

GEOPHYSICAL REPORT

on the  
BOJO CLAIMS

Ross River Area

Watson Lake Mining District

N.T.S. 105-J-4, G-13

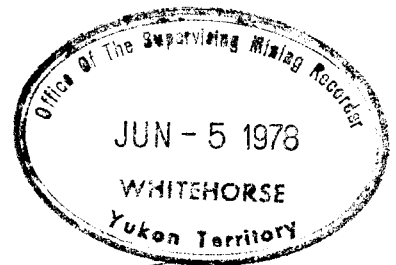


Latitude: 62° 00' N

Longitude: 131° 42' W

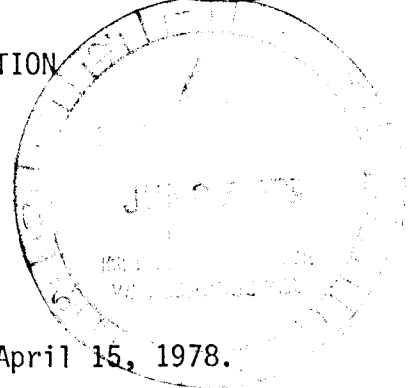
by:

W. ROBERTS



CYPRUS ANVIL MINING CORPORATION

May 11, 1978



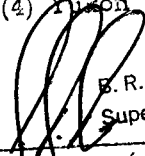
Field Work Done During the Period: March 1 - April 15, 1978.

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

\$ 12,000.00

J. A. Main  
Acting Resident Geologist or  
Resident Mining Engineer

Considered as representation work under  
Section 53 (4) Yukon Quartz Mining Act.

  
E. R. BAXTER  
Supervising Mining Recorder

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Commissioner of Yukon Territory

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LIST OF CLAIMS -- BOJO

<u>Claims</u>	<u>Grant Nos.</u>	<u>Recording Date</u>	<u>Expiry Date</u>
BOJO 9 - 78	YA20247 - YA20316	June 29, 1977	June 29, 1978
105 - 130	YA20317 - YA20342	June 29, 1977	June 29, 1978
133 - 136	YA20345 - YA20348	June 29, 1977	June 29, 1978
143 - 174	YA20349 - YA20380	June 29, 1977	June 29, 1978
131 - 132	YA25760 - YA25761	Sept. 14, 1977	Sept. 14, 1978

GEOPHYSICAL REPORT

on the

BOJO CLAIMS

INTRODUCTION

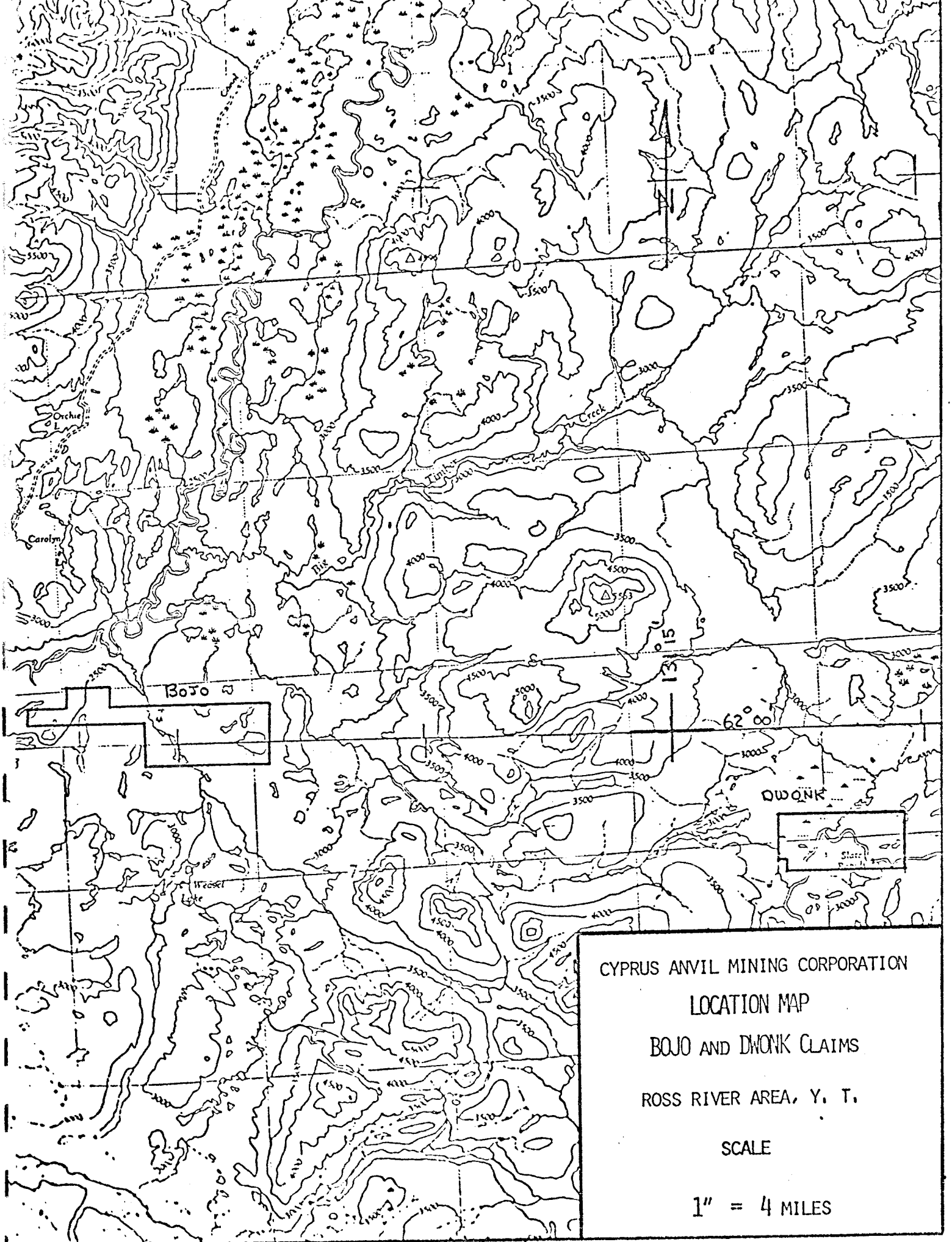
An Input Mark VI airborne electromagnetic system was flown over a 100 square mile area in the Ross River Valley approximately 10 miles northeast of Ross River. This survey, conducted by Questor Surveys Limited, was flown to outline electromagnetic and magnetic anomalies in an area largely covered by overburden.

