Genesis North group, possibly within the Genesis 13 and 15 claims.

The Genesis property is the subject of a Prospecting Report prepared by Quest Canada Exploration Services Inc. in July 1986. This report was prepared by Ralph Shearing, P.Geol., and has been filed with the Mine Recorder's office in Kamloops. This report will be available to the public on August 11, 1987.

## 9. PROPERTY GEOLOGY AND GEOLOGICAL MAPPING

Limited geological mapping was conducted on the Genesis South and North Groups. No geological mapping was conducted on the Genesis Central Group. Results of the geological surveys are presented on Figures 3c and 5c. Figure 4e shows mapping results gained from the prospecting survey over the Genesis Central Group during 1985. A brief description of the results of the present survey are presented below.

### Lithology

The claim block appears to be underlain by a bimodal suite of felsic to mafic volcanic flows and pyroclastic deposits. The general lithologic form of the rocks appears to be consistent with other members of the Nicola group. Clastic

units form a relatively small proportion, approximately 5-10%, of the total stratigraphic column. In detail:

#### Andesitic Flows

Medium to dark green fine grained andesitic flows are the dominant mafic volcanic unit. This unit tends to be massive, poorly foliated, and rarely weakly hematitic. Pillow structures were not observed, but a sub-aqueous depositional environment is suspected. Interbedded pyroclastic sequences are infrequently noted.

#### Quartz Feldspar Porphyritic Flows

Light apple green, weakly sericitized felsic flows are identified in both the south and north grid areas, but are slightly more common in the latter. Quartz eyes may exceed 0.5 cm and typically occupy 5-10% rock volume. Reliable strike indicators may be obtained from the flow bands frequently noted within this unit. Compositionally the unit ranges from dacitic to rhyodacitic.

#### Quartz Feldspar Porphyritic Fragmentals

Well defined felsic fragmentals are commonly identified in the north central grid area. Elongate 1.0 x 4.0 cm pale weathering oval fragments are strained at an apparent ratio of 2:1. Feldspars within this unit are generally pale cream and lightly sericitized.

#### Limestone

Grey to buff, medium grained limestone units are documented in both the north and south grid areas. These units are present as either narrow, 10-15 m wide, intervolcanic sediments, or as part of a slightly thicker, 50 m? clastic section identified in the south grid area. Within this thicker section, margin phases of

the unit can be correlated with calcareous mafic volcanic members, with gradational contacts to true limestones. Calcareous sediments are also developed in conjunction with buff limestones in the relatively thick sedimentary sequence exposed in the prominent bluffs above Lone Tree Creek.

#### Argillites

Fine grained black clastics were identified only in the most northern extent of the Misplaced Creek traverse. At this location these fine grained sediments are highly deformed and emplaced within a complex imbricate fault structure. It is likely that fine grained intervolcanic clastic sediments are present elsewhere on the property, but identification is hindered by recessive weathering characteristics.

#### Intrusive Lithologies

##### Granodiorite

A large intrusive stock may be mapped in the southwestern portions of the claim block. This unit is typically massive, homogeneous, medium grained and unfoliated. Compositionally this rock is placed in a granodiorite field.

##### Mafic Dykes:

Small mafic dykes, discordant to all lithologies, are noted throughout the map area. Typically these units are less than 3.0 metres in width.

### Structure

In the Genesis South Group, units strike at 135 degrees. Dip determinations are more difficult. Flow laminations within quartz feldspar porphyry units suggest steep, 70 degree northeasterly dips. Flow lamination attitudes may be highly variable and some interpretive caution is required. Foliation data trends subparallel to lithologic strike, but usually dips southwesterly at moderate, 45-55 degree, angles.

Bedding in the central Genesis North Group trends 125 degrees and dips southwesterly at 50 degrees. Bedding attitudes are coplanar with much of the foliation data. Cleavage bedding relations typically suggest the section is upright.

Small scale faults are frequently encountered within the claim area. The strength of shearing within the Nicola volcanics in this region is perhaps their most outstanding feature. Crenulated foliations, intrafolial folds and small scale nappe structures may be localized to some of these structures.

Large scale antiforms or synforms were not identified on the property.

## 10. GEOPHYSICAL SURVEYS

The geophysical surveys described in this report were conducted at two different times. Proton magnetometer, VLF-EM and linecutting were conducted from November 23 to December 3, 1986. Genie EM, proton magnetometer, geological mapping and linecutting were conducted between April 25 and

May 9, 1987. A total of 45.4 km of moving source Genie electromagnetic surveying, 57 km of proton magnetometer surveying, 16.5 km of VLF-EM surveying, 20.2 km of grid establishment and 19.1 km of re-establishment of old grid was completed during the programs.

The Genie EM Survey was conducted using the Scintrex Genie Portable EM System - Model SE-88. The coil separation utilized for this project was 100 meters. Refer to Appendix 3 for further information on the field procedure for this instrument.

Results of these surveys are presented in the map pockets of this report.

#### 10a. GEOPHYSICS - GENESIS SOUTH GROUP

16.6 km of moving source Genie electromagnetic surveying and 18.3 km of total field proton precession magnetometer surveying were conducted within this claim group.

Results are presented on Figures 3a and 3b. Two significant conductors have been located using the Genie EM method. The first extends from line 97+00 N to possibly line 103+00 N at about 92+00 E. This conductor is coincident with a proton magnetometer anomalously high zone. This zone shows a mag response of about 300 gammas above background.

This coincident anomaly is labelled as number 1 on both of the above geophysical plans.

The second Genie EM conductor was delineated on the northern most line of the grid at coordinates 109+00 N and 95+00 E. No mag response is associated with the anomaly. Additional work to the north of the anomaly needs to be conducted to fully interpret the response.

A broad magnetic high response is shown in the vicinity of the base line from line 93+00 N to approximately line 103+00 N, and possibly further. This area roughly correlates with a granodiorite intrusion and is likely outlining this intrusion.

A strong magnetic anomaly occurs between lines 101+00 N to 105+00 N at 109+00 E. This response may represent a change in rock type, possibly a pyrrhotite or magnetite rich volcanic flow.

#### 10b. GEOPHYSICS - GENESIS CENTRAL GROUP

16.5 km of both total field proton precession magnetometer surveying and very low frequency electromagnetic surveying were conducted on the central grid. In addition this grid received 8 km of Genie electromagnetic surveying.

Results of these surveys are presented on Figures 4a,b,c, and d.

The most definitive survey run on the Genesis Central grid was the moving source Genie.

A good conductive trend consisting of up to four distinct conductors runs diagonally across the length of this grid. It is open to the northwest and may be cut by a fault between lines 111+00 N and 113+00 N. The most significant of these conductors are zones 3 and 4 (Figure 4a) whose strongest and possibly shallowest responses are located on lines 115+00 N and 117+00 N. On these lines the estimated conductances are in the range of 3 to 5 siemens. This series of conductors dips steeply to the west.



The proton magnetometer results from this grid are very flat. Background for the area appears to be between 57,200 to 57,250 gammas. One isolated anomaly of about 300 gammas above background occurs on line 104+00 N at 90+00 E and drops to about 50 gammas above background on lines 102+00 N and 103+00 N. This magnetic response occurs near the southern end of the Genie EM conductor identified as zones 3 and 4.

The VLF-EM data shows numerous good conductors throughout the grid. When viewing this data alongside the more powerful and deeper penetrating Genie survey data, it would appear that a number of these VLF conductors are likely attributable to conductive overburden.

#### 10c. GEOPHYSICS - GENESIS NORTH GROUP

20.8 km of moving source Genie electromagnetic surveying and 22.2 km of proton magnetometer surveying were completed within the north grid.

Results of these surveys are presented on Figures 5a and 5b.

The Genie survey outlined two very weak conductors and a series of poorly conductive trends. Comments on these are as follows:

Zone 6 - this northwest trending anomaly is located in the southwest corner of the grid. It is an extremely weak conductor and may be caused by a change in lithology.

Zone 7 - this zone is even weaker than zone 6 and again may reflect a change in lithology.

Zone 8 - in this area, a series of conductors nested in a more conductive environment may represent Cache Creek sediments.

The proton magnetometer survey produced a relatively subdued response. Only one anomaly of significance was delineated. This anomaly sub-parallel the western road, trending NNW from line 238+00 N, 64+00 E, crossing the base line at approximately 241+00 N and continuing with lower values to line 248+00 N at 57+50 E. The anomaly ranges from 100 to 350 gammas above a background value of 57,350 gammas. This zone may reflect a geological unit with a higher content of magnetic minerals. This zone is in close proximity to the zone 7 Genie conductor close to where the magnetic trend crosses the road.

## 11. DISCUSSION

### Economic Potential

Although the property is in a relatively early stage in its exploration and development, several features are of note:

#### 1) Precious Metals

- i) Moderate to strong silicification and disseminated sulphides are documented at two locations. Both of these are associated with steeply dipping northwesterly striking shear zones. Rock geochemical data suggests these areas are anomalous in precious metals.
  
- ii) A strong colour anomaly, buffs and reds, is exposed midway up Lone Tree Creek within a package of calcareous sediments. This colour anomaly is located

300 metres from an intrusive granodiorite stock. The potential for auriferous skarnification of these limey sediments should be checked. One or two heavy mineral creek sediment samples, along with grab soil and rock samples from this colour anomaly, should be sufficient as a preliminary test.

In general, the overall tectonic setting, ie. imbricate zones related to a major terrane boundary (Cache Creek - Nicola), potential for rapid facies changes, and intrusive activity are all viewed as favourable parameters to precious metal emplacement.

## 2) Base Metals

Much of the north central grid is underlain by a complex series of felsic flows and fragmentals. All of these units are weakly sericitized and may locally carry disseminated sulphides at low, less than 1 percent, levels. Areas of elevated sulphide development may occur on the property. The ferrocrete zone exposed on the lower roadcut on line 241+00 N may be a transported gossan to an overlying sulphide rich zone.

The abundance of coarse grained felsic pyroclastics, frequent interbedded flow sequences, and regional alteration suggest a regional environment favourable to massive sulphide deposition. Within the larger setting, site specific areas as defined by fine grained black clastics, cherts and other indicators of deep water volcanic quiescence should be sought out. Rock outcrop exposures appear to be in the 5-10 percent range, making it possible to locate these units within the claim area.

## 12. CONCLUSIONS

Genie EM zones 3 and 4 occur in an area which appears to be underlain by felsic pyroclastics and interbedded flow sequences. In addition to favourable geology, a zinc soil geochemical anomaly delineated by previous workers (1971) trends north-northwest for 600 metres and is open to the north and south. However, the exact location of this geochemical anomaly is in doubt. From the previous assessment report it would appear to be located within the grid area as shown on figure 4e, plus or minus 200 m. There is a strong possibility that this zinc anomaly is coincident with part of the Genie EM conductor.

Genie EM zone 1 and a coincident magnetometer anomaly are located on the southern grid. This zone is situated near the major terrane boundary between the Cache Creek Group and the Nicola Group, and as such, may indicate an imbricate zone with the potential to host precious metals.

The proton magnetometer anomalous trend on the north grid occurs close to the weak Genie EM zone 7 conductor. In addition, an iron cemented ferrocrete zone occurs downslope from both the above anomalies. This presents the interesting possibility of a mineralized zone occurring upslope from the ferrocrete near either of the 2 anomalies.

### 13. RECOMMENDATIONS

Four EM conductors should be followed up; these are zones 1 and 2 on the south grid (Figure 3a) and zones 3 and 4 on the central grid (Figure 4a). Zones 1 and 2 are probably caused by a change in lithology, however they could also be caused by weakly mineralized sulphide zones and should be checked.

Zones 3 and 4 are the strongest anomalies encountered in this survey. Both show relatively consistent responses over distances of 400 metres and do not appear to be caused by changes in lithology. There is a strong likelihood that the zinc soil geochemical anomaly is coincident with some part of zones 3 and 4.

A 25 m spaced soil geochemical survey should be conducted over the entire Genie EM conductor on the central grid. If results are positive, a trenching and diamond drilling program would follow.

Zone 1 occurring on the south grid should also receive soil sampling followed by trenching and diamond drilling.

The same procedure is also recommended for zone 7 on the north grid.

The remainder of the property, which at present has received very limited exploration, would best be explored by an airborne geophysical survey. The size of the unexplored area of the Genesis property and the extensive distribution of felsic volcanism suggest that an airborne EM - Mag geophysical survey would be an extremely valuable tool in the exploration of this property. Ground follow-up, geochemistry - geophysics and geological mapping would focus on selected priority areas.



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Ralph Shearing, P.Geol., F.G.A.C.

