

# MAR 19950006: PEACE RIVER

Received date: Jun 07, 1995

Public release date: Jun 08, 1996

## ***DISCLAIMER***

By accessing and using the Alberta Energy website to download or otherwise obtain a scanned mineral assessment report, you ("User") agree to be bound by the following terms and conditions:

- a) Each scanned mineral assessment report that is downloaded or otherwise obtained from Alberta Energy is provided "AS IS", with no warranties or representations of any kind whatsoever from Her Majesty the Queen in Right of Alberta, as represented by the Minister of Energy ("Minister"), expressed or implied, including, but not limited to, no warranties or other representations from the Minister, regarding the content, accuracy, reliability, use or results from the use of or the integrity, completeness, quality or legibility of each such scanned mineral assessment report;
- b) To the fullest extent permitted by applicable laws, the Minister hereby expressly disclaims, and is released from, liability and responsibility for all warranties and conditions, expressed or implied, in relation to each scanned mineral assessment report shown or displayed on the Alberta Energy website including but not limited to warranties as to the satisfactory quality of or the fitness of the scanned mineral assessment report for a particular purpose and warranties as to the non-infringement or other non-violation of the proprietary rights held by any third party in respect of the scanned mineral assessment report;
- c) To the fullest extent permitted by applicable law, the Minister, and the Minister's employees and agents, exclude and disclaim liability to the User for losses and damages of whatsoever nature and howsoever arising including, without limitation, any direct, indirect, special, consequential, punitive or incidental damages, loss of use, loss of data, loss caused by a virus, loss of income or profit, claims of third parties, even if Alberta Energy have been advised of the possibility of such damages or losses, arising out of or in connection with the use of the Alberta Energy website, including the accessing or downloading of the scanned mineral assessment report and the use for any purpose of the scanned mineral assessment report so downloaded or retrieved.
- d) User agrees to indemnify and hold harmless the Minister, and the Minister's employees and agents against and from any and all third party claims, losses, liabilities, demands, actions or proceedings related to the downloading, distribution, transmissions, storage, redistribution, reproduction or exploitation of each scanned mineral assessment report obtained by the User from Alberta Energy.

19950006

RECEIVED

JUN 7 240 PM '95

ALBERTA ENERGY  
AND  
NATURAL RESOURCES

*(Signature)*

## **Assessment Report**

### **Exploration Program on the Horseshoe Project, Peace River Area, Alberta**

**NTS 84-C-2,3,6,7**

**Latitude 56° 25'**

**Longitude 117° 00'**

**Metallic and Industrial Minerals Permits  
Nos. 9393030126 to 9393030135**

**June 8 1995**

**on behalf of**

**Ridgeway Petroleum Corp. - Calgary  
Horseshoe Gold Mining Inc. - Vancouver**

**by**

**Michael Marchand Ph.D. P. Geol.**

## ABSTRACT

An airborne magnetic survey was initially carried out over the permits in order to identify anomalies suggestive of kimberlitic pipes. A significant number of candidate anomalies were initially identified which were then qualified by detailed review and computer modelling. This process identified 5 high priority targets which were located and confirmed by ground magnetic surveys. A program of diamond drilling was then carried out using NQ sized core on four of the anomalies.

Initial results on the anomalies were disappointing in that no direct evidence of kimberlitic or lamproitic rocks were identified and no reason could be identified for the magnetic anomalies. Since it has been noted that there is great difficulty in visually identifying the sedimentary crater facies in high level kimberlite intrusions, a program of rock geochemistry is recommended in order to identify potential mafic components. Precise magnetic susceptibility measurements of the drill core should be undertaken in a laboratory in order to better understand the magnetic anomalies.

## Table of Contents

|                              |    |
|------------------------------|----|
| INTRODUCTION.....            | 1  |
| LOCATION & ACCESS.....       | 1  |
| REGIONAL GEOLOGY .....       | 1  |
| PERMIT GEOLOGY .....         | 5  |
| AEROMAGNETIC SURVEY .....    | 7  |
| GROUND MAGNETIC SURVEY ..... | 9  |
| DIAMOND DRILLING .....       | 9  |
| CONCLUSIONS.....             | 10 |
| CERTIFICATE.....             | 11 |
| BIBLIOGRAPHY.....            | 12 |

### APPENDICES:

- A. DRILL LOGS
- B. STATEMENT OF EXPENSES
- C. ASSIGNMENT OF EXPENSES TO PERMITS
- D. GROUND MAGNETIC DATA

### MAPS

|   |            |
|---|------------|
| MAP 1 - Location .....                    | 2          |
| MAP 2 - Permits .....                     | 3          |
| MAP 3 - Geology .....                     | 7          |
| MAP 4 - Aeromagnetic Interpretation ..... | 9          |
| Total Field Aeromagnetic Maps .....       | map pocket |

### TABLES

|                           |   |
|---------------------------|---|
| 1 - List of Permits ..... | 4 |
|---------------------------|---|

### **Introduction:**

This assessment report covers the work carried out during the evaluation of the Ridgeway Petroleum Metallic and Industrial Minerals Permits Nos. 9393030126 to 9393030135 permits in the Peace River area during the years 1994 and 1995. The work was carried out for a joint venture of Ridgeway Petroleum Corp., the original holder of the permits and Horseshoe Gold Mining Inc which was the operator of the project during the earn-in phase of the project. The primary work programs consisted of an airborne geophysical survey and interpretation followed by a drilling program of 4 NQ diamond drill holes on separate magnetic anomalies. These exploration activities were directed at discovering economic diamond deposits in kimberlitic or lamproitic rocks.

### **Location & Access**

The permits cover 86,208 ha. (213,024 acres) and are located near Peace River Alberta (Map 1) on NTS mapsheet 84C-2,3,6,7 consisting of T83 R17 & R20 W5, T84 R17 & R20 W5, T85 R17 & R19 -20 W5, T86 R17,18,19 W5 for a total of 10 townships. The town of Peace River lies 150 km NE of Grand Prairie and 370 km NW of Edmonton. Peace River is a town with a population of 6700 with good infrastructure and daily scheduled airline service.

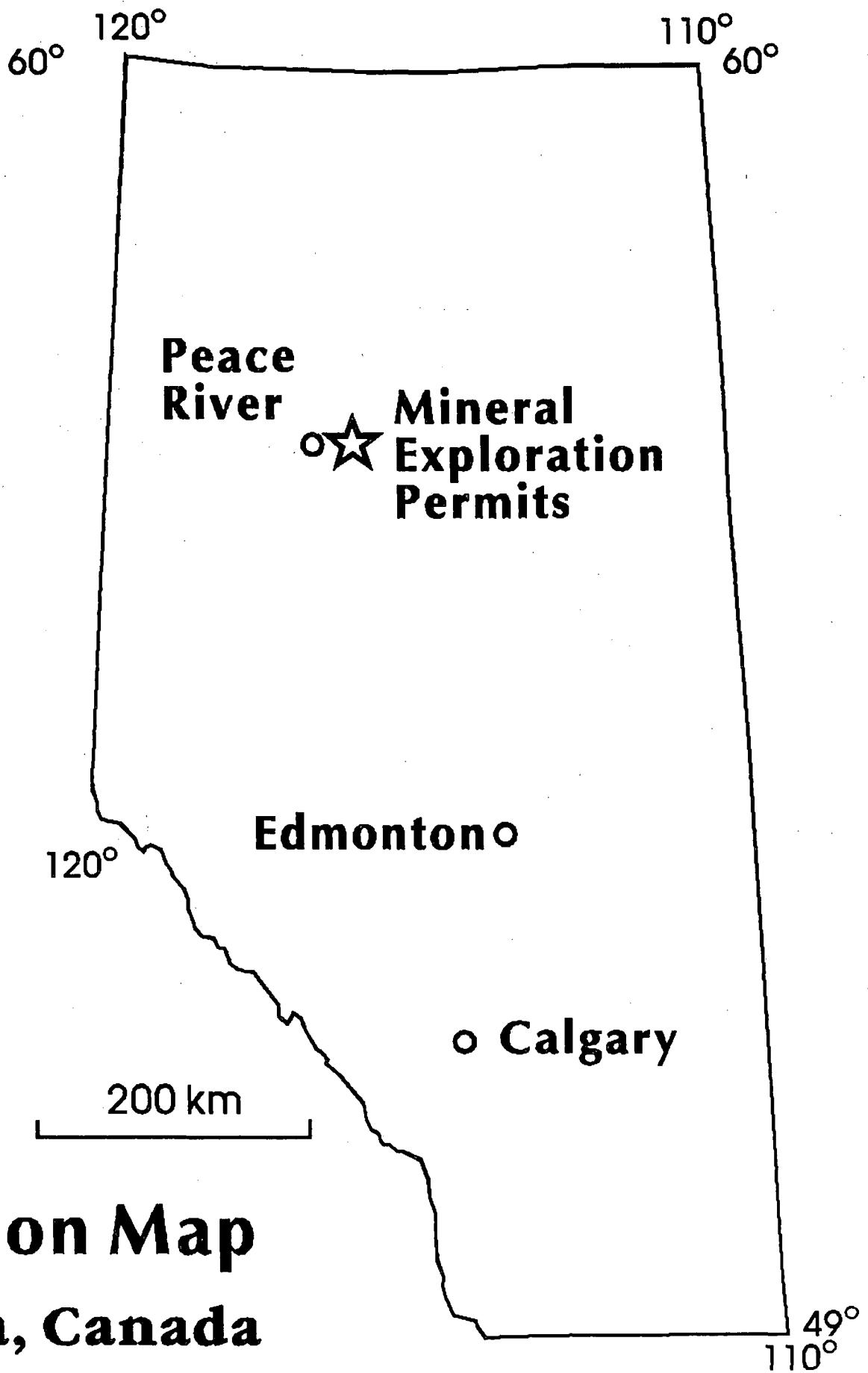
The lands are presented graphically on Map 2 and a detailed list of the permits is presented as Table 1.

Access to the property was primarily by helicopter from the town of Peace River and all drill moves were made by helicopter in order to minimise the environmental impact of the operation.

### **Regional Geology:**

The permits cover a portion of the Peace River Arch (PRA) tectonic zone. The PRA is a cratonic uplift that was formed at a high angle to the passive margin of the Western

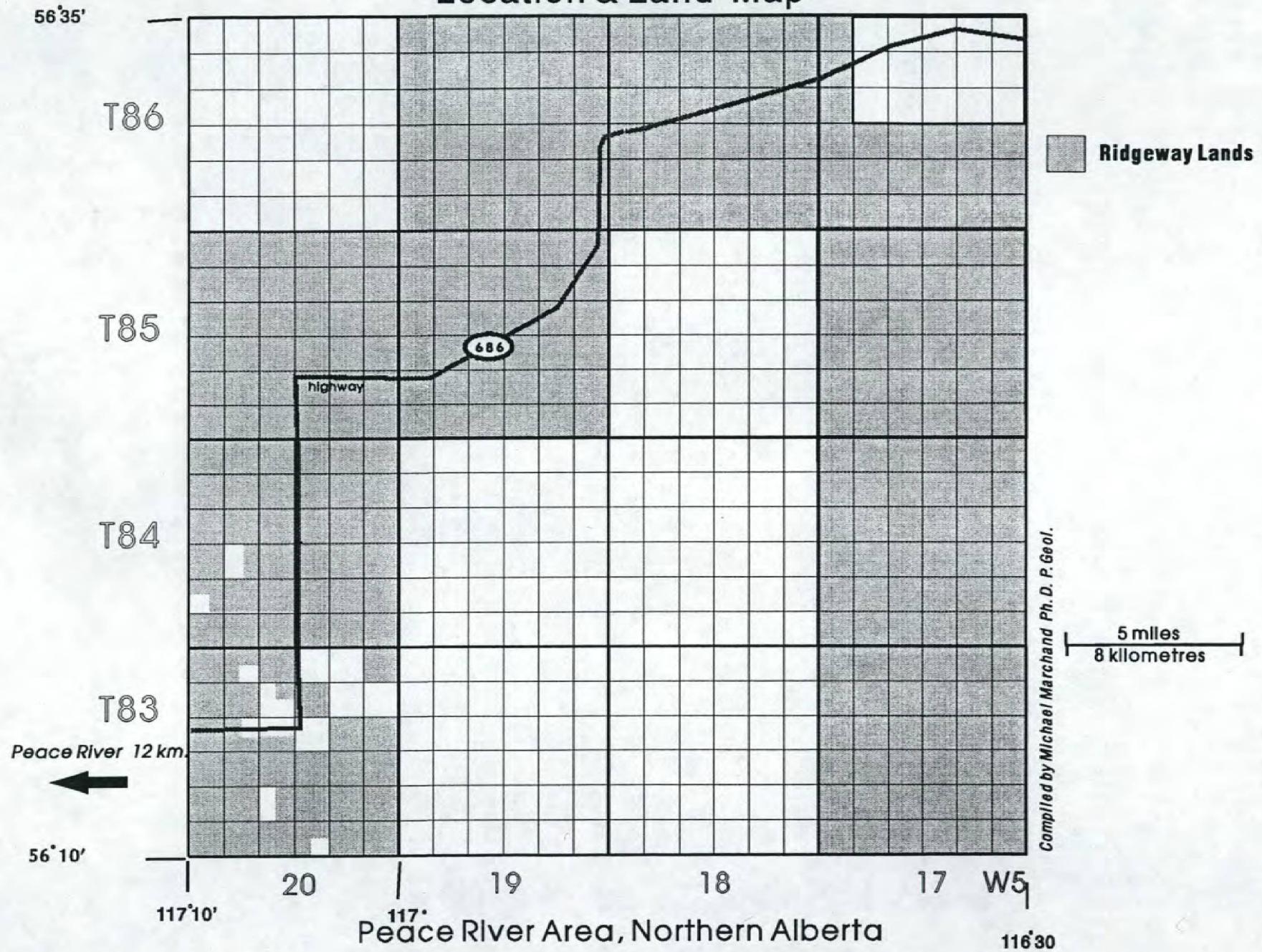
Map 1



Location Map  
Alberta, Canada

# Ridgeway Petroleum Corp. - Horseshoe Gold Mining Inc.

## Location & Land Map



Map 2

**Ridgeway Petroleum Corp.  
Horseshoe Gold Mining Inc.**

**Mineral & Industrial Mineral Permits  
Peace River Area, Alberta**

| Permit Number | Date Issued | Aggregate Area<br>hectares | Description  |
|---------------|-------------|----------------------------|--|
| 9393030126    | Mar 12 1993 | 9216                       | 5-17-083: 1-36   |
| 9393030127    | Mar 12 1993 | 7296                       | 5-20-083: 1,2,3N,SW;4-8,9E;10-19;20S,NW;21S;23,24,27,28NE;29-31,32N,SW;33,36 |
| 9393030128    | Mar 12 1993 | 9216                       | 5-17-084: 1-36   |
| 9393030129    | Mar 12 1993 | 9024                       | 5-20-084: 1-6;7N,SE;8-16;17E;18-36   |
| 9393030130    | Mar 12 1993 | 9216                       | 5-17-085: 1-36   |
| 9393030131    | Mar 12 1993 | 9216                       | 5-19-085: 1-36   |
| 9393030132    | Mar 12 1993 | 9216                       | 5-20-085: 1-36   |
| 9393030133    | Mar 12 1993 | 5376                       | 5-17-086: 1-19; 30,31  |
| 9393030134    | Mar 12 1993 | 9216                       | 5-18-086: 1-36   |
| 9393030135    | Mar 12 1993 | 9216                       | 5-19-086: 1-36   |
|               |             | 86208                      | Total Area   |

**Table 1**

Canadian Sedimentary Basin during the late Proterozoic and was active in a variety of modes and times throughout the Phanerozoic. During the activity of the PRA, faulting was extensive with reactivation of Archean and Proterozoic faults a significant event. This occurrence of major faulting through the basement rocks provides excellent ground preparation for later kimberlite and lamproite events. They provide the pre-existing conduits for the younger kimberlitic intrusions to follow, potentially picking up the diamonds from the top of the mantle. The PRA has been re-activated a number of times in its history.

The Geological Survey of Canada has produced a number of studies and papers of the crustal structure beneath the Alberta portion of the basin. These studies are an integrated interpretation of the regional magnetic and gravity data, some recent seismic refraction studies and a program of U-Pb geochronology on samples from the wells that penetrated the Precambrian basement. The basement in the Peace River area is underlain by a cratonic block fringed by a metasedimentary belt. This cratonic block has been interpreted as "a complex region of crustal fragments" which may have allowed the preservation of old deep mantle roots that are the fertile regions for diamond generation and preservation.

### **Permit Geology**

The bedrock surface lithology within the permit blocks are sedimentary formations of Upper Cretaceous age. (Map 3) The published geological Map (Green et al., 1970) indicates that the westerly portion of the project area is covered by dark grey shales of the Smoky Group, the northern and eastern portion of the project areas underlain by feldspathic sandstone of the Dunvegan Formation. There is also a small amount of Shaftsbury Formation indicated outcropping in T84-85 R20 along the edge of the Peace River Valley. No actual ground mapping was carried out on the permits. It appears from the air photos and the diamond drilling that much of the area is heavily covered by drift. All four holes in the diamond drilling encountered approximately 200 ft overburden.

