

Report on
Geological, Magnetometer
And Geochemical Surveys
On The
GLEN LAKE PROPERTY
Of
JUNIPER MINES LTD.
Similkameen and Osoyoos Mining Division

92H/16+9 E
82E/12+13 W
Camp and Glen Groups
Situatd on Camp Creek,
10 miles west of Peachland, B. C.
Co-ordinates at center of group:
120° 00' W 49° 45' N

Submitted by: R. H. D. Philp, P. Eng.

Owner: John E. Nott and D. Agur

Work carried out for Juniper Mines Ltd.
During period January 15 - February 28, 1967.

1141

1141

REPORT ON
GEOLOGICAL, MAGNETOMETER
AND GEOCHEMICAL SURVEYS
ON THE
GLEN LAKE PROPERTY
OF
JUNIPER MINES LTD.

AGILIS EXPLORATION SERVICES LTD.

DECEMBER 3, 1967

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Claim Map # 1	1" = 1500'
Surface Plan and Geology # 2	1" = 100'
Magnetometer Survey # 3	1" = 100'
Geochemical Survey # 4	1" = 100'

REPORT ON
GEOLOGICAL, MAGNETOMETER
AND GEOCHEMICAL SURVEYS
ON THE
GLEN LAKE PROPERTY
OF
JUNIPER MINES LTD.

INTRODUCTION:

Juniper Mines Ltd. holds under option 79 contiguous mineral claims in the Glen Lake area, 10 miles south of Brenda Mines and 10 miles west of Peachland, British Columbia.

Earlier work in the area had established the presence of molybdenum mineralization in strongly altered intrusive rocks in the southwestern portion of the claim group.

During the period January 15 - February 28, 1967 line cutting and subsequent geological, geochemical and magnetometer surveys were carried out over a portion of the claim group. The line cutting, magnetometer, and geochemical surveys were performed under contract by Gordon Irving Mining Consultant. The writer compiled and assessed the results of these surveys and carried out the geological mapping.

LOCATION AND ACCESS:

Situated approximately 10 miles west of Peachland, British Columbia, the claims occupy the valley and adjoining slopes of a small creek locally referred to as Camp Creek. Co-ordinates of the property are $49^{\circ} 44\frac{1}{2}'$ north latitude, $120^{\circ} 00\frac{1}{2}'$ west longitude.

Access is by a gravel road either from Peachland or Princeton, a distance of approximately 12 miles by road from Peachland and 38 miles from Princeton. This road traverses the length of the property.

PHYSIOGRAPHY:

In the vicinity of the Decano claims, Camp Creek lies at approximately 3,600 feet elevation. Valley sides rise steeply for a short distance, then more moderately on the north side, forming the southeast flank of Mt. Kathleen.

From two to three feet of snow is present during the winter, which hampers but does not prohibit surface exploration during these months. Water is available from Camp Creek throughout the year.

Abundant timber, consisting of jackpine, fir and spruce is available for exploration purposes.

CLAIMS:

The following claims comprise the Glen Lake Property of Juniper Mines Ltd.

<u>Claim Name</u>	<u>Record No.</u>	<u>Mining Division</u>	<u>Record Date</u>
Fire 1 - 8	10756-763	Osoyoos	Dec. 20/66
Glen 1 - 8	10586-593	Osoyoos	Dec. 6/66
Candle 1 - 6	10522-527	Osoyoos	Nov. 30/65
Candle 7 - 10	12857-860	Similkameen	Nov. 30/65
Eagle 1 - 6	10514-519	Osoyoos	Nov. 30/65
Eagle 7 - 18	12861-872	Similkameen	Nov. 30/65
Eagle 19 - 20	10520-521	Osoyoos	Nov. 30/65
Decano 19 - 26	12873-880	Similkameen	Dec. 3/65
Decano 17 - 18	12904-905	Similkameen	Dec. 7/65
Decano 27 - 36	12906-915	Similkameen	Dec. 7/65
Stag 1 - 13	12916-928	Similkameen	Dec. 7/65

GEOLOGY:

General:

The claims lie within a large intrusive mass belonging to the Coast intrusions of Jurassic or Lower

Cretaceous Age. Geological Survey of Canada map 888A shows the mass to be divided into 3 separate intrusions with the property lying near the western contact of the Kathleen Mountain Body near its contact with the Osprey Lake Body. The former is referred to as "white" granodiorite and the latter as "red" granodiorite. Geological Survey of Canada Memoir 243 refers to the white granodiorite as light grey to greenish grey, fine to coarse grained and generally unaltered. It describes the red granodiorite as light colored, variable in texture and grain size, consisting of quartz, plagioclase and pink orthoclase, and often with associated aplite and pegmatite dikes.

The contact between the two intrusions is not definitely located but, as shown on the regional map, lies near the western edge of the claims.

Local Geology:

Detailed work on the Glen Lake Property has been confined to the Decano 21, 22 and 35 claims. All outcrop exposures and trenches are shown on the accompanying surface plan. Outcrop is sparse in this area and most exposures have been uncovered by bulldozing.

The main rock type noted in this area is a medium to coarse grained light grey granodiorite, generally fresh in appearance. This is intruded by an altered feldspar porphyry, apparently occurring as several dikes and veins. The main porphyry dike is approximately 250 feet wide where exposed in one trench but has also been found in varying amounts for 500 feet northeast of this. The main dike has a N55°W trend and similar material has been exposed 1600 feet to the northwest of the Camp Creek exposures.

Most of the porphyry is highly altered, consisting mainly of quartz, sericite and variable amounts of pyrite. Much of the strongly altered material is vuggy and quartz is both a primary constituent and secondary in stringers and veins and as crystals lining vugs.

Mineralization:

Molybdenum mineralization, consisting of molybdenite and ferrimolybdenite has been found at various

points throughout the altered porphyry. The molybdenite occurs along fractures and quartz veins, and more commonly, as extremely fine grains within the quartz-sericite ground-mass. Random samples taken throughout this rock have disclosed the widespread nature of the molybdenum. Values are generally low, less than 0.1% MoS_2 , but it is possible that they would increase with deeper sampling beyond the apparent leached zone near the surface.

Traces of chalcopyrite have been noted in the granodiorite but no appreciable values have appeared in assays of either the granodiorite or porphyry. Hematite is also common in the altered rock.

MAGNETOMETER SURVEY:

Control Grid:

The control grid was established by Gordon Irving Mining Consultant using compass and chain for control. A $\text{N}65^{\circ}\text{W}$ base line 3800 feet long was cut along the trend of the mineralized zone and cross lines cut at either 200 or 400 foot intervals, and picketed every 100 feet. Approximately 9 line miles were cut and picketed.

Magnetometer Used:

A Sharpe Model MF-1 Fluxgate magnetometer was employed. This instrument is self-orienting and requires only coarse levelling. In addition, temperature compensations have been built into the instrument.

The magnetometer can be read to 5 gammas on the lowest scale range. Scale ranges vary from a minimum of plus or minus 1,000 gammas to a maximum of plus or minus 100,000 gammas. Station values are read directly from an ammeter type scale, and a high latitude adjustment permits zeroing of the magnetometer.

Field Procedure and Corrections:

Base stations were established along the base line at intersections with cross-lines.

After base stations were established, readings were taken at 100 foot intervals along cross-lines by

traversing along one line then returning along an adjoining line to the base line.

Diurnal corrections were applied to all readings. Compensations built into the instrument eliminate the need for temperature corrections being applied to the field readings.

Interpretation:

The purpose of the survey was to determine if the altered porphyry would appear as a magnetic low and, if so, to attempt to trace the known zones and locate any additional ones that might be present.

The survey outlined several magnetic lows. The main one corresponds to the known exposures of altered porphyry along Camp Creek and indicates an extension of this zone in a northwesterly direction. The slight increase in values to the northwest might be attributed to a thickening of overburden which appears heavy in this area.

A small magnetic low corresponds to the exposure of altered porphyry to the northwest.