#### 14. REFERENCES

Duffell, S. and McTaggart, K.C. (1952): Ashcroft map area, British Columbia; Geological Survey of Canada, Memoir 262.

Monger, J.W.H. and McMillan, W.J. (1983): Bedrock geology of Ashcroft (92 I) map area; Geological Survey of Canada, Open File 980.

Shearing, R.E. (1986): Prospecting report on the Genesis North, Genesis Central, Genesis South claim groups; unpublished Assessment Report.

Kamloops Mining Division, Assessment Reports:

#8892 - Guichon Explorco Limited

#9415 - Explorco Limited

#3153 - Adera Mining Limited

#4068 - Milestone Mines Ltd. (N.P.L.)

#9177 - Cominco Ltd.

APPENDIX 1

STATEMENT OF COSTS



STATEMENT OF COSTS

Genesis Property

Geophysical Program April 15 to May 9, 1987

Personnel

|                      |  |             |
|----------------------|--|-------------|
| James McLennan       | Geological Technician<br>19 days @ \$200.00/day  | \$3,800.00  |
| Jim Carver           | Geological Technician<br>14 days @ \$200.00/day  | 2,800.00    |
| Flemming Thrane      | Geological Technician<br>20 days @ \$200.00/day  | 4,000.00    |
| Steve Lowe           | Geophysical Technician<br>16 days @ \$225.00/day | 3,600.00    |
| Ralph Shearing       | Geologist<br>5 days @ \$300.00/day               | 1,500.00    |
| Jim Oliver           | Geologist (MSc.)<br>4 days @ \$300.00/day        | 1,200.00    |
| Jack Marr            | Senior Geologist<br>2 days @ \$350.00/day        | 700.00      |
| Zig Daborzynski      | Senior Geophysicist<br>2 days @ \$350.00/day     | 700.00      |
| SUBTOTAL - PERSONNEL |  | \$18,300.00 |

Vehicle

|                    |                             |            |
|--------------------|-----------------------------|------------|
| 4X4 Scout          | 24 days total @ \$35.00/day | 840.00     |
|                    | 720 km @ \$0.35/km          | 252.00     |
| 4x4 SuperCab       | 22 days total @ \$35.00/day | 770.00     |
|                    | 624 km @ \$0.35/km          | 218.40     |
| SUBTOTAL - VEHICLE |                             | \$2,080.40 |

Computer data entry and Plotting

|   |        |            |
|---|--------|------------|
| Data entry - 4 days @ \$150.00/day        | 600.00 |            |
| Computer plotting - Genie data only       | 600.00 |            |
| SUBTOTAL - COMPUTER DATA ENTRY & PLOTTING |        | \$1,200.00 |

**Miscellaneous**

|                                     |                   |
|-------------------------------------|-------------------|
| Food                                | \$1,136.64        |
| Lodging                             | 302.56            |
| Field Supplies                      | 35.97             |
| Equipment Rental                    |                   |
| Magnetometer: 1 week @ \$200.00/wk. | 200.00            |
| Genie EM: 16 days at \$250.00/day   | 4,000.00          |
| Miscellaneous                       | 40.38             |
| Drafting                            |                   |
| 27 hours @ \$15.00/hr.              | 405.00            |
| <b>SUBTOTAL MISCELLANEOUS</b>       | <b>\$6,120.55</b> |

**Report Preparation**

|                                      |                   |
|--------------------------------------|-------------------|
| R. Shearing - 6 days @ \$300.00/day  | \$1,800.00        |
| Report reproduction and compilation  |                   |
| 14 hrs. @ \$20.00/hr.                | 280.00            |
| Misc.                                | 40.00             |
| <b>SUBTOTAL - REPORT PREPARATION</b> | <b>\$2,120.00</b> |

**TOTAL** **\$29,820.95**

APPENDIX 2

STATEMENT OF QUALIFICATIONS

## STATEMENT OF QUALIFICATIONS

I, Ralph Shearing, of 3433 West 12th Avenue, Vancouver, B.C., V6R 2N2, DO HEREBY CERTIFY THAT:

1. I am President of Quest Canada Exploration Services Inc., a geological consulting and services company, with business office at Suite 2640, 650 West Georgia Street, Vancouver, B.C.
2. I am a graduate of the University of British Columbia with a degree of B.Sc., Geology, 1981.
3. I am a Fellow of the Geological Association of Canada.
4. I am a member of the Alberta Association of Professional Engineers, Geologists and Geophysicists. Membership No. 40288.
5. I have been active in mineral exploration since 1979 as follows:
  - a) 1979 - Summer employee with St. Joseph Explorations Limited; Pb, Zn, Au, Ag and U exploration in the Yukon and British Columbia.
  - b) 1980 - Summer employee with Sulpetro Minerals Limited; Pb, Zn, Au, Ag and U exploration in the Yukon and northern British Columbia.
  - c) 1981 - 1982 - Full-time employee with Sulpetro Minerals Limited; Pb, Zn, Au and Ag exploration in the Yukon and northern British Columbia. Geological and geophysical exploration for Au, Ag, Cu, Pb and Zn in northwestern Quebec and northern Ontario. Geophysical exploration provided significant experience in conducting the following geophysical surveys, as well as in the application of the resultant data: VLF-Electromagnetic, Horizontal Loop Electromagnetic, Proton Magnetometer, Induced Polarization and Gravity.
  - d) 1983 - Present - Independent consulting geologist with Quest Canada Exploration Services Inc. Geological and geophysical exploration for Au, Ag, Pb and Zn in central British Columbia.
6. I supervised the exploration programs conducted on the Genesis property during 1986 and 1987.



Ralph E. Shearing, B.Sc., P.Geol.  
Consulting Geologist

Dated this 7th day of August, 1987 at Vancouver, B.C..

APPENDIX 3

MOVING SOURCE GENIE ELECTROMAGNETIC INSTRUMENT

4. FIELD PROCEDURE

The GENIE field procedure varies somewhat depending on whether automatic chaining is used (reconnaissance mode) or whether cut and flagged lines are provided.

4.1 Automatic Chaining, Reconnaissance

In this mode, the distance measuring capability of the GENIE is used to keep transmitter and receiver at a desired separation. Accuracy of separation is very good over neutral ground and relatively flat topography. However, steep topography or the presence of large conductors will shorten intercoil separation. In very steep terrain, the reduction in spacing may become appreciable due to transmitter and receiver no longer being maximally coupled. If accurate spacing is required, either flagging or, for small separations, the use of a hip chain by the receiver operator is recommended.

The traverse should be started over neutral ground, having selected the desired frequency pair, separation and integration time. Selection of the integration time depends on atmospheric noise and required data accuracy. A measure of atmospheric noise can be obtained by selecting the NOISE MONITOR position with the METER switch while the transmitter is turned off. Quiet atmospheric noise conditions are characterized by a relatively steady SIGNAL meter indication. Approaching storm systems or local storms will give large meter fluctuations. Such conditions will require longer integration times to obtain consistent ratio readings. See Chapter 3, INTEGRATION TIME.

The receiver operator should now walk along the traverse. As he approaches his station, both transmitter and receiver should be switched on. The METER switch must be in the SIGNAL position. The operator should proceed until the REFERENCE meter reads 1.0 or the pointer is within the short green arc. Meter fluctuations are due to atmospheric noise and movement of the receiving coil in the natural magnetic field.

The SIGNAL meter will also read approximately 1.0 over neutral terrain, but will depart from this reading near a conductor. Values larger or smaller are possible. The SIGNAL meter deflection compared to that of the REFERENCE meter gives thus an immediate visual indication of an anomalous zone.

Transmitter and receiver coils should be vertical and steady during measurement. It is advisable to take more than one ratio reading and use the average, especially at large separations. Once all measurements at a station are taken, transmitter and receiver should be turned off (receiver to STANDBY in subzero

temperatures) to conserve battery power. The receiver operator should mark his station for the transmitter operator and then proceed in the same manner.

This method does not give overlapping coverage of the terrain. If overlap is required, the receiver operator should wear a hip chain. The transmitter operator can then walk along the chain for a distance equal to the desired station spacing before the receiver operator proceeds himself.

Data points are usually plotted at the midpoint between transmitter and receiver.

Observe the following hints to obtain consistent ratio readings:

- In the vicinity and especially directly over conductors, secondary field vectors at two well separated frequencies may show considerably different orientation in space. Repeatability of ratio readings in such locations depends strongly on receiving coil position and orientation. For the latter reason, the receiver is fitted with a bubble level to facilitate repeatable coil orientation.
- Hold the receiver steady during measurement, especially at large separations, to reduce induction noise.
- Induction noise may also be caused by mechanical coil vibration. Do not tap either coil or receiver during measurement. Actuate the AUTO-HOLD switch gently at large separations when using the single measurement feature.
- Do not wear an electrical analog watch while operating the receiver. The small motor inside the watch creates enough electromagnetic disturbance to impair ratio accuracy.
- The audio alarm should not be used at separations exceeding 100 m. The current in the transducer is large enough to create a disturbing magnetic field. At large separations, this disturbance is comparable in strength to measured signals.

#### 4.2 Cut and Flagged Lines

As mentioned in the previous section, flagging or the use of a hip chain are recommended in very steep terrain or when high station accuracy is desired on detail surveys.

Either operator may lead along a flagged traverse. Both operators switch on their equipment when on station. The appropriate separation setting may be preselected on the receiver. The REFERENCE meter must be within the long green arc. SEPARATION and

MULTIPLIER controls are used as coarse and fine gain controls respectively to achieve this. To increase the meter reading, increase SEPARATION and/or MULTIPLIER settings and vice versa. When the signal strength condition is met, ratio readings are taken in the same manner as described in paragraph 4.1.

#### 4.3 Operator Intercommunication

One of the characteristics of the GENIE system is the lack of an interconnecting cable between transmitter and receiver. Communication between operators is therefore either by voice at separations of up to 100 metres or radio link over larger distances or in dense bush. A relatively low power transceiver set will be adequate in most cases. Very high frequency (VHF) FM sets are preferable because of their short antenna length and therefore more convenient handling. The receiver operator should refrain from transmitting with his set while taking measurements to avoid possible interference with the GENIE receiver.

When using transceiver sets, check with your local Communications Authority in regard to licencing requirements.

#### 4.4 Sources of Error

Two sources of error, both related to coil geometry, may affect the performance of the GENIE system. Transmitter and receiver coil axes are assumed to be vertical.

One error, affecting the accuracy of automatic distance measurement only, is due to elevation differences between transmitter and receiver. Correction of this error, as discussed earlier, is possible by chaining or flagging of the line.

The second error affects the ratio reading and is due to transmitter coil geometry. Two physically separate coils are used to transmit each frequency of a given pair. Ratio accuracy in the receiver is maintained as long as both transmitting coils remain equidistant from the receiving coil. The transmitter operator should therefore position himself such that he faces in either direction of the survey line. The equidistance criterion is then satisfied. Small departures from this position become insignificant as transmitter-receiver separation increases. The table below gives the ratio error as a function of separation and angular departure from the ideal transmitter position. The error may be positive or negative depending on the direction along the line in which the operator faces and in which direction he turns.



