

4276

C. A. AGER & ASSOCIATES LTD.

Telephone: (604) 278-6047

CONSULTING
GEOPHYSICISTS

845-B Cambie Road
Richmond, B.C.
Canada.

103I/16E, 16W

Geophysical Report: "Gravity Survey of
Magnetron Claims".

Niilo, Rega & Jackal Claims groups.
Seven Sisters Mountains, Cminica Mining
Division, B.C., Canada.

54°57' N Latitude by 128°17' W Longitude.
by: Charles A. Ager, M.Sc., geophysicist.
for: Magnetron Mining Ltd.(n.p.l.)

Department of
Mines and Geotechnical Resources
 A TECHNICAL REPORT
 NO. 4276 MAP _____

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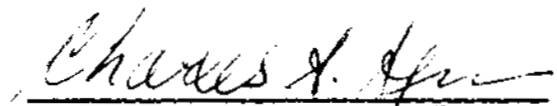
SUMMARY

An exploratory gravity survey over two separate areas of the Niilo, Jackal and Rega Claims groups has revealed several gravity anomalies. In the J-R area, the gravity highs represent a sub-surface excess of mass. Their correlation to exposed and inferred zones of Ag-Pb-Zn-Cu mineralization is so positive that they should be drilled immediately.

In the N-J area, the gravity high anomalies should be further investigated by geological, geochemical and geophysical techniques. As well, computer filtering of the gravity maps should be done to add further significance to the anomalies. One anomaly is so large that it is suspect. However, its proximity to the old mine workings and to the aeromagnetic anomaly mean that it deserves detailed investigation, followed by trenching and drilling.

March 16, 1973

C.A.AGER & ASSOCIATES LTD.



Charles A. Ager, M.Sc.
Geophysicist

TABLE OF CONTENTS

Location and Date of Survey	page 1
Survey Procedure	page 1
Instrumentation and Crew	page 4
Bouguer Gravity	page 4
Interpretation	page 5
Recommendations & Conclusions	page 8
References	page 9
Certificate of Qualifications	page 10
Appendix	page 11

LIST OF FIGURES

Figure 1	Property Location Map	page 2
Figure 2	Gravity Survey Location Map	page 3
Figure 3	Elevation Map, J-R Area	Appendix Leaflet
Figure 4	Bouguer Gravity Map, J-R Area	Appendix Leaflet
Figure 5	Elevation Map, N-J Area	Appendix Leaflet
Figure 6	Bouguer Gravity Map, N-J Area	Appendix Leaflet

LOCATION & DATE OF SURVEY

Location: Magnetron Mining Ltd. (n.p.l.) mineral claims;
Niilo, Jackal and Rega Claims Groups,
Seven Sisters Mountains, Omineca Mining Division,
British Columbia, Canada.
54° 57' N Lat by 128° 17' W Long
NTS map sheets 103I/16e,w

Date: July 15, 1972 - March 16, 1973

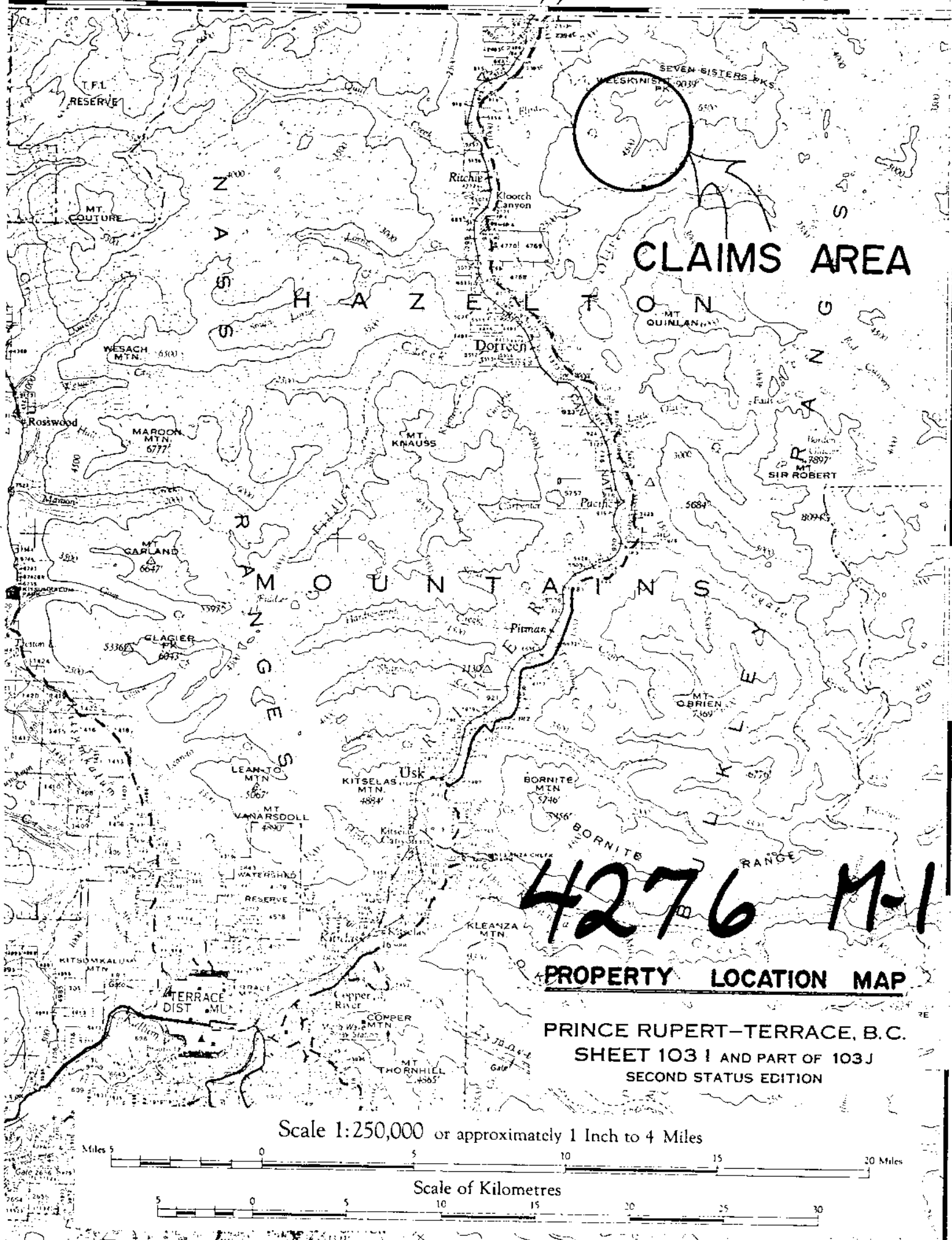
SURVEY PROCEEDURE

Two different areas were surveyed within the Magnetron claims groups. These areas are shown on the Gravity Survey Location Map, Figure 2, and are referenced as the J-R and the N-J areas. Survey procedures were identical for both areas.