The BOJO Group was staked in June to cover three coincident airborne electromagnetic-magnetic responses outlined by the Input survey. The proposed exploration target is massive stratiform pyrite-lead-zinc mineralization with minor pyrrhotite in black graphitic phyllite.

A grid, totalling 13 line miles, was established in March and ground magnetometer and Horizontal Loop electromagnetic surveys were completed by mid-April. Limited soil sampling, prospecting and geological mapping is planned for the 1978 field season.

LOCATION AND ACCESS

The BOJO 9-78, 105-136, 143-174 claims are located in the overburden covered flat terrain south of the Ross River. The centre of the claim group, located at longitude 131° 42' W and latitude 62° 00' N, is 24 miles east of Ross River,



CYPRUS ANVIL MINING CORPORATION  
LOCATION MAP  
BOJO AND DWOINK CLAIMS  
ROSS RIVER AREA, Y. T.  
SCALE  
1" = 4 MILES

4 miles north of Weasel Lake and 11 miles south-southeast of Orchie Lake. Access to the property was provided by helicopter based at Ross River.

### REGIONAL SETTING

Rock units along the southwestern margin of the Selwyn chert basin are mapped as two distinct geological terrains - the Pelly Platform carbonates and Anvil Range metamorphics. The Pelly Platform limestones and associated eastern slope black calcareous shales underlie much of the Ross River Valley north of the BOJO Claims.

The Anvil Range assemblages, consisting of two mica schist, calc-silicates, black to grey phyllite and associated interbeds of metabasites, can be traced from Faro southeast along the Orchay batholith to the Yukon Revenue claims just south of the BOJO Group. The contact with the Pelly Platform lithologies in the Bojo Lake area is unknown due to a severe lack of outcrop but has been projected to lie just south of the BOJO Claim block.

Stratiform lead-zinc deposits in Nasina slope facies shales are expected to be similar to "Howard's Pass" type mineralization which contains no magnetic and little electromagnetic response. The Faro, Vangorda and Swim massive pyrite-lead-zinc deposits, with minor pyrrhotite mineralization, have strong coincident magnetic and electromagnetic responses. The coincident geophysical target outlined near the west end of Bojo Lake is very similar to geophysical anomalies associated with Anvil Range deposits.

Limited prospecting and geophysical interpretation would suggest the western geophysical feature underlying BOJO Claims 9-46, reflects a Tertiary volcanic flow overlying a conductive belt of graphitic shale or phyllite. Although exposures of underlying units are rare in this area, geological mapping and prospecting will be conducted on the BOJO Group during the 1978 field season.

## GEOPHYSICAL SURVEYS

A grid, totalling 13 line miles, was cut in March by Eastern Associates to provide ground control for the magnetometer and electromagnetic surveys. East-west base lines were cut by chain-saw and all cross-lines were established using axe and machete.

### Magnetometer Survey

#### Survey Method

Readings were taken with the Proton magnetometer at 100 foot intervals in background areas and at 50 foot intervals in anomalous areas. Corrections were made for diurnal variation by establishing a series of base stations along the base line and by tying in to these as often as possible during the survey.

#### Instrumentation

A Model G816 proton magnetometer manufactured by Geometrics of Palo Alto, California, was used for the survey.

#### GEOMETRICS MODEL G816 PROTON MANGETOMETER SPECIFICATIONS

SENSITIVITY:	±1 gamma throughout range.
RANGE:	20,000 to 90,000 gammas (worldwide)
TUNING:	Multi-position switch with signal amplitude indicator light on display.
GRADIENT TOLERANCE:	Exceeds 150 gamma/ft.
SAMPLING RATE:	Manual push-button, one reading each 6 seconds.
ACCURACY (TOTAL FIELD):	±1 gamma through 0° to 50°C temperature range.
SENSOR:	High signal, noise cancelling, interchangeably mounted on separate staff or attached to backpack.
TEMPERATURE RANGE:	Console and sensor; -40°C to +85°C.



### Interpretation

The magnetometer survey accurately outlined the broad weak magnetic feature delineated during the airborne program. The broad low magnitude anomaly in the center of the grid probably represents a shallow flat lying weakly magnetic horizon. The elongate feature on Lines 0, 8 W, and 16 W indicates a steeply dipping narrow horizon with weak magnetic susceptibility.

### Horizontal Loop Electromagnetic Survey

#### Survey Method

The MaxMin unit was used in the horizontal loop mode with cable lengths of 100 and 150 meters. Frequencies of 1777 Hz and 444 Hz were read with the 100 meter cable and 888 Hz and 222 Hz were read with the 150 meter cable. Readings were taken at 100 foot intervals and at 50 foot intervals in anomalous areas along the cut lines. Slopes were measured using an inclinometer and the transmitter and receiver coils were aligned using the built-in tilt meter.

