

LOG NO:	JUL 27 1992	NO.
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REPORT OF 1991-1992  
GROUND MAGNETOMETER SURVEY  
EHOLT PROPERTY

**SUB-RECORDER  
RECEIVED**  
**JUN 24 1992**  
M.R. # ..... \$.....  
**VANCOUVER, B.C.**

Greenwood Mining Division  
British Columbia

NTS 82E/2E  
Latitude 49°10' N  
Longitude 118°32' W

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**22,403**

June 3, 1992  
Coeur d'Alene, Idaho

Robert T. Fredericks  
Orvana Minerals Corp.

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## INTRODUCTION

The Eholt property, located near Greenwood, British Columbia (Fig. 1), was partly explored by a ground magnetometer survey conducted by Orvana Mineral Corporation personnel during the period October 1991-March 1992. The Eholt property is located on a package of rocks hosting numerous Cu-Au bearing skarn occurrences including two former producers located within 2 km. The purpose of the magnetometer survey described herein was to: 1) assist in mapping geology through covered areas, and 2) delineate any magnetic anomalies that potentially are the expression of skarn-hosted Cu-Au mineralization.

## PROPERTY

The Eholt property consists of four contiguous 4-post mineral claims comprising a total of 58 units (Fig. 2). The claims are held under option by Orvana Mineral Corp from Mr. Herman Hoehn of Grand Forks, B.C.

Pertinent claim information is summarized below:

Name	No. of Units	Record No.	Expiry Date
Pt. Eholt	6	1810	Oct. 9, 1993
Eholt	12	4867	Mar. 26, 1993
Eholt #1	20	4906	Apr. 29, 1993
Eholt #2	20	4907	Apr. 29, 1993