A larger magnetic low, approximately 450 by 200 feet occurs along line 7N between 10 + 50 E and 15 + 00 E. The lowest reading of 2450 gammas here is comparable to readings over the main quartz-sericite zone and warrants further investigation.

A series of lows west of the base line between 14N and 24N correspond to a southerly flowing creek.

GEOCHEMICAL SURVEY:

Control Grid:

The same grid was used as for the magnetometer survey. Soil samples were taken at 100 foot intervals over a total of 4.1 line miles.

Soil Sampling:

Soil samples were taken using a pick and shovel for sampling. As snow covered the ground it was necessary

to first clear away the snow then dig below the humous. Samples were taken immediately below the humous layer at from 6 - 12 inches depth. Soil throughout most of the area is dry to moist sand and silt. In a few low lying areas wet clay and loam is present. A thick till covers much of the area away from Camp Creek.

Geochemical Testing:

Geochemical testing was carried out in Vancouver with samples tested for molybdenum content. Testing for molybdenum was carried out by T.S.L. Laboratories Ltd. using hot hydrochloric acid extraction. Molybdenum values are reported in parts per million (ppm) and have been plotted on a plan at a scale of 1 inch equals 100 feet.

Results of Geochemical Survey:

Throughout the area sampled molybdenum values were generally very low, mostly 0.5 ppm or less. The highest value obtained was 70 ppm, this being near one of the trenches containing molybdenum mineralization.

Aside from a few isolated high values no anomalous areas were outlined. Scattered individual highs can probably be attributed to glacial boulders, testing errors, etc. A thick till mantles the area above the main creek which might account for the low values.

CONCLUSIONS AND RECOMMENDATIONS:

The southwestern portion of the Glen Lake Property of Juniper Mines Ltd. is mainly underlain by granodiorite which has been intruded by feldspar porphyry dikes. The latter has undergone extreme alteration and, at a number of places where exposed, contains molybdenum mineralization. Leaching of the MoS_2 has apparently taken place near surface and deep sampling is necessary to obtain representative samples. Most of the area is overburden covered and geophysical and geochemical methods are necessary to properly explore the ground.

The strongly altered zones appear as magnetic lows and the magnetometer survey was successful in indicating the trend of the main zone and in outlining new

areas with a similar potential.

The geochemical survey failed to outline any anomalous zones and the thick till may limit its application in some areas. However, soil sampling has proven useful in many surrounding areas and it should be used in future reconnaissance prospecting. The magnetometer and geochemical surveys should be extended on a reconnaissance scale over the rest of the property. The known mineralized area should be tested by additional bulldozer trenching and percussion drilling.

Respectfully Submitted,

A handwritten signature in dark ink, appearing to read 'R. H. D. Philp', written in a cursive style.

R. H. D. Philp, P. Eng.

STATEMENT OF EXPENDITURES

GLEN LAKE PROPERTY

JUNIPER MINES LTD.

I Ronald Philp heroby swear

Gordon Irving Mining Consultant billings:

Line Cutting	\$991.25	
Magnetometer Survey	998.38	
Soil Sampling	329.60	
Transportation and Camp	423.70	
		\$2742.93

Alrae Explorations and Agilis Exploration Services billings:
Geological mapping, compilation of data and report

Personnel	\$519.10	
Expenses	206.67	
Draughting	257.50	
		\$983.27

T.S.L. Laboratories billing:

Geochemical testing		<u>\$316.10</u>
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Total		<u>\$4042.30</u>
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Line cutting, magnetometer and geochemical surveys carried out during the period January 15 - February 28, 1967, by Gordon Irving Mining Consultant. All work by contract.

Personnel:

Gordon Irving
Pat Henry
Ross Sutherland
Glen Sutherland

Geological mapping, compilation of data and report performed by R. Philp. (field work during period February 10, 11; March 17 - 20, 1967)

Declared before me at the *City*
of *Vancouver* in the
Province of British Columbia, this *5*
day of *December*, 1967, A.D.

L. Gervette
A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.

*Give To
John Morgan*

E. A. Bomford
610 - 890 West Pender Street
Vancouver 1, B.C.

January 23rd, 1967.