Genie Portable EM System  
Model SE-88

2. TECHNICAL DESCRIPTION

Transmitter

|                                 |  |
|---------------------------------|--|
| Transmitting Element            | Iron-cored coil for each frequency   |
| Transmitting Frequency Pairs    | Five pairs.<br>112.5 Hz reference with one of 337.5, 1012.5 or 3037.5 Hz; or 337.5 Hz reference with one of 1012.5 or 3037.5 Hz. |
| Transmitting Moments            | 150 Am at 112.5 Hz, 100 Am at 337.5 Hz, 50 Am at 1012.5 Hz, 25 Am at 3037.5 Hz.  |
| Relative Amplitude Stability    | Better than 0.1%   |
| Power Supply                    | Rechargeable Nickel-Cadmium batteries; 2 options available, Normal and Heavy Duty.   |
| Power Supply Endurance          | Normal duty pack: 3 hours continuous at 20°C.<br>Heavy duty pack: 5 hours continuous at 20°C.                                    |
| Operating Temperature Range     | -30°C to +50°C   |
| Storage Temperature             | -40°C to 50°C  |
| Total Weight with Batteries     | Normal duty configuration: 14 kg<br>Heavy duty configuration: 16 kg  |
| Dimensions                      | Height: 300 mm; Width: 380 mm;<br>Depth: 180 mm  |
| Receiver                        |  |
| Receiving Element               | Iron-cored coil  |
| Receiving Frequency Pairs       | Same as transmitter  |
| Transmitter-Receiver Separation | Primary selector: 6.26 m, 12.5 m, 25 m, 50 m, 100 m, 200 m plus<br>Multiplier: x 1, x 1.25, x 1.5, x 1.75                        |

|   |   |
|---|---|
| Maximum Transmitter-Receiver Separation | 200 m under most conditions. Greater separations may be possible depending on atmospheric and power line noise.                                       |
| Power Line Filtering                    | Internally switch selectable at 60 or 50 Hz and 3rd harmonic.   |
| Signal Averaging Time                   | Switch selectable at 2, 4, 8 or 16 seconds.   |
| Resolution of Ratio Display             | 0.1%  |
| Power Supply                            | Rechargeable Nickel-Cadmium batteries   |
| Power Supply Endurance                  | 20 hours continuous at 20°C   |
| Operating Temperature Range             | -30°C to +50°C  |
| Total Weight                            | 6 kg  |
| Console Dimensions                      | Length: 280 mm; Height: 230 mm; Depth: 150 mm   |
| Coil Dimensions                         | Length: 500 mm; Diameter: 45 mm   |
| Battery Charger                         |   |
| Power Requirements                      | 115 V or 230 V, 50 Hz or 60 Hz, 50 VA   |
| Charging Time                           | 7 hours for completely discharged batteries, subsequent automatic trickle charging. Transmitter and receiver batteries can be charged simultaneously. |
| Weight                                  | 4.5 kg  |
| Dimensions                              | Length: 290 mm; Height: 150 mm; Depth: 130 mm   |

APPENDIX 4

GM-122 PROTON MAGNETOMETER

## GM-122 PROTON MAGNETOMETER

### Field Procedure

Magnetic field measurements were made using a Barringer GM-122 total field proton precession magnetometer. Variations in the earth's magnetic were monitored by measuring the variation in the field at a series of base stations established throughout the three grids. The observed changes were then removed from the field data.

Magnetic readings were taken at 25 m intervals along all survey lines.

### Principle of Operation

If a proton rich fluid such as kerosene, jet fuel, heptane, etc. is placed into a magnetic field, the protons will align along the magnetic field vector. The magnetic field is induced in the sensor upon depressing the pushbutton. Then this field is suddenly removed. Protons which behave as elementary gyroscopes will start precessing around the remaining magnetic field - that of the earth. The precession frequency is directly proportional to the magnetic field of the earth. The magnetometer counts this frequency, divides it by the appropriate constant to obtain a reading in gammas ( $1\gamma = 10^{-5}$  gauss) and displays the reading in the form of a 5 digit number.

## Section 1

### SPECIFICATIONS

### GM-122 PROTON MAGNETOMETER

|  |   |
|--|---|
| Range:                                 | 20,000 to 99,999 in 12 ranges   |
| Accuracy:                              | $\pm 1 \gamma$ through operating temperature range.   |
| Sensitivity:                           | 1 $\gamma$  |
| Gradient Tolerance:                    | 600 $\gamma$ /ft.   |
| Power:                                 | 12 "D" cells  |
| Power Consumption:                     | 50 Joules (Wsec) per reading.   |
| Polarizing Power:                      | 0.8 A @ 13.5 V for 1.5 sec. (3 second cycle).<br>0.8 A @ 13.5 V for 3 sec. (6 second cycle).  |
| Number of Readings with 1 Battery Set: | 2,000 - 10,000 depending on type of batteries   |
| Frequency of Readings:                 | 1 every 3 seconds.<br>1 every 6 seconds.  |
| Controls:                              | Pushbutton switch - Slide switch for 3 and 6 sec. located on P/C Board.   |
| Output:                                | 5 digit incandescent filament readout.  |
| Indicators:                            | LED point.<br>Lock Indicator - last three digits of the display blanked off when phaselock not achieved.<br>Segment Function Indicator - all segments light up to permit visual inspection of the display function. |

APPENDIX 5

EM-16 VLF-EM INSTRUMENT

## GEONICS EM-16 VLF-EM INSTRUMENT

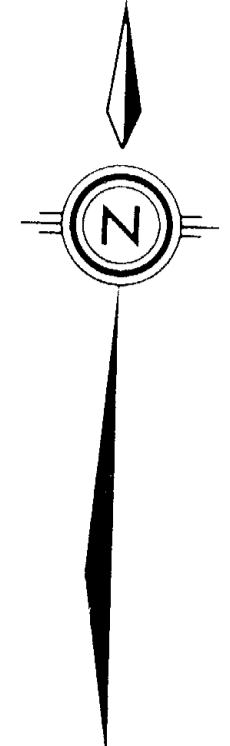
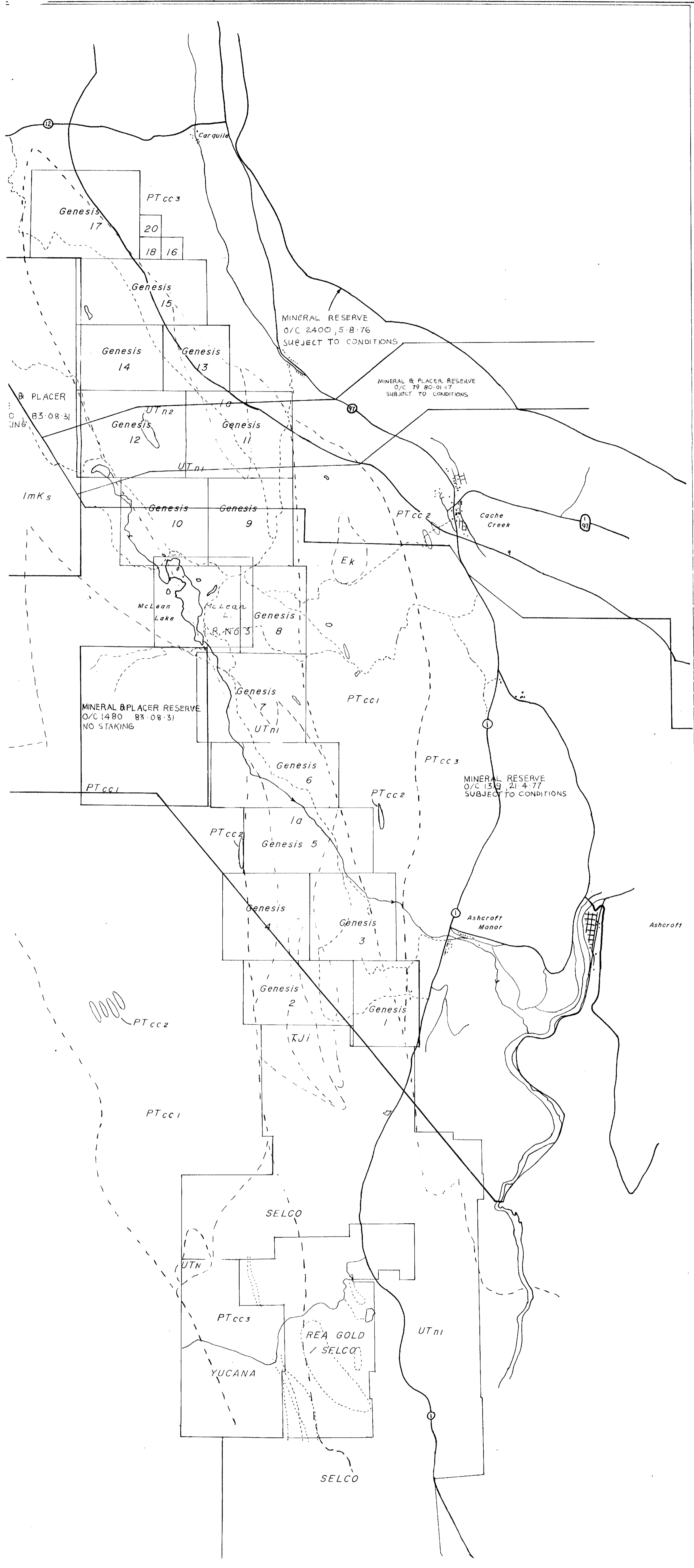
### Field Procedure

The VLF-EM survey was executed using an EM-16 VLF receiver manufactured by Geonics Ltd. of Mississauga, Ontario. Measurements of In-Phase and Quadrature components of EM field were recorded every 25 meters along grid lines, baseline and tieline. The receiver was tuned to the U.S. military transmitter situated in Hawaii, U.S.A. and broadcasting at 23.4 kHz while surveying along the grid lines. The operator faced north for all measurements.

## EM 16 SPECIFICATIONS

|                     |   |
|---------------------|---|
| Measured Quantity   | Inphase and quad-phase components of vertical magnetic field as a percentage of horizontal primary field (i.e., tangent of the tilt angle and ellipticity). |
| Sensitivity         | Inphase: $\pm 150\%$<br>Quad-phase: $\pm 40\%$  |
| Resolution          | $\pm 1\%$   |
| Output              | Nulling by audio tone. Inphase indication from mechanical inclinometer and quad-phase from a graduated dial.  |
| Operating Frequency | 15 - 25 kHz VLF Radio Band. Station selection done by means of plug-in units.   |
| Operator Controls   | ON/OFF switch, battery test push button, station selector switch, audio volume control, quadrature dial, inclinometer.                                      |
| Power Supply        | 6 disposable 'AA' cells.  |
| Dimensions          | 42 x 14 x 9 cm.   |
| Weight              | Instrument: 1.6 kg<br>Shipping: 5.5 kg.   |



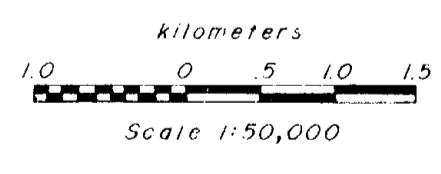


LEGEND

- Eocene**
- Ek** Kamloops Group: basalt, andesite, dacite, rhyolite, breccia, tuff and local intercalated sandstone; conglomerate, shale.
- Cretaceous**
- ImKs** Conglomerate and sandstone, derived in large part from chert-rich source terranes, minor shale with coal horizons.
- Triassic**
- UTn1** Nicola Group: basic to acidic, mainly volcanoclastic and intercalated argillite; 1a, acid flows and volcanoclastics, local schistose equivalents. n2 Nicola carbonate
- TJI** undifferentiated intrusives of uncertain age
- Pennsylvanian to Triassic**
- PTcc1** Cache Creek Complex: basalt, pillow basalt, diabase, gabbro.
- PTcc2** Cache Creek Complex: ultramafic, mainly serpentinite, local gabbro.
- PTcc3** Cache Creek Complex: melange; radiolarian chert, chert-argillite matrix containing probably allostromal limestone, chert, greenstone and ultramafic blocks and locally, acid volcanic blocks.