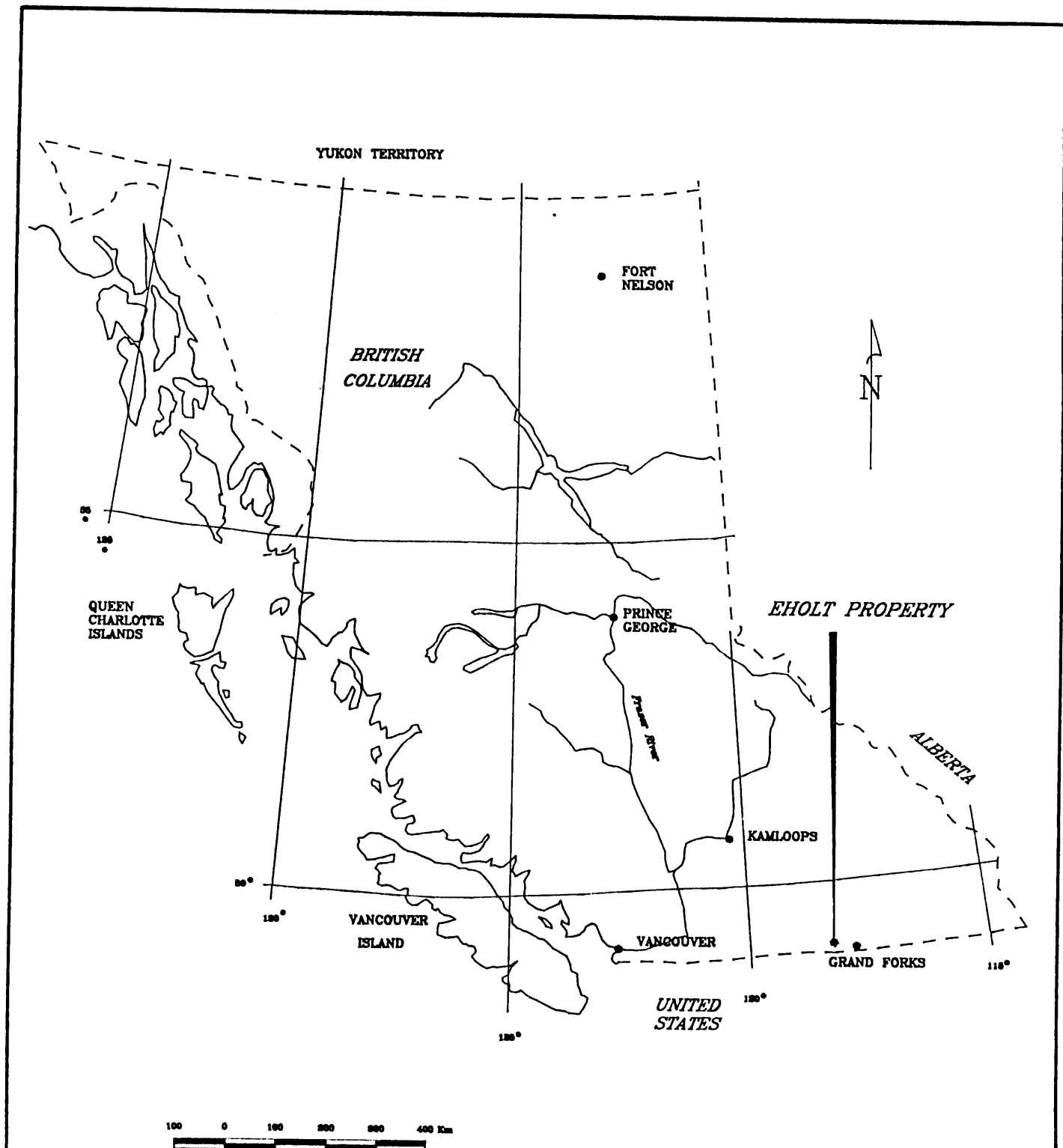
## LOCATION AND ACCESS


The Eholt property is located 11 km NE of Greenwood and 16 km NW of Grand Forks, B.C. at latitude 49°10'N, longitude 118°32'W. Access is good and is provided by Highway 3, which traverses the property, several logging roads, and two old abandoned railroad grades. The site of Eholt, a loosely-bounded settlement which is still inhabited, is located just north of Highway 3, on the property.

## PHYSIOGRAPHY AND CLIMATE

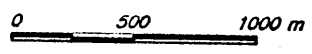
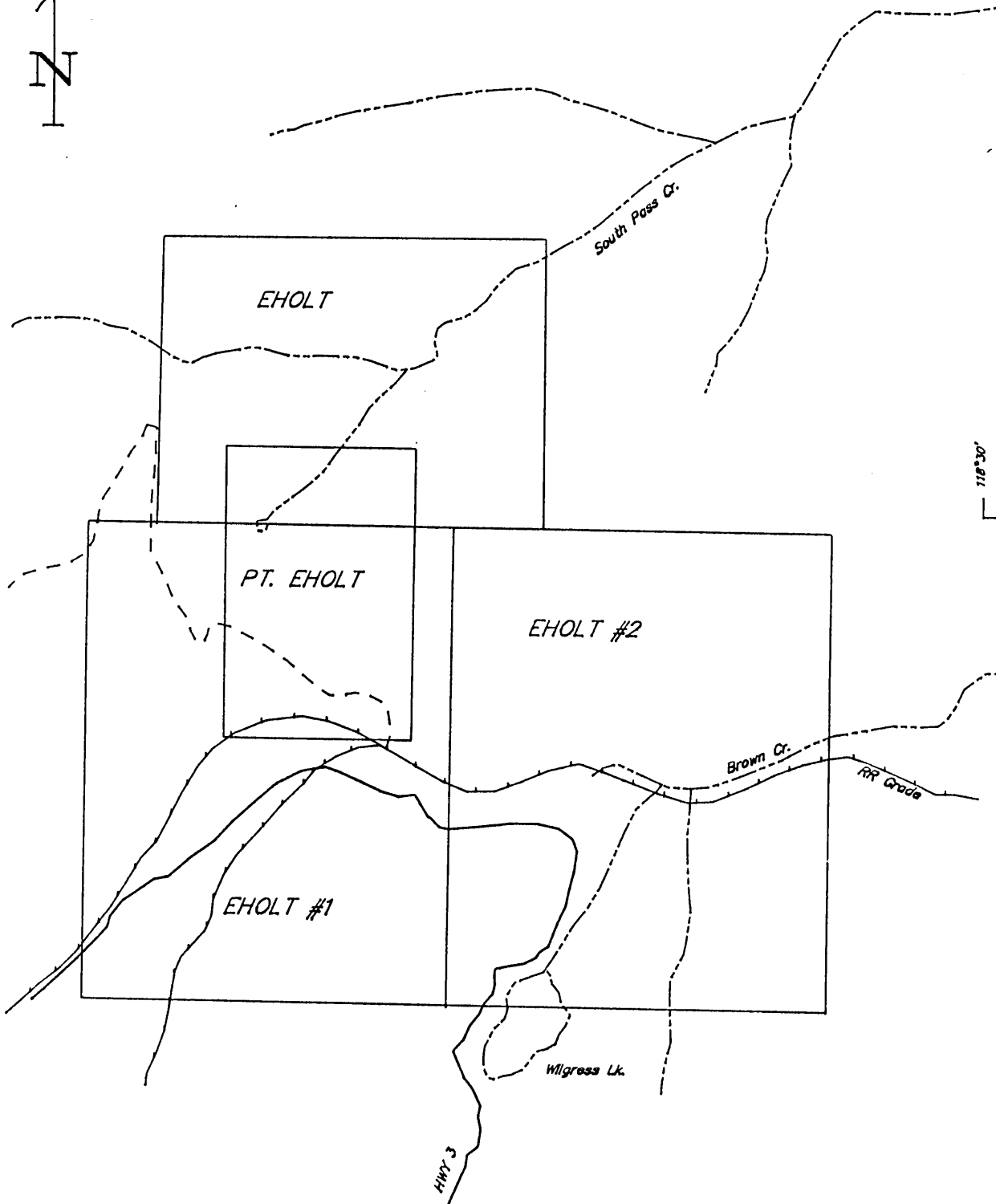
The Eholt property is characterized by relatively subdued, low-lying, mountainous terrain. Elevations range 3000-4000 ft. Relief is generally mild, though a few bluffs do occur on the hill immediately north of the Eholt settlement site. Most of the property is covered with timber land, with some brush-grassland on slopes with southern exposure.