The gravity stations were located by a chain and compass survey. Each line is well flagged and each station is marked by its grid point number.

Gravity observations were taken at 50 foot intervals along the surveyed grid lines as defined on the base maps, Figures 3 and 5. In general, the grid lines run east-west and average 200 feet in north-south spacing.

Elevation and gravity control points were occupied within two hour intervals. All elevations were double run and corrected



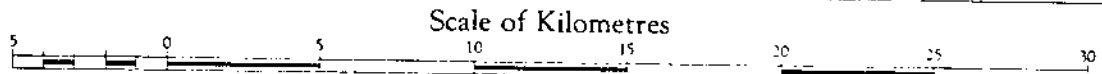
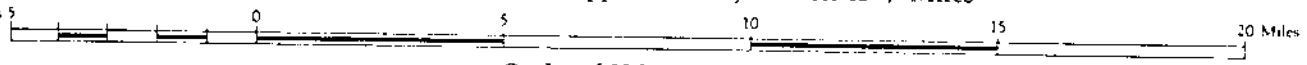
CLAIMS AREA

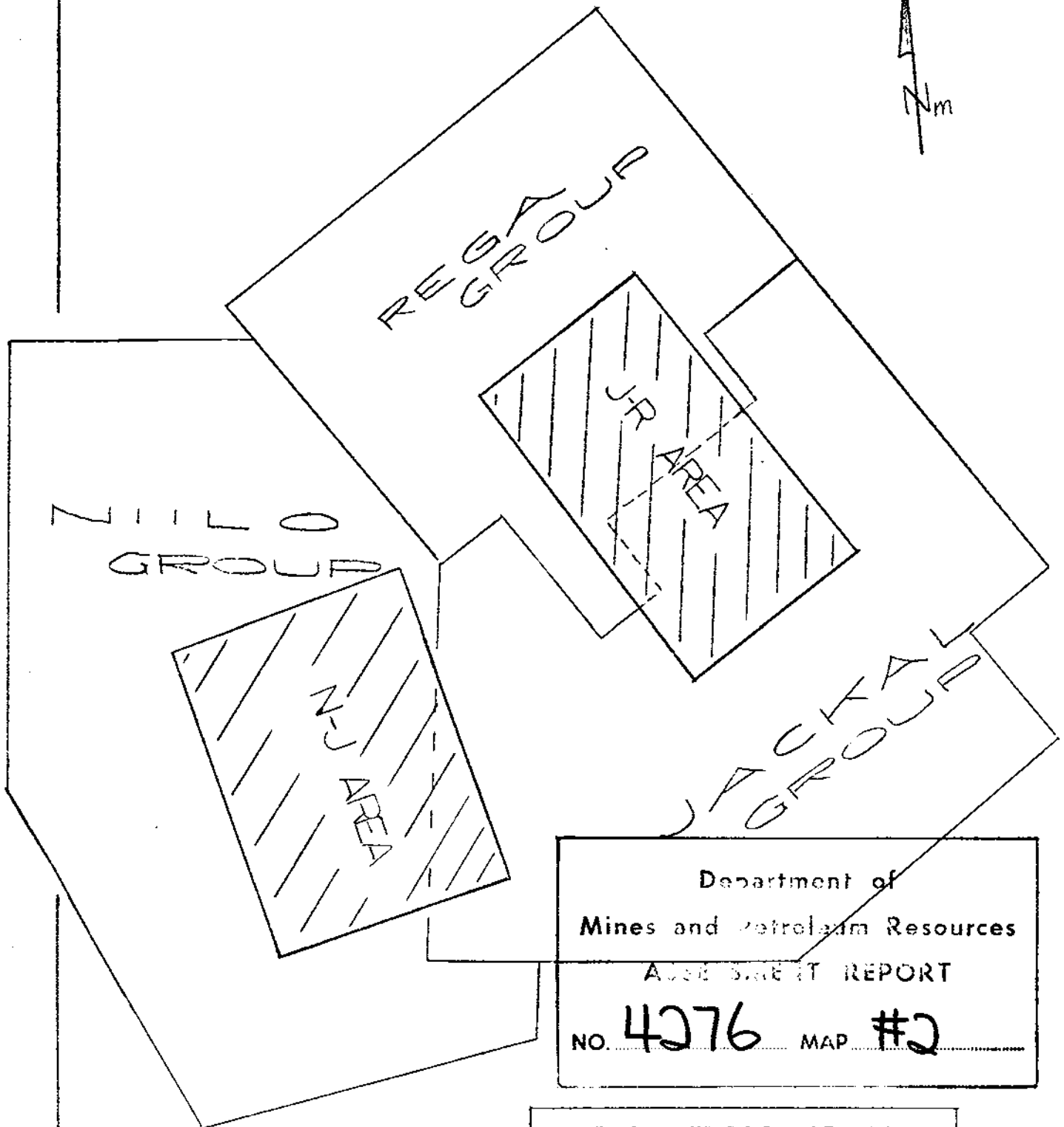
4276 M-1

PROPERTY LOCATION MAP

**PRINCE RUPERT-TERRACE, B.C.
SHEET 103 I AND PART OF 103 J
SECOND STATUS EDITION**

Scale 1:250,000 or approximately 1 Inch to 4 Miles





Department of
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ASSESSMENT REPORT
NO. 4276 MAP #2

GRAVITY SURVEY LOCATION MAP
Magnetron Claims Groups:
Nillo, Jackal and Rega

for diurnal variations to yield a relative elevation accuracy within ± 3 feet for each station. The elevation at the Camp base station was picked from map sheet 103 I/16w to be 4110 feet. The elevation maps, Figures 3 and 5, are each relative to this base point.