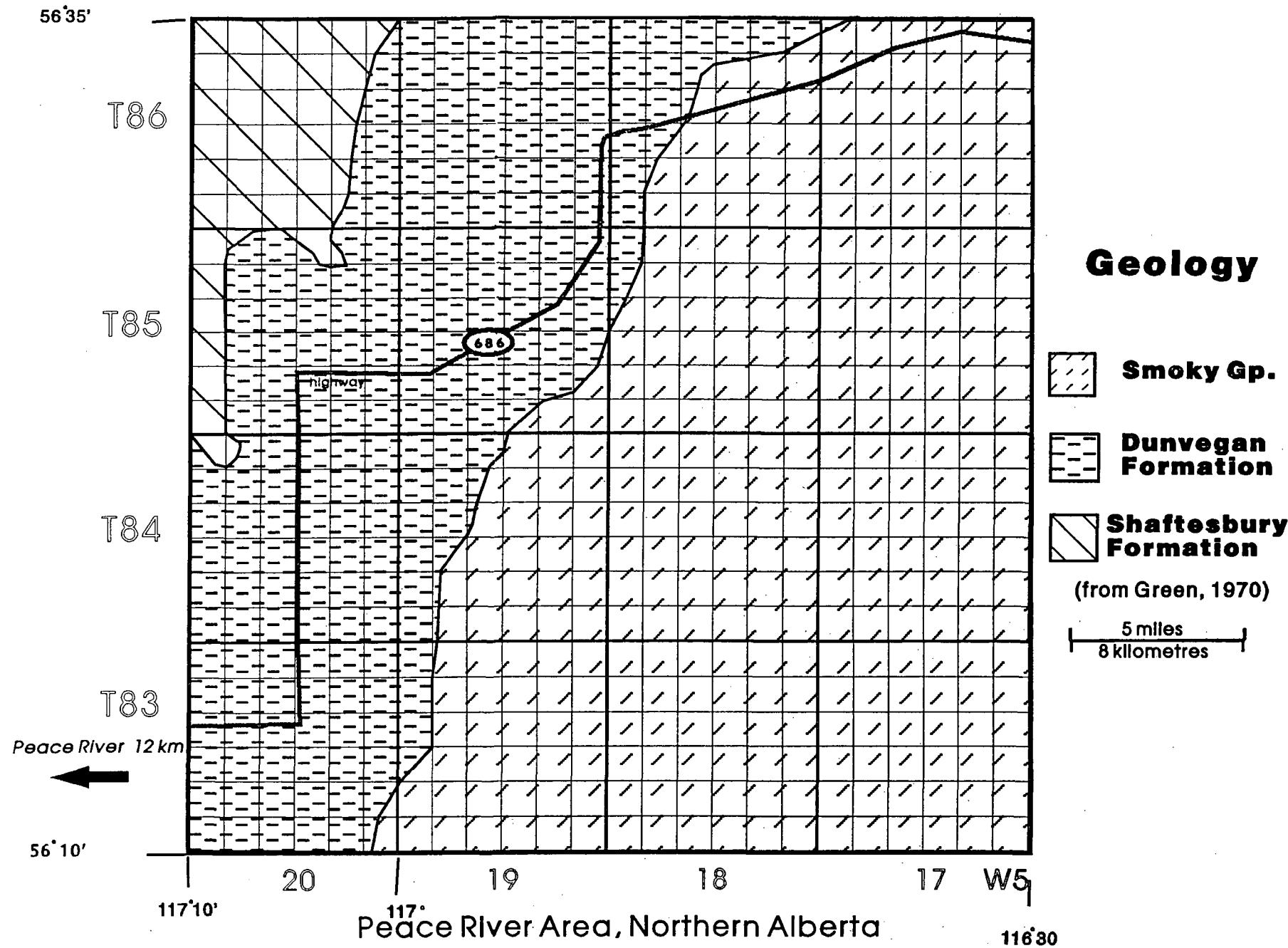
**Aeromagnetic Survey:**

Geonex Aerodat flew a low level aeromagnetic survey of approximately 6600 line-kms. over the permits in February 1994. The lines were flown at a 200 metre separation to ensure that any kimberlite of economic size would be detected on at least one line. Aerodat produced a series of maps at a scale of 1:20,000 for the area showing both the total magnetic field (Maps 1-1 to 6 - in pocket) and the calculated vertical magnetic gradient. The calculated vertical magnetic gradient map is designed to highlight the shallower anomalies which would include any potential kimberlites. A digital version of the flight line data was also forwarded to Geophysical Exploration and Development Corp (GEDCO) of Calgary for computer-assisted enhancement and interpretation.

Interpretation of the magnetic data was assisted by compiling much of the ground truth from public digital data and recent airphotos. A difficulty with the survey area that required resolution is the large amount of magnetic noise caused by human activity that interferes with the interpretation of the data. It was decided that the most practical approach would be to eliminate as quickly as possible those magnetic features due to human activity. The most apparent problem was the several hundred oil and gas wells that occur throughout the permits. A digital data file of all the well locations which was then input into the computer system of GEDCO where the wells were plotted onto the magnetic survey. This highlighted those anomalies due to wells and allowed efforts to be focused on the remaining anomalous areas. GEDCO carried out a series of filtering and enhancement procedures to rapidly highlight the shallow anomalies that should include those due to kimberlite intrusions. These procedures also showed up a distinctive pattern of faulting (Map 4) that has not been well documented previously. This pattern is thought to reflect evidence of deeper basement faults continuing upwards to the surface through the palaeozoic sediments; evidence of probable younger reactivation of major basement faults during later tectonic episodes. Kimberlite intrusives would represent one potential manifestation of this reactivation.

The initial analysis of the filtered maps and profiles produced a total of 26 significant anomalies. All anomalies were located on air photos and none appear to have any obvious

# Rageway Petroleum Corp. - Horseshoe Gold Mining Inc.



correlation with man-made structures. These anomalies start close to surface and continue to at least 200-300 m depth and with a width of approximately 200 m. This is the type of signature envisioned for a kimberlite intrusion and is not representative of any other known geological feature in the area. All anomalies that were eventually drilled were depth modelled and indicated that the top of the anomaly should be within 50 metres of surface and continue down to at least 200 metres depth. The five priority anomalies (17,18,19,20,26) resulting from this analysis and selected for diamond core drilling are shown on Map 4.

#### **Ground Magnetic Survey:**

MWH Geophysics carried out ground magnetic surveys consisting of two perpendicular profiles across anomalies 17,18,19,20, and 26. These locations were flagged on the ground and the potential drill site was located on the ground. The ground surveys matched exactly with the airborne survey and served to precisely locate the drill sites.

#### **Diamond Drilling :**

A total of five sites were prepared and identified for NQ diamond drill core drilling during this program. The sites have been identified as 95-17, 95-18, 95-19, 95-20, and 95-26. Drill logs are in Appendix A.

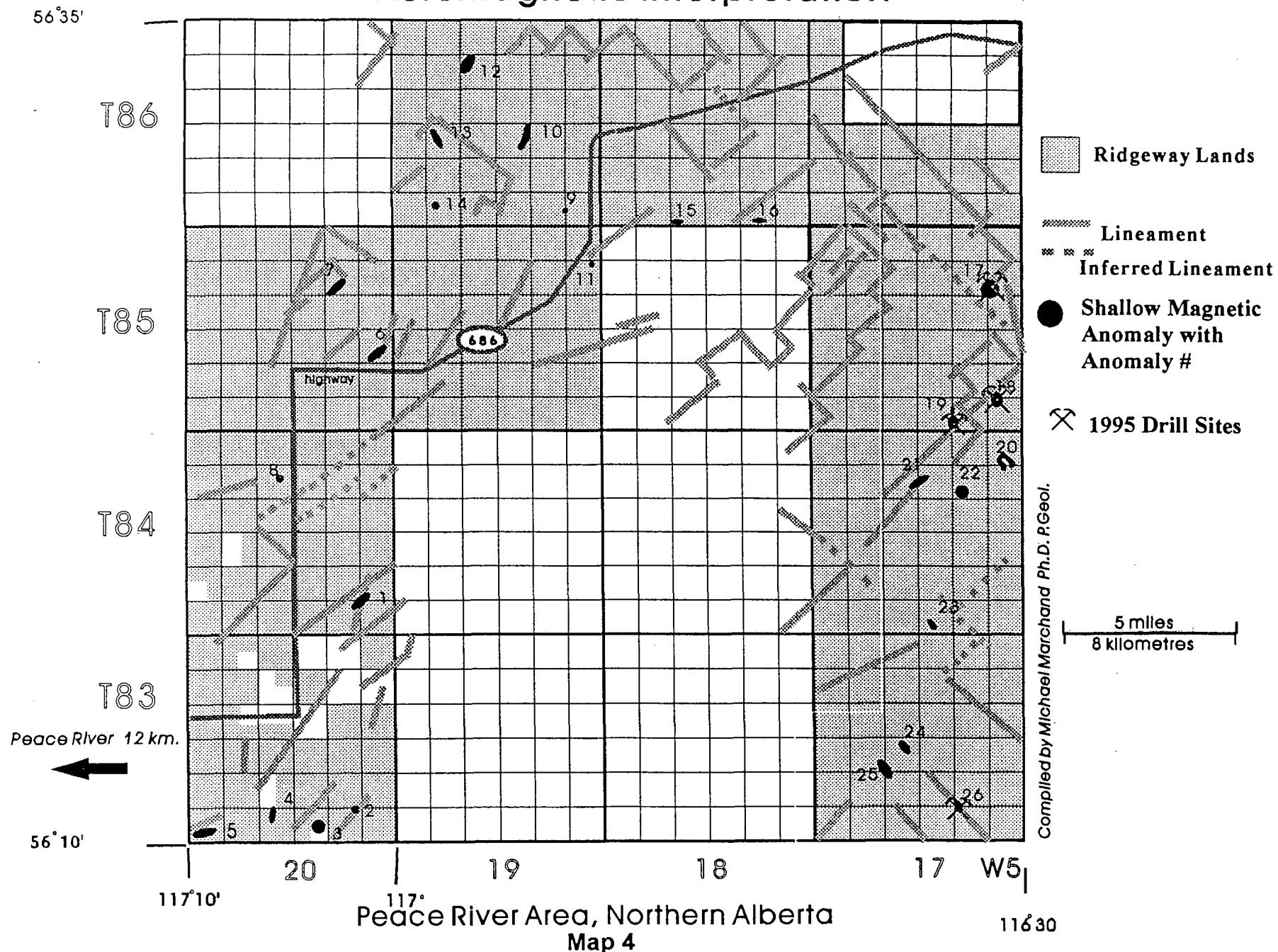
Site 95-17 was the first anomaly selected for drilling as it had the best geophysical signature in the modelling program and also had a circular and tonal anomaly on the air-photo. The depth of overburden was 194 feet with the drilling ending a few inches into bedrock. As this hole experienced very difficult drilling conditions, it was abandoned after sampling the bedrock which appears to be grey shale of the Smoky Group.

Site 95-18 was drilled to a depth of 522 ft. in bedrock after passing through 230 ft of overburden. The complete interval appears to be grey shale of the Smoky Group.

Site 95-19 was drilled through 200 ft of overburden and through 20 ft of bedrock.

# Ridgeway Petroleum Corp. - Horseshoe Gold Mining Inc.

## Aeromagnetic Interpretation



The complete interval appears to be grey shale of the Smoky Group.

Site 95-20 was completely prepared for drilling but at the very last minute it was decided to bypass the site at this time due to the perceived unfavourable results from sites 17,18, and 19.

Site 95-26 was drilled through 160 ft of overburden and through 57 ft of bedrock. The complete interval appears to be grey feldspathic sandstone of the Dunvegan Formation.

### **Conclusions:**

The results of the diamond drilling initially appear to be unfavourable but apparently the reported presence of crater facies shales from the pipe located on the Monopros property to the south indicates that a visual examination of the core will be inadequate to identify the potential presence of kimberlitic sediments or fragments. At site 26 the sandstone carries large angular fragments of feldspathic (igneous) rock and some garnet fragments have been tentatively identified in the drill core. Dr. Dale Leckie of the Geological Survey of Canada had the opportunity to have a brief look at the feldspathic sandstone on a core sample from site 26. He identified it as *atypical* Dunvegan Formation since the large angular fragments and igneous components were unusual. The implication is that there was no known source for such fragments and they may have originated locally from an intrusive pipe bringing up fragments of the Precambrian basement. A program of geochemical analyses is recommended to be carried out on samples of drill core in order to identify any kimberlitic or lamproitic component.

The core is apparently non-magnetic in character which means that the well constrained magnetic anomalies that were drilled have not yet been adequately explained. It is recommended that some magnetic susceptibilities be accurately measured in a laboratory setting and the results can be fed back into the computer modelling in order to refine the magnetic anomalies on the drilled targets.

## CERTIFICATE

I, Michael Marchand, of [REDACTED] in the City of Calgary in the Province of Alberta, do hereby certify that:

1. I am an independent Consulting Geologist.
2. I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
3. I am graduate of McGill University, B.Sc. (honours) Geology 1967, M.Sc. Geology 1970 and a graduate of McMaster University with a Ph.D. Geology 1976.
4. I have worked continually in the Geosciences for the past 20 years.
5. I do own a royalty on the permits described in this report and do have a minor holding in stock of Ridgeway Petroleum Corp.
6. I am the author of this report entitled "Exploration Program on the Horseshoe Property, Peace River Area, Alberta", dated June 7 1995.

Dated at Calgary, Alberta this 7 th day of June, A.D. 1995.

Respectfully Submitted,

  
Michael Marchand, B.Sc., M.Sc., Ph.D., P.Geo.



## Bibliography

Cant, D.J., 1988, Regional structure and development of the Peace River Arch, Alberta: A Palaeozoic Failed-Rift system ?, Bulletin of Canadian Petroleum Geology, v36, p. 284-295

Green, R., Mellon, G.B., Carrigy, M.A., 1970, Bedrock Geology of Northern Alberta; 1:500,000 scale. Geological map published by Alberta Research Council in two sheets

Helmstaedt, H.H. and Gurney, J.J., 1991, Geotectonic controls of the formation of diamonds and their kimberlitic and their lamproitic host rocks: Applications to diamond exploration. in H.O.A. Meyer and O. H. Leonardos, Eds., Proceedings of the Fifth international Kimberlite Conference, Araxa, Brazil, 1991, Comphania de Pesquisa de Recursos Minerais, Brazil ( in press)

Misra, K.S., Slaney, Graham,D., Harris, J., 1991, Mapping of basement and other tectonic features using Seasat and Thematic Mapper in hydrocarbon-producing areas of the Western Sedimentary Basin of Canada, Can. Jour. Remote Sensing, V17, p. 137-150

Pilkington, M., Grieve, R.A.F., Rupert, J.D., and Halpenny, J.F., 1992, Gravity anomaly map with shaded relief gradient of North America. Geological Survey of Canada, Map 1807A, Scale 1:10,000,000

Pilkington, M., Grieve, R.A.F., Rupert, J.D., and Halpenny, J.F., 1992, Isostatic Gravity anomaly map of North America, Geological Survey of Canada, Map 1808A, Scale 1:10,000,000

Pilkington, M., Grieve, R.A.F., Rupert, J.D., and Halpenny, J.F., 1992, Horizontal Gradient of the Bouger Gravity Anomaly Map of North America. Geological Survey of Canada, Map 1809A, Scale 1:10,000,000

Pilkington, M., Grieve, R.A.F., Rupert, J.D., and Halpenny, J.F., 1992, Vertical Gradient of the Bouger Gravity Anomaly Map of North America. Geological Survey of Canada, Map 1810A, Scale 1:10,000,000

Pilkington, M., Grieve, R.A.F., Rupert, J.D., and Halpenny, J.F., 1992, Magnetic Field Intensity map of North America, Geological Survey of Canada, Map 1811A, Scale 1:10,000,000

Podruski, J.A., 1988, Contrasting character of the Peace River and Sweetgrass Arches, Western Canada Sedimentary Basin, Geoscience Canada, V 15 p.94-97

Rheault, M., Simard, R., Garneau, C., and Slaney, V.R., 1991, SAR-Landsat TM-Geophysical data integration: utility of value-added products in geological exploration, Can. Jour. Remote Sensing, V17, p. 185-190

Ross, G.M., Parrish, R.R., Villeneuve, M.E., and Bowring, S.A., 1989, Tectonic subdivision and U-Pb geochronology of the crystalline basement of the Alberta Basin, Western Canada. Geological Survey of Canada, Open File Report 2103

Ross, G.M., 1990, Deep crust and basement structure of the Peace River Arch region: constraints on mechanisms of Formation, Bulletin of Canadian Petroleum Geology, v38A, p. 25-35

Ross, G.M., 1991, Precambrian basement in the Canadian Cordillera: an introduction, Can. Jour. of Earth Sciences. V28, p 1133-1139

Ross, G.M., Parrish, R.R., Villeneuve, M.E., and Bowring, S.A., 1991, Geophysics and geochronology of the crystalline basement of the Alberta Basin, Western Canada, Can. Jour. of Earth Sciences. V28, p 512-522

Ross, G.M., (editor), 1992, Alberta Basement Transects Workshop (March 4-5), Workshop Report # 28, Lithoprobe Secretariat, University of British Columbia, 171pp.