The climate is moderate. Precipitation is typically low during the summer and fall, and moderate during the rest of the year.




**orvana**  
 RESOURCES

**Fig. 1**  
**LOCATION MAP**  
*OK SYNDICATE*  
*Northeastern Washington and*  
*southern British Columbia*



NTS 82E/2E



EHOLT PROJECT  
Claim Locations

Fig. 2  
OK SYNDICATE  
British Columbia, Canada

Snow cover during December-February averages 0.5-1.5 m. Annual temperature range is approximately  $-20^{\circ}$  to  $35^{\circ}\text{C}$ .

### PREVIOUS WORK

Mining and exploration in the Eholt area began around the beginning of the 20th century. Production during the period of several hundred thousand tons of ore grading approximately 1% Cu and 0.02 oz/ton Au came from the Oro Denoro and Emma mines located 3 km south of Eholt. Numerous old shallow shafts, short adits, and prospect pits, probably dating from this period, occur on the Eholt property.

Recent, documented exploration on the Eholt property was conducted by Golden Kootenay Resources, Inc. during the period May 11, 1987-January, 1989. This work included grid installation, soil geochemistry, and diamond drilling (3 holes). VLF-Em was run over the grid, and a magnetometer survey was run over part of the grid. Different core drilling programs have reportedly been carried out on the property by Mr. Herman Hoehn of Grand Forks, and Messrs. Cashman and Stanley, also of Grand Forks. These programs are apparently undocumented.

### 1991-1992 PROGRAM

#### Grid Installation

A total of 37.5 km of grid was established as prerequisite to running the ground magnetic survey. Part of this grid was pre-existing, having been installed by previous operations. However, flagging used to mark station locations had deteriorated to varying degrees necessitating re-measuring and re-establishing stations.

The grid consists of an east-west base line with north-south cross lines generally spaced 80 m apart. Stations are located along the cross lines at 30 m intervals, and are marked with a pink/blue flagging combination and aluminum or aluminum/olefin tags. The lines are brushed, blazed, and marked with pink flagging.