In addition, gravity ex-center bases were established at 00+00 on each of the grids where the gravity values were taken to be 0.00 mgals.

INSTRUMENTATION & CREW

The vertical component of the gravitational field was observed using a Worden Gravity Meter with a reading accuracy of ± 0.08 mgals.

Elevation control was maintained using two Wallace and Tiernan Surveying Altimeters (type FA181) supplemented by a manual psychrometer for temperature and relative humidity corrections. Reading accuracy for each instrument is better than ± 1.0 feet.

Senior observer and party chief was George J. Penner of C.A. Ager & Associates Ltd. Field crew included Eob Swanson as surveyor/instrument operator and Rick Sperling as field assistant.

BOUGUER GRAVITY

The Bouguer gravity maps (figures 4 and 6) represent the relative gravity field corrected for the effects of drift,

latitude, free air and Bouguer slab ($\rho = 2.50 \text{ gm/cm}^3$). The Bouguer density was selected using the density profiling technique of Nettleton. This procedure minimizes the correlation between elevation and observed (Bouguer) gravity and, hence, acts as a terrain filter. However, careful scrutiny of the elevation plans reveals that there are still some terrain effects in the data. Since these effects are easily recognized no further terrain corrections are needed unless a more detailed interpretation is desired at a later date.

INTERPRETATION

J-R Area (Figure 4)

Interpretation of the Bouguer Anomaly Map for the J-R area indicates several features that are important to ore search in this area and to the location of drill sites:

(1) Faulting: Four distinct lineations are evident on the gravity map. Since these correspond to known offsets in mineralized zones, they are interpreted as faults. They are marked as such on Figure 4. They generally strike NW-SE. Without further knowledge of the surface geology it is difficult to speculate on the direction of slip, but it appears that there is a right lateral component. However, since the dip of the mineralized veins steepens to the south a large part of the suggested strike slip can be accounted for by dip slip across a vein that flattens with depth. In any event, the surface exposures of mineralization are offset by inferred faulting and this will play an important role in the drilling of the property.

(2) Gravity High Anomalies: Two very distinct gravity high anomalies are evident on the contoured gravity map, Figure 4. Surface density measurements made on 20 rock samples within the surveyed area show no appreciable change in the density character of the sedimentary rock units. These gravity highs therefore indicate an excess of mass at depth. The J4E anomaly is located down dip from an exposed vein of ore grade and width mineralization (Ag-Pb-Zn). Its southern extension appears to be faulted off to the west as inferred by the J4W anomaly. There are no surface suggestions of mineralization to account for the J4W anomaly. Since this anomaly is open to the south, its size and nature will remain unknown until the gravity survey can be completed to the south. Regardless, both these anomalies are extremely important and should be drilled to a minimum depth of 600 feet.

(3) Other Gravity Anomalies: The gravity low between the J4E anomaly and the vein outcrop is due to terrain effects of the cliff exposure of the vein and should be disregarded. The other gravity lows are peripheral to the two gravity highs and are a distinct signature that isolates them from the normal gravity gradient in the area. The gravity profiles to the north indicate considerable gravity character. There is every indication that a broad gravity high is present in the north area, but further observations are required before any detail interpretation can be made.

N-J Area (Figure 6)

Visual interpretation of the Bouguer Anomaly Map for the N-J area shows two major excess mass anomalies and several lineations:

(1) Lineations: The lineations characterized by subtle gravity troughs are marked on the gravity map with dashed lines. Whether they represent faults or rock contacts is unknown at this time. Their relatively parallel nature (strike is about magnetic north) suggests faulting, but sedimentary bedding is a good possibility as well.

(2) Gravity Anomalies: Two major gravity high anomalies are indicated on the gravity map, Figure 6. One of these, the Camp Anomaly is exceptionally large. Its steep gradient on the north suggests that the causative source dips to the south. Visual examination shows that the western portion of the anomaly is correlated with the elevation map. First impressions are that this anomaly is caused by a different rock unit. However, its proximity to the aeromagnetic anomaly and to outcrops of ore grade mineralization mean that it deserves a very close inspection. The switchback anomaly is located in a swamp clearing and is uncorrelated to terrain. Both these anomalies should be tested thoroughly by trenching and geological mapping. There appears not to be any significant gravity high over the old mine workings to the n-e of the surveyed area. Since there is a lot of subtle character and correlations with terrain, computer filtering is recommended for precise delineation of targets.

RECOMMENDATIONS & CONCLUSIONS

Based on the gravity results for the J-R Area, it is recommended that the survey be extended to the south and to the north, and that diamond drilling to a minimum depth of 600 feet be done on the gravity highs. At the same time, the surface geology should be mapped and a ground magnetometer survey done in order that the extent of the mineralized zones can be precisely determined.

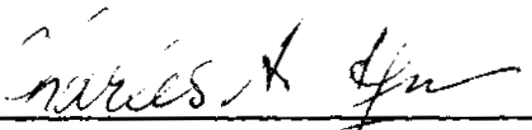
Since there are few outcrops on the N-J Area in the vicinity of the gravity anomalies, the following is recommended:

- (1) Reconnaissance geochemical survey over and around the gravity highs,
- (2) Ground magnetometer survey over the whole survey area,
- (3) Geology mapping of the whole area,
- (4) Trenching of the excess mass anomalies, and if warranted,
- (5) Diamond drilling of the targets.

It appears likely that further mineralization will be discovered once the follow up program has begun. However, it is important to remember that at least 80 percent of the exploration budget should be allotted for diamond drilling. In short, enough preliminary work has been done and drill targets are pinpointed, so drilling should commence in the first stage of the follow up program.

March 16, 1973

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Charles A. Ager, geophysicist

REFERENCES

- Ager, C.A., Aeromagnetic Survey of Magnetron Claims,
Magnetron Mining Ltd., Vancouver, B.C., 1972.
- Grant, F.S. and West, G.F., Interpretation theory in applied
geophysics, McGraw-Hill, 1965.

CERTIFICATE OF QUALIFICATIONS

I, Charles A. Ager, do hereby certify that:

(1) I am a practising Geophysicist with offices and residence at 815B Cambie Road, Richmond, B.C., Canada.