- geologic boundary
- roads: paved, dirt

Geology after G.S.C. O.F. 980



16,403

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

BEDROCK GEOLOGY / CLAIM MAP

**GENESIS CLAIMS**

KAMLOOPS MINING DIVISION

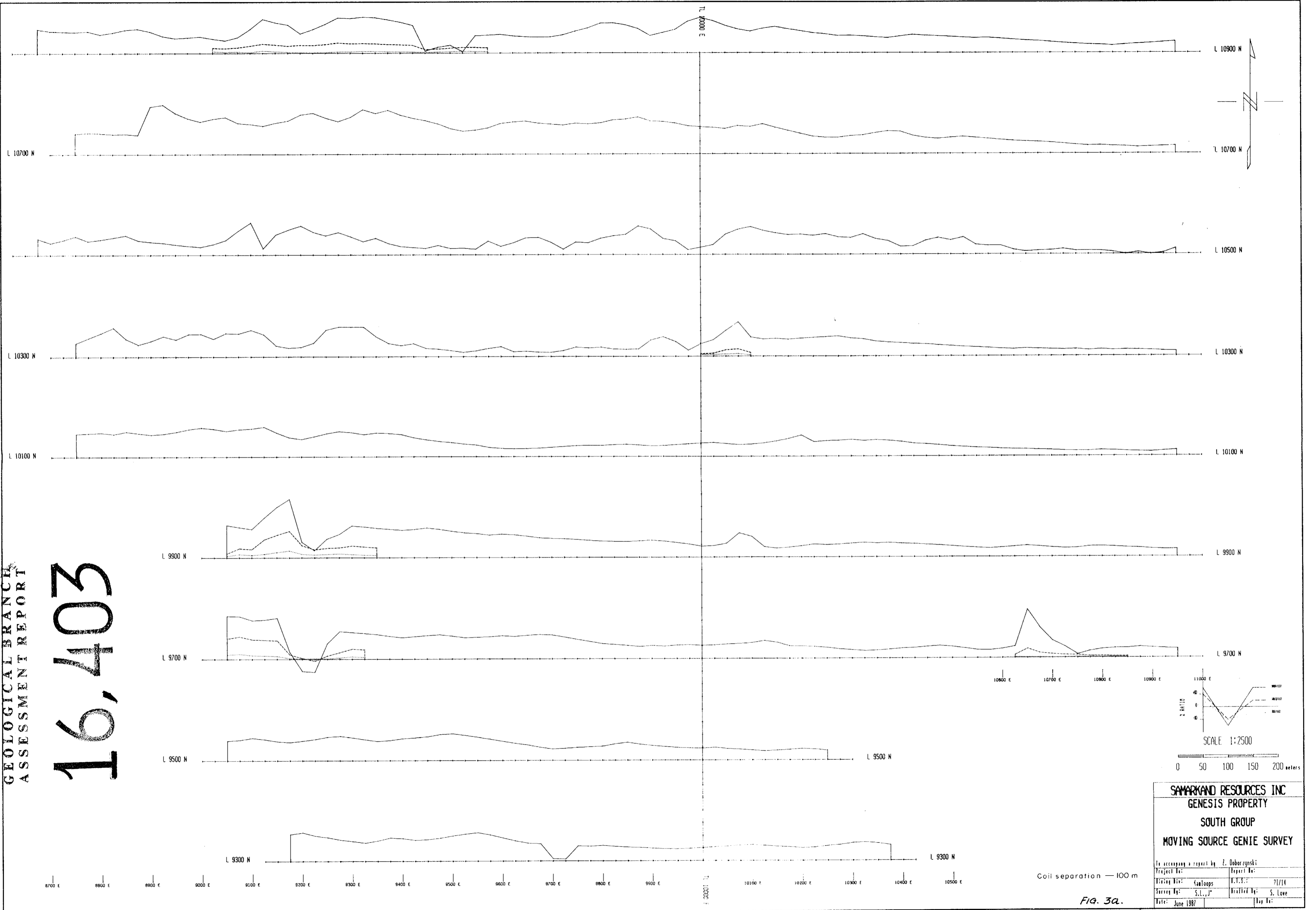
NTS: 921/11,14

May 1985. Figure 2

SPIREX GEOSERVICES LTD.

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

16,403



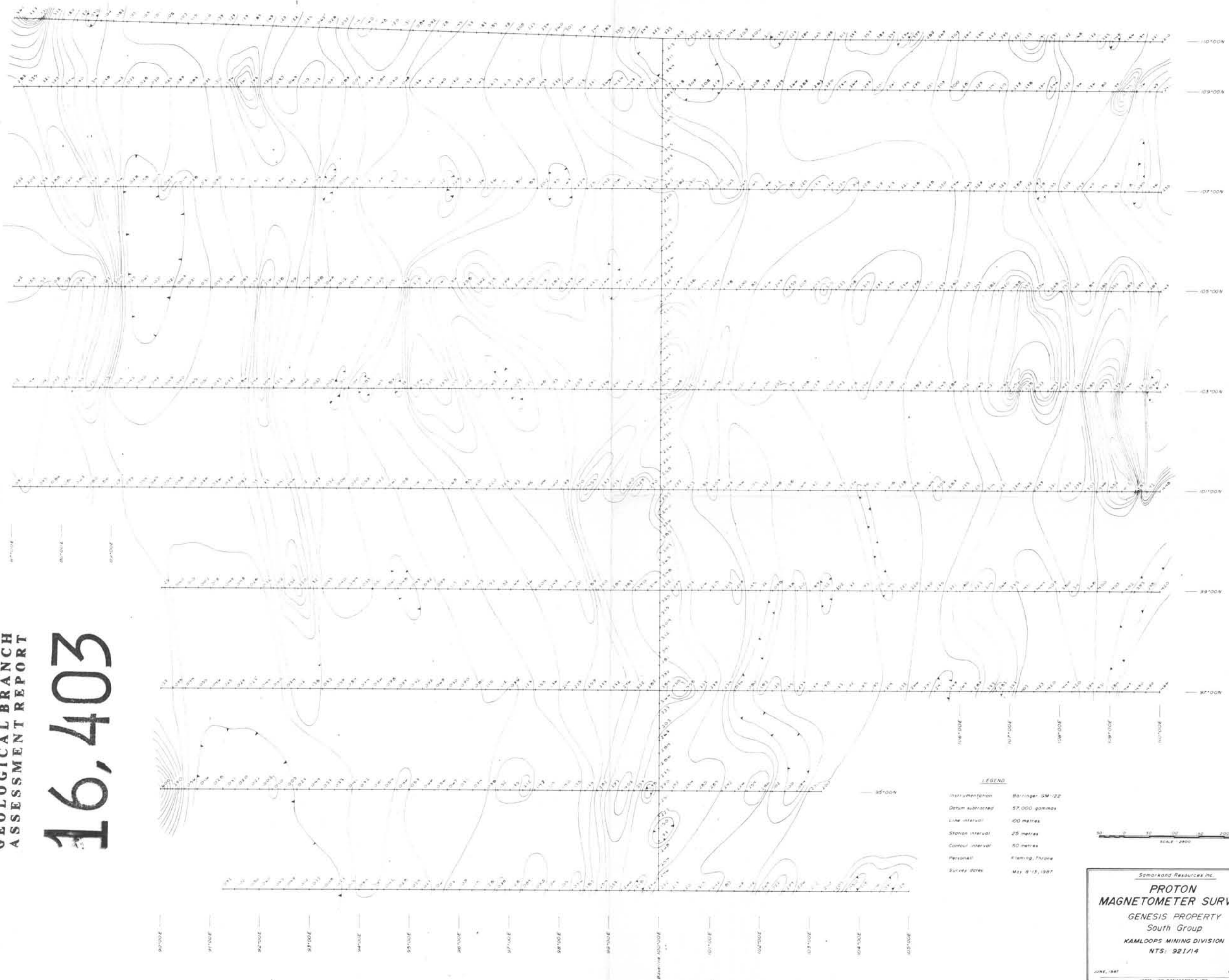
Coil separation — 100 m

Fig. 3a.

|  |                       |
|--|-----------------------|
| <b>SAMKAND RESOURCES INC</b>               |                       |
| GENESIS PROPERTY                           |                       |
| SOUTH GROUP                                |                       |
| MOVING SOURCE GENIE SURVEY                 |                       |
| In accordance with report by Z. Dobrzynski |                       |
| Project No:                                | Report No:            |
| Field No: 45000                            | Date: 7/1/11          |
| Survey by: S.L.J.                          | Processed by: S. Love |
| Date: June 1987                            | Fig No:               |

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

16,403

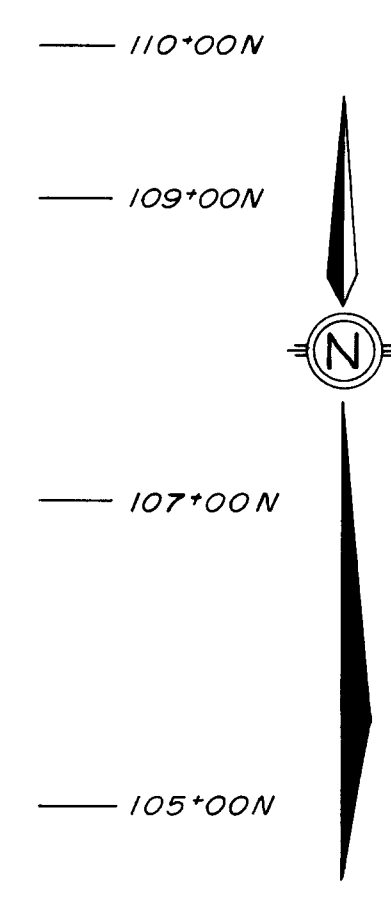
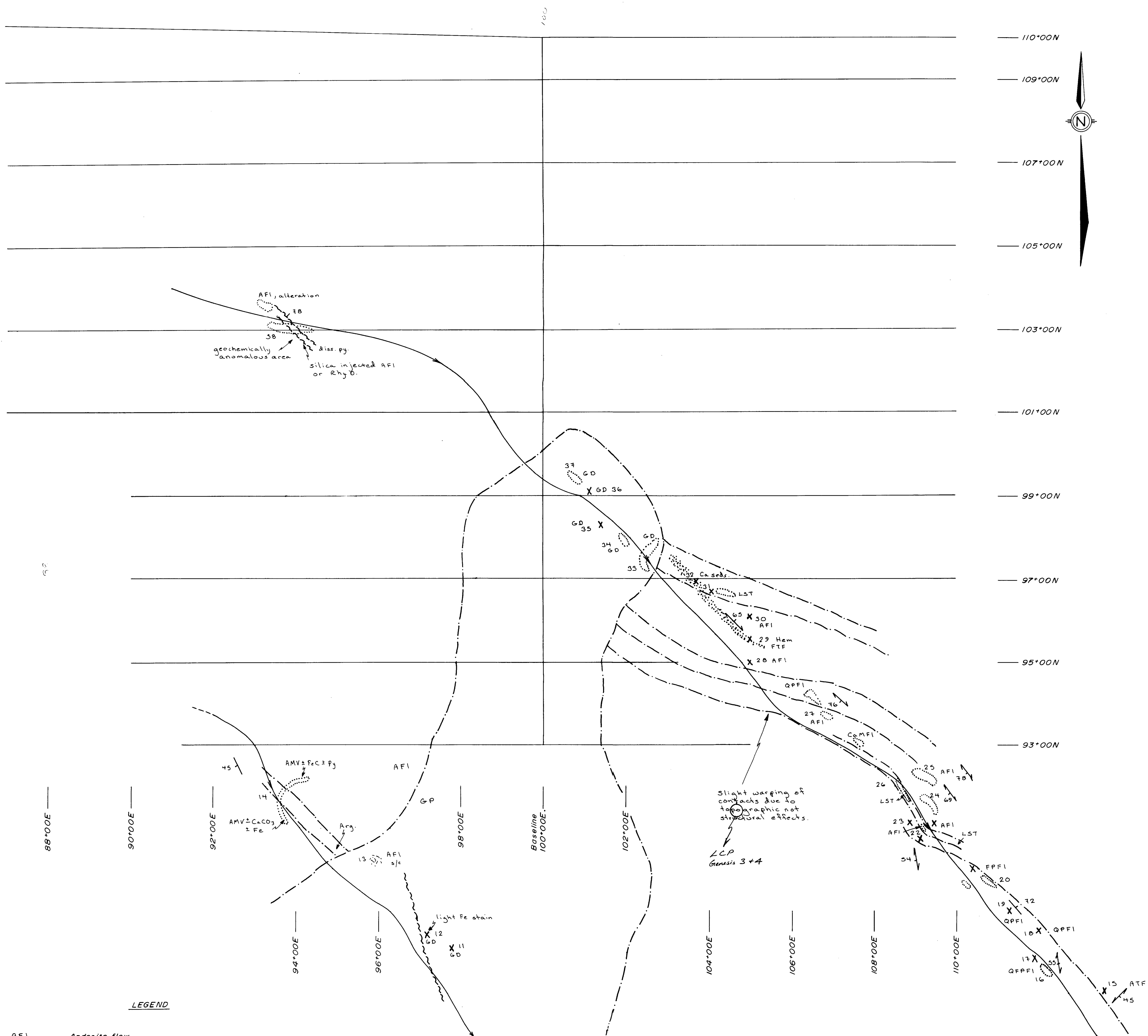


LEGEND

- Instrumentation: Barringer GM-22
- Datum subtracted: 57,000 gammas
- Line interval: 100 metres
- Station interval: 25 metres
- Contour interval: 50 metres
- Personnel: Fleming, Thorne
- Survey dates: May 9-13, 1987



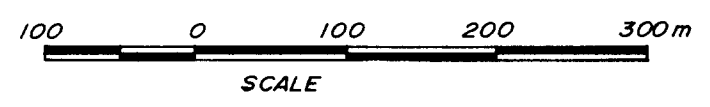
Samorand Resources Inc.  
**PROTON**  
**MAGNETOMETER SURVEY**  
 GENESIS PROPERTY  
 South Group  
 KAMLOOPS MINING DIVISION  
 NTS: 921/14  
 JUNE, 1987



**LEGEND**

- AFI Andesite flow
- ATFF Andesite tuff
- FPFI Feldspar porphyritic flows; medium to dark green fine grained andesite flow; massive, poorly foliated and rarely weakly hematitic
- QPFI Quartz feldspar porphyry flow; light apple green, weakly sericitized felsic flows, quartz eyes may exceed 0.5 cm and typically occupy 5-10% rock volume; frequent flow banding. Dacitic to rhyodacitic composition.
- QFP-LP Felsic fragments elongate 1x4 cm pale weathering, oval fragments; feldspar green pale cream and lightly sericitized.
- LST Limestone; grey to buff medium grained limestone; generally narrow (10-15 m wide) occurring as intervolcanic sediments, or as part of a slightly thicker (15m?) clastic section.
- ARG Argillite; fine grained black clastics
- GD Granodiorite; massive homogeneous medium grained and infoliated
- MD<sub>3</sub> Mafic dyke; small mafic dykes discordant to all lithologies