#### Instrumentation

The Apex MaxMin II electromagnetic system manufactured by Parametrics Limited, Markham, Ontario, was used on the entire claim block. Specifications for the instrument are shown below:

#### APEX MAXMIN II EM SYSTEM SPECIFICATIONS

OPERATING FREQUENCIES: 222, 444, 888, 1777 and 3555 Hz.

COIL SEPARATIONS: 50, 100, 200, 250 meters.

MODES OF OPERATION: (a) Tx coil plane and Rx coil plane horizontal (Horizontal loop mode).  
(b) Tx coil plane horizontal and Rx coil plane vertical (Minimum coupled mode).

PARAMETERS MEASURED: In-Phase and Quadrature component on the secondary field.

READOUTS: Automatic, direct readout on 3½" size meters.

SCALE RANGES: In-Phase: ±20% normal, ±100% by switch.  
Quadrature: ±20% normal, ±100% by switch.  
Inclinometers: ±50% tilt.

READING REPEATABILITY: ±½% to ±1%.

Interpretation

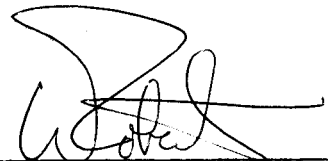
The electromagnetic survey delineated a strong east-west trending conductor on Lines 24, 32 and 40 W that is coincident with the northern boundary of the broad magnetic feature. This pattern suggests the shallow flat lying weakly magnetic horizon is conductive. Depth calculations indicate the target occurs at a depth of 100 to 200 feet.

Two electromagnetic conductors outlined on Lines 0, 8 and 16 W are coincident with two merging linear magnetic anomalies. The response indicates steeply dipping weak conductors with weak magnetic susceptibility.

CONCLUSIONS AND RECOMMENDATIONS

The geophysical program successfully delineated two coincident magnetic-electromagnetic anomalies that are similar to anomalies obtained over the Faro, Vangorda and Swim massive sulphide deposits in the Anvil Range. The geophysical response appears to represent weakly conductive horizons with weak magnetic susceptibility. Although the claim group lies in an overburden covered valley a program of geological mapping, prospecting, and limited soil sampling is recommended to fully evaluate the geophysical targets.