*Paid From
Anfield & Co
Trust Account
(\$ 2,000⁰⁰)*

Juniper Mines Ltd.,
c/o S. David Anfield,
846 Hastings Street, West,
Vancouver 1, B. C.

Sir:

As per instructions of Mr. R. Philp of Alrae Explorations, our crew is now engaged on road clearing, line cutting, picketing and magnetometer surveying on your Summerland property.

The terms of this contract are as follows:

One hundred dollars (\$100.00) per mile for line cutting

Twenty-five dollars (\$25.00) per mile for picketing at 100 foot intervals.

One hundred Dollars (\$100.00) per mile for magnetometer Surveying.

At this time the roads have been opened up to the property. The base line has been repicketed and two of the control lines have been cut.

The background is being established so that the two control lines may be checked by magnetometer to establish the feasibility of establishing the anomaly on a magnetometer low. This is, of course, as per instructions of Mr. R. Philp.

It was agreed that on our commencement of work on your property that two thousand dollars (\$2,000.00) be advanced, this amount will of course, be credited to you on the invoice submitted at the completion of this phase of the work.

Yours truly,

E. A. Bomford

E. A. Bomford

T S L

January 23/67

Laboratories Limited

325 HOWE STREET - VANCOUVER 1, B.C.
 TELEPHONE 684-1374

ASSAYERS
 CHEMISTS
 GEOCHEMISTS

C
H
A
R
G
E
T
O

JUNIPER MINES LIMITED
 846 West Hastings Street,
 Vancouver 1, B.C.
 Att: Mr. John Margan

INVOICE NUMBER

1462

SHIPPED TO:

DATE:	REFERENCE NO.:	YOUR ORDER NO.:		
March 15/67	V - 1125			
SHIPPED:	VIA:	TERMS: NET 30 DAYS	UNIT PRICE	TOTAL
To:	218 soils for Mo only plus sample preparation charge		272.50 43.60	\$316.10
		<i>paid June 23/67 #23</i>		

INVOICE



Agilis Exploration Services Ltd.

CONSULTING ENGINEERS AND GEOLOGISTS

Telephone: 688-1508

201-714 WEST HASTINGS STREET, VANCOUVER 1, B.C.

JUNIPER MINES LTD.

ices Ltd
GEOLOGISTS

Invoice No. 67-104

Re: To April 30, 1967

Disbursements: (on trip to Peachland and Property)

Draughting	\$100.00
Transportation	84.72
Meals and Accommodation (R. Philp and I. Sutherland)	<u>70.35</u>
	\$255.07
Overhead on disbursements 10%	<u>\$25.50</u>

\$280.57

May 8, 1967

*paid June 23/67
24*

acp

Juniper Mines Ltd.
c/o Anfield & Co.
846 W. Hastings St.
Vancouver 1, B. C.

ices Ltd.
840-841
291 33

IN ACCOUNT WITH:

Alrae Exploration Ltd.
846 W. Hastings Street
Vancouver 1, B. C.

RE: FEBRUARY 1967

Invoice No. 67 - 282

Personnel:

R. Philp		\$ 269.10
Drafting - H. Cumming	\$ 90.00	
- M. Lee	<u>67.50</u>	<u>157.50</u>
		\$ 426.60

Disbursements:

Assays - J.R. Williams & Son	\$ 48.60	
Photostats	3.75	
Maps - Riley's	<u>3.45</u>	
	55.80	
Travelling Expense - R. Philp	<u>26.10</u>	81.90
Overhead on disbursements		<u>8.19</u>
		\$ <u><u>516.69</u></u>

February 28, 1967

Chaque #12

OVER 30 DAYS
1% INTEREST PER MONTH
WILL BE ADDED TO ACCOUNT RENDERED

JUNIPER MINES LTD.