In addition to re-establishing the north-south cross lines, their lengths were extended both north and south to cover prospective ground. A more detailed grid with east-west cross lines spaced 60 m apart was established in the eastern portion of the primary grid. This was done to better define a N-S trending magnetic anomaly that was noted early during the survey. Stations are located at 40 m intervals along this grid.

### Magnetometer Survey

The magnetometer survey was run using two Geometrix G-856 portable recording magnetometers. These are proton procession instruments designed to measure the intensity of the earth's magnetic field. Variations in this intensity provide information regarding the mineralogic composition (due to magnetic characteristics of some minerals) of rock over which the instrument is run.

A base station was established at the same location every day during the survey. This instrument was set to automatically measure and record the magnetic intensity at 30 second intervals. This data enabled correction of the field survey for diurnal variation.

The other instrument was designated as field instrument; it was used to measure and record data over the grid. Measurements of magnetic intensity were recorded at 10 m spacing along all grid cross lines.

The data from both instruments was dumped into and stored in a personal computer every evening. After completing the entire survey, the raw field data was corrected for diurnal variation. The corrected values were plotted at 1:5000 scale and contoured (Fig. 3 & 4).

### CONCLUSIONS

The magnetic data produced in this program have demonstrated significant relief on the Eholt property. Based on geologic mapping by the previous operators, and on observations made while running this survey, magnetite-pyrrhotite mineralization associated with calcsilicate skarn is apparently responsible for some of the magnetic highs delineated in this survey. The large dipole anomaly located in the east-central portion of the grid is not easily explained, as there are no known magnetite-pyrrhotite occurrences in this area. Only porphyritic latitic volcanic rocks outcrop in this area. These rocks could conceivably cover an occurrence of magnetic minerals hosted in basement rock below. It may also be possible that the volcanic rocks themselves contain enough magnetite to create this anomaly, given the proper configuration (N-S dike?). Further work is required to identify the source of this, as well as some of the lower-relief magnetic highs.

### RECOMMENDATIONS

This program has identified relatively high magnetic relief over portions of the Eholt property. The next step toward evaluation will be detailed geologic mapping on a scale of 1:5000 or larger. Lithogeochemical sampling should coincidentally be carried out.

Soil geochemical coverage should be extended over those portions of the property not sampled by the previous operators. Magnetic anomalies identified in this survey warrant additional attention; they should be systematically evaluated in the field by first geologic mapping and then possibly more detailed geochemistry and geophysics (magnetic, induced polarization surveys). Providing that results are encouraging, targets should be drill tested.



STATEMENT OF COSTS

Salaries	
41 man days @ \$170/day	\$ 6970
Room and Board	
31 days @ \$55/day	1705
Magnetometer Rental	500
Vehicles/Transportation	1030
Field Supplies	<u>300</u>
TOTAL	\$ 10505

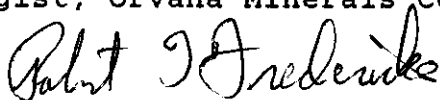
*Robert J. Frederick*

STATEMENT OF QUALIFICATIONS

I, Robert T. Fredericks, of Moscow, Idaho, U.S.A., certify that:

1. I am a geologist employed by Orvana Minerals Corporation, 710 - 1177 West Hastings Street, Vancouver, B.C., V6E 2K3, at their offices located at 2005 Ironwood Parkway, Suite 222, Coeur d'Alene, Idaho 83814 U.S.A.
2. I am a graduate of the University of Idaho, Moscow, Idaho, and hold a B.Sc. degree in Geology.
3. I have been practicing my profession for the past five years.
4. I am registered as a Geologist in Training (GIT) with the Idaho State Board of Registration for Professional Geologists.
5. This report is based on information that I and others under my supervision obtained while on the Eholt property during the period October, 1991 - March, 1992.