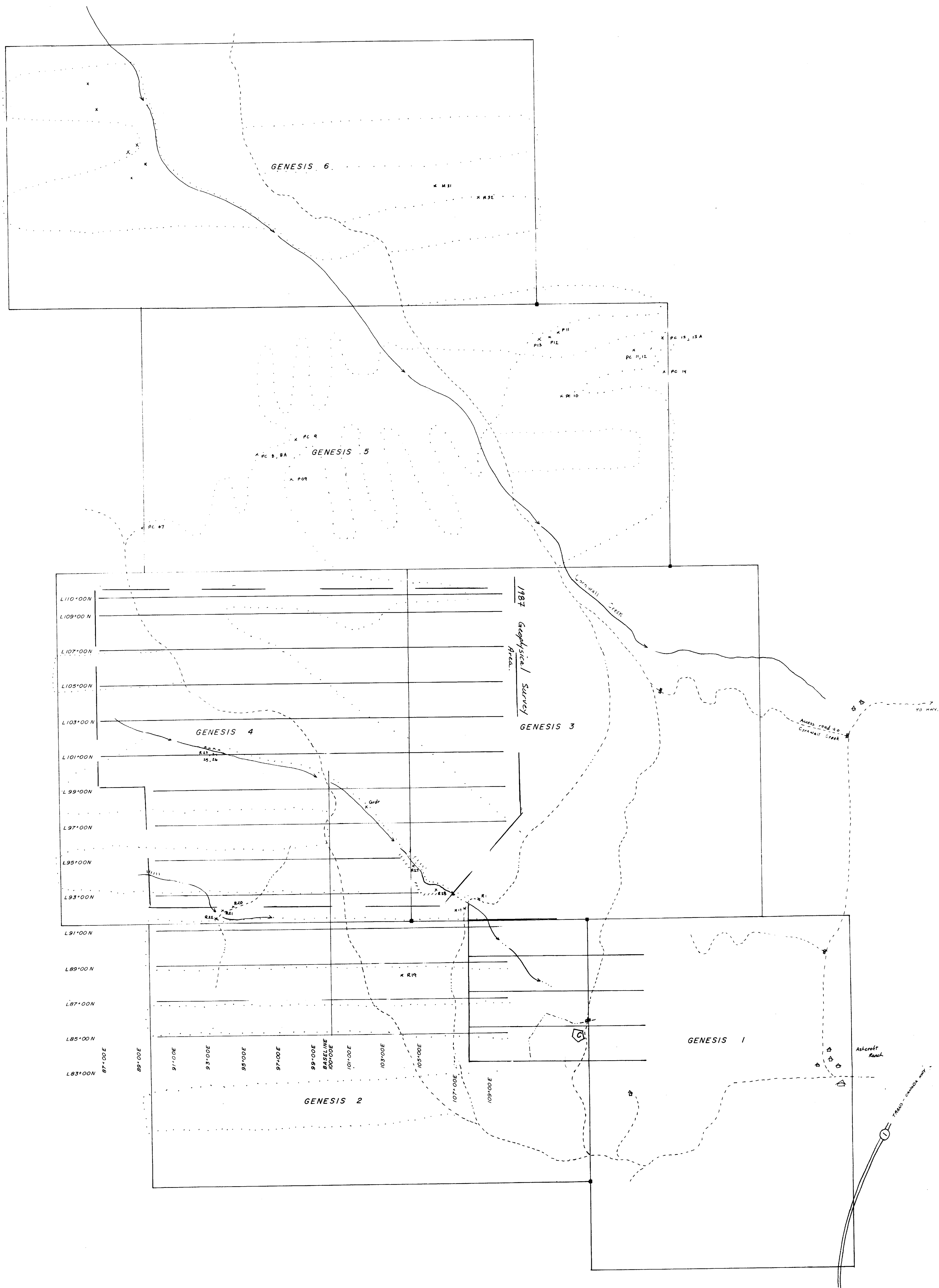
- Contact
- Traverse station
- Outcrop
- Fault
- Creek
- Buff to red soil and rock colour anomaly



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**16,403**

*Samarkand Resources Ltd.*  
**GEOLOGY**  
**GENESIS PROPERTY**  
 South Group  
 KAMLOOPS MINING DIVISION  
 NTS: 921/14  
 JUNE, 1987 FIGURE  
 VERMILION MANAGEMENT INC. 3C



- u rock bluff
- C corral
- G range gate
- secondary roads, impassable
- X rock sample locality, approx. only transfer from NTS 1:50,000
- major creek
- claim lines, cut grid lines
- - - secondary roads
- LCP

Scale 1:10,000

Sarmakand Resources Inc. Van., B.C.

GRID LOCATION

**GENESIS SOUTH GROUP**  
 Kamloops Mining Division  
 NTS 92 1 / 11, 14

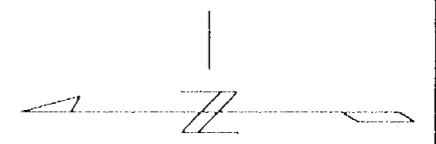
June 1986 Revised Jan. 1988 Fig. 3d  
 QUEST CANADA EXPLORATION SERVICES INC.

GEOLOGICAL BRANCH  
 ASSESSMENT REPORT

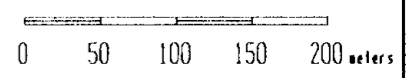
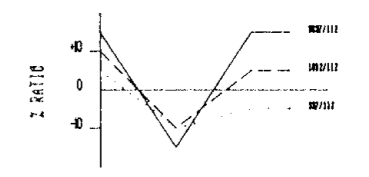
16,403

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

# 16,403



Coil separation --- 100m



|  |                     |
|--|---------------------|
| <b>SAMARKAND RESOURCES INC</b>         |                     |
| <b>GENESIS PROPERTY</b>                |                     |
| <b>CENTRAL GROUP</b>                   |                     |
| <b>MOVING SOURCE GENIE SURVEY</b>      |                     |
| In accompany a report by Z. Bobayzasi: |                     |
| Project No:                            | Report No:          |
| Display No: 4500                       | E.T.S.: 921/14      |
| Survey By: S.L., J.                    | Tracked By: S. Love |
| Date: June 1987                        | Day No:             |

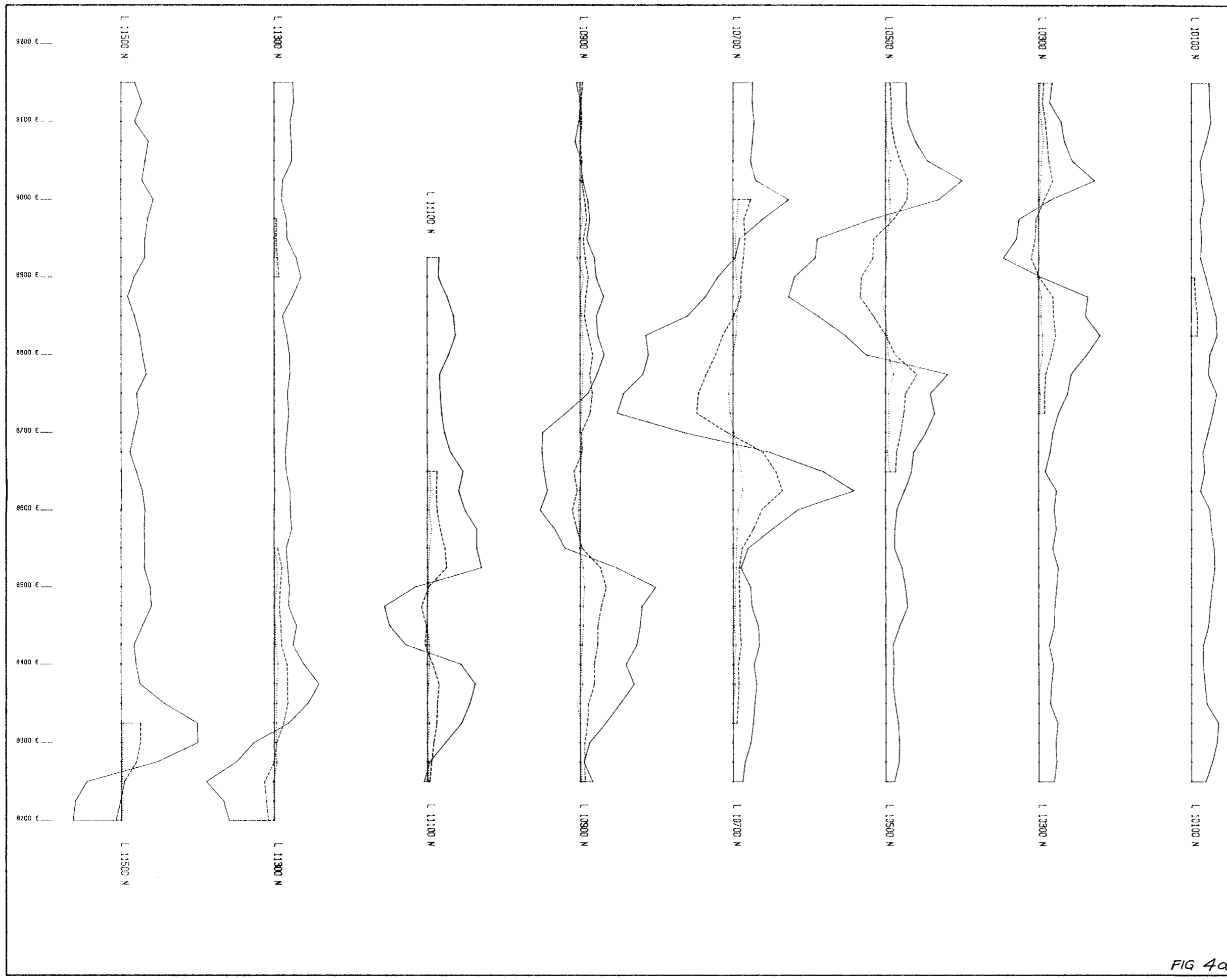
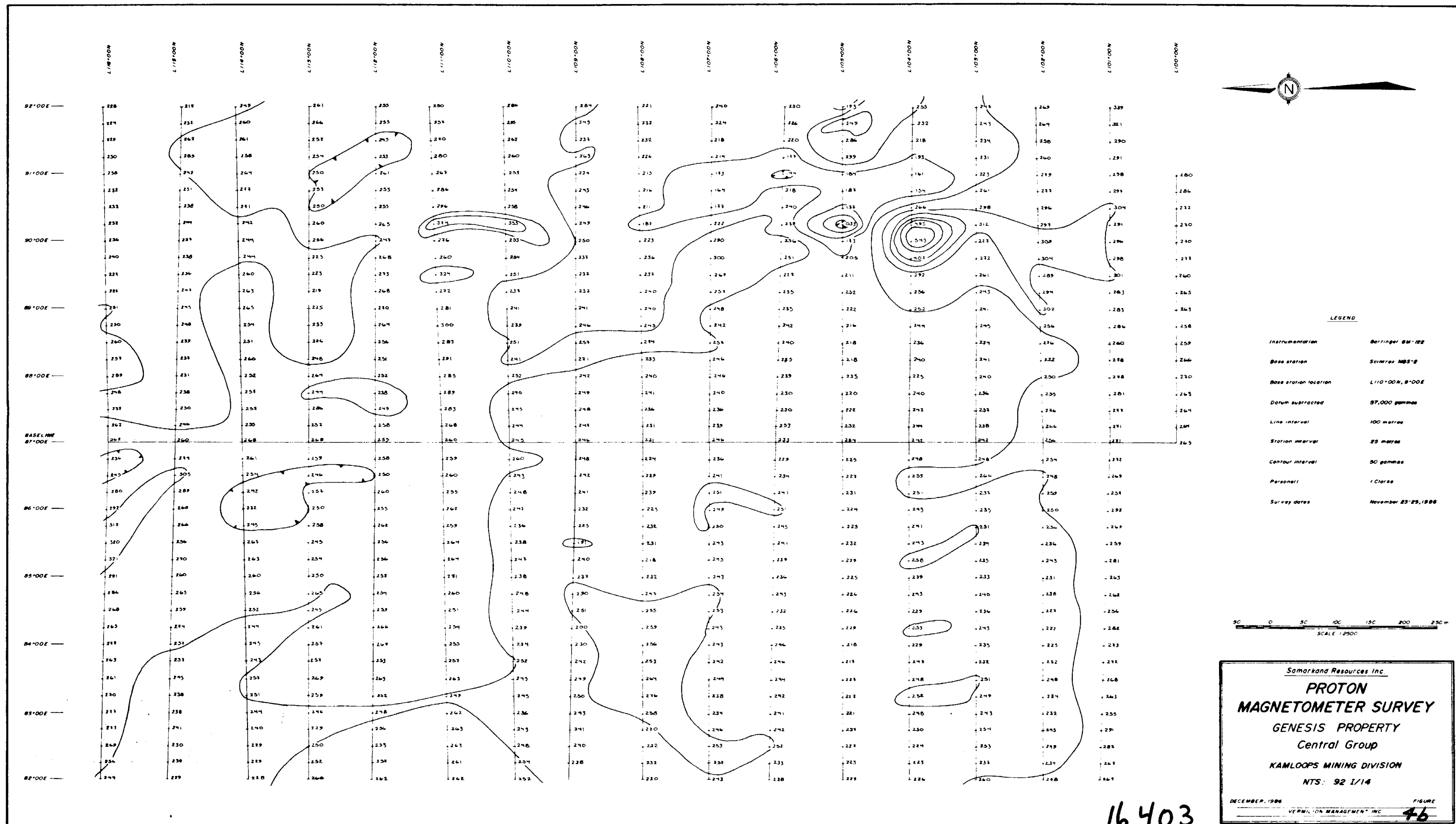
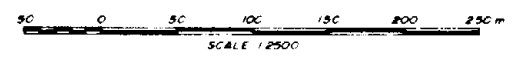