Respectfully submitted,

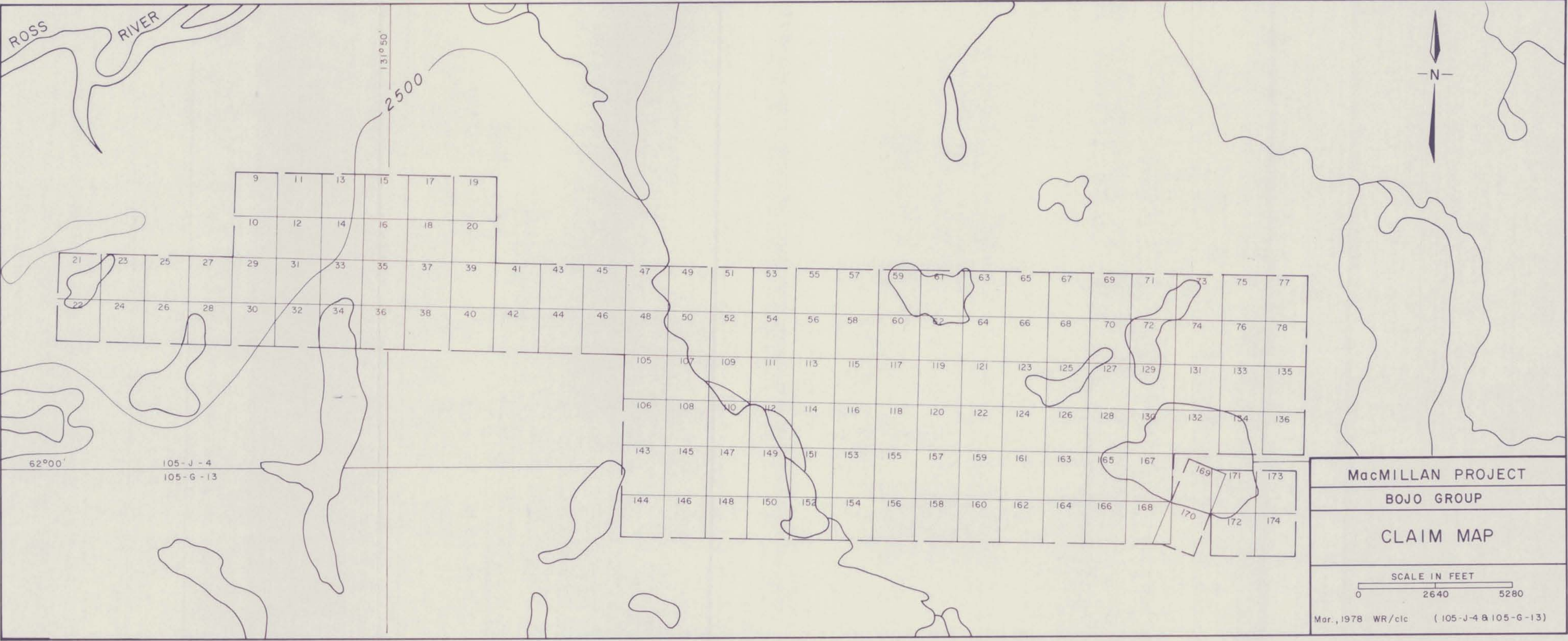


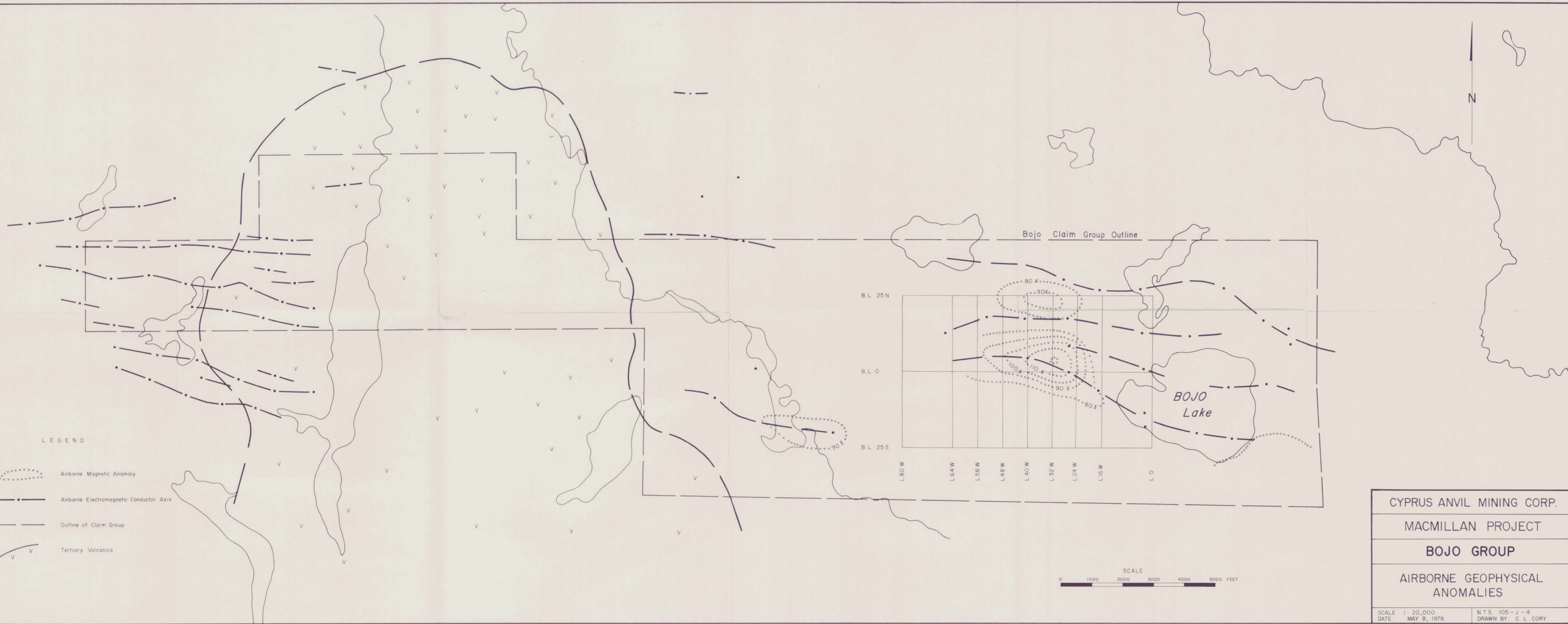
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WAYNE J. ROBERTS





CYPRUS ANVIL MINING CORPORATION

May 11, 1978.