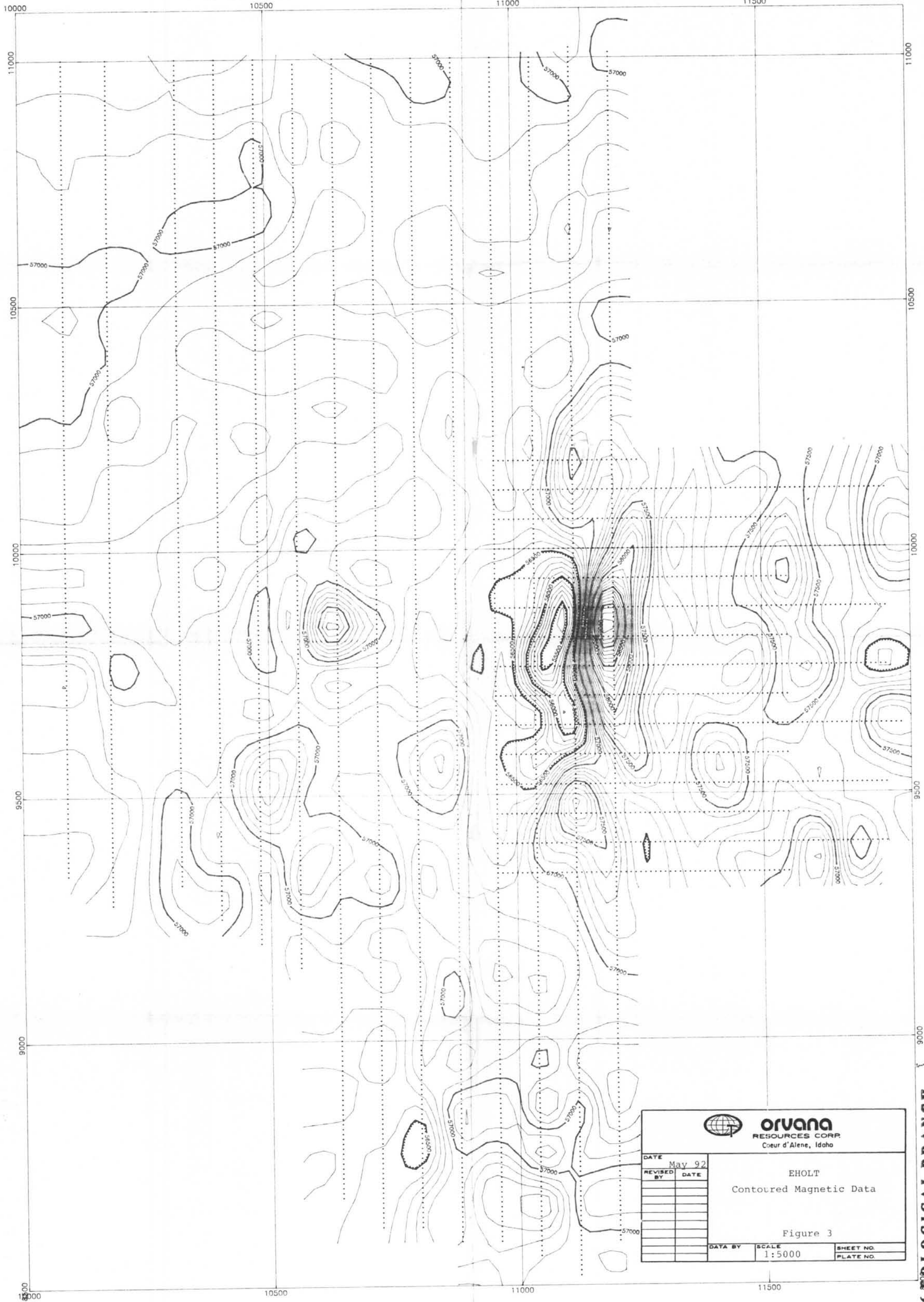
Robert T. Fredericks  
Geologist, Orvana Minerals Corporation.



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- Fyles, J.T., 1990, Geology of the Greenwood-Grand Forks Area, British Columbia, NTS 82E/1,2, British Columbia Geological Survey Open File 1990-25.
- McLeod, J.W., 1988, Report on the Eholt Property, Unpublished Assessment Report #17488.
- McLeod, J.W., 1991, Report on the Eholt Property, Unpublished Report on behalf of Golden Kootenay Resources, Inc.