(2) I have received the following university degrees:

(a) B.A. (Honours) in Mathematics/Physics from California State University, Sacramento, Calif., 1968.

(b) M.Sc. in Applied Geophysics from the University of British Columbia, Vancouver, B.C., 1972.

(3) I am a member of the B.C. Geophysical Society, and a member of the Society of Exploration Geophysicists.

(4) The following is a true summary of my employment record and experience:

1961-65 Electronics, United States Air Force, U.S.A., Far East, Middle East.

1965-68 Sacramento State College (now called California State University at Sacramento), Sacramento, Calif.

1968-71 Exploration-Geophysicist, Magnetron Mining Ltd., Vancouver, B.C.

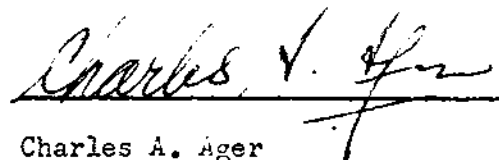
1970-73 Geophysics Graduate Student and Teaching Assistant, Dept of Geophysics, University of B.C., Vancouver, B.C.

1971,72 Geophysicist, Mineralogical Branch, B.C. Dept of Mines and P.K., Victoria, B.C.

1971-73 Independent consulting geophysicist, Richmond, B.C.

(5) I am the author of several publications, reports, maps, etc. on mining and exploration geophysics.

DATED at Richmond, British Columbia, this 16th day of March, 1973.

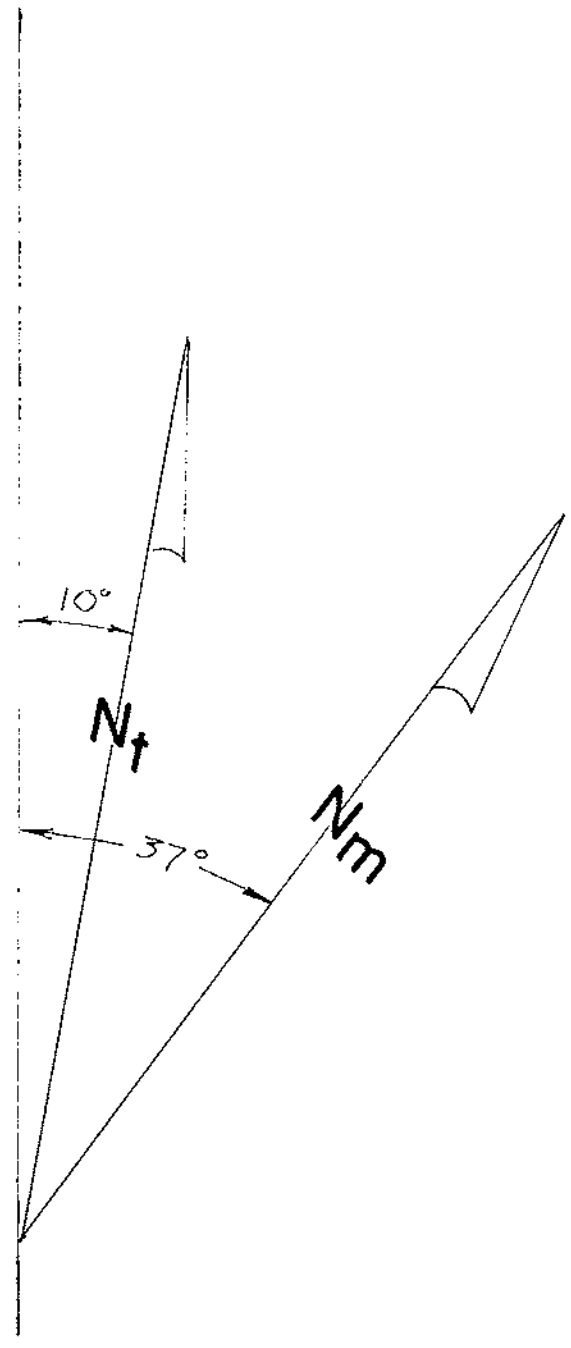
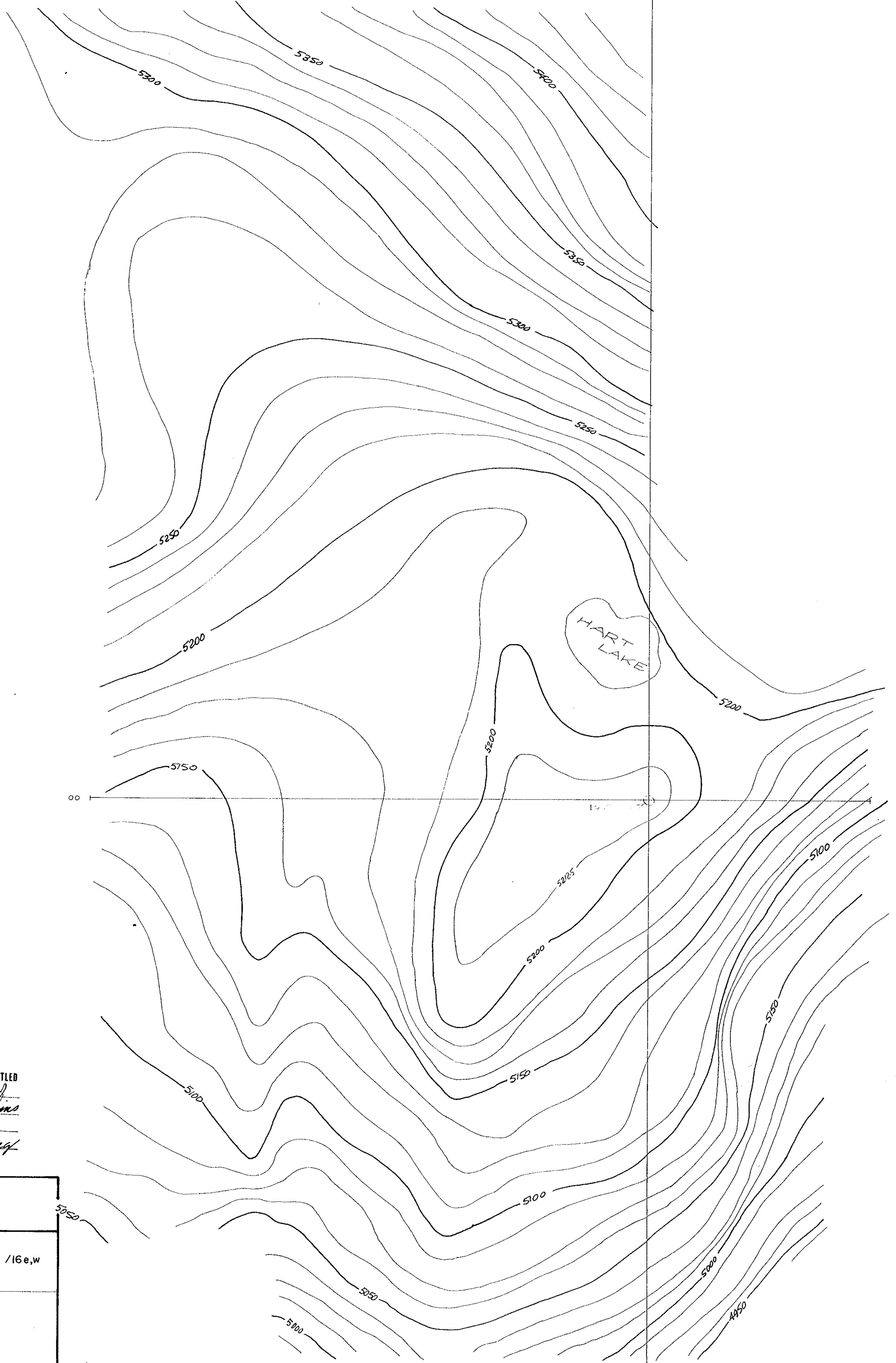