Theriault, R.J. and Ross, G.M., 1991, Nd isotopic evidence for crustal recycling in the ca. 2.0 Ga subsurface of western Canada, Can. Jour. of Earth Sciences. V28, p 1140-1147

## Appendix A

### Ridgeway Petroleum Corp. - Horseshoe Gold Mining Inc. Horseshoe Project Peace River Area, Alberta

#### Diamond Drilling Logs

| Hole Number | Location   | Depth meters           | Depth feet       | Remarks   |
|-------------|--|------------------------|------------------|---|
| 95-17       | T85 R17 S25 W5<br>Lat: 56° 20'49"<br>Long: 116° 33'25" | 0-59.03<br>59.03-59.13 | 0-194<br>194-194 | Overburden<br>Dark Grey Shale - Smoky Group           |
| 95-18       | T85 R17 S1 W5<br>Lat: 56° 20'49"<br>Long: 116° 33'15"  | 0-70.1<br>70.1-159.11  | 0-230<br>230-522 | Overburden<br>Dark Grey Shale - Smoky Group           |
| 95-19       | T85 R17 S2 W5<br>Lat: 56° 20'30"<br>Long: 116° 35'12"  | 0-61<br>61-67          | 0-200<br>200-220 | Overburden<br>Dark Grey Shale - Smoky Group           |
| 95-26       | T83 R17 S11 W5<br>Lat: 56° 10'34"<br>Long: 116° 34'30" | 0-48.8<br>48.8-66.2    | 0-160<br>160-217 | Overburden<br>Feldspathic Sandstone - Dunveagen Group |

## Appendix B

**Ridgeway Petroleum Corp.  
Horseshoe Gold Mining Inc.  
Peace River Area, Alberta  
Permit Nos. 9393030126-35  
Statement of Expenditures**

**Diamond Drilling**

|                                   |             |             |
|-----------------------------------|-------------|-------------|
| J.T. Thomas Diamond Drilling Ltd. | \$74,057.00 | \$74,057.15 |
|-----------------------------------|-------------|-------------|

**Airborne Geophysics**

|                |             |             |
|----------------|-------------|-------------|
| Geonex Aerodat | \$79,044.00 | \$79,044.00 |
|----------------|-------------|-------------|

**Project Management**

|  |             |              |
|--|-------------|--------------|
| R.T. Heard & Assoc Ltd.<br>(includes all helicopter charges) | \$21,504.75 |              |
|  | \$66,228.89 |              |
|  | \$4,213.36  |              |
|  | \$8,237.17  |              |
|  | \$631.80    | \$100,815.97 |

**Geological Consulting**

|            |            |            |
|------------|------------|------------|
| [REDACTED] | \$2,969.56 |            |
|            | \$1,575.00 | \$4,544.56 |

**Geophysical Consulting**

|                |            |             |
|----------------|------------|-------------|
| Gedco          | \$3,051.45 |             |
| Gedco          | \$1,496.60 |             |
| MWH Geophysics | \$6,226.00 | \$10,774.05 |

|             |              |
|-------------|--------------|
| Total       | \$269,235.73 |
| GST         | \$18,846.50  |
| Grand Total | \$288,082.23 |

I certify that these expenses are true and were expended for assessment of the  
above listed permits

Michael Marchand Ph.D. P. Geol.

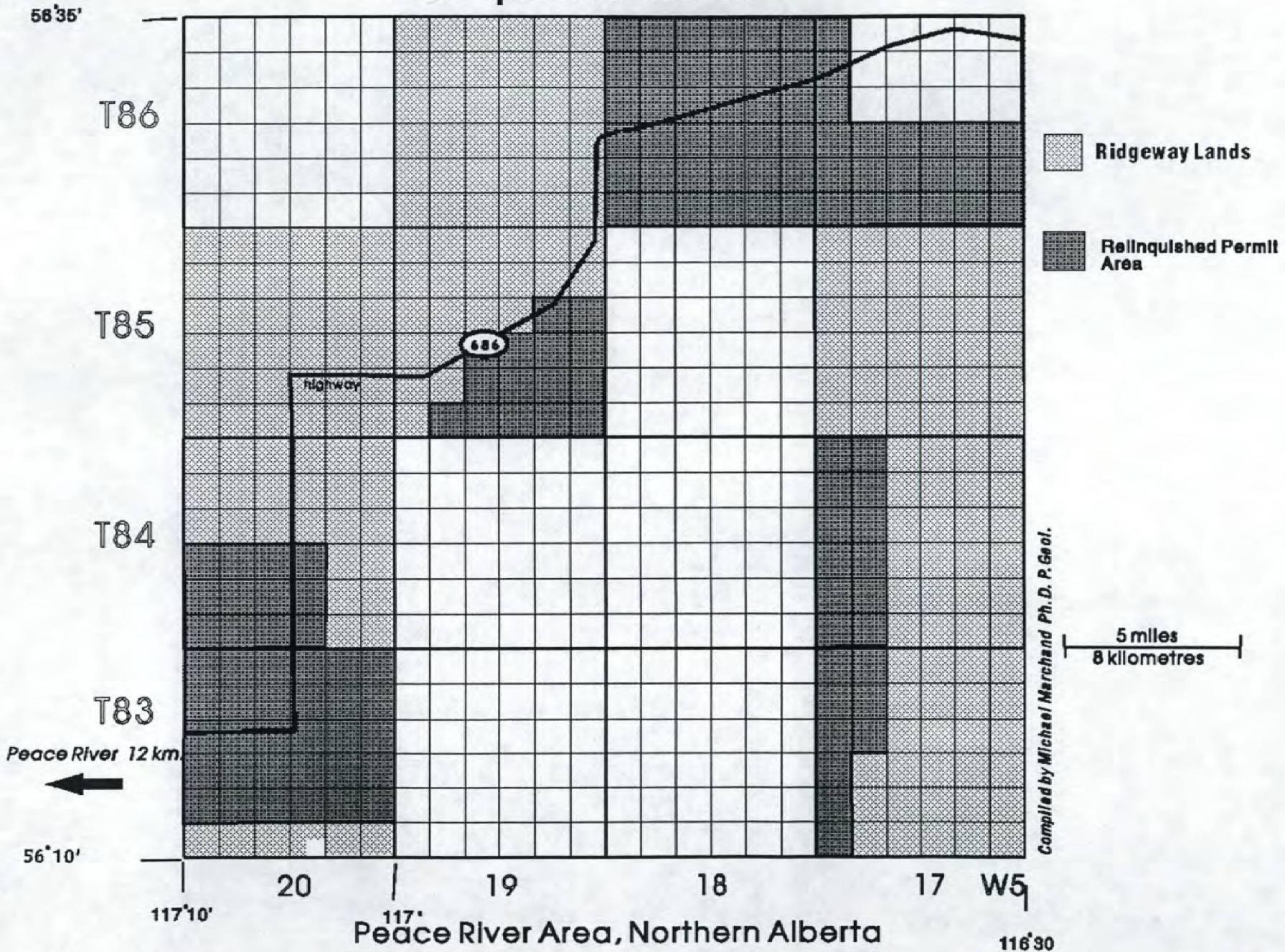
## Appendix C

### Allocation of Exploration Expenses

|                   |             | Exploration Expenses<br>Drilling Expenses<br>Total Exploration Expenses | \$195,178.58<br>\$74,057.00<br>\$269,235.58 |               |                   |                      |
|-------------------|-------------|---|---|---------------|-------------------|----------------------|
| Permit number     | Date Issued | Revised Description   | Original Area                               | Selected Area | Drilling Expenses | Exploration Expenses |
| 9393030126        | Mar 12 1993 | 5-17-083: 1-5,8-17,21-28,33-36  | 9216  | 6912          | \$27,977.00       | \$6,583.00           |
| 9393030127        | Mar 12 1993 | 5-20-083: 1;2;3N,SW;4-6   | 7296  | 1472          |                   | \$7,360.00           |
| 9393030128        | Mar 12 1993 | 5-17-084: 1-4, 9-16, 21-28, 33-36                                       | 9216  | 6144          |                   | \$30,720.00          |
| 9393030129        | Mar 12 1993 | 5-20-084: 1-2;11-14; 19-36  | 9024  | 6144          |                   | \$30,720.00          |
| 9393030130        | Mar 12 1993 | 5-17-085: 1-36  | 9216  | 9216          | \$46,080.00       | \$0.00               |
| 9393030131        | Mar 12 1993 | 5-19-085: 6-8, 17-22, 25-36   | 9216  | 5376          |                   | \$26,880.00          |
| 9393030132        | Mar 12 1993 | 5-20-085: 1-36  | 9216  | 9216          |                   | \$46,080.00          |
| 9393030133        | Mar 12 1993 | 5-17-086: drop the whole permit   | 5376  | 0             |                   | \$0.00               |
| 9393030134        | Mar 12 1993 | 5-18-086: drop the whole permit   | 9216  | 0             |                   | \$0.00               |
| 9393030135        | Mar 12 1993 | 5-19-086: 1-36  | 9216  | 9216          |                   | \$46,080.00          |
|                   |             |   |   | Total         | \$74,057.00       | \$194,423.00         |
|                   |             |   |   | Remaining     | \$0.00            | \$755.58             |
| remaining dollars | \$755.58    | to be transferred to the remaining period of permit                     |   |               | 9393030126        |                      |



# Ridgeway Petroleum Corp. - Horseshoe Gold Mining Inc. Relinquished Lands



## **Appendix D**

### **Ground Magnetic Surveys**

#### **Horseshoe Gold Mining Inc. - Ridgeway Petroleum Corp. Diamond Exploration Program**

##### **Ground Magnetics - Profile Origins**

| Twp | Rge | Northing<br>UTM | Easting<br>UTM | Anomaly<br># | Ground Identification<br>marked by flagging |
|-----|-----|-----------------|----------------|--------------|---|
| 85  | 17  | 6250280         | 527520         | 17           | at 300S 0E                                  |
| 85  | 17  | 6244450         | 527800         | 18           | tripod at 0/0                               |
| 85  | 17  | 6244000         | 525800         | 19           | tripod at 0/0                               |
| 84  | 17  | 6241380         | 528900         | 20           | at 225E 0N on seismic line                  |
| 83  | 17  | 6225560         | 526200         | 26           | tripod at 500S 0E                           |

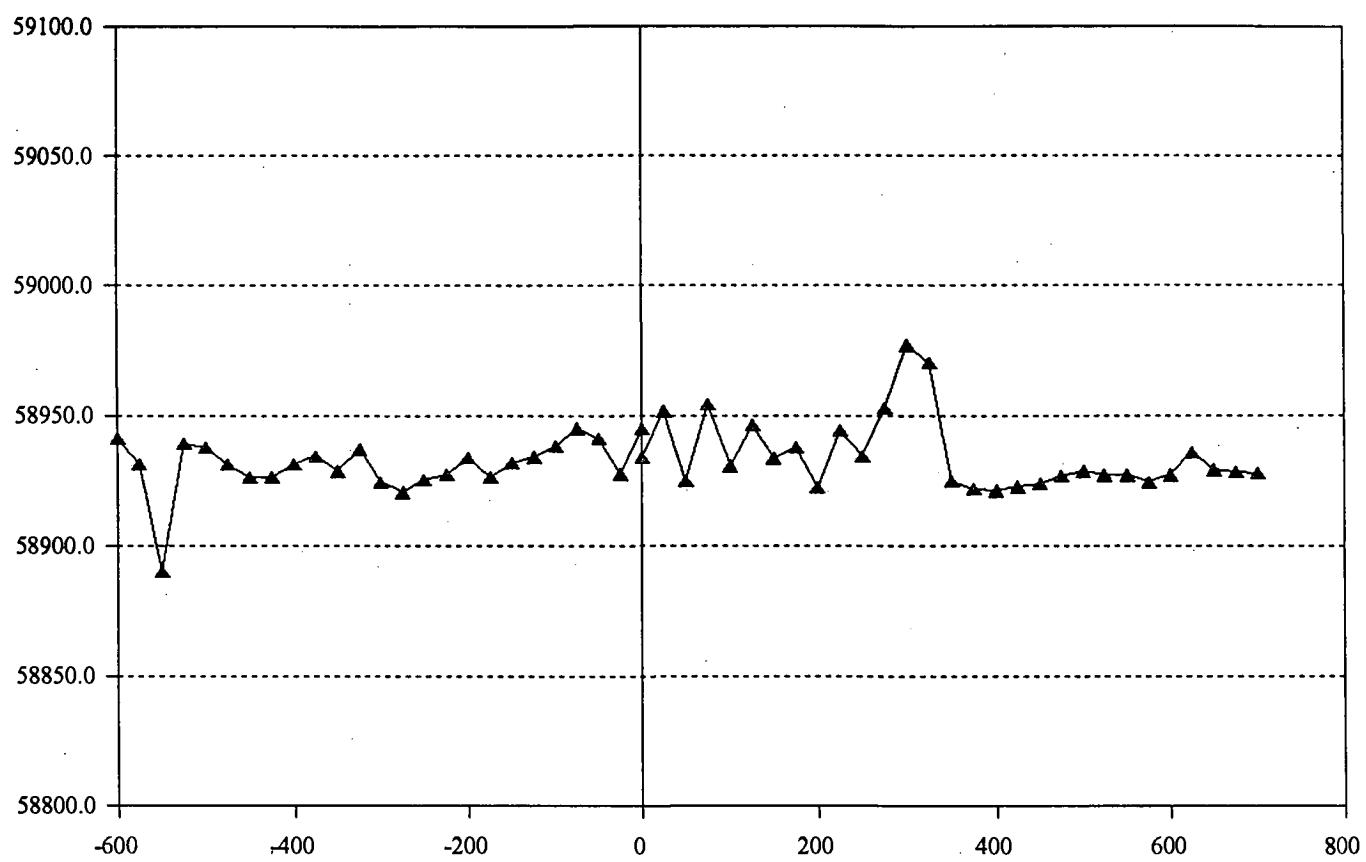
This appendix contains the MWH Geophysics ground magnetic data. The data are presented as profiles for each anomaly, as raw data and as readings corrected for the diurnal magnetic field variations. All units are in nanoTeslas (nT).