IN ACCOUNT WITH GORDON IRVING MINING CONSULTANT

PERIOD FEB. 16 - 28

Mag.	4.75 mi @ 75.00 per	355.25
Line Cutting	1.65 mi @ 125.00 per	206.25
Transportation	935 mi @ .15 per	140.25
Jeep Returned to Kelowna		<u>20.00</u>
Balance due to G. Irving		<u><u>721.75</u></u>

Submitted by

Gordon Irving

O.K.'d by
R. Philip.

line miles including
all base lines & cross lines = 9.16 - 1 lb.

cut
8.37
 .30
8.67
7.92

5
12.95
2.57
+ 7.00

pd cheque #6

JUNIPER MINES LTD.,

IN ACCOUNT WITH - GORDON IRVING, MINING CONSULTANT

FOR THE PERIOD - FEBRUARY 1 - 15, 1967

GEOCHEM

4.12 miles @ \$ 80.00 per mile \$ 329.60

MAG

5.5 miles @ \$ 75.00 per mile 412.50

1.75 miles @ \$ 37.50 per mile - Checkwork 65.63

LINE CUTTING

4.06 MILES @ 125.00 PER

508.75

TRANSPORTATION

Fargo 4X4 595 miles @ .15¢ per mile 89.25

Jeep - Gas, Oil and Repairs 42.20

\$ 1,487.93

Balance Due to Gordon Irving from January 15 - 31, 1967 918.25

\$ 2,366.18

Less: Advance

Pd by Sutherland etc

2,000.00

BALANCE DUE TO GORDON IRVING

part from Juniper bank ac

\$ 366.18

Cheque #1

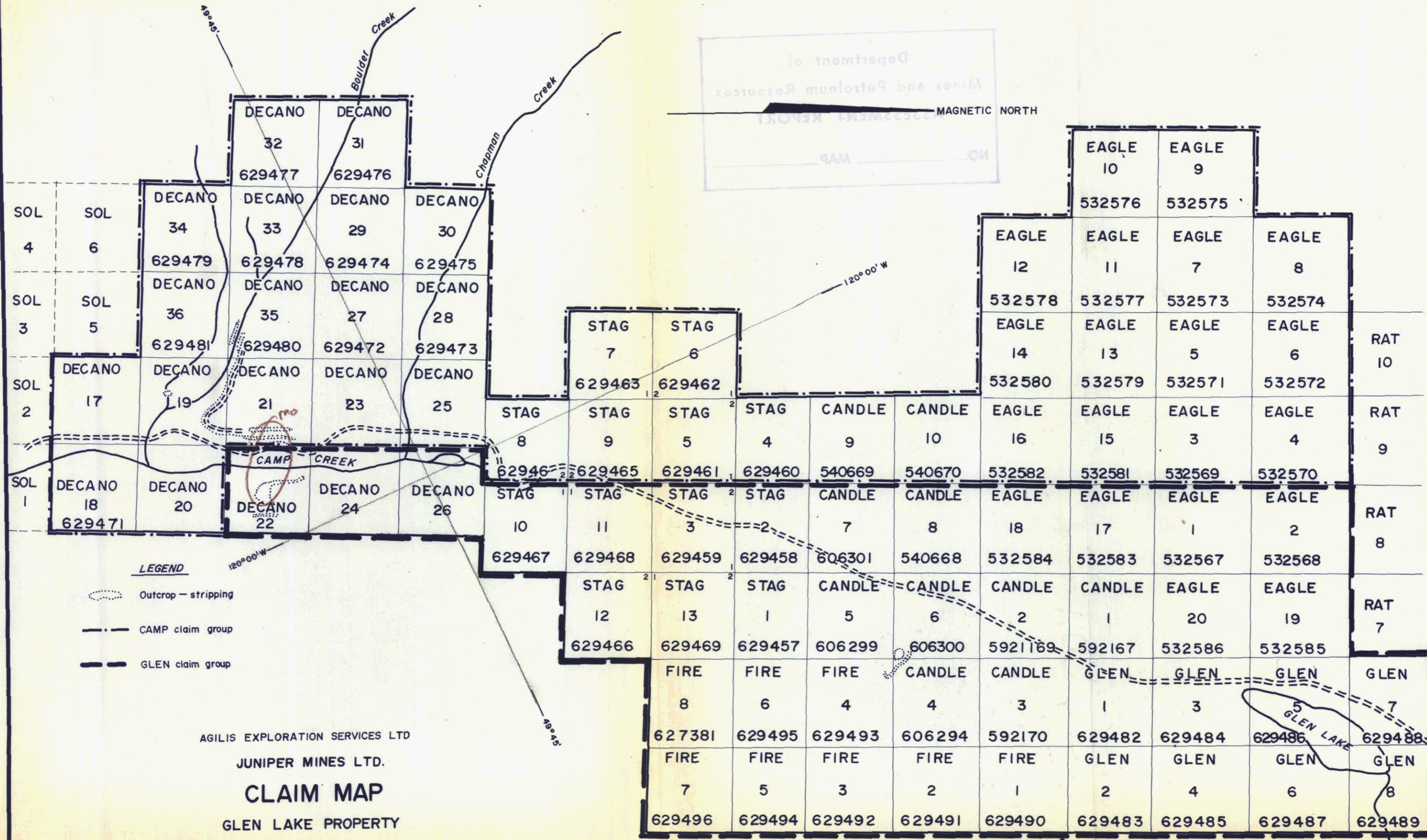
JUNIPER MINES LTD.,

IN ACCOUNT WITH - GORDON IRVING, MINING CONSULTANT

FOR THE PERIOD - JANUARY 15 - 31, 1967

<u>MAG</u>	1.7 miles @ \$ 75.00 per mile	\$	127.50	
	1.0 miles @ \$ 37.50 per mile - Checkwork		37.50	
 <u>LINE CUTTING</u>				
	2.1 miles @ \$ 125.00 per mile		276.25	
 <u>TRANSPORTATION</u>				
	Fargo 4X4 680 miles @ .15¢ per mile		102.00	
 <u>REESTABLISHING BASE CAMP</u> <i>LINE</i>				50.00
 <u>ROAD (SNOW REMOVAL)</u>				<u>325.00</u>
 <u>DUE TO GORDON IRVING</u>				<u>\$ 918.25</u>