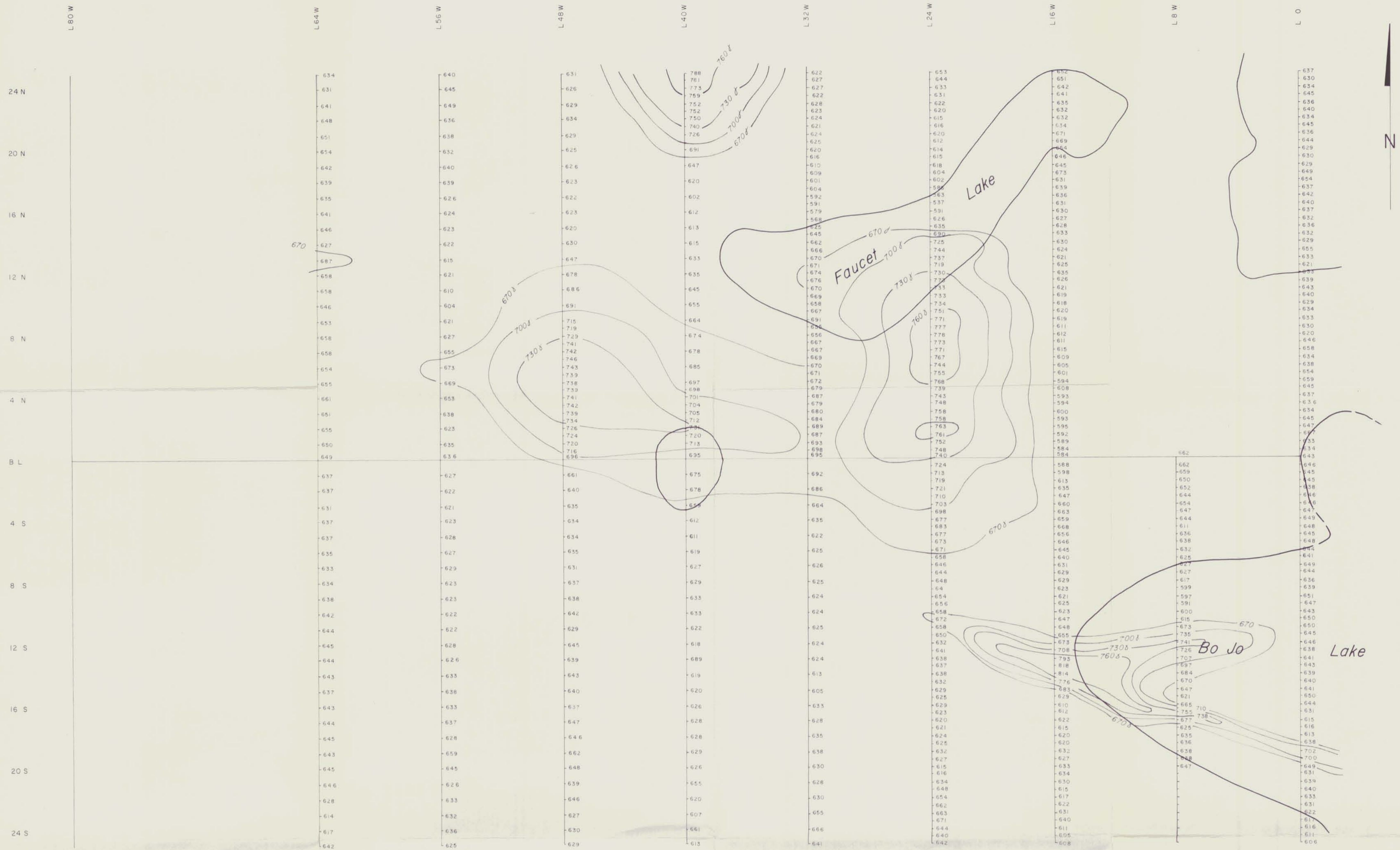
LEGEND

-  Airborne Magnetic Anomaly
-  Airborne Electromagnetic Conductor Axis
-  Outline of Claim Group
-  Tertiary Volcanics



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 MACMILLAN PROJECT  
**BOJO GROUP**  
 AIRBORNE GEOPHYSICAL ANOMALIES

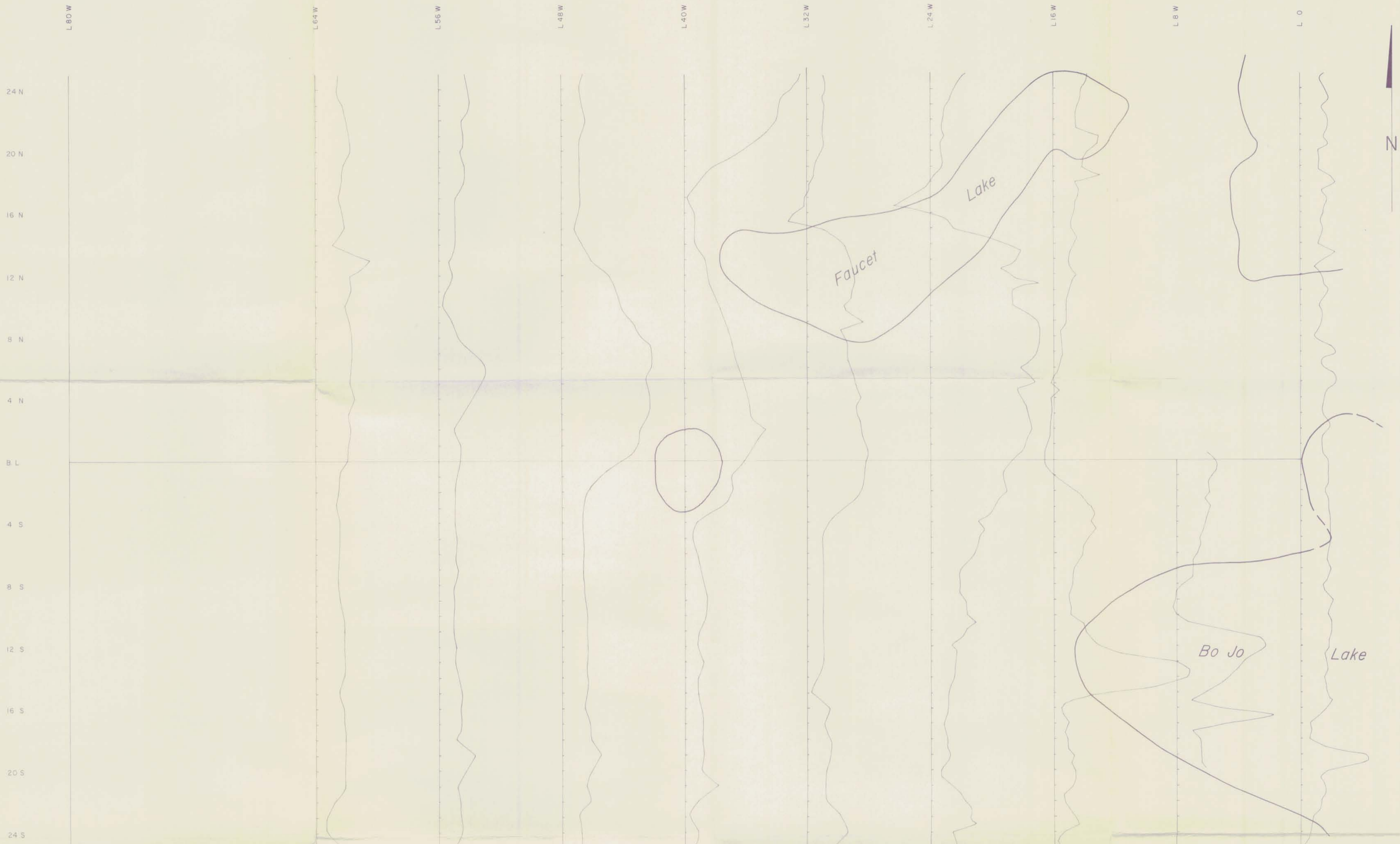
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 DATE MAY 8, 1978  
 N.T.S. 105-J-4  
 DRAWN BY C. L. CORY