Gem Systems GSM-19 v4.0 25 1994 ID 000000260 file 01 .m 14 195  
**Anomaly 17**

| time   | line   | station | corrected |          | time   | line   | station | corrected |          |
|--------|--------|---------|-----------|----------|--------|--------|---------|-----------|----------|
|        |        |         | field nT  | field nT |        |        |         | field nT  | field nT |
| 122350 | 00000E | -625 S  | 59290.95  | 58814.40 | 143356 | 00075S | -575 W  | 59318.17  | 58830.23 |
| 122308 | 00000E | -600 S  | 59288.59  | 58811.84 | 143244 | 00075S | -550 W  | 59317.85  | 58830.31 |
| 122150 | 00000E | -575 S  | 59290.82  | 58813.38 | 143156 | 00075S | -525 W  | 59316.94  | 58829.37 |
| 122050 | 00000E | -550 S  | 59289.99  | 58812.24 | 143102 | 00075S | -500 W  | 59316.46  | 58828.60 |
| 121920 | 00000E | -525 S  | 59290.45  | 58812.78 | 143014 | 00075S | -475 W  | 59317.62  | 58829.84 |
| 121744 | 00000E | -500 S  | 59288.62  | 58810.92 | 142914 | 00075S | -450 W  | 59313.74  | 58826.35 |
| 121644 | 00000E | -475 S  | 59286.58  | 58809.28 | 142820 | 00075S | -425 W  | 59314.29  | 58827.37 |
| 121526 | 00000E | -450 S  | 59283.49  | 58806.17 | 142726 | 00075S | -400 W  | 59313.83  | 58827.17 |
| 121414 | 00000E | -425 S  | 59297.84  | 58820.77 | 142632 | 00075S | -375 W  | 59311.34  | 58824.72 |
| 121238 | 00000E | -400 S  | 59327.71  | 58851.39 | 142538 | 00075S | -350 W  | 59309.74  | 58823.07 |
| 121126 | 00000E | -375 S  | 59321.00  | 58844.29 | 142438 | 00075S | -325 W  | 59310.08  | 58822.89 |
| 121208 | 00000E | -375 S  | 59319.90  | 58843.54 | 142344 | 00075S | -300 W  | 59310.69  | 58823.14 |
| 121038 | 00000E | -350 S  | 59277.79  | 58800.54 | 142250 | 00075S | -275 W  | 59308.26  | 58820.34 |
| 120950 | 00000E | -325 S  | 59281.97  | 58805.14 | 142156 | 00075S | -250 W  | 59306.11  | 58819.17 |
| 123350 | 00000E | -300 S  | 59288.61  | 58811.31 | 142038 | 00075S | -225 W  | 59303.88  | 58817.84 |
| 120914 | 00000E | -300 S  | 59288.31  | 58811.83 | 141938 | 00075S | -200 W  | 59302.76  | 58816.40 |
| 123632 | 00000E | -275 S  | 59296.71  | 58818.72 | 141844 | 00075S | -175 W  | 59299.73  | 58812.73 |
| 123514 | 00000E | -275 S  | 59295.96  | 58818.50 | 141732 | 00075S | -150 W  | 59305.55  | 58818.79 |
| 123714 | 00000E | -250 S  | 59302.59  | 58824.23 | 141620 | 00075S | -125 W  | 59314.69  | 58828.61 |
| 123802 | 00000E | -225 S  | 59303.40  | 58824.96 | 141520 | 00075S | -100 W  | 59318.57  | 58832.52 |
| 123856 | 00000E | -200 S  | 59308.52  | 58830.11 | 141432 | 00075S | -75 W   | 59317.97  | 58832.11 |
| 123950 | 00000E | -175 S  | 59310.22  | 58831.61 | 141344 | 00075S | -50 W   | 59323.50  | 58837.89 |
| 124044 | 00000E | -150 S  | 59313.70  | 58834.90 | 141250 | 00075S | -25 W   | 59322.96  | 58837.55 |
| 124150 | 00000E | -125 S  | 59316.35  | 58837.39 | 133832 | 00075S | 0 E     | 59350.41  | 58865.42 |
| 124250 | 00000E | -100 S  | 59312.75  | 58833.77 | 133732 | 00075S | 0 E     | 59351.03  | 58866.01 |
| 124408 | 00000E | -75 S   | 59330.39  | 58851.41 | 140944 | 00075S | 0 E     | 59348.76  | 58863.64 |
| 124514 | 00000E | -50 S   | 59320.46  | 58841.57 | 133926 | 00075S | 25 E    | 59315.46  | 58831.30 |
| 124620 | 00000E | -25 S   | 59318.53  | 58839.26 | 134026 | 00075S | 50 E    | 59316.95  | 58833.13 |
| 124714 | 00000E | 0 S     | 59314.59  | 58835.24 | 134126 | 00075S | 75 E    | 59305.44  | 58821.77 |
| 124950 | 00000E | 25 N    | 59300.60  | 58820.85 | 134220 | 00075S | 100 E   | 59304.70  | 58820.94 |
| 125044 | 00000E | 50 N    | 59296.73  | 58816.74 | 134332 | 00075S | 125 E   | 59292.47  | 58808.99 |
| 125220 | 00000E | 75 N    | 59295.26  | 58815.73 | 134450 | 00075S | 150 E   | 59287.32  | 58804.39 |
| 125332 | 00000E | 100 N   | 59294.59  | 58815.08 | 134602 | 00075S | 175 E   | 59287.03  | 58803.56 |
| 125444 | 00000E | 125 N   | 59295.68  | 58816.80 | 134708 | 00075S | 200 E   | 59285.55  | 58801.44 |
| 125550 | 00000E | 150 N   | 59293.46  | 58814.71 | 134756 | 00075S | 225 E   | 59287.15  | 58803.05 |
| 125708 | 00000E | 175 N   | 59288.21  | 58808.51 | 134844 | 00075S | 250 E   | 59291.52  | 58807.98 |
| 125820 | 00000E | 200 N   | 59296.05  | 58816.14 | 134938 | 00075S | 275 E   | 59286.20  | 58802.95 |
| 125920 | 00000E | 225 N   | 59288.55  | 58809.09 | 135056 | 00075S | 300 E   | 59358.01  | 58873.02 |
| 130020 | 00000E | 250 N   | 59288.08  | 58808.80 | 135320 | 00075S | 325 E   | 59347.06  | 58862.04 |
| 130126 | 00000E | 275 N   | 59287.67  | 58808.08 | 135232 | 00075S | 325 E   | 59355.75  | 58870.10 |
| 130232 | 00000E | 300 N   | 59290.96  | 58810.56 | 135414 | 00075S | 350 E   | 59285.02  | 58800.05 |
| 130338 | 00000E | 325 N   | 59293.98  | 58812.95 | 135544 | 00075S | 375 E   | 59286.57  | 58800.50 |
| 130450 | 00000E | 350 N   | 59294.41  | 58812.97 | 135714 | 00075S | 400 E   | 59286.15  | 58800.15 |
| 130550 | 00000E | 375 N   | 59292.45  | 58811.33 | 135756 | 00075S | 425 E   | 59290.05  | 58805.03 |

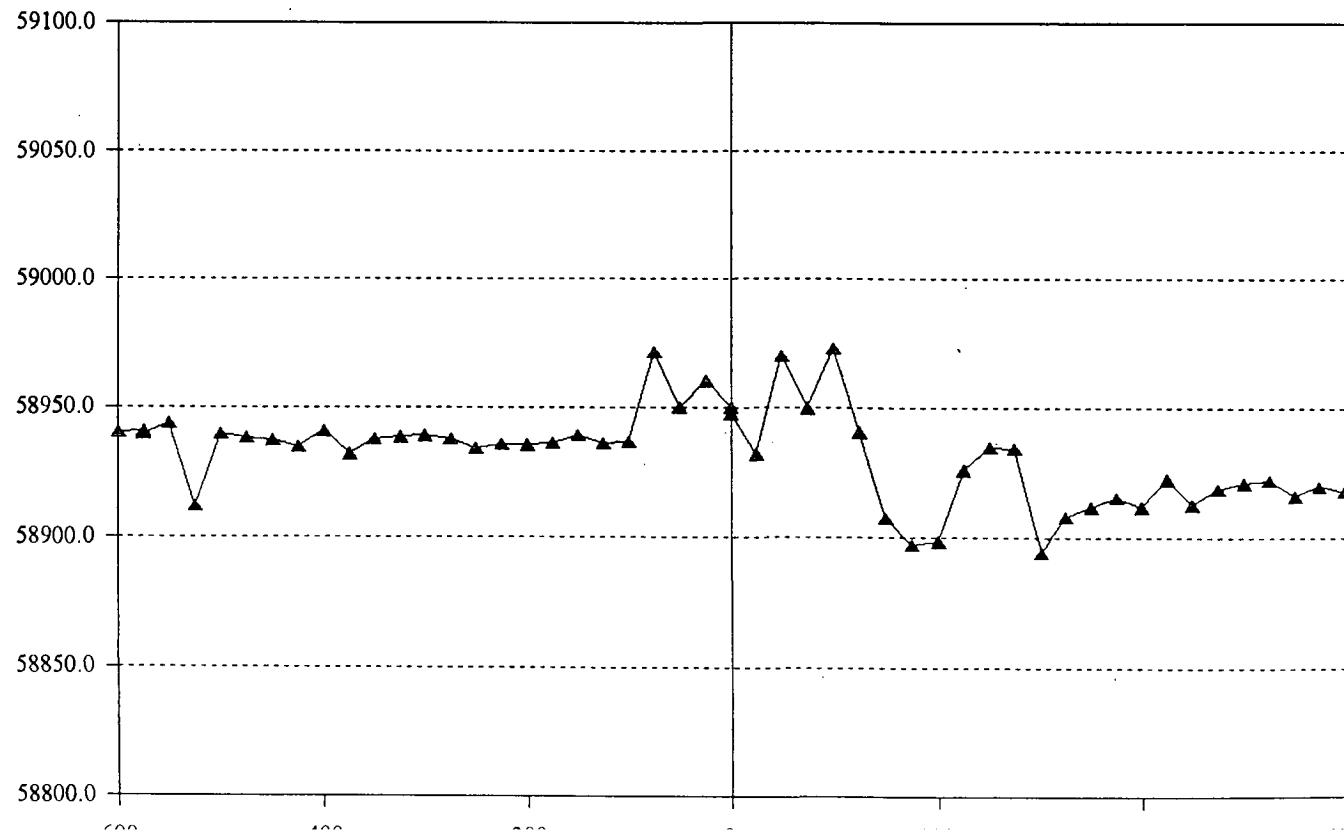
## Anomaly 18 Mag Profile

Line 0N



## Anomaly 18 Mag Profile

Line 125E



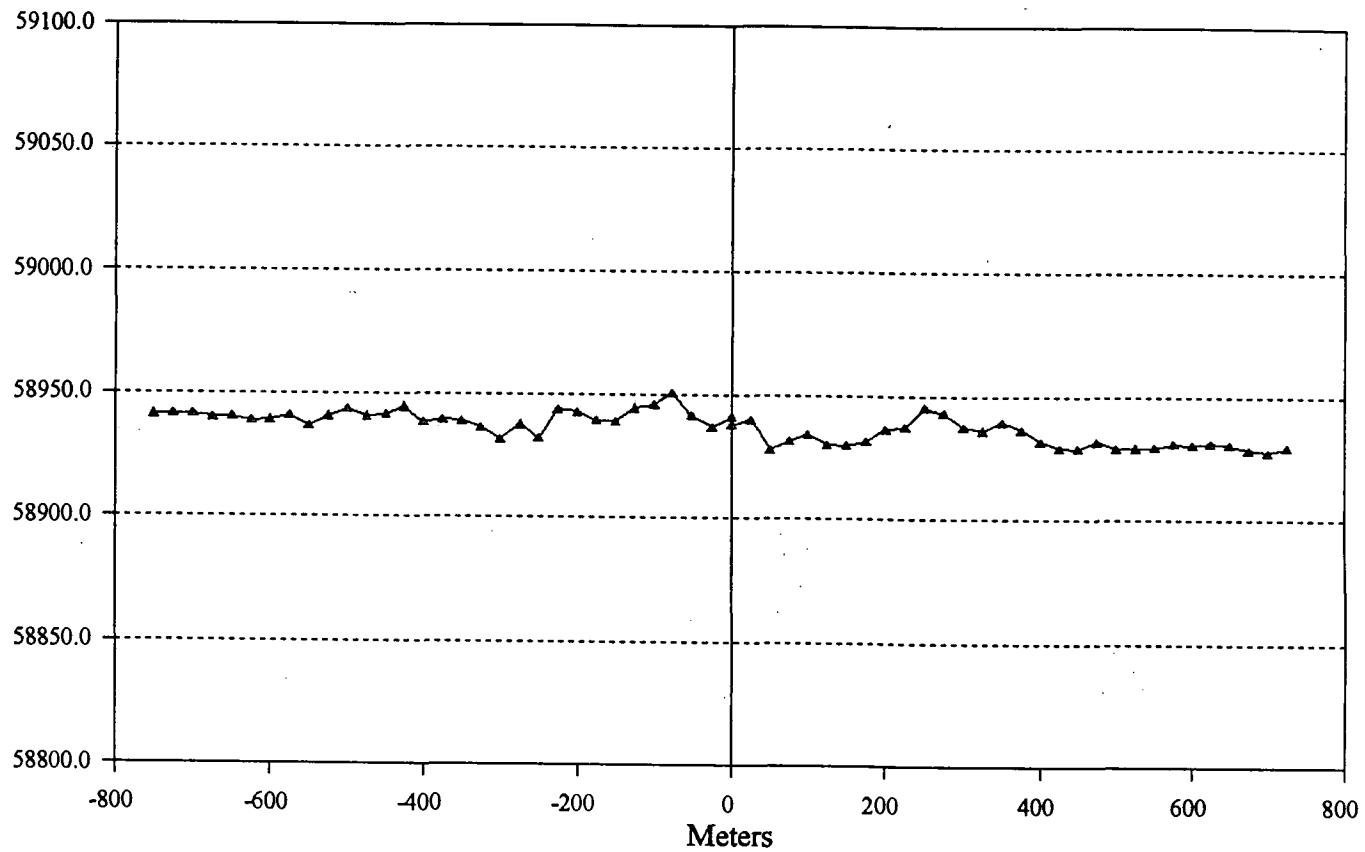
Gem Systems GSM-19 v4.0 25 | 94 ID 000000260 file 01 .m 11 | 95

Anomaly 18

| corrected |        |         |          |          | corrected |        |         |          |          |
|-----------|--------|---------|----------|----------|-----------|--------|---------|----------|----------|
| time      | line   | station | field nT | field nT | time      | line   | station | field nT | field nT |
| 111102    | 00000N | -600 W  | 59429.91 | 58941.41 | 125532    | 00125E | -600 S  | 59434.47 | 58940.61 |
| 111008    | 00000N | -575 W  | 59420.47 | 58931.71 | 125344    | 00125E | -575 S  | 59436.19 | 58940.91 |
| 110856    | 00000N | -550 W  | 59422.22 | 58930.38 | 125226    | 00125E | -575 S  | 59436.10 | 58941.15 |
| 110750    | 00000N | -525 W  | 59426.80 | 58939.68 | 124926    | 00125E | -575 S  | 59430.24 | 58940.00 |
| 110650    | 00000N | -500 W  | 59423.94 | 58938.19 | 124826    | 00125E | -550 S  | 59433.77 | 58943.95 |
| 110556    | 00000N | -475 W  | 59417.08 | 58931.53 | 124644    | 00125E | -525 S  | 59432.35 | 58912.23 |
| 110450    | 00000N | -450 W  | 59410.27 | 58926.47 | 124532    | 00125E | -500 S  | 59432.22 | 58940.02 |
| 110356    | 00000N | -425 W  | 59409.13 | 58926.42 | 124408    | 00125E | -475 S  | 59430.88 | 58938.29 |
| 105402    | 00000N | -400 W  | 59412.53 | 58931.43 | 124256    | 00125E | -450 S  | 59427.44 | 58937.41 |
| 105326    | 00000N | -375 W  | 59416.13 | 58934.61 | 124120    | 00125E | -425 S  | 59424.62 | 58935.01 |
| 105250    | 00000N | -350 W  | 59410.99 | 58928.89 | 124002    | 00125E | -400 S  | 59428.81 | 58941.16 |
| 105220    | 00000N | -325 W  | 59419.44 | 58937.26 | 123914    | 00125E | -375 S  | 59418.11 | 58932.39 |
| 105144    | 00000N | -300 W  | 59406.31 | 58924.79 | 123356    | 00125E | -350 S  | 59430.14 | 58938.12 |
| 105114    | 00000N | -275 W  | 59401.78 | 58920.83 | 123214    | 00125E | -325 S  | 59429.89 | 58938.74 |
| 105038    | 00000N | -250 W  | 59405.53 | 58925.44 | 123056    | 00125E | -300 S  | 59431.28 | 58939.25 |
| 104956    | 00000N | -225 W  | 59407.78 | 58927.58 | 122914    | 00125E | -275 S  | 59432.33 | 58937.91 |
| 104920    | 00000N | -200 W  | 59414.88 | 58934.08 | 122638    | 00125E | -250 S  | 59428.64 | 58934.52 |
| 104844    | 00000N | -175 W  | 59407.94 | 58926.56 | 122414    | 00125E | -225 S  | 59431.32 | 58935.93 |
| 104808    | 00000N | -150 W  | 59413.72 | 58932.20 | 122220    | 00125E | -200 S  | 59431.81 | 58935.82 |
| 104738    | 00000N | -125 W  | 59415.51 | 58934.21 | 122102    | 00125E | -175 S  | 59432.06 | 58936.68 |
| 104650    | 00000N | -100 W  | 59419.94 | 58938.54 | 122026    | 00125E | -150 S  | 59434.74 | 58939.71 |
| 104550    | 00000N | -75 W   | 59427.59 | 58945.32 | 121844    | 00125E | -125 S  | 59431.53 | 58936.65 |
| 104514    | 00000N | -50 W   | 59423.92 | 58941.41 | 121714    | 00125E | -100 S  | 59432.11 | 58936.78 |
| 104426    | 00000N | -25 W   | 59410.77 | 58927.88 | 121538    | 00125E | -75 S   | 59466.88 | 58971.36 |
| 104350    | 00000N | 0 E     | 59427.27 | 58944.77 | 121414    | 00125E | -50 S   | 59445.46 | 58950.04 |
| 100502    | 00000N | 0 E     | 59408.81 | 58934.08 | 121332    | 00125E | -25 S   | 59455.41 | 58960.21 |
| 100556    | 00000N | 25 E    | 59426.02 | 58951.83 | 114114    | 00125E | 0 N     | 59439.73 | 58949.97 |
| 100638    | 00000N | 50 E    | 59398.74 | 58925.09 | 121250    | 00125E | 0 N     | 59442.40 | 58947.59 |
| 100714    | 00000N | 75 E    | 59427.02 | 58954.26 | 114144    | 00125E | 25 N    | 59422.80 | 58932.28 |
| 100750    | 00000N | 100 E   | 59403.66 | 58930.84 | 114214    | 00125E | 50 N    | 59460.80 | 58970.02 |
| 100826    | 00000N | 125 E   | 59418.55 | 58946.56 | 114244    | 00125E | 75 N    | 59440.47 | 58949.72 |
| 100902    | 00000N | 150 E   | 59407.09 | 58933.94 | 114314    | 00125E | 100 N   | 59464.17 | 58972.82 |
| 100932    | 00000N | 175 E   | 59412.18 | 58938.24 | 114344    | 00125E | 125 N   | 59432.26 | 58940.77 |
| 101002    | 00000N | 200 E   | 59397.90 | 58922.39 | 114414    | 00125E | 150 N   | 59399.20 | 58907.60 |
| 101032    | 00000N | 225 E   | 59421.48 | 58944.42 | 114444    | 00125E | 175 N   | 59389.32 | 58897.13 |
| 101102    | 00000N | 250 E   | 59412.78 | 58934.76 | 114514    | 00125E | 200 N   | 59390.44 | 58898.50 |
| 101132    | 00000N | 275 E   | 59430.53 | 58952.91 | 114544    | 00125E | 225 N   | 59416.97 | 58926.23 |
| 101202    | 00000N | 300 E   | 59455.24 | 58977.17 | 114614    | 00125E | 250 N   | 59425.61 | 58934.96 |
| 101232    | 00000N | 325 E   | 59450.10 | 58970.37 | 114644    | 00125E | 275 N   | 59425.49 | 58934.58 |
| 101302    | 00000N | 350 E   | 59405.65 | 58925.31 | 114714    | 00125E | 300 N   | 59386.74 | 58894.48 |
| 101338    | 00000N | 375 E   | 59403.12 | 58922.19 | 114750    | 00125E | 325 N   | 59400.02 | 58908.30 |
| 101508    | 00000N | 400 E   | 59401.47 | 58921.31 | 114820    | 00125E | 350 N   | 59403.52 | 58911.94 |
| 101544    | 00000N | 425 E   | 59401.93 | 58922.84 | 114850    | 00125E | 375 N   | 59408.92 | 58915.50 |
| 101744    | 00000N | 450 E   | 59401.84 | 58924.21 | 115102    | 00125E | 400 N   | 59407.00 | 58911.94 |
| 101838    | 00000N | 475 E   | 59404.70 | 58926.95 | 115302    | 00125E | 425 N   | 59416.35 | 58922.97 |
| 102008    | 00000N | 500 E   | 59407.80 | 58928.88 | 115414    | 00125E | 450 N   | 59405.09 | 58912.96 |
| 102132    | 00000N | 525 E   | 59405.98 | 58927.35 | 115544    | 00125E | 475 N   | 59410.99 | 58919.00 |
| 102244    | 00000N | 550 E   | 59405.90 | 58927.29 | 115650    | 00125E | 500 N   | 59413.38 | 58921.45 |
| 102408    | 00000N | 575 E   | 59406.01 | 58924.89 | 115808    | 00125E | 525 N   | 59414.19 | 58922.50 |
| 102538    | 00000N | 600 E   | 59407.75 | 58927.39 | 115932    | 00125E | 550 N   | 59407.39 | 58916.44 |
| 102738    | 00000N | 625 E   | 59416.38 | 58936.15 | 120114    | 00125E | 575 N   | 59410.37 | 58920.33 |
| 102938    | 00000N | 650 E   | 59409.60 | 58929.42 | 120156    | 00125E | 600 N   | 59408.36 | 58918.02 |
| 103108    | 00000N | 675 E   | 59411.71 | 58928.72 |           |        |         |          |          |
| 103156    | 00000N | 700 E   | 59411.54 | 58927.99 |           |        |         |          |          |