EHOLT GROUND MAGNETIC SURVEY, SPRING 1992



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Coeur d'Alene, Idaho

DATE	May 92
REVISED BY	DATE

EHOLT  
Contoured Magnetic Data

Figure 3

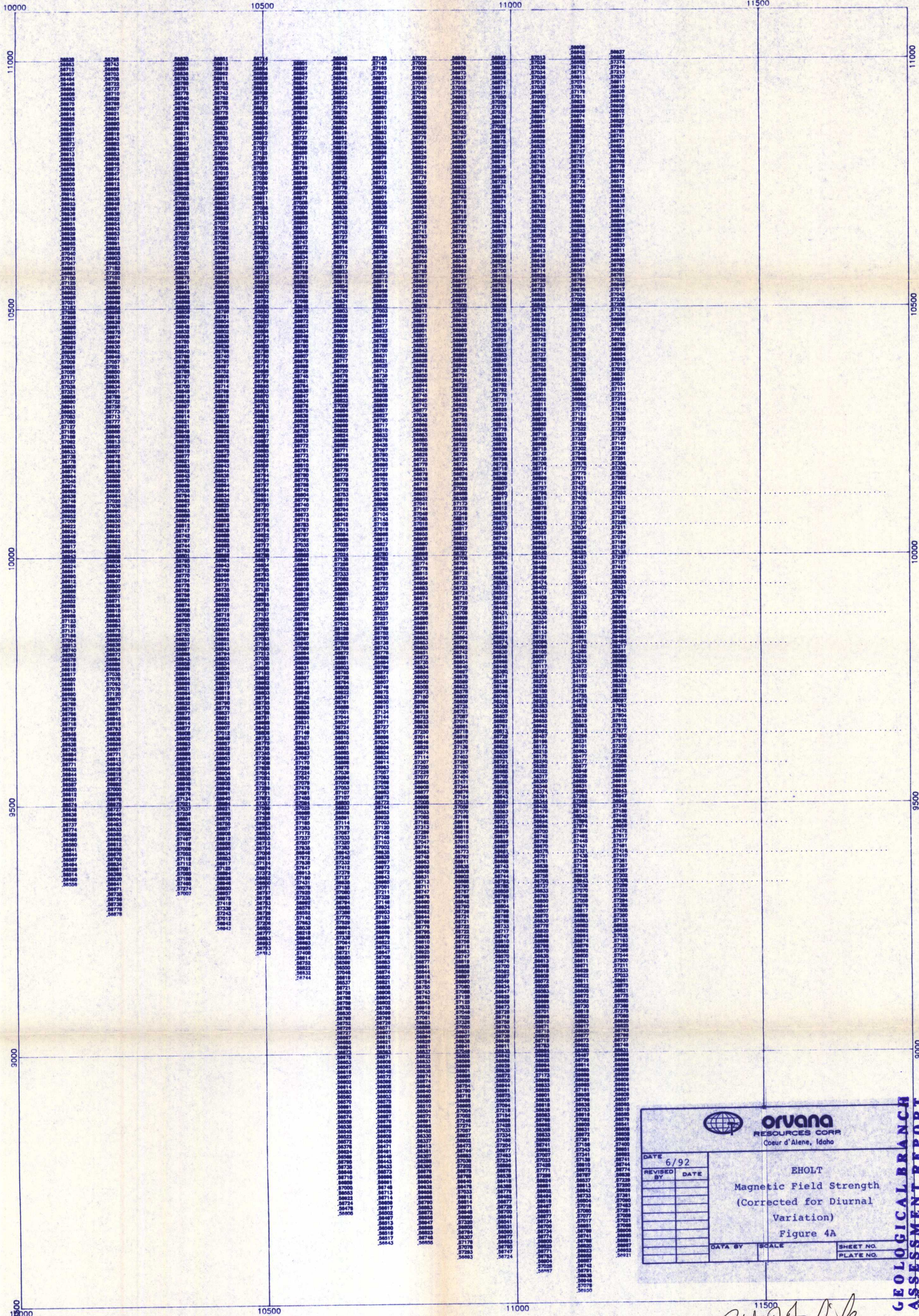
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REVISION: [ ] DATE: [ ]

EHOLT  
Magnetic Field Strength  
(Corrected for Diurnal  
Variation)  
Figure 4A