FIG 4a



**LEGEND**

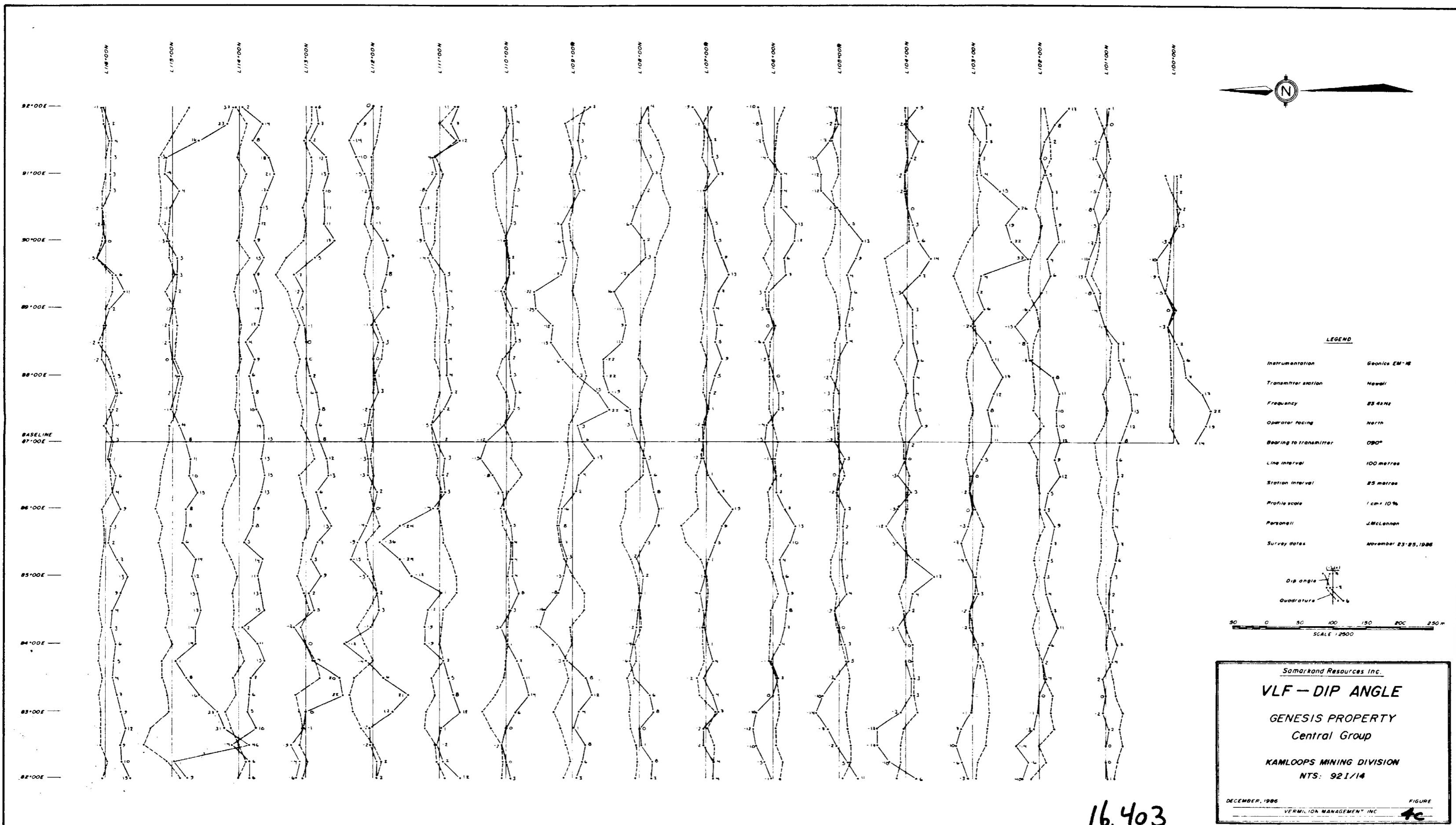
- Instrumentation      Barringer BM-122
- Base station           Scintrex MBS-B
- Base station location      L110-00N, 8°00E
- Datum subtracted        57,000 gammas
- Line interval            100 metres
- Station interval         25 metres
- Contour interval         50 gammas
- Personnel                1 Clarke
- Survey dates             November 25-29, 1986



Samarkand Resources Inc.  
**PROTON**  
**MAGNETOMETER SURVEY**  
 GENESIS PROPERTY  
 Central Group  
 KAMLOOPS MINING DIVISION  
 NTS: 92 I/14  
 DECEMBER, 1986  
 VERMILION MANAGEMENT INC

16,403

FIGURE  
**46**



16,403

SamarKand Resources Inc.

**VLF - DIP ANGLE**

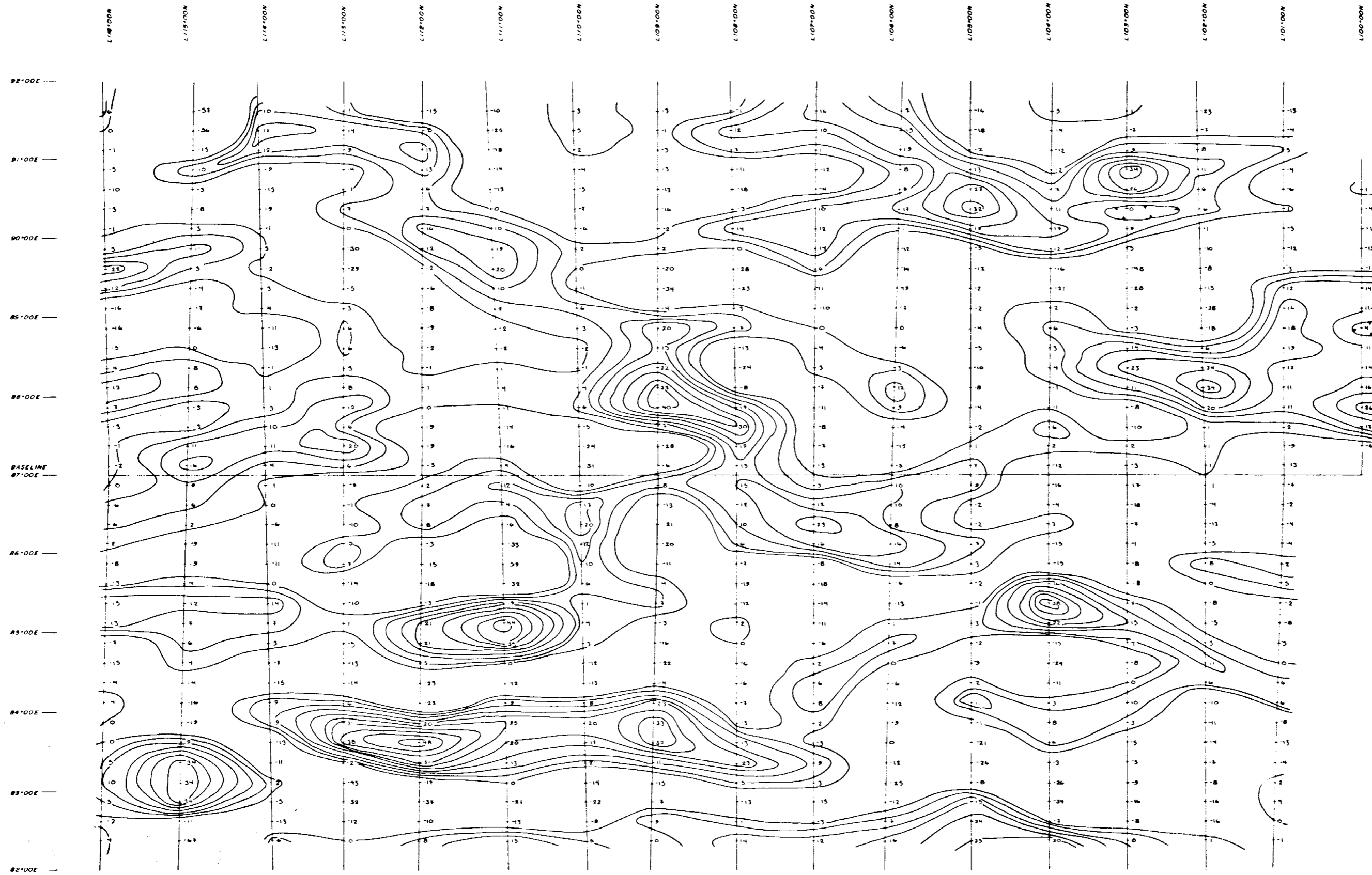
GENESIS PROPERTY  
Central Group

KAMLOOPS MINING DIVISION  
NTS: 921/14

DECEMBER, 1986 FIGURE

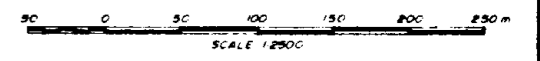
VERMILION MANAGEMENT INC. tc





**LEGEND**

|                      |                      |
|----------------------|----------------------|
| Instrumentation      | Geonics EM-16        |
| Operator Facing      | West                 |
| Direction to station | Southwest            |
| Transmitter station  | Hawaii               |
| Frequency            | 23.4kHz              |
| Line interval        | 100 metres           |
| Station interval     | 25 metres            |
| Course interval      | 5 units              |
| Personnel            | J. McLeeman          |
| Survey dates         | November 23-25, 1986 |



Samarkand Resources Inc.