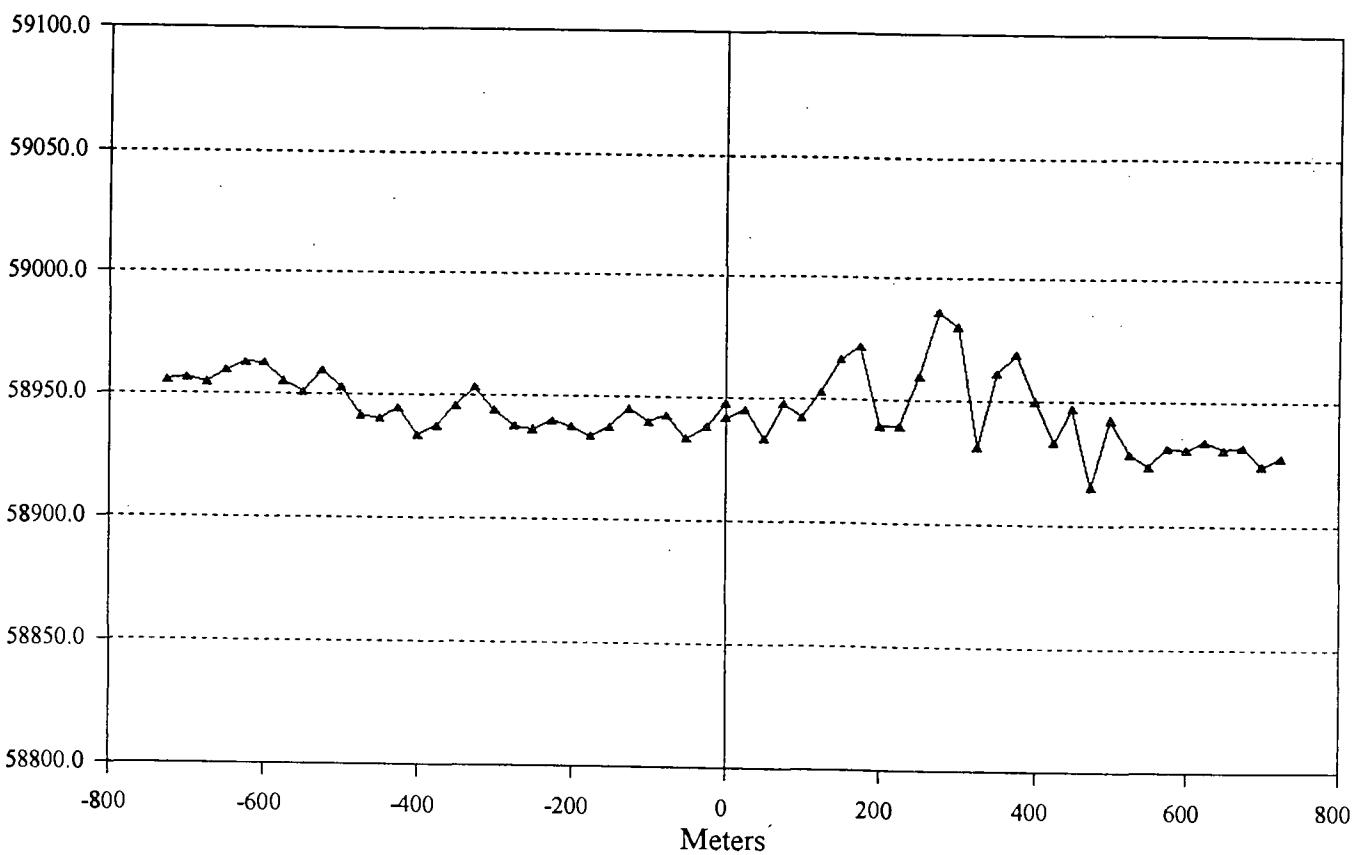
## Anomaly 19 Mag Profile

Line 205N



## Anomaly 19 Mag Profile

Line 0E

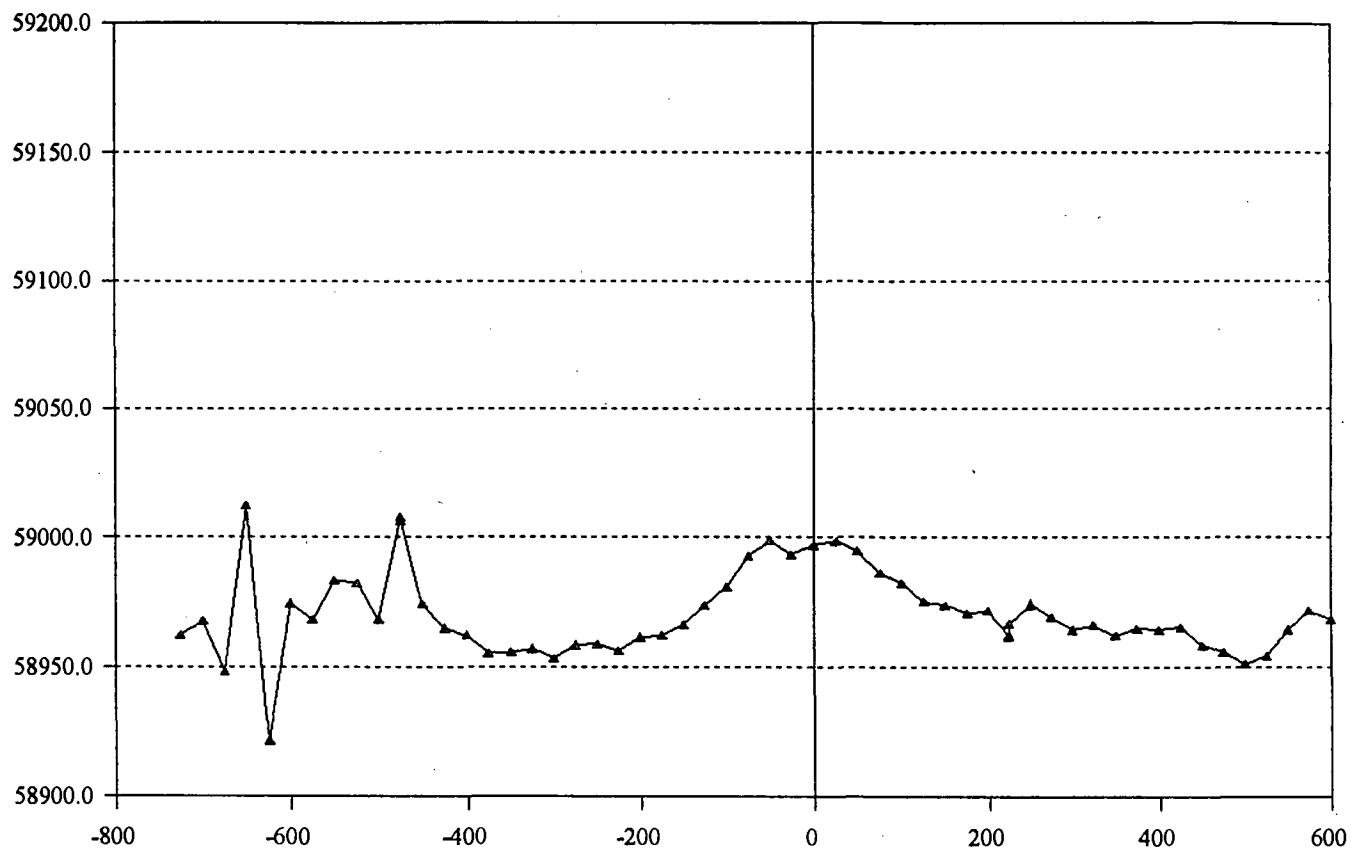


Gem Systems GSM-19 v4.0 25 1 94 ID 000000260 file 01 .m 10 1 95  
**Anomaly 19**

| time   | line   | station | corrected |          | time   | line   | station | corrected |          |
|--------|--------|---------|-----------|----------|--------|--------|---------|-----------|----------|
|        |        |         | field nT  | field nT |        |        |         | field nT  | field nT |
| 152632 | 00205N | -750 W  | 59430.85  | 58941.38 | 133108 | 00000E | -725 S  | 59442.20  | 58955.66 |
| 152608 | 00205N | -725 W  | 59431.00  | 58941.76 | 133014 | 00000E | -700 S  | 59432.23  | 58956.43 |
| 152532 | 00205N | -700 W  | 59430.16  | 58941.77 | 132926 | 00000E | -675 S  | 59425.45  | 58954.71 |
| 152456 | 00205N | -675 W  | 59427.85  | 58940.27 | 132838 | 00000E | -650 S  | 59436.72  | 58959.49 |
| 152420 | 00205N | -650 W  | 59428.18  | 58940.68 | 132750 | 00000E | -625 S  | 59443.21  | 58962.71 |
| 152344 | 00205N | -625 W  | 59427.85  | 58939.00 | 132702 | 00000E | -600 S  | 59442.40  | 58962.50 |
| 152302 | 00205N | -600 W  | 59430.30  | 58939.47 | 132620 | 00000E | -575 S  | 59435.89  | 58955.18 |
| 152232 | 00205N | -575 W  | 59433.01  | 58941.20 | 132532 | 00000E | -550 S  | 59429.58  | 58950.80 |
| 152156 | 00205N | -550 W  | 59429.36  | 58937.05 | 132450 | 00000E | -525 S  | 59436.66  | 58959.57 |
| 152126 | 00205N | -525 W  | 59432.75  | 58940.99 | 132402 | 00000E | -500 S  | 59429.16  | 58952.68 |
| 152044 | 00205N | -500 W  | 59433.80  | 58943.79 | 132320 | 00000E | -475 S  | 59418.20  | 58941.53 |
| 152008 | 00205N | -475 W  | 59429.76  | 58941.04 | 132232 | 00000E | -450 S  | 59416.46  | 58940.13 |
| 151920 | 00205N | -450 W  | 59428.55  | 58941.65 | 132144 | 00000E | -425 S  | 59419.81  | 58944.38 |
| 151844 | 00205N | -425 W  | 59430.71  | 58944.69 | 132050 | 00000E | -400 S  | 59411.48  | 58933.57 |
| 151808 | 00205N | -400 W  | 59423.50  | 58938.46 | 132008 | 00000E | -375 S  | 59416.15  | 58937.28 |
| 151732 | 00205N | -375 W  | 59424.41  | 58939.84 | 131926 | 00000E | -350 S  | 59423.93  | 58945.65 |
| 151702 | 00205N | -350 W  | 59422.69  | 58939.19 | 131844 | 00000E | -325 S  | 59430.84  | 58953.40 |
| 151632 | 00205N | -325 W  | 59419.52  | 58936.81 | 131802 | 00000E | -300 S  | 59419.94  | 58943.66 |
| 151602 | 00205N | -300 W  | 59414.58  | 58931.97 | 131714 | 00000E | -275 S  | 59414.95  | 58937.36 |
| 151526 | 00205N | -275 W  | 59421.31  | 58937.84 | 131626 | 00000E | -250 S  | 59415.01  | 58936.31 |
| 151450 | 00205N | -250 W  | 59417.64  | 58932.09 | 131526 | 00000E | -225 S  | 59415.67  | 58940.01 |
| 151426 | 00205N | -225 W  | 59431.42  | 58943.94 | 131426 | 00000E | -200 S  | 59412.54  | 58937.31 |
| 151350 | 00205N | -200 W  | 59432.76  | 58942.91 | 131332 | 00000E | -175 S  | 59408.20  | 58933.68 |
| 151314 | 00205N | -175 W  | 59429.89  | 58939.77 | 131244 | 00000E | -150 S  | 59409.22  | 58937.60 |
| 151244 | 00205N | -150 W  | 59427.58  | 58939.14 | 131150 | 00000E | -125 S  | 59414.26  | 58945.21 |
| 151208 | 00205N | -125 W  | 59430.31  | 58944.58 | 131050 | 00000E | -100 S  | 59410.87  | 58940.00 |
| 151138 | 00205N | -100 W  | 59429.25  | 58945.82 | 130944 | 00000E | -75 S   | 59416.82  | 58942.30 |
| 151102 | 00205N | -75 W   | 59432.92  | 58950.77 | 130838 | 00000E | -50 S   | 59413.40  | 58933.41 |
| 151032 | 00205N | -50 W   | 59422.95  | 58941.61 | 130738 | 00000E | -25 S   | 59411.59  | 58938.00 |
| 151002 | 00205N | -25 W   | 59419.10  | 58937.18 | 130250 | 00000E | 0 N     | 59423.78  | 58947.93 |
| 150920 | 00205N | 0 W     | 59424.09  | 58941.20 | 134608 | 00000E | 0 N     | 59420.41  | 58941.81 |
| 144202 | 00205N | 0 E     | 59409.52  | 58938.11 | 134638 | 00000E | 25 N    | 59424.87  | 58945.13 |
| 144232 | 00205N | 25 E    | 59415.47  | 58940.27 | 134732 | 00000E | 50 N    | 59413.44  | 58933.28 |
| 144314 | 00205N | 50 E    | 59408.24  | 58928.42 | 134826 | 00000E | 75 N    | 59426.76  | 58947.30 |
| 144350 | 00205N | 75 E    | 59414.07  | 58931.82 | 134914 | 00000E | 100 N   | 59421.20  | 58942.34 |
| 144432 | 00205N | 100 E   | 59418.21  | 58934.47 | 135002 | 00000E | 125 N   | 59432.09  | 58952.87 |
| 144508 | 00205N | 125 E   | 59414.67  | 58930.31 | 135056 | 00000E | 150 N   | 59445.70  | 58966.21 |
| 144550 | 00205N | 150 E   | 59416.47  | 58930.16 | 135208 | 00000E | 175 N   | 59453.22  | 58971.58 |
| 144626 | 00205N | 175 E   | 59421.10  | 58931.76 | 135326 | 00000E | 200 N   | 59424.89  | 58939.24 |
| 144714 | 00205N | 200 E   | 59430.93  | 58936.63 | 135438 | 00000E | 225 N   | 59425.29  | 58939.16 |
| 144750 | 00205N | 225 E   | 59433.57  | 58937.39 | 135532 | 00000E | 250 N   | 59445.69  | 58959.56 |
| 144832 | 00205N | 250 E   | 59441.81  | 58945.30 | 135632 | 00000E | 275 N   | 59470.19  | 58986.17 |
| 144902 | 00205N | 275 E   | 59439.56  | 58943.25 | 135738 | 00000E | 300 N   | 59464.22  | 58980.38 |
| 144938 | 00205N | 300 E   | 59434.44  | 58937.68 | 135826 | 00000E | 325 N   | 59417.16  | 58931.38 |
| 145014 | 00205N | 325 E   | 59435.24  | 58936.38 | 135938 | 00000E | 350 N   | 59445.44  | 58961.15 |
| 145056 | 00205N | 350 E   | 59439.86  | 58939.90 | 140044 | 00000E | 375 N   | 59452.06  | 58968.96 |
| 145132 | 00205N | 375 E   | 59436.22  | 58936.78 | 140138 | 00000E | 400 N   | 59432.42  | 58949.78 |
| 145202 | 00205N | 400 E   | 59430.79  | 58931.92 | 140232 | 00000E | 425 N   | 59417.14  | 58933.34 |
| 145238 | 00205N | 425 E   | 59427.79  | 58929.33 | 140332 | 00000E | 450 N   | 59430.93  | 58946.87 |
| 145314 | 00205N | 450 E   | 59427.19  | 58929.05 | 140426 | 00000E | 475 N   | 59401.55  | 58915.48 |
| 145344 | 00205N | 475 E   | 59429.60  | 58931.94 | 140526 | 00000E | 500 N   | 59428.13  | 58942.73 |
| 145420 | 00205N | 500 E   | 59426.77  | 58929.15 | 140626 | 00000E | 525 N   | 59414.98  | 58928.84 |
| 145456 | 00205N | 525 E   | 59426.23  | 58929.46 | 140744 | 00000E | 550 N   | 59411.85  | 58924.05 |
| 145532 | 00205N | 550 E   | 59425.70  | 58929.63 | 140902 | 00000E | 575 N   | 59420.92  | 58931.40 |
| 145614 | 00205N | 575 E   | 59426.30  | 58931.19 | 141002 | 00000E | 600 N   | 59418.32  | 58930.56 |
| 145650 | 00205N | 600 E   | 59425.07  | 58930.63 | 141108 | 00000E | 625 N   | 59421.11  | 58934.09 |
| 145720 | 00205N | 625 E   | 59425.77  | 58931.51 | 141214 | 00000E | 650 N   | 59414.41  | 58930.91 |
| 145750 | 00205N | 650 E   | 59424.41  | 58930.57 | 141320 | 00000E | 675 N   | 59412.86  | 58932.04 |
| 145820 | 00205N | 675 E   | 59422.94  | 58928.88 | 141426 | 00000E | 700 N   | 59404.51  | 58924.56 |
| 145850 | 00205N | 700 E   | 59422.13  | 58927.76 | 141532 | 00000E | 725 N   | 59408.84  | 58927.65 |