CONTOUR INTERVAL - 30 δ

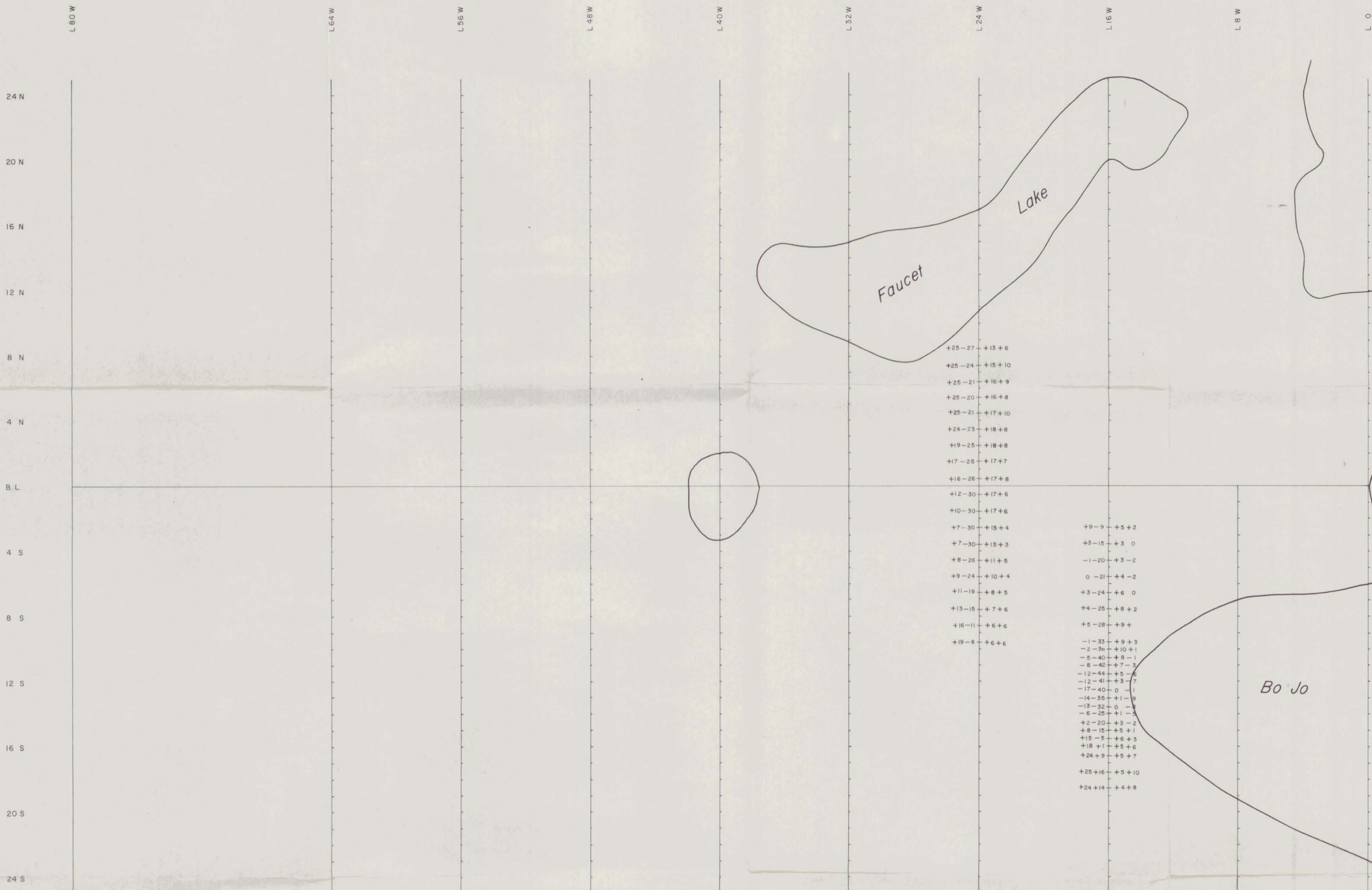
CYPRUS ANVIL MINING CORPORATION  
 MACMILLAN PROJECT  
 BOJO GROUP  
 MAGNETOMETER VALUES & CONTOUR MAP