Charles A. Ager
Geophysicist

APPENDIX

ZIILLO
LAKE

REGA
LAKE



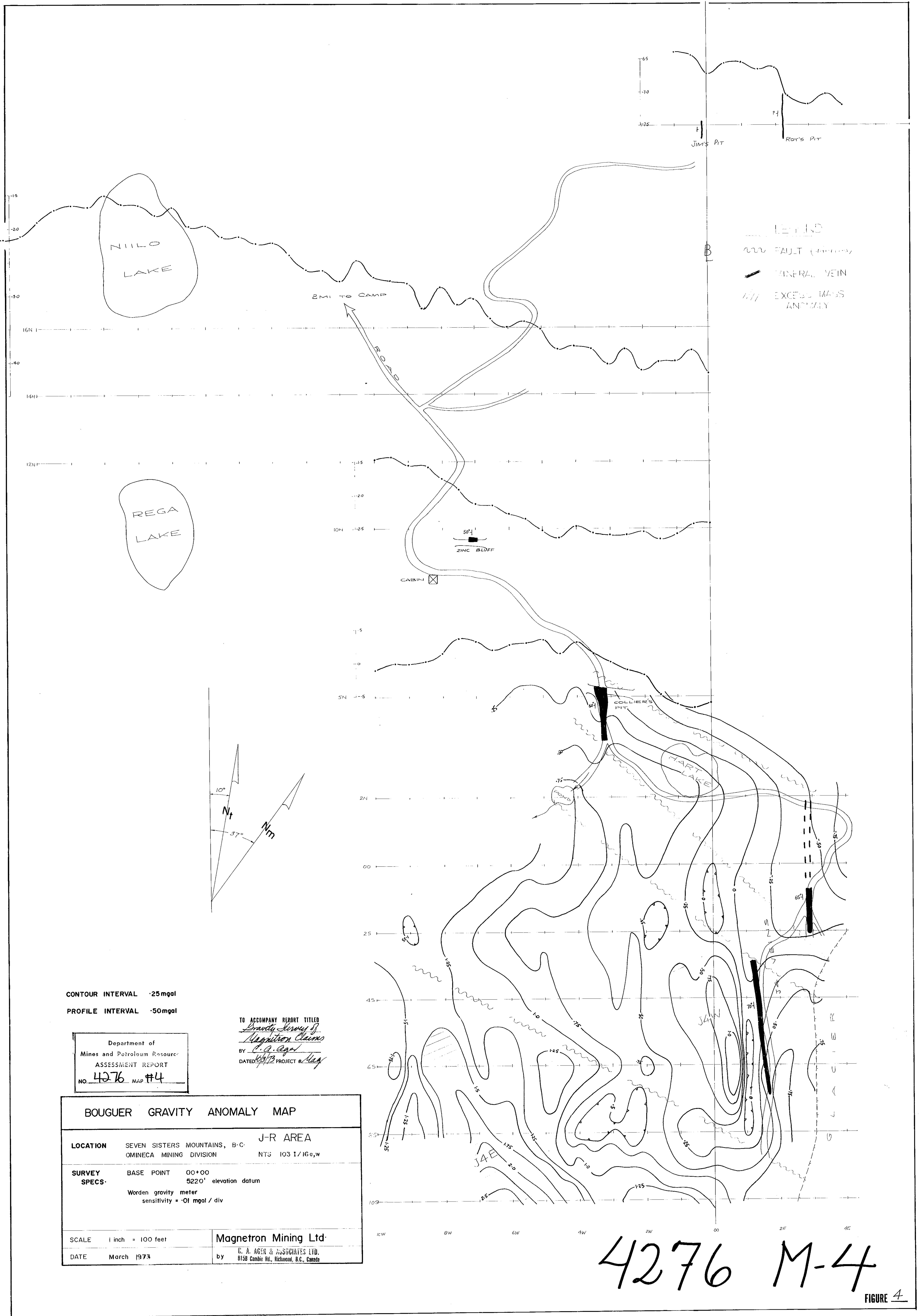
CONTOUR INTERVAL 12.5 FT

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4276 MAP #3

TO ACCOMPANY REPORT TITLED
*Drainage Survey of
Magnetron Claims*
BY *C.A. Ager*
DATED *6/9/73* PROJECT #*Mag*

ELEVATION MAP	
LOCATION	J-R AREA SEVEN SISTERS MTNS, B-C NTS 103 I /16e,w
SURVEY SPECS.	BASE POINT 00+00 5220' elevation datum Wallace & Tiernan altimeters + psychrometers sensitivity = ±1.0 ft relative accuracy = ±3.0 ft
SCALE	1 inch = 100 feet Magnetron Mining Ltd.
DATE	March 1973 by C. A. AGER & ASSOCIATES LTD. 8158 Cambie Rd., Richmond, B.C., Canada