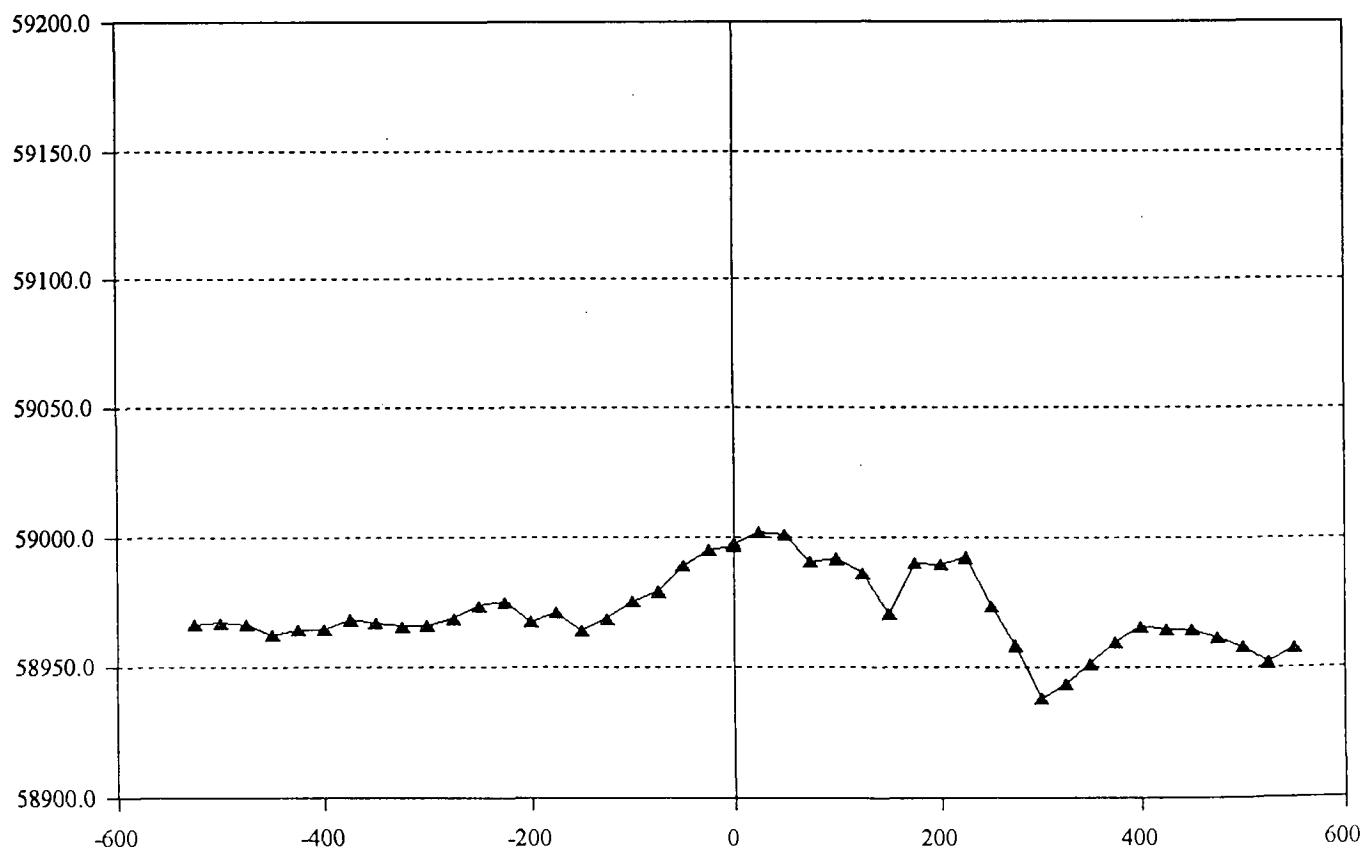
## Anomaly 20 Mag Profile

Line 0N



## Anomaly 20 Mag Profile

Line 0E

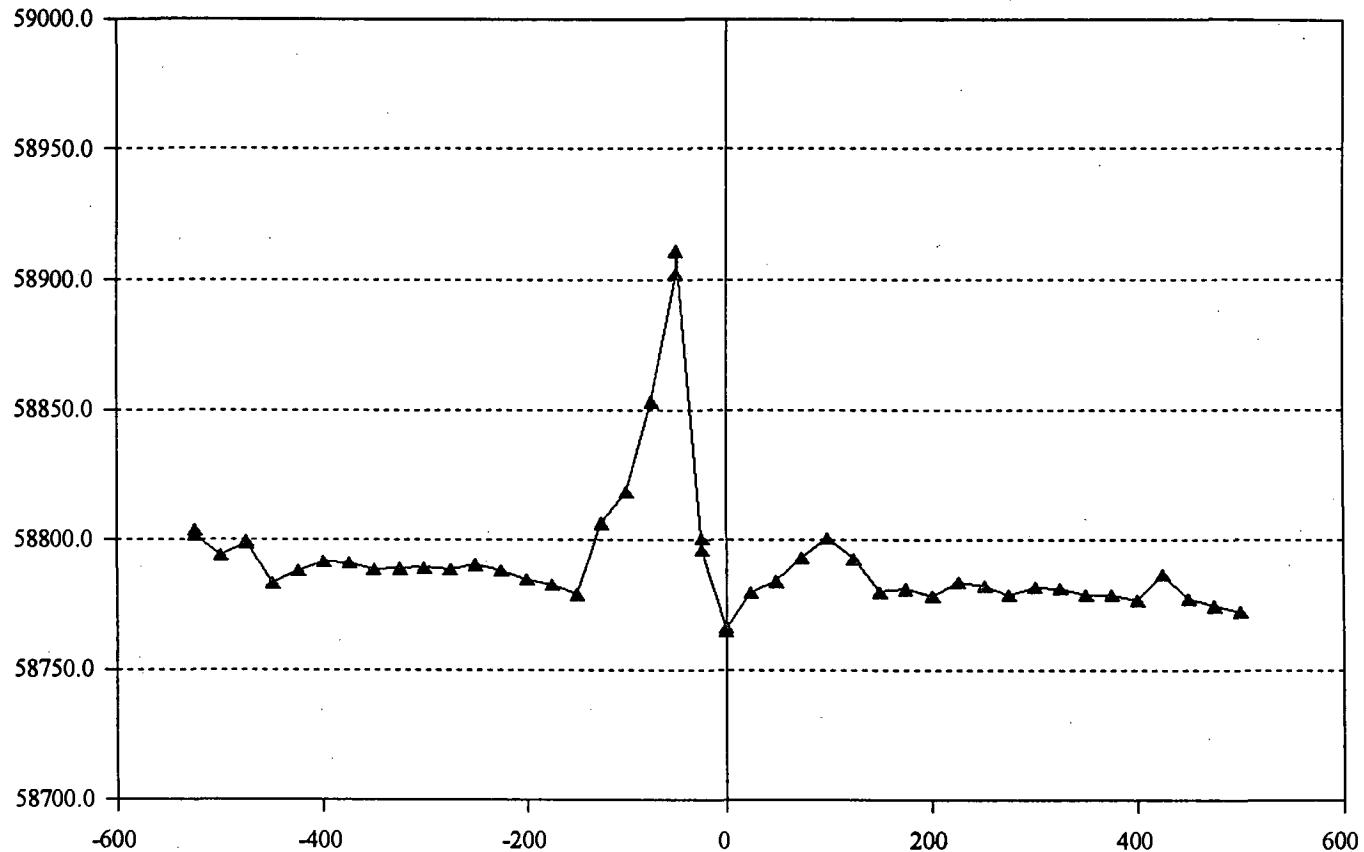


Gem Systems GSM-19 v4.0 25 | 94 ID 000000260 file 01 .m 13 | 95  
**Anomaly 20**

| corrected |        |         |          |          | corrected |        |         |          |          |
|-----------|--------|---------|----------|----------|-----------|--------|---------|----------|----------|
| time      | line   | station | field nT | field nT | time      | line   | station | field nT | field nT |
| 132356    | 00000E | -500 S  | 59454.40 | 58967.06 | 112920    | 00000N | -575 W  | 59452.74 | 58968.34 |
| 132126    | 00000E | -475 S  | 59453.95 | 58966.45 | 112814    | 00000N | -550 W  | 59466.71 | 58983.34 |
| 131920    | 00000E | -450 S  | 59452.84 | 58962.48 | 112726    | 00000N | -525 W  | 59465.22 | 58982.37 |
| 131756    | 00000E | -425 S  | 59453.85 | 58964.50 | 112626    | 00000N | -500 W  | 59451.66 | 58968.38 |
| 131650    | 00000E | -400 S  | 59449.76 | 58964.22 | 112502    | 00000N | -475 W  | 59490.72 | 59006.93 |
| 131538    | 00000E | -375 S  | 59453.31 | 58968.23 | 112544    | 00000N | -475 W  | 59490.88 | 59008.03 |
| 131356    | 00000E | -350 S  | 59454.59 | 58966.77 | 112402    | 00000N | -450 W  | 59459.08 | 58974.20 |
| 131150    | 00000E | -325 S  | 59452.95 | 58965.68 | 112256    | 00000N | -425 W  | 59450.30 | 58965.01 |
| 131008    | 00000E | -300 S  | 59453.55 | 58965.97 | 112138    | 00000N | -400 W  | 59447.29 | 58962.24 |
| 130814    | 00000E | -275 S  | 59456.01 | 58968.51 | 111926    | 00000N | -375 W  | 59441.21 | 58955.51 |
| 130650    | 00000E | -250 S  | 59460.21 | 58973.65 | 111726    | 00000N | -350 W  | 59443.57 | 58955.63 |
| 130532    | 00000E | -225 S  | 59463.06 | 58975.07 | 111620    | 00000N | -325 W  | 59443.75 | 58957.06 |
| 130338    | 00000E | -200 S  | 59457.58 | 58967.45 | 111514    | 00000N | -300 W  | 59438.83 | 58953.28 |
| 130144    | 00000E | -175 S  | 59459.35 | 58970.65 | 111408    | 00000N | -275 W  | 59441.20 | 58958.46 |
| 130026    | 00000E | -150 S  | 59451.26 | 58963.97 | 111256    | 00000N | -250 W  | 59441.53 | 58958.87 |
| 125926    | 00000E | -125 S  | 59456.42 | 58968.59 | 111150    | 00000N | -225 W  | 59439.95 | 58956.18 |
| 125808    | 00000E | -100 S  | 59463.26 | 58975.20 | 111050    | 00000N | -200 W  | 59445.62 | 58961.53 |
| 125708    | 00000E | -75 S   | 59466.69 | 58979.19 | 110932    | 00000N | -175 W  | 59447.36 | 58962.29 |
| 125608    | 00000E | -50 S   | 59475.83 | 58989.36 | 110808    | 00000N | -150 W  | 59451.14 | 58966.25 |
| 125508    | 00000E | -25 S   | 59481.68 | 58995.15 | 110708    | 00000N | -125 W  | 59459.80 | 58973.71 |
| 120438    | 00000E | 0 N     | 59483.00 | 58996.57 | 110514    | 00000N | -100 W  | 59467.77 | 58980.93 |
| 125350    | 00000E | 0 N     | 59485.42 | 58997.88 | 110626    | 00000N | -100 W  | 59466.81 | 58980.62 |
| 120520    | 00000E | 25 N    | 59489.06 | 59002.21 | 110408    | 00000N | -75 W   | 59480.25 | 58993.13 |
| 120644    | 00000E | 50 N    | 59488.16 | 59001.29 | 110214    | 00000N | -50 W   | 59486.35 | 58999.02 |
| 120802    | 00000E | 75 N    | 59477.48 | 58990.87 | 110102    | 00000N | -25 W   | 59479.20 | 58993.63 |
| 120908    | 00000E | 100 N   | 59477.85 | 58992.02 | 105808    | 00000N | 0 E     | 59482.40 | 58997.01 |
| 121026    | 00000E | 125 N   | 59472.12 | 58986.55 | 105650    | 00000N | 25 E    | 59485.02 | 58998.53 |
| 121138    | 00000E | 150 N   | 59456.76 | 58970.52 | 105550    | 00000N | 50 E    | 59481.03 | 58994.90 |
| 121250    | 00000E | 175 N   | 59476.82 | 58990.38 | 105438    | 00000N | 75 E    | 59471.53 | 58986.43 |
| 121402    | 00000E | 200 N   | 59476.63 | 58989.62 | 105314    | 00000N | 100 E   | 59467.46 | 58982.40 |
| 121508    | 00000E | 225 N   | 59479.57 | 58992.47 | 105150    | 00000N | 125 E   | 59460.57 | 58975.23 |
| 121608    | 00000E | 250 N   | 59461.02 | 58973.52 | 105056    | 00000N | 150 E   | 59459.26 | 58973.86 |
| 121756    | 00000E | 275 N   | 59444.78 | 58958.17 | 105002    | 00000N | 175 E   | 59457.51 | 58971.01 |
| 121914    | 00000E | 300 N   | 59425.97 | 58938.08 | 104850    | 00000N | 200 E   | 59458.82 | 58971.72 |
| 122008    | 00000E | 325 N   | 59429.63 | 58943.44 | 101656    | 00000N | 225 E   | 59450.93 | 58962.28 |
| 122108    | 00000E | 350 N   | 59435.84 | 58951.11 | 101620    | 00000N | 225 E   | 59450.50 | 58961.79 |
| 122214    | 00000E | 375 N   | 59444.77 | 58959.33 | 104656    | 00000N | 225 E   | 59454.22 | 58966.67 |
| 122338    | 00000E | 400 N   | 59452.33 | 58965.61 | 101820    | 00000N | 250 E   | 59462.88 | 58973.89 |
| 122514    | 00000E | 425 N   | 59452.55 | 58964.40 | 101732    | 00000N | 250 E   | 59462.77 | 58974.67 |
| 122620    | 00000E | 450 N   | 59452.00 | 58964.30 | 101850    | 00000N | 275 E   | 59458.08 | 58969.11 |
| 122720    | 00000E | 475 N   | 59449.00 | 58961.33 | 101956    | 00000N | 300 E   | 59453.56 | 58964.66 |
| 122844    | 00000E | 500 N   | 59446.11 | 58957.98 | 102102    | 00000N | 325 E   | 59454.06 | 58966.21 |
| 122956    | 00000E | 525 N   | 59439.94 | 58951.81 | 102150    | 00000N | 350 E   | 59450.02 | 58962.30 |
| 123038    | 00000E | 550 N   | 59445.47 | 58957.35 | 102238    | 00000N | 375 E   | 59451.95 | 58964.72 |
| 113608    | 00000N | -725 W  | 59447.37 | 58962.47 | 102338    | 00000N | 400 E   | 59450.19 | 58964.30 |
| 113526    | 00000N | -700 W  | 59452.43 | 58967.65 | 102426    | 00000N | 425 E   | 59450.12 | 58965.37 |
| 113456    | 00000N | -675 W  | 59432.88 | 58948.39 | 102526    | 00000N | 450 E   | 59442.28 | 58958.31 |
| 113414    | 00000N | -650 W  | 59497.03 | 59012.50 | 102626    | 00000N | 475 E   | 59443.36 | 58955.95 |
| 113102    | 00000N | -625 W  | 59406.85 | 58921.43 | 102750    | 00000N | 500 E   | 59444.66 | 58951.19 |
| 113138    | 00000N | -625 W  | 59406.35 | 58921.01 | 102926    | 00000N | 525 E   | 59446.77 | 58954.44 |
| 113026    | 00000N | -600 W  | 59459.74 | 58974.69 | 103120    | 00000N | 550 E   | 59453.16 | 58964.68 |
|           |        |         |          |          | 103314    | 00000N | 575 E   | 59459.81 | 58971.86 |
|           |        |         |          |          | 103408    | 00000N | 600 E   | 59457.21 | 58968.51 |