**VLF - FRASER PLOT**

GENESIS PROPERTY  
Central Group

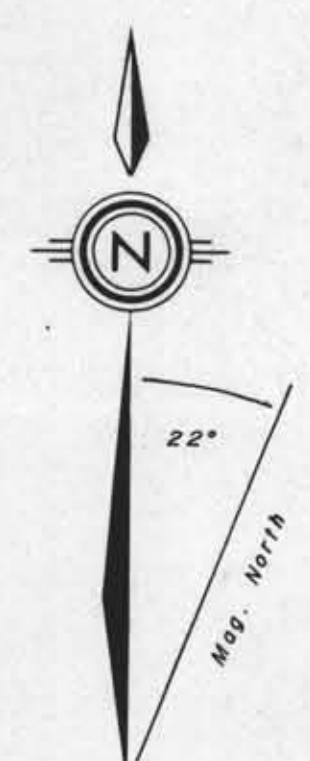
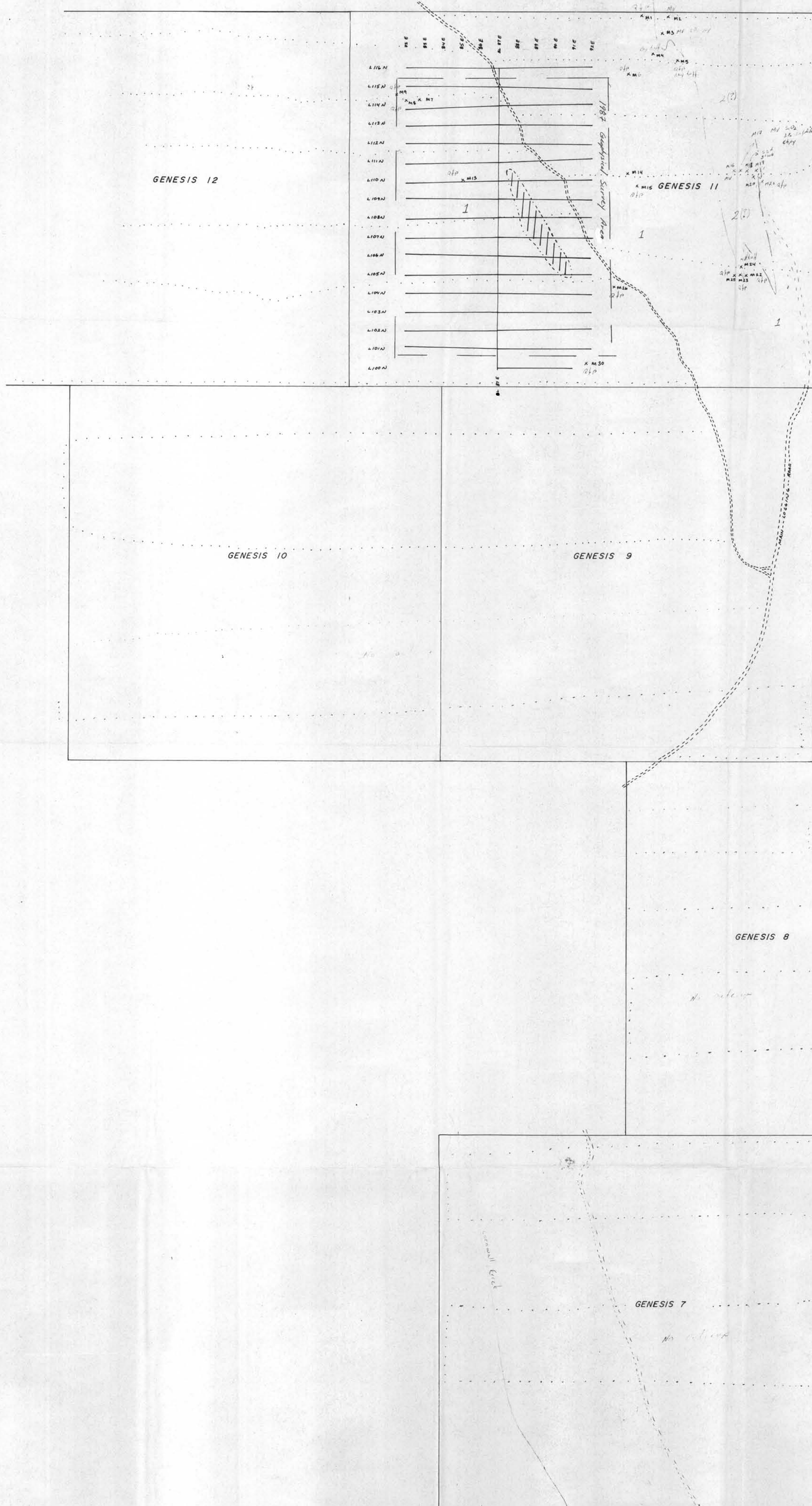
KAMLOOPS MINING DIVISION  
NTS: 921/14

DECEMBER, 1986

VERMILION MANAGEMENT INC

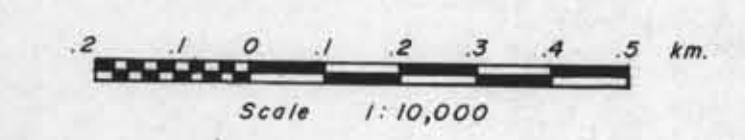
FIGURE  
**4d**

16,403



- 1 dirty earth surface with some more soft and some more volcanic and some
- 2 more volcanic soft zone

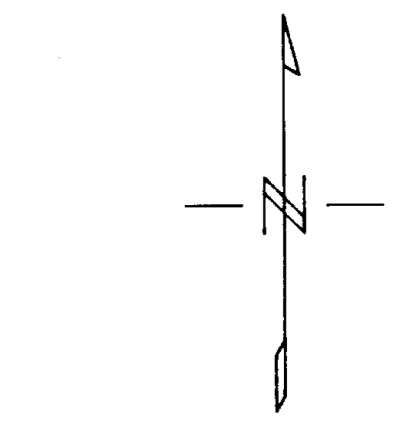
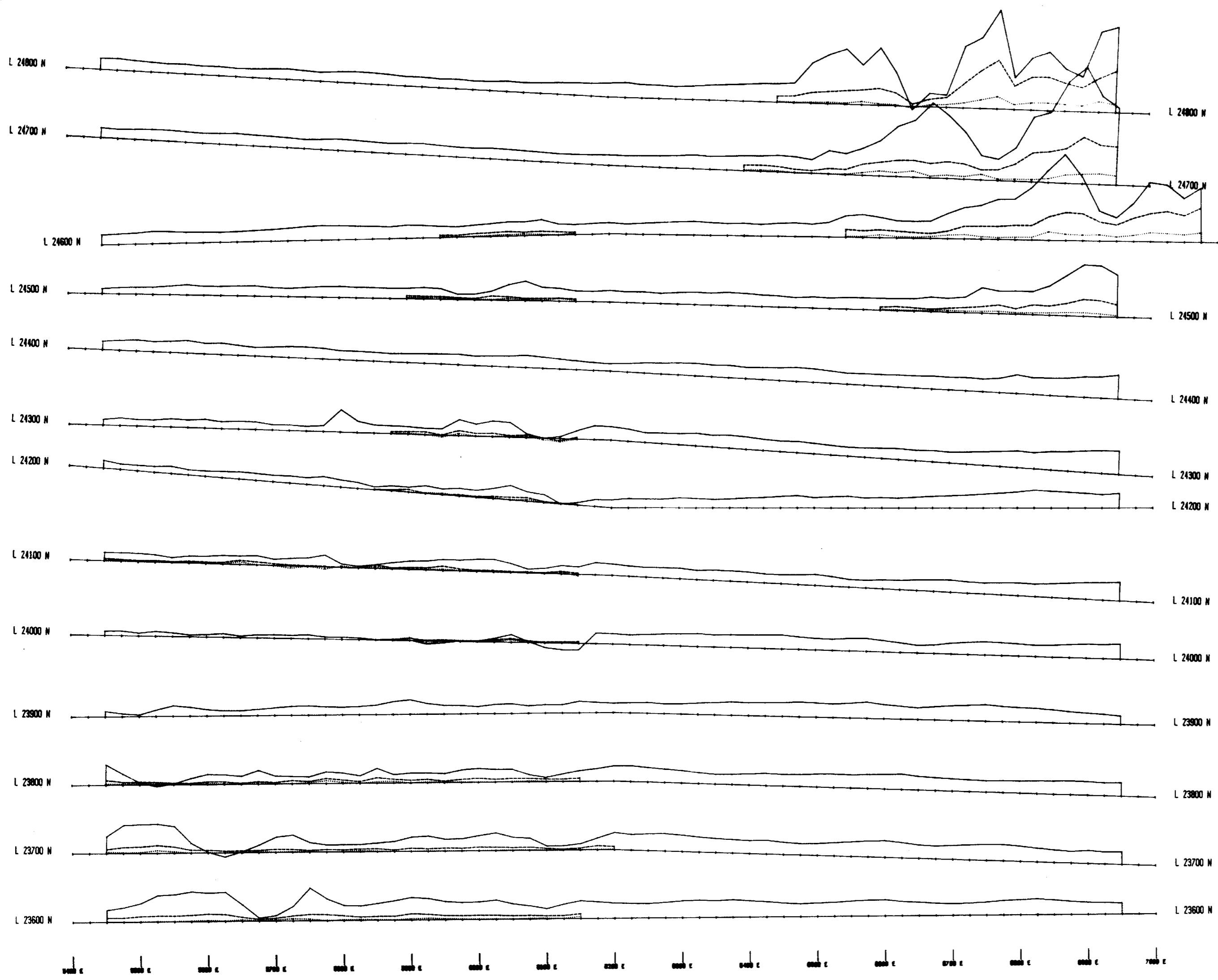
- approx. location of Zn soil geochemistry anomaly, 1971.
- traverse lines
- rock sample locality
- claim lines, cut grid lines
- secondary roads
- LCP



Samarkand Resources Inc. Van., B.C.  
**GRID LOCATION**  
 Prospecting Plan  
**GENESIS CENTRAL GROUP**  
 Kamloops Mining Division  
 NTS 92 1 / 11, 14  
 June 1986 Fig. 4c  
 QUEST CANADA EXPLORATION SERVICES INC.

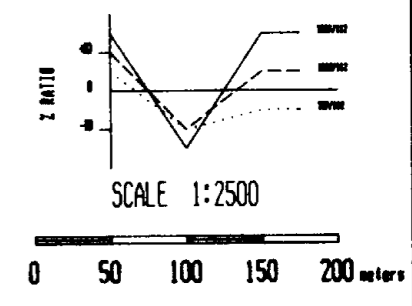
**GEOLOGICAL BRANCH  
 ASSESSMENT REPORT**

**16,403**



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**  
**16,403**

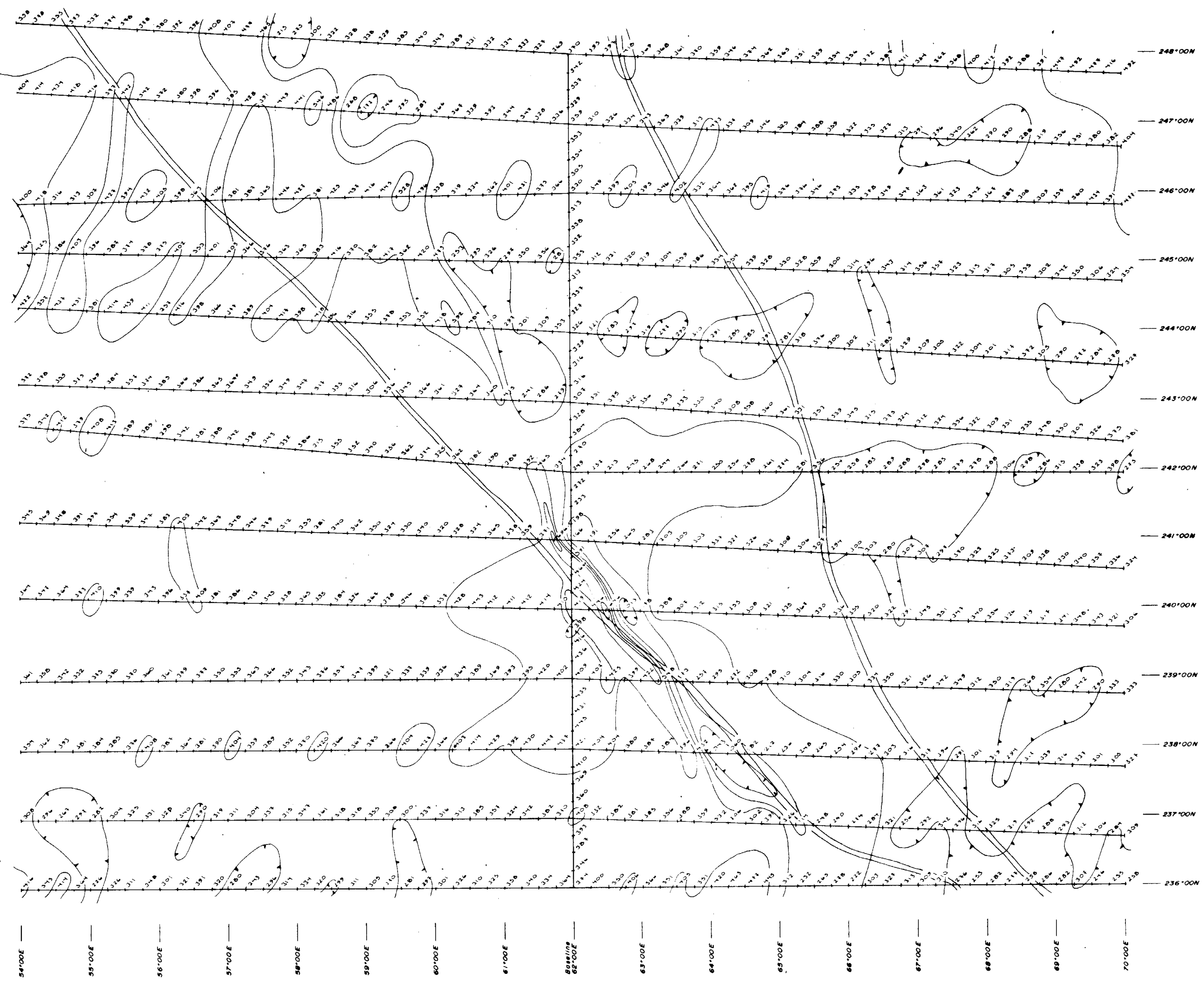
Coil separation — 100 m



|   |                     |
|---|---------------------|
| <b>SAMARKAND RESOURCES INC</b>          |                     |
| <b>GENESIS PROPERTY</b>                 |                     |
| <b>NORTH GROUP</b>                      |                     |
| <b>MOVING SOURCE GENIE SURVEY</b>       |                     |
| To accompany a report by Z. Doborzynski |                     |
| Project No:                             | Report No:          |
| Dating Mtd: Coils                       | D.T.S.: 921/14      |
| Survey Mtd: S.L., J.                    | Drafted By: S. Love |
| Date: June 1987                         | Map No:             |

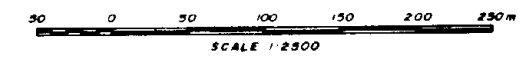
Fig 5a.