4276 M-3



CONTOUR INTERVAL .25 mgal
 PROFILE INTERVAL .50 mgal

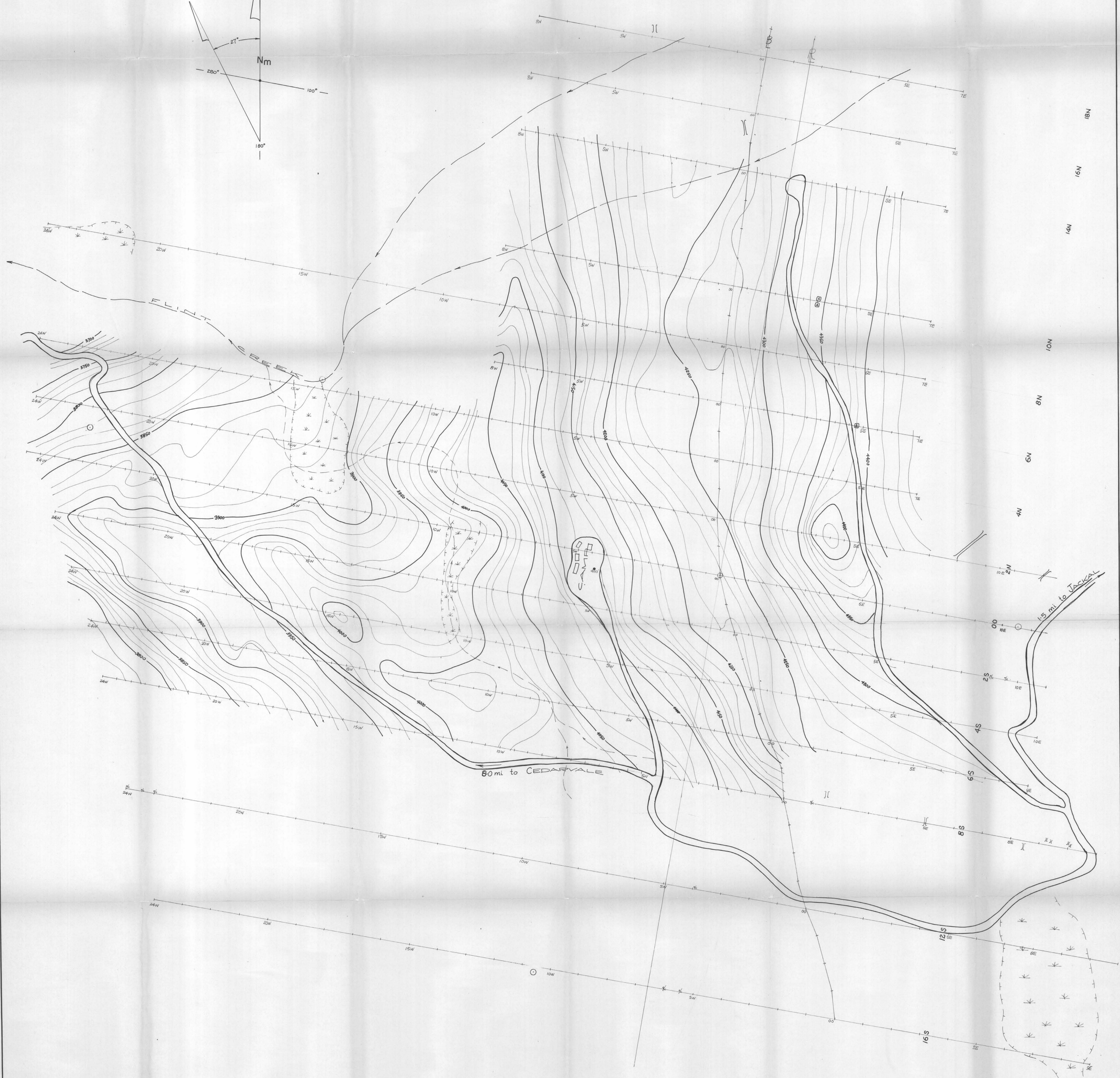
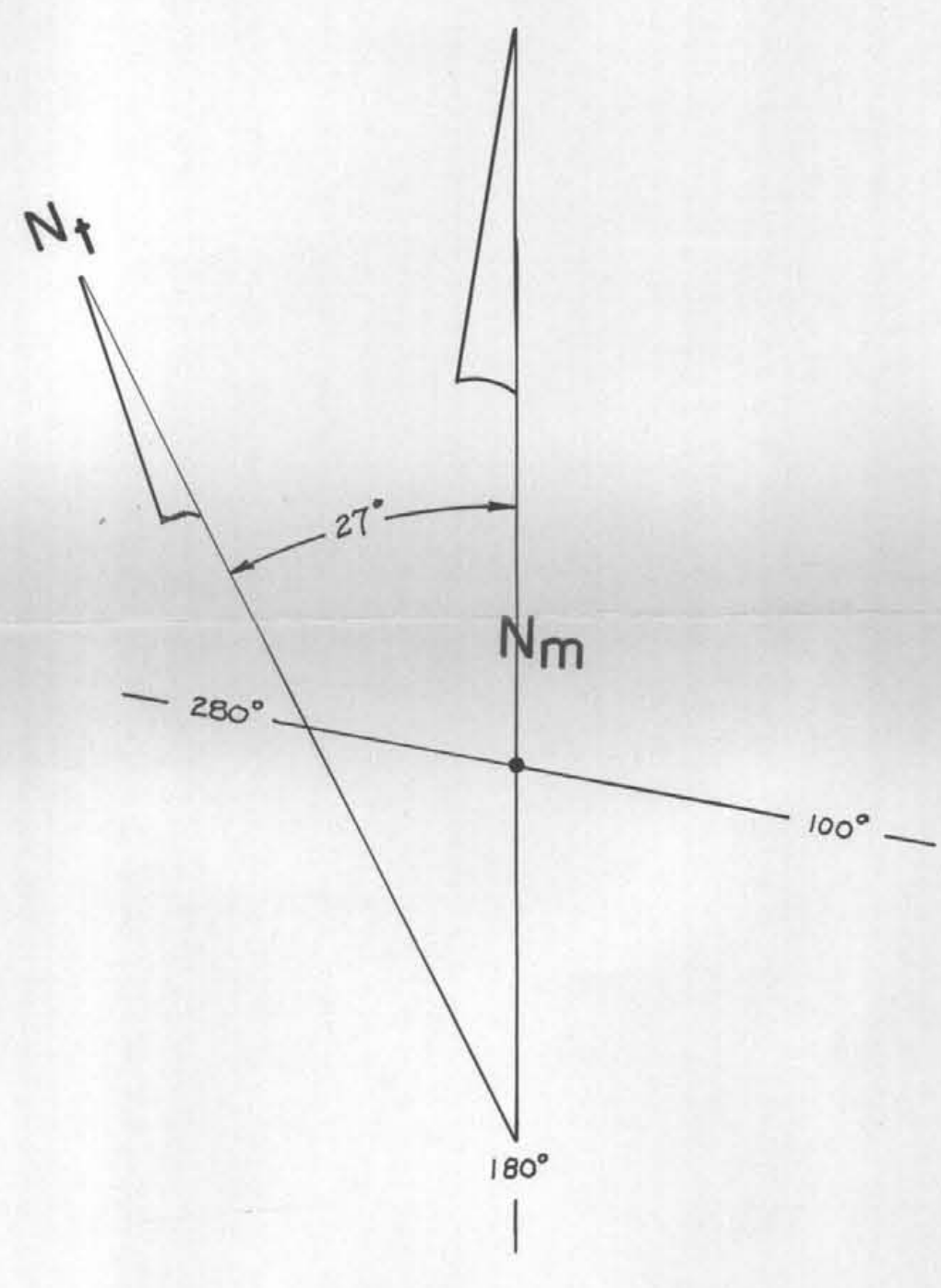
Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 4276 MAP #4