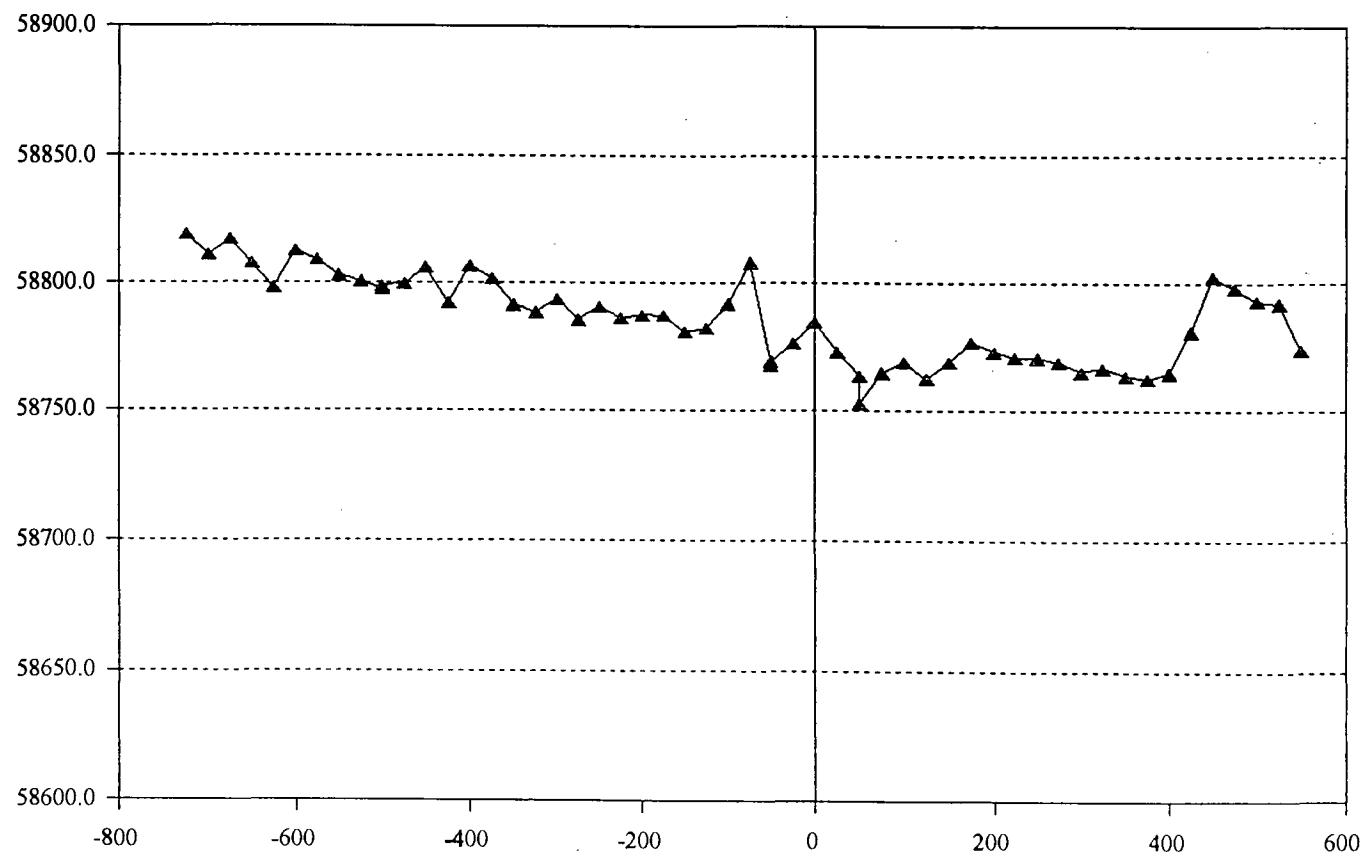
## Anomaly 26 Mag Profile

Line 50S



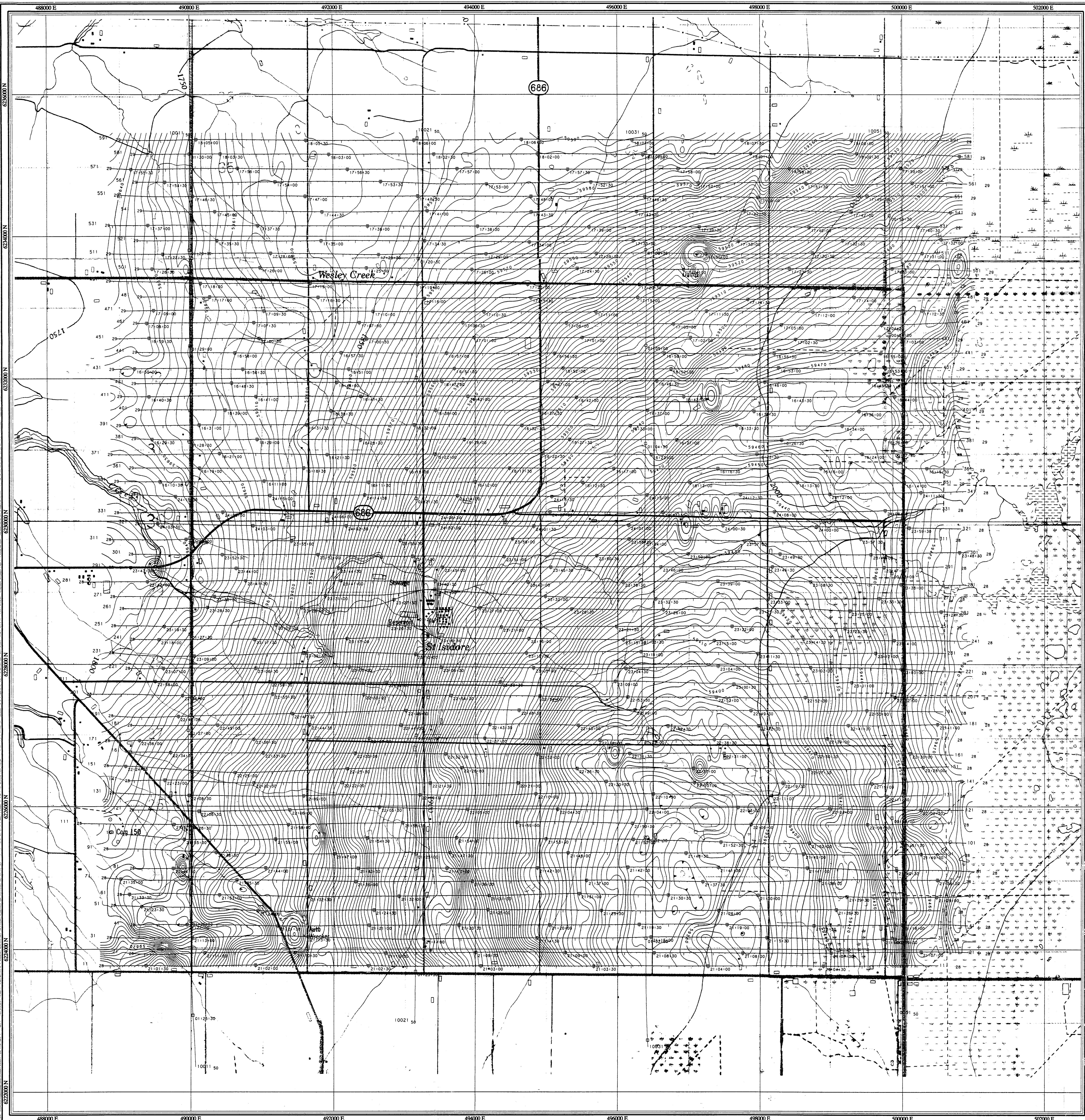
## Anomaly 26 Mag Profile

Line 0E



em Systems GSM-19 v4.0 25 | 94 ID 000000260 file 01 .m 12 | 95  
omaly 26

| time   | line   | station | corrected |          | time   | line   | station | corrected |          |
|--------|--------|---------|-----------|----------|--------|--------|---------|-----------|----------|
|        |        |         | field nT  | field nT |        |        |         | field nT  | field nT |
| 114308 | 00000E | -725 S  | 59304.04  | 58819.11 | 124850 | 00000E | 450 N   | 59283.83  | 58802.57 |
| 114208 | 00000E | -700 S  | 59295.66  | 58811.11 | 125032 | 00000E | 475 N   | 59277.97  | 58798.19 |
| 114114 | 00000E | -675 S  | 59300.48  | 58816.96 | 125144 | 00000E | 500 N   | 59273.26  | 58793.37 |
| 113926 | 00000E | -650 S  | 59291.81  | 58807.41 | 125226 | 00000E | 525 N   | 59271.95  | 58791.93 |
| 113802 | 00000E | -625 S  | 59283.74  | 58798.25 | 125344 | 00000E | 550 N   | 59252.34  | 58773.86 |
| 113556 | 00000E | -600 S  | 59298.15  | 58812.74 | 144156 | 00050S | -525 W  | 59287.71  | 58803.95 |
| 113432 | 00000E | -575 S  | 59294.64  | 58809.07 | 144232 | 00050S | -525 W  | 59285.82  | 58801.75 |
| 113344 | 00000E | -550 S  | 59287.89  | 58802.97 | 144044 | 00050S | -500 W  | 59277.34  | 58794.14 |
| 113302 | 00000E | -525 S  | 59286.25  | 58800.57 | 143932 | 00050S | -475 W  | 59282.47  | 58798.79 |
| 114826 | 00000E | -500 S  | 59280.92  | 58797.60 | 144008 | 00050S | -475 W  | 59283.06  | 58799.72 |
| 113150 | 00000E | -500 S  | 59285.10  | 58798.78 | 143756 | 00050S | -450 W  | 59266.42  | 58783.47 |
| 114956 | 00000E | -475 S  | 59283.04  | 58799.44 | 143638 | 00050S | -425 W  | 59270.97  | 58788.11 |
| 115038 | 00000E | -450 S  | 59290.02  | 58805.92 | 143538 | 00050S | -400 W  | 59274.76  | 58791.94 |
| 115114 | 00000E | -425 S  | 59276.22  | 58792.19 | 143420 | 00050S | -375 W  | 59273.87  | 58791.17 |
| 115202 | 00000E | -400 S  | 59289.88  | 58806.77 | 143320 | 00050S | -350 W  | 59271.93  | 58788.58 |
| 115250 | 00000E | -375 S  | 59285.04  | 58801.59 | 143226 | 00050S | -325 W  | 59272.83  | 58789.08 |
| 115338 | 00000E | -350 S  | 59275.80  | 58791.60 | 143144 | 00050S | -300 W  | 59273.08  | 58789.48 |
| 115438 | 00000E | -325 S  | 59272.58  | 58788.48 | 143056 | 00050S | -275 W  | 59271.59  | 58788.66 |
| 115532 | 00000E | -300 S  | 59277.91  | 58793.86 | 143002 | 00050S | -250 W  | 59273.25  | 58790.50 |
| 115656 | 00000E | -275 S  | 59269.29  | 58785.53 | 142908 | 00050S | -225 W  | 59271.14  | 58788.49 |
| 115814 | 00000E | -250 S  | 59274.58  | 58790.88 | 142756 | 00050S | -200 W  | 59266.50  | 58785.04 |
| 115932 | 00000E | -225 S  | 59270.39  | 58786.47 | 142632 | 00050S | -175 W  | 59264.15  | 58782.80 |
| 120044 | 00000E | -200 S  | 59271.54  | 58787.47 | 142514 | 00050S | -150 W  | 59260.67  | 58779.21 |
| 120144 | 00000E | -175 S  | 59270.73  | 58787.22 | 142402 | 00050S | -125 W  | 59288.22  | 58806.47 |
| 120320 | 00000E | -150 S  | 59265.05  | 58780.72 | 142238 | 00050S | -100 W  | 59301.00  | 58818.78 |
| 120444 | 00000E | -125 S  | 59267.29  | 58782.23 | 142132 | 00050S | -75 W   | 59335.57  | 58853.30 |
| 120556 | 00000E | -100 S  | 59275.50  | 58792.03 | 141938 | 00050S | -50 W   | 59385.89  | 58902.48 |
| 120720 | 00000E | -75 S   | 59291.27  | 58807.83 | 142032 | 00050S | -50 W   | 59394.32  | 58911.31 |
| 121038 | 00000E | -50 S   | 59250.36  | 58767.58 | 141850 | 00050S | -25 W   | 59283.91  | 58800.84 |
| 120832 | 00000E | -50 S   | 59252.84  | 58769.13 | 141750 | 00050S | -25 W   | 59280.58  | 58796.39 |
| 121126 | 00000E | -25 S   | 59259.02  | 58776.23 | 132620 | 00050S | 0 E     | 59243.57  | 58765.10 |
| 121302 | 00000E | 0 S     | 59268.15  | 58784.67 | 141650 | 00050S | 0 E     | 59251.05  | 58766.35 |
| 121556 | 00000E | 25 N    | 59256.18  | 58773.12 | 132814 | 00050S | 25 E    | 59257.46  | 58779.71 |
| 121944 | 00000E | 50 N    | 59245.91  | 58763.50 | 132708 | 00050S | 25 E    | 59257.91  | 58779.89 |
| 121838 | 00000E | 50 N    | 59246.47  | 58763.53 | 132902 | 00050S | 50 E    | 59262.37  | 58784.13 |
| 121756 | 00000E | 50 N    | 59235.71  | 58752.27 | 133032 | 00050S | 75 E    | 59271.96  | 58793.29 |
| 122056 | 00000E | 75 N    | 59247.14  | 58764.57 | 133202 | 00050S | 100 E   | 59279.34  | 58800.74 |
| 122220 | 00000E | 100 N   | 59250.82  | 58768.77 | 133356 | 00050S | 125 E   | 59271.02  | 58792.85 |
| 122332 | 00000E | 125 N   | 59244.04  | 58762.21 | 133520 | 00050S | 150 E   | 59258.51  | 58780.10 |
| 122456 | 00000E | 150 N   | 59251.28  | 58769.05 | 133644 | 00050S | 175 E   | 59259.04  | 58781.17 |
| 122714 | 00000E | 175 N   | 59258.04  | 58776.96 | 133802 | 00050S | 200 E   | 59256.16  | 58778.56 |
| 122914 | 00000E | 200 N   | 59254.48  | 58773.11 | 133926 | 00050S | 225 E   | 59261.17  | 58783.95 |
| 123056 | 00000E | 225 N   | 59251.56  | 58770.97 | 134038 | 00050S | 250 E   | 59259.63  | 58782.48 |
| 123226 | 00000E | 250 N   | 59251.20  | 58770.74 | 134150 | 00050S | 275 E   | 59256.14  | 58779.00 |
| 123408 | 00000E | 275 N   | 59248.20  | 58768.91 | 134320 | 00050S | 300 E   | 59259.69  | 58781.71 |
| 123514 | 00000E | 300 N   | 59244.85  | 58764.99 | 134438 | 00050S | 325 E   | 59258.19  | 58781.20 |
| 123620 | 00000E | 325 N   | 59245.95  | 58766.49 | 134550 | 00050S | 350 E   | 59256.35  | 58778.82 |
| 123708 | 00000E | 350 N   | 59241.67  | 58763.52 | 134720 | 00050S | 375 E   | 59258.07  | 58778.93 |
| 124450 | 00000E | 375 N   | 59241.58  | 58762.18 | 134838 | 00050S | 400 E   | 59255.46  | 58776.73 |
| 124614 | 00000E | 400 N   | 59244.31  | 58764.65 | 135214 | 00050S | 425 E   | 59266.18  | 58786.73 |
| 124808 | 00000E | 425 N   | 59261.68  | 58780.92 | 135326 | 00050S | 450 E   | 59255.70  | 58777.37 |
| 124726 | 00000E | 425 N   | 59260.79  | 58780.87 | 135456 | 00050S | 475 E   | 59254.20  | 58774.64 |
|        |        |         |           |          | 135614 | 00050S | 500 E   | 59251.17  | 58772.22 |



Square: Grid North  
Star: True North  
Arrow: Magnetic North

Angles presented are approximate mean deviations for centre of NTS sheet.  
Use diagram for reference only.