N.T.S. 105-J-4  
 DATE: MAY 12, 1978  
 Scale 1 in = 400 ft  
 SURVEY BY: J. JOHNSTON  
 DRAWN BY: C. L. CORY

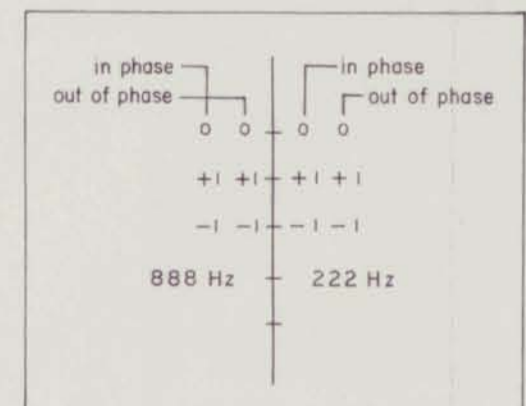


CYPRUS ANVIL MINING CORPORATION  
 MACMILLAN PROJECT  
 BOJO GROUP  
 MAGNETOMETER PROFILES MAP

N.T.S. 105-J-4 400 0 400  
 DATE: MAY 18, 1978 Scale: 1 in = 400ft SURVEY BY: J. JOHNSTON  
 DRAWN BY: C. L. CORY



+25-27	+13+6
+25-24	+15+10
+25-21	+16+9
+25-20	+16+8
+25-21	+17+10
+24-23	+18+8
+19-25	+18+8
+17-25	+17+7
+16-26	+17+8
+12-30	+17+6
+10-30	+17+6
+7-30	+15+4
+7-30	+13+3
+8-26	+11+5
+9-24	+10+4
+11-19	+8+5
+13-15	+7+6
+16-11	+6+6
+19-6	+6+6
+9-9	+5+2
+3-15	+3 0
-1-20	+3-2
0-21	+4-2
+3-24	+6 0
+4-25	+8+2
+5-28	+9+
-1-33	+9+3
-2-36	+10+1
-5-40	+8-1
-8-42	+7-3
-12-44	+5-6
-12-41	+3-7
-17-40	0-1
-14-35	+1-9
-13-32	0-8
-6-25	+1-5
+2-20	+3-2
+8-15	+5+1
+15-5	+6+3
+18+1	+5+6
+24+9	+5+7
+25+16	+5+10
+24+14	+4+8



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MACMILLAN PROJECT

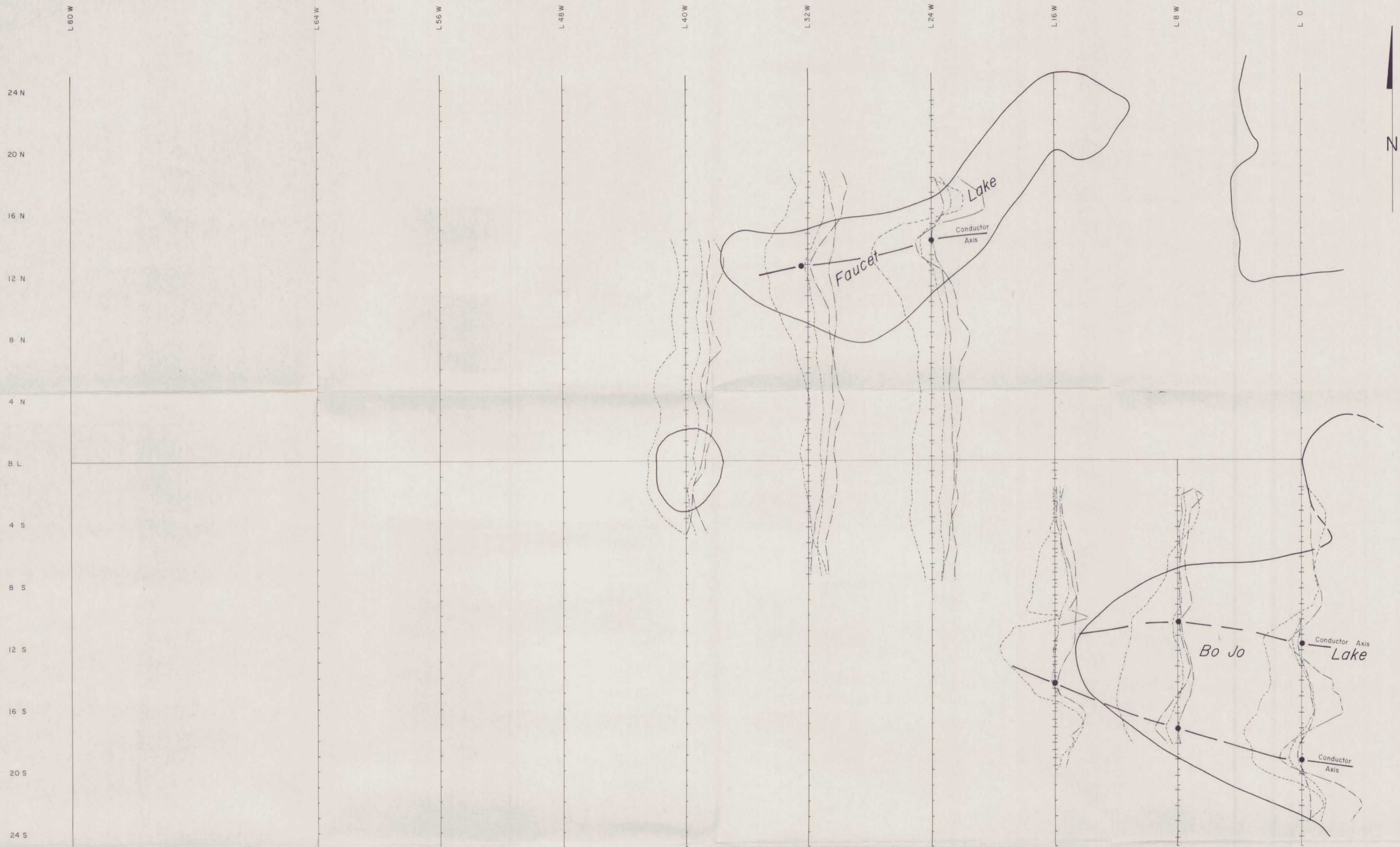
BOJO GROUP

HORIZONTAL LOOP E.M. SURVEY  
VALUES MAP (LINES 16 W - 24 W)

N.T.S. 105 - J - 4  
DATE: MAY 18, 1978

Scale: 1 in = 400 ft.