TO ACCOMPANY REPORT TITLED
*Gravity Survey of
 Magnetron Claims*
 BY *C. A. Ager*
 DATED *10/1/73* PROJECT *M. Mag*

BOUGUER GRAVITY ANOMALY MAP	
LOCATION	SEVEN SISTERS MOUNTAINS, B.C. J-R AREA OMINECA MINING DIVISION NTS 103 1/16 G, W
SURVEY SPECS.	BASE POINT 00+00 5220' elevation datum Worden gravity meter sensitivity = .01 mgal / div
SCALE	1 inch = 100 feet
DATE	March 1973
Magnetron Mining Ltd.	
by E. A. AGER & ASSOCIATES LTD. 8158 Cambie Rd., Richmond, B.C., Canada	

4276 M-4

FIGURE 4



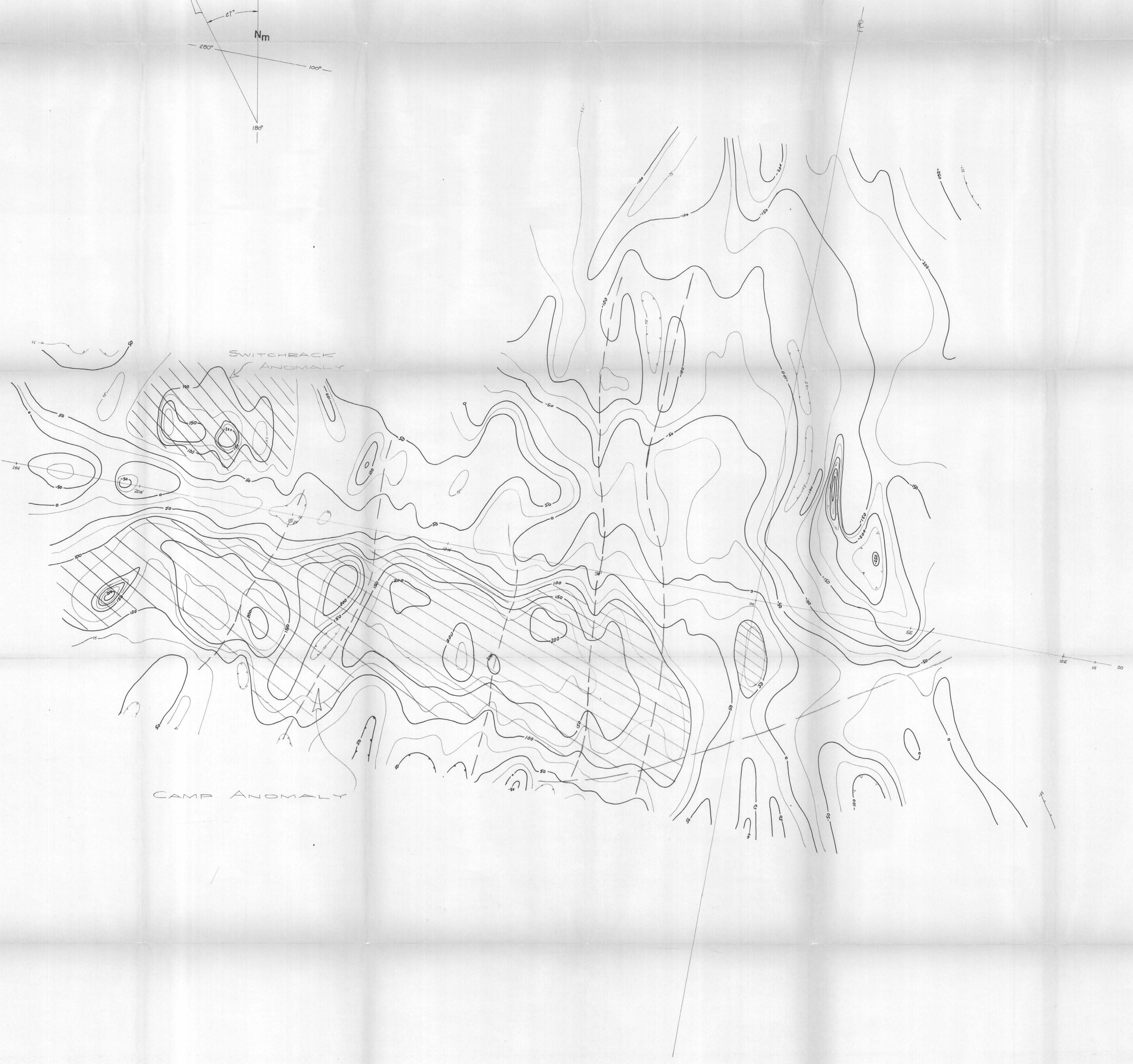
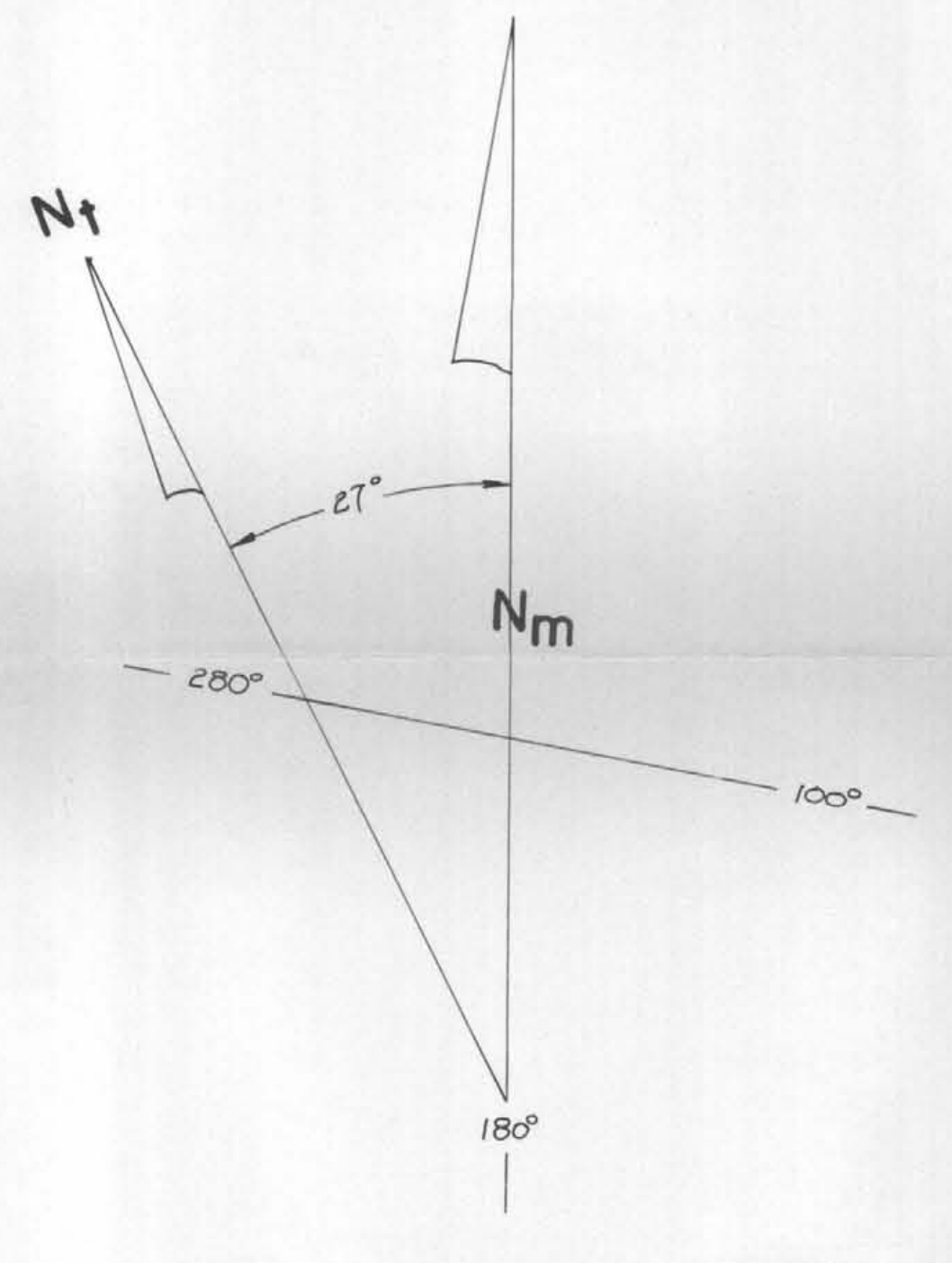
contour interval 12.5 ft

- LEGEND**
- ⋄ SWAMP MEADOW
 - CABINS
 - ▣ ADIT
 - ⋈ TRENCH
 - ⋈ CREEK
 - SURVEY CONTROL STATION

TO ACCOMPANY REPORT TITLED
Geology Survey of
Magnetron Claims
 BY
C. A. Ager
 DATED *3/23/73* PROJECT # *449*

ELEVATION MAP	
LOCATION	N-J AREA SEVEN SISTERS MTNS, B.C. NTS 103 I/164, W