Grid North - True North : 0.2°  
Grid North - Magnetic North : 24.0°  
Annual change -0.20°

#### TOTAL FIELD MAGNETICS

Total field magnetic intensity contour data, measured by a cesium high sensitivity magnetometer at an average sensor elevation of 45m, and corrected for diurnal variation.

Map contours are in nanoTeslas, and are multiples of those listed below:

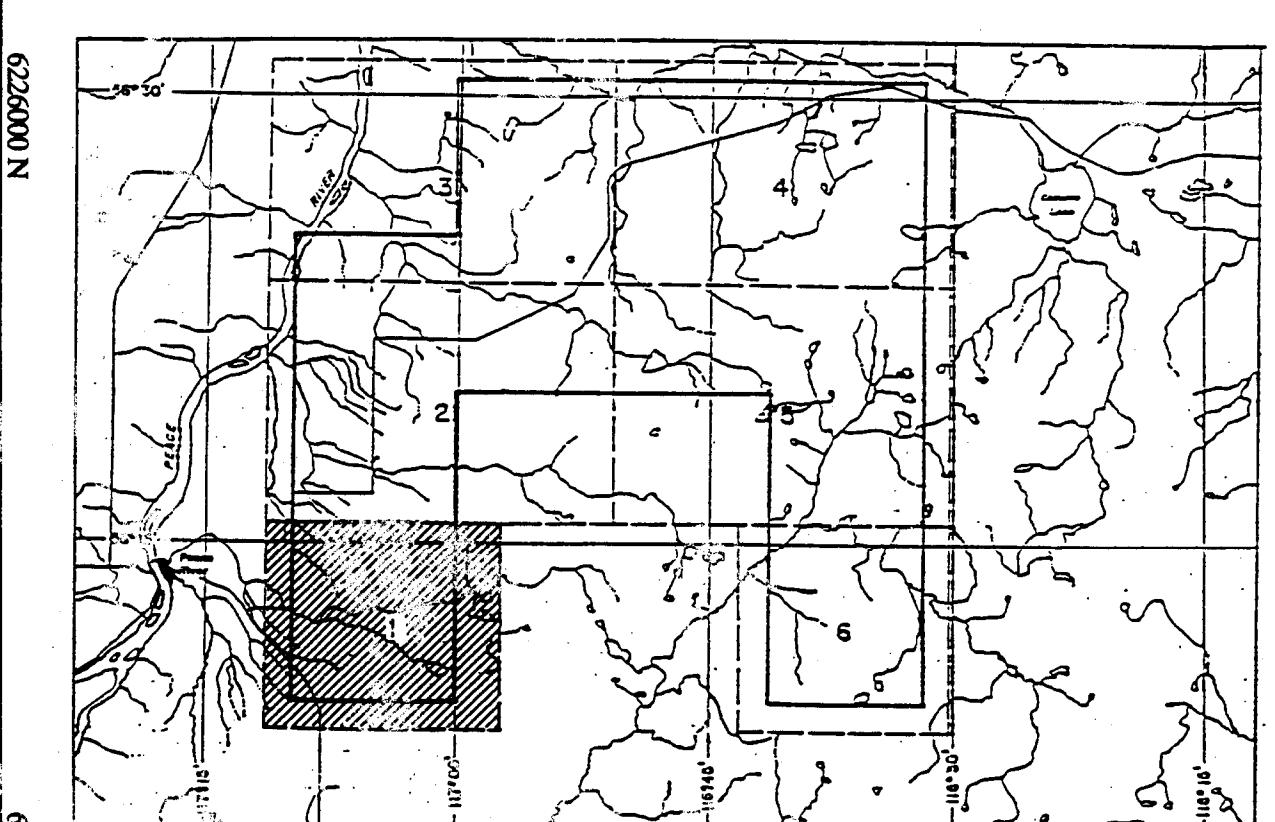
2 nT  
10 nT  
50 nT  
250 nT  
1000 nT

#### FLIGHT PATH

Navigation and flight path recovery was conducted using a Global Positioning System (GPS) satellite navigation system.

Lines were flown at an azimuth of 90 - 270°, with an average line spacing of 200m.

Average helicopter-terrain clearance of 60m was monitored by radar and barometric altimeters.



**HORSESHOE GOLD MINING INC.**

#### TOTAL FIELD MAGNETICS

PEACE RIVER AREA

NORTHERN ALBERTA

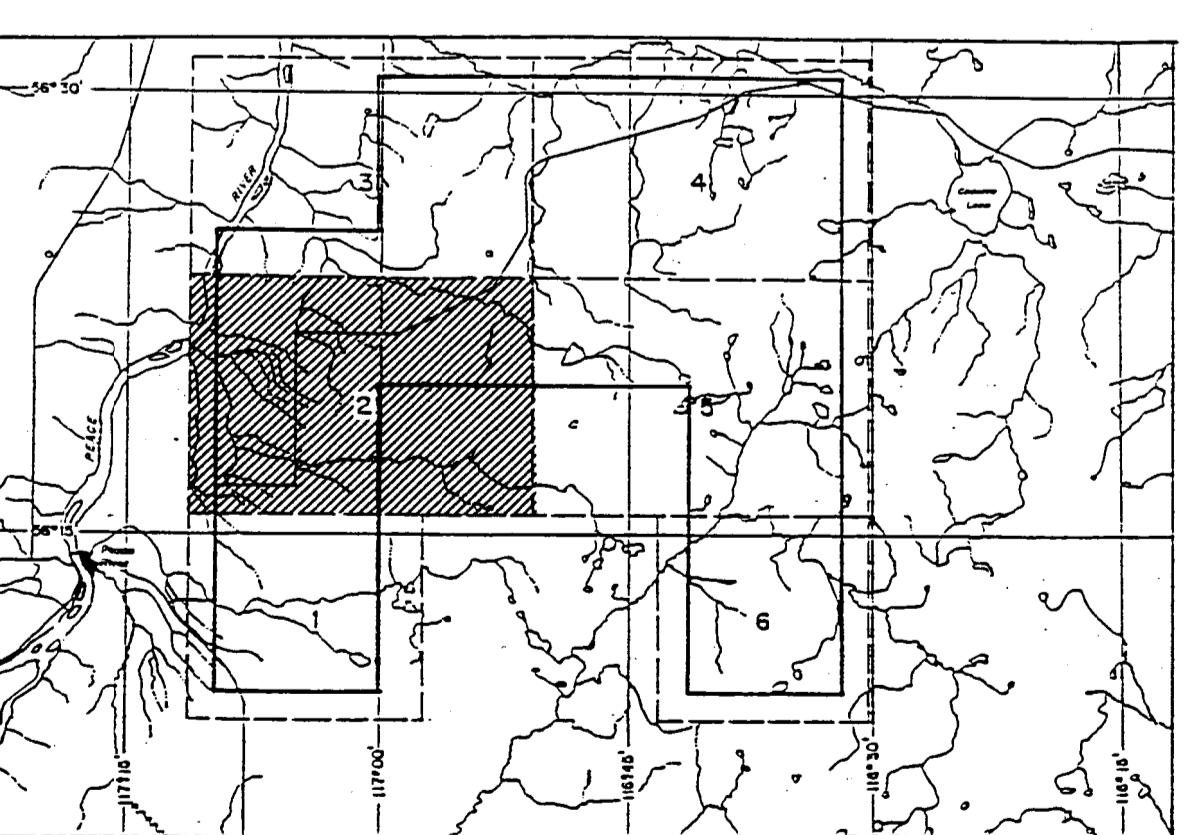

19950006

SCALE 1:20 000

500 0 200 400 120 2000 metres

|                         |
|-------------------------|
| Date Flown : MARCH 1994 |
| NTS : 1:250,000         |
| Project : J94111        |
| Map Ref : 1-2           |

GEONEX AERODAT



**HORSESHOE GOLD MINING INC.**

**TOTAL FIELD MAGNETICS**

PEACE RIVER AREA

NORTHERN ALBERTA

SCALE 1:20000

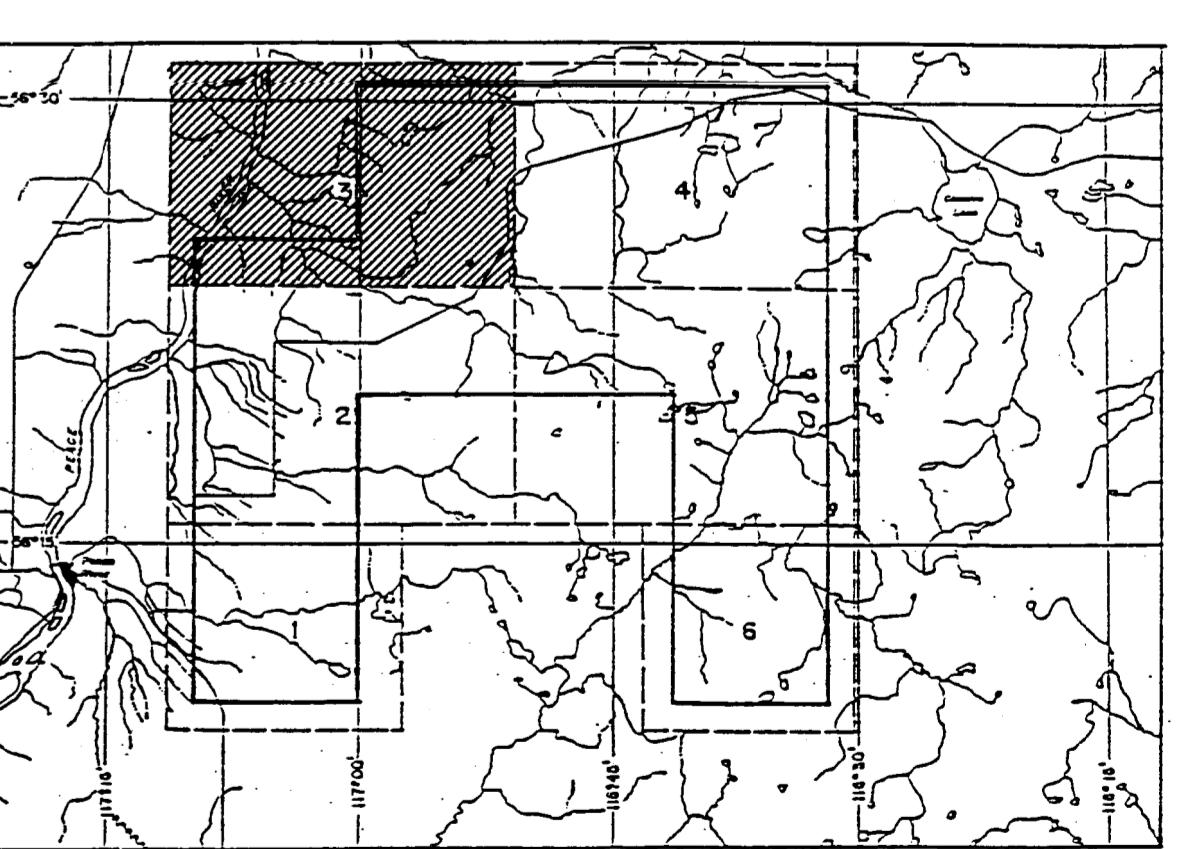

500 0 200 400 1000 2000 metres

Date Flown : MARCH 1994

NTS : 84C/6,7

Project : J94111 Map Ref : 2-2

**GEONEX AERODAT**



**HORSESHOE GOLD MINING INC.**

**TOTAL FIELD MAGNETICS**

PEACE RIVER AREA

NORTHERN ALBERTA

SCALE 1:20 000

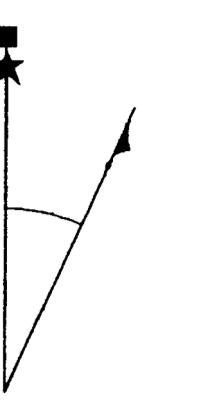
500 0 200 400 1000 2000 metres

Date Flown : MARCH 1994

GEONEX AERODAT

NTS : 84C/6,7,10,11

Project : J94111 Map Ref : 3-2



Square: Grid North

Star: True North

Arrow: Magnetic North


Angles presented are approximate mean deviations for centre of NTS sheet.

Use diagram for reference only.

Grid North - True North : 0.2°

Grid North - Magnetic North : 24.0°

Annual change : -0.20°



## TOTAL FIELD MAGNETICS

Total field magnetic intensity contour data,  
measured by a cesium high sensitivity magnetometer  
at an average sensor elevation of 45m, and  
corrected for diurnal variation.

Map contours are in nanoTeslas,  
and are multiples of those listed below:

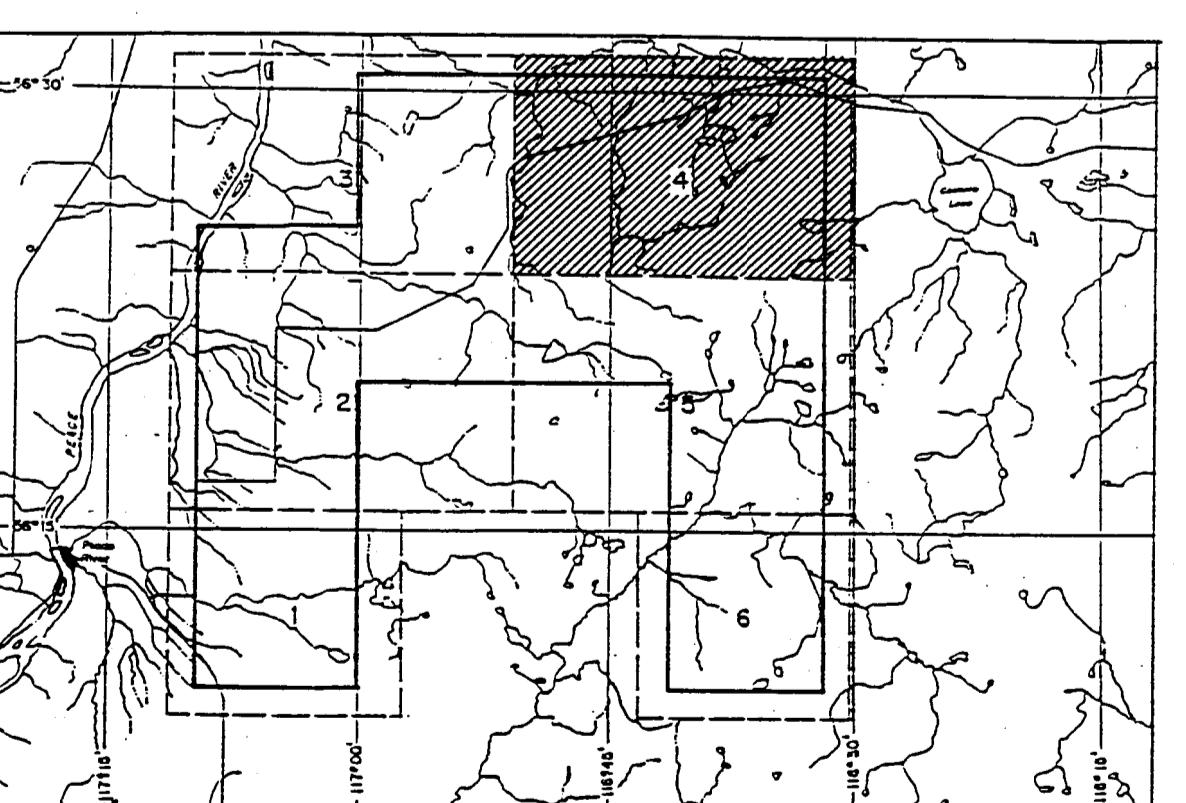
FLIGHT PATH

---

**Navigation and flight path recovery was conducted using a Global Positioning System (GPS) satellite navigation system.**

**Lines were flown at an azimuth of 90 - 270°, with an average line spacing of 200m.**

Average helicopter-terrain clearance of 60m was monitored by radar and barometric altimeters.



**HORSESHOE GOLD MINING INC.**

# TOTAL FIELD MAGNETICS

# PEACE RIVER AREA

## NORTHERN ALBERTA

**SCALE 1:20 000**

0 200 400 1000

Date Flown : MARCH

**EX AERODAT**

Project : J94111