# 16,403



**LEGEND**

|                  |                  |
|------------------|------------------|
| Instrumentation  | Barringer GM-122 |
| Datum subtracted | 57,000 gammas    |
| Line interval    | 100 metres       |
| Station interval | 25 metres        |
| Contour interval | 100 gammas       |
| Personnel        | Fleming, Throne  |
| Survey dates     | May 2-6, 1987    |
| Road             |                  |



Samarand Resources Inc.

**PROTON  
MAGNETOMETER SURVEY**

GENESIS PROPERTY  
North Group  
KAMLOOPS MINING DIVISION  
NTS: 921/14

JUNE, 1987

VERMILION MANAGEMENT INC. **56**

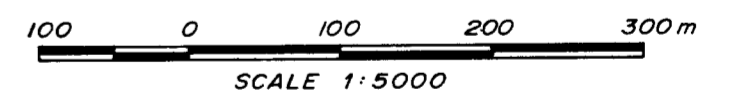
**LEGEND**

- AFI      *Andesitic flow*
- ATFF    *Andesitic tuff*
- F PFI    *Feldspar porphyritic flows; medium to dark green fine grained andesitic flow; massive, poorly foliated, and rarely weakly hematitic.*
- QFPFI  
QFPFI    *Quartz feldspar porphyry flow; light apple green, weakly sericitized felsic flows, quartz eyes may exceed 0.5 cm and typically occupy 5-10% rock volume; frequent flow banding. Dacitic to rhyodacitic composition.*
- QFP-LP    *Felsic fragmentals elongate 1x4 cm pale weathering, oval fragments. Feldspar grained pale cream and lightly sericitized.*
- LST      *Limestone; grey to buff, medium grained limestone; generally narrow (10-15 m wide) occurring as intervolcanic sediments, or as part of a slightly thicker (15m?) clastic section.*
- ARG      *Argillic; fine grained black clastics.*
- GD      *Granodiorite; massive homogeneous medium grained and infoliated.*
- MDy      *Mafic dyke; smaller mafic dykes discordant to all lithologies.*
- *Contact*
- X        *Traverse station*
- *Outcrop*
- ~~~~~    *Fault*
- ====     *Road*



**GEOLOGICAL BRANCH ASSESSMENT REPORT**

**16,403**



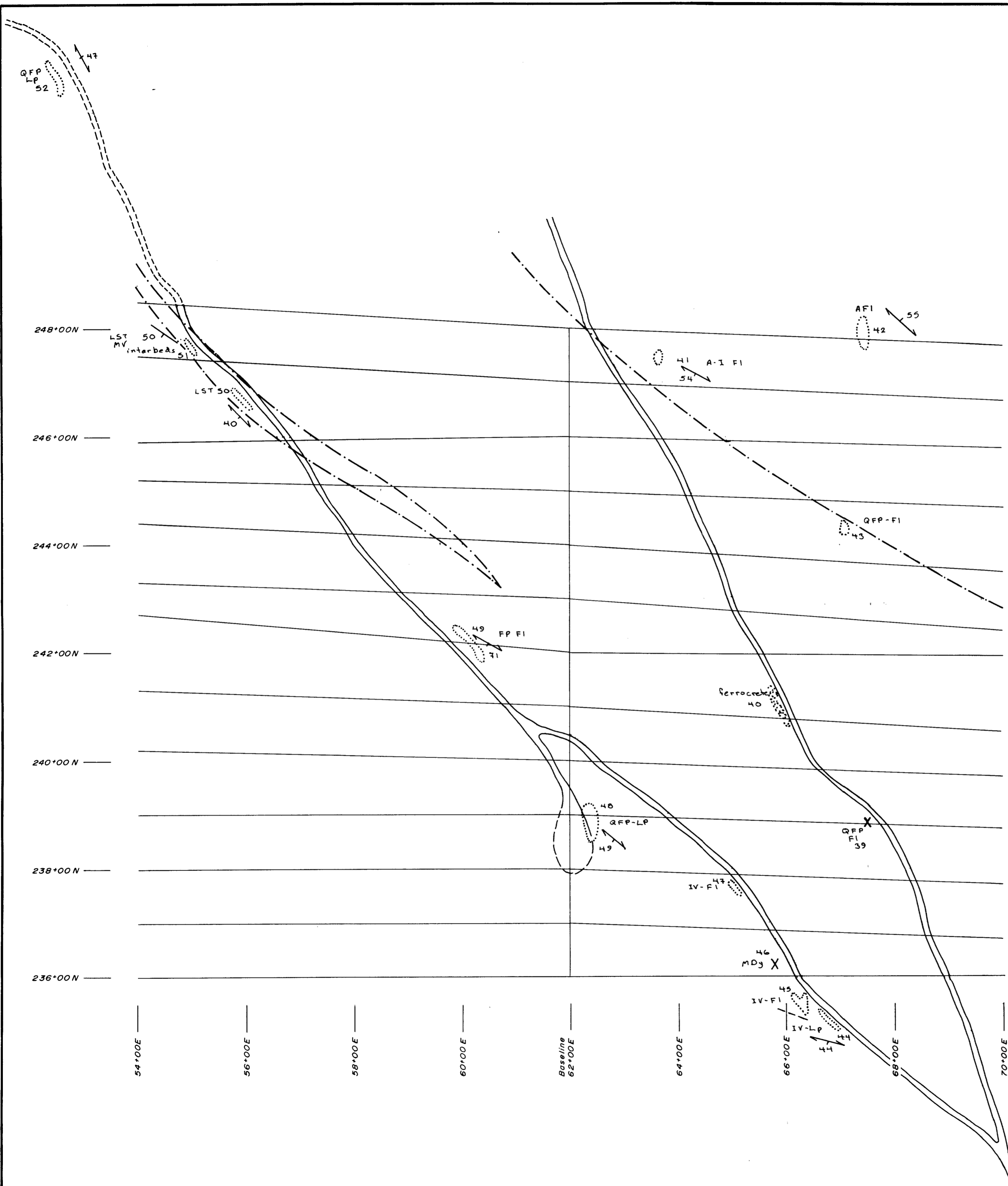
*Samarkand Resources Ltd.*  
**GEOLOGY**  
**GENESIS PROPERTY**  
*North Group*  
**KAMLOOPS MINING DIVISION**  
 NTS: 92 I/14

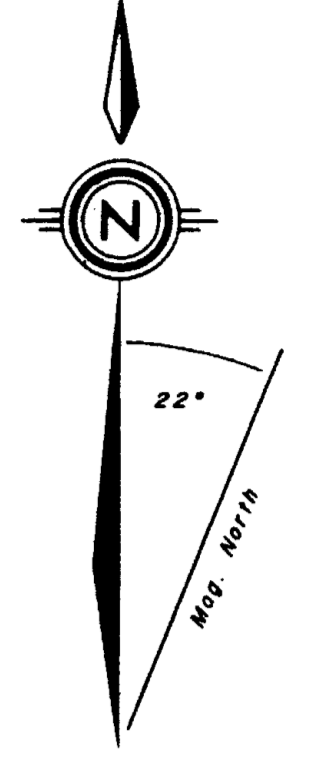
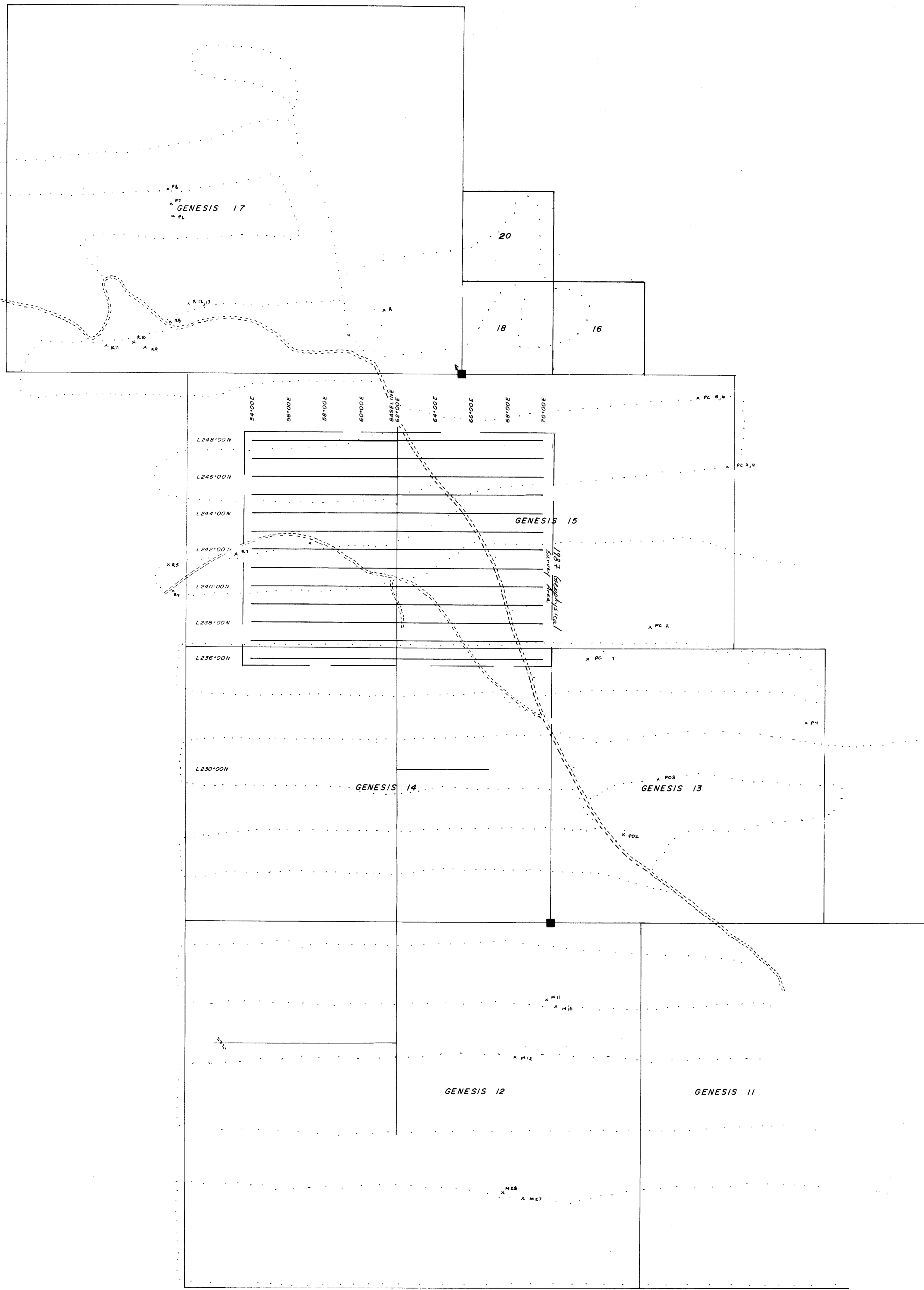
JUNE, 1987

FIGURE

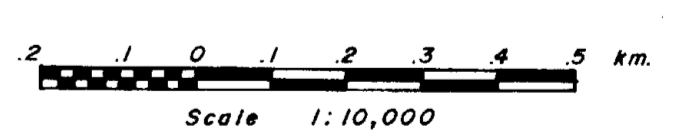
VERMILION MANAGEMENT INC.

5c





- traverse lines
- rock sample locality
- claim lines, cut grid lines
- secondary roads
- LCP



Samarkand Resources Inc. Van., B.C.

GRID LOCATION

**GENESIS NORTH GROUP**  
 Kamloops Mining Division  
 NTS 92 1 / 11, 14

JUNE 1988 Revised Jan., 1989 Fig. 5d  
 QUEST CANADA EXPLORATION SERVICES INC.

**GEOLOGICAL BRANCH**  
**ASSESSMENT REPORT**

**16,403**