SURVEY SPECS.	BASE POINT Camp control station 4110' elevation datum Wallace & Tiernan altimeters + psychrometers sensitivity = ±1.0 ft relative accuracy = ±3.0 ft
SCALE	1 inch = 100 feet
DATE	March 1973
Magnetron Mining Ltd. C. A. AGER & ASSOCIATES LTD. 8150 Cambie Rd., Richmond, B.C., Canada	

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 ASSESSMENT REPORT
 NO. 4276 MAP #5



contour interval 0.25 mgal

LEGEND

EXCESS MASS ANOMALIES

LINEATIONS (FAULTS OR CONTACTS)

TO ACCOMPANY REPORT TITLED
*Gravity Survey of
 Magnetron Claims*
 BY *C. A. Ager*
 DATED *4/2/73* PROJECT # *166*

ROUGHER GRAVITY MAP	
LOCATION	N-J AREA SEVEN SISTERS MTNS, B.C. NTS 103 I / 166, W
SURVEY SPECS.	BASE POINT Camp control station 4110' elevation datum Worden gravity meter sensitivity = 0.1 mgal / division
SCALE	1 inch = 100 feet
DATE	March 1973
Magnetron Mining Ltd. by C. A. AGER & ASSOCIATES LTD. 6158 Centre St., Richmond, B.C., Canada	
Department of Mines and Petroleum Resources ASSESSMENT REPORT NO. 4276 MAP #6	

FIGURE 6