SURVEY BY: J. JOHNSTON  
T. ZAVESICZKY  
DRAWN BY: C. L. CORY

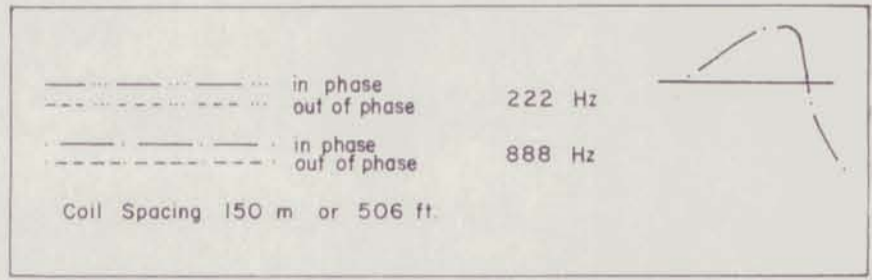


—	in phase	444 Hz
- - -	out of phase	444 Hz
—	in phase	1777 Hz
- - -	out of phase	1777 Hz

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 MACMILLAN PROJECT  
 BOJO GROUP  
 HORIZONTAL LOOP E.M. SURVEY  
 PROFILES MAP

N.T.S. 105 - J - 4  
 DATE: MAY 18, 1978  
 Scale: 1 in = 400 ft  
 SURVEY BY: J. JOHNSTON  
 T. ZAVESICZKY  
 DRAWN BY: C. L. CORY





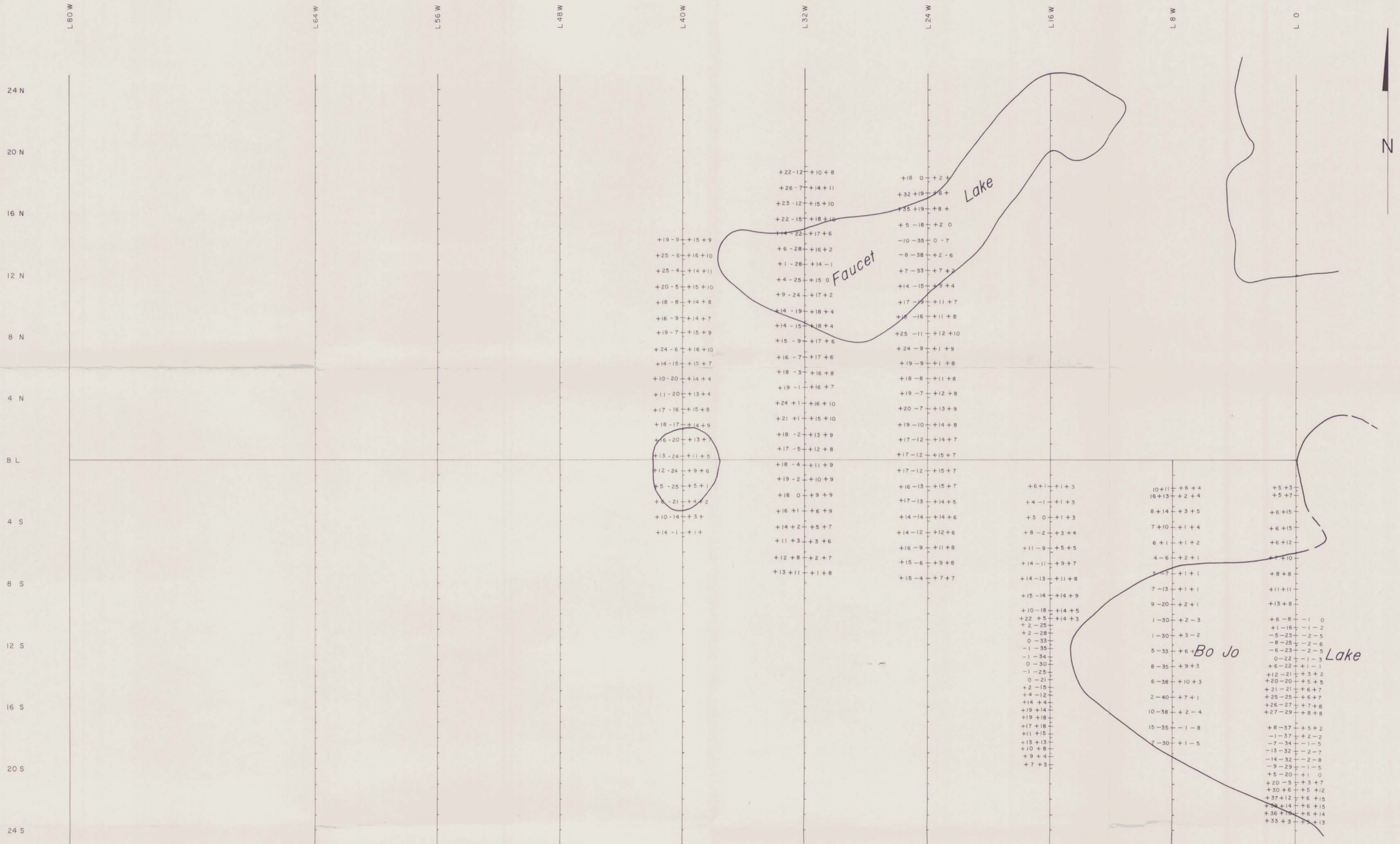
CYPRUS ANVIL MINING CORPORATION

**MACMILLAN PROJECT**

**BOJO GROUP**

HORIZONTAL LOOP E.M. SURVEY  
 PROFILES MAP (LINES 16W - 24W)

N.T.S. 105 - J - 4      400      0      400      SURVEY BY: J. JOHNSTON  
 DATE: MAY 18, 1978      Scale: 1 in = 400 ft.      T. ZAVESICZKY  
 DRAWN BY: C. L. CORY



CYPRUS ANVIL MINING CORPORATION  
 MACMILLAN PROJECT  
 BOJO GROUP  
 HORIZONTAL LOOP E.M. SURVEY  
 VALUES MAP

N.T.S. 105 - J - 4  
 DATE: MAY 15, 1978  
 Scale: 1 in = 400 ft.  
 SURVEY BY: J. JOHNSTON  
 T. ZAVESICZKY  
 DRAWN BY: C. L. CORY