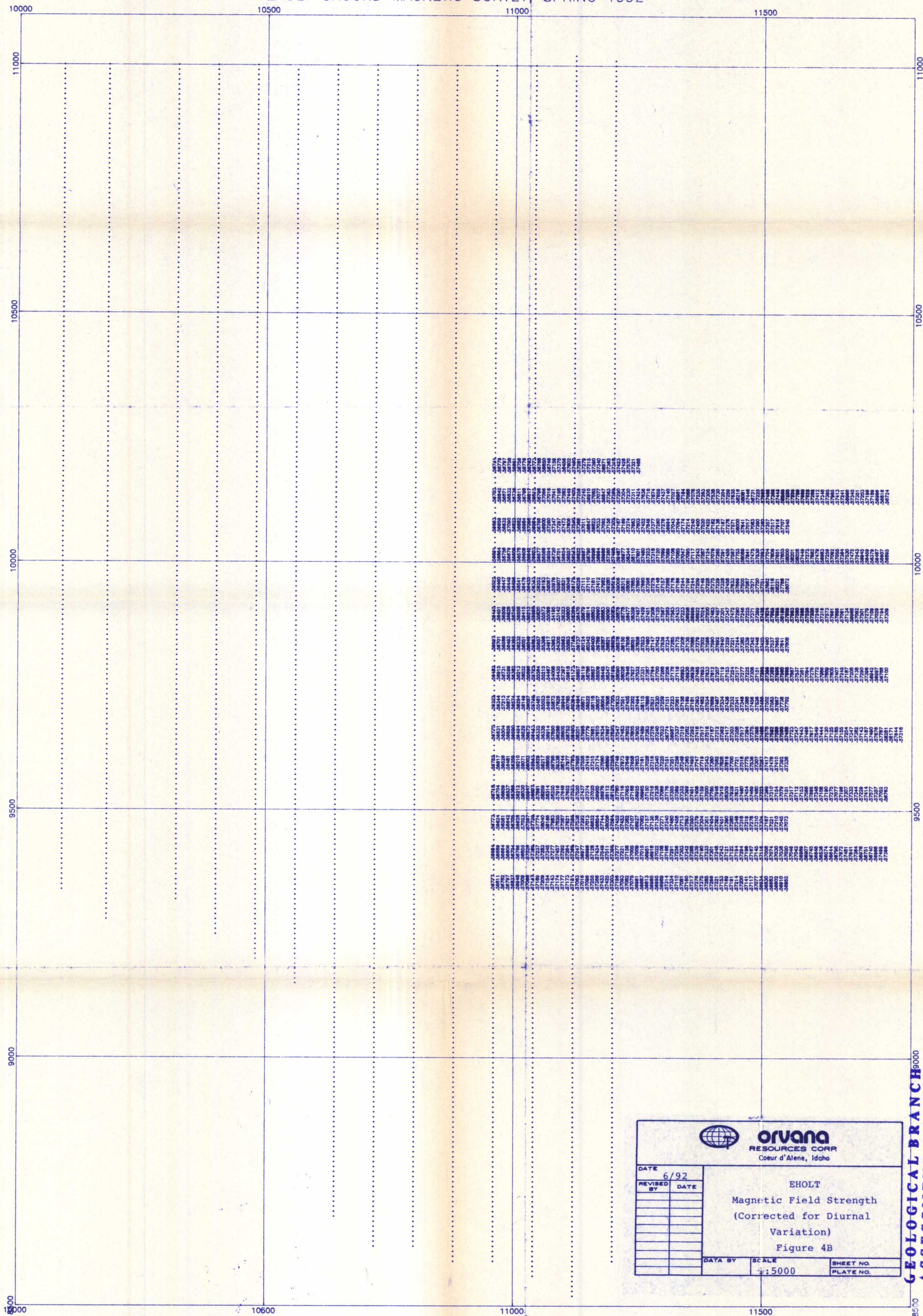
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PLATE NO.: [ ]


*Robert J. Fredrick*

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EHOLT GROUND MAGNETIC SURVEY, SPRING 1992

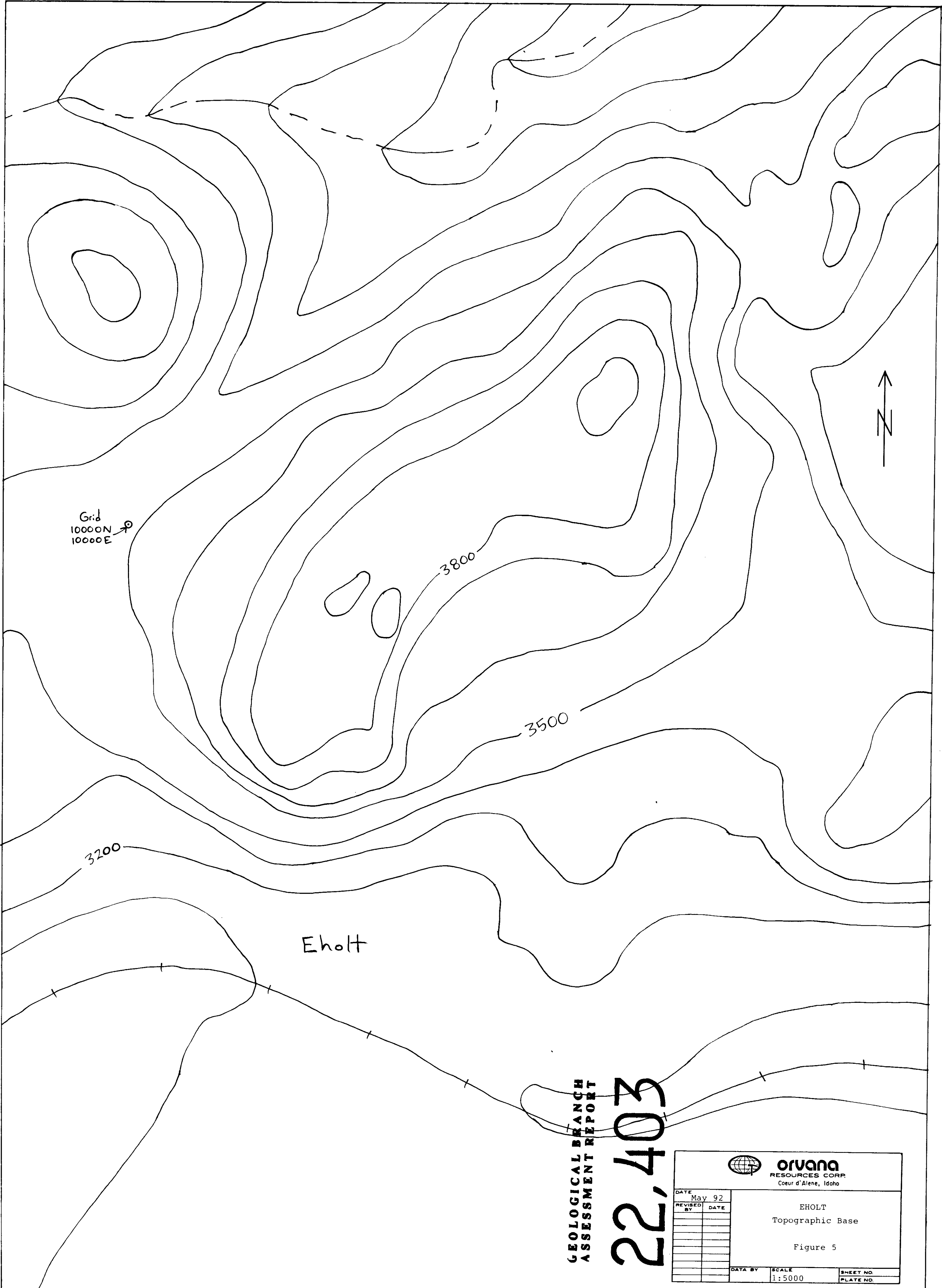


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DATE	6/92
REVISOR	
DATE	
EHOLT Magnetic Field Strength (Corrected for Diurnal Variation) Figure 4B	
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Grid  
10000N  
10000E



3800


3500

3200

Eholt

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DATE	May 92	EHOLT Topographic Base	
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		Figure 5	
		DATA BY	SCALE
			1:5000
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