Department of
 Mines and Petroleum Resources
 CLAIM MAP
 NO. 1141



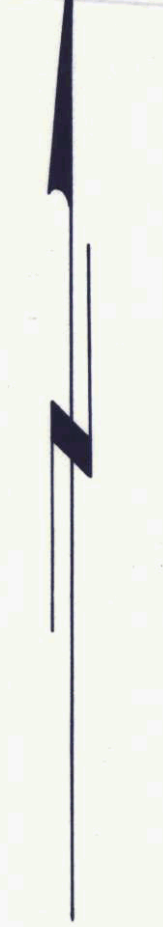
LEGEND

- Outcrop - stripping
- CAMP claim group
- GLEN claim group

AGILIS EXPLORATION SERVICES LTD
 JUNIPER MINES LTD.
CLAIM MAP
 GLEN LAKE PROPERTY

Scale: 1" = 1500'
 Feet 1500 0 1500 3000 Feet

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DECANO 35

DECANO 23

DECANO 21

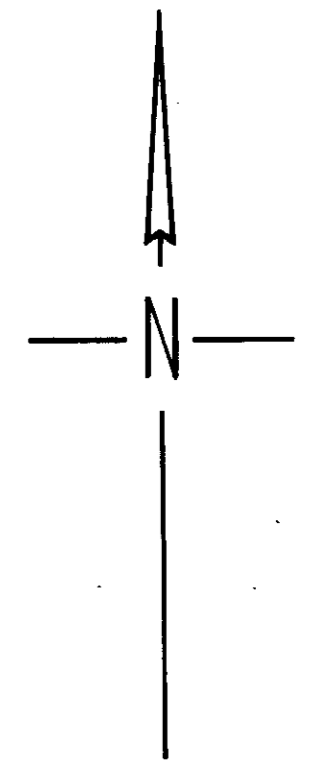
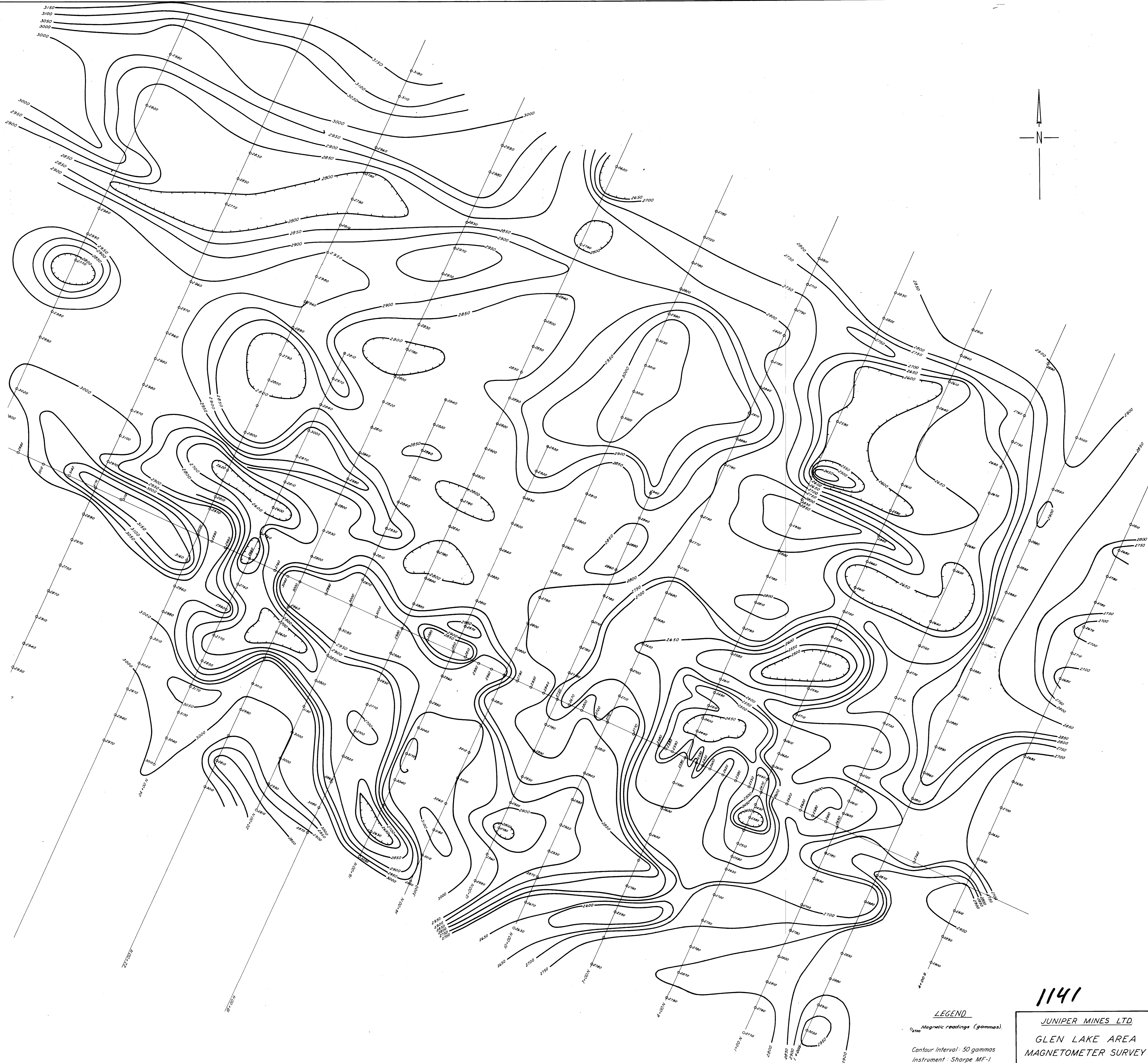
DECANO 24

DECANO 22

- LEGEND**
- GRANODIORITE
 - ALTERED PORPHYRY
 - JOINTING
 - 5000 CONTOURS
 - BULLDOZER ROADS & TRENCHES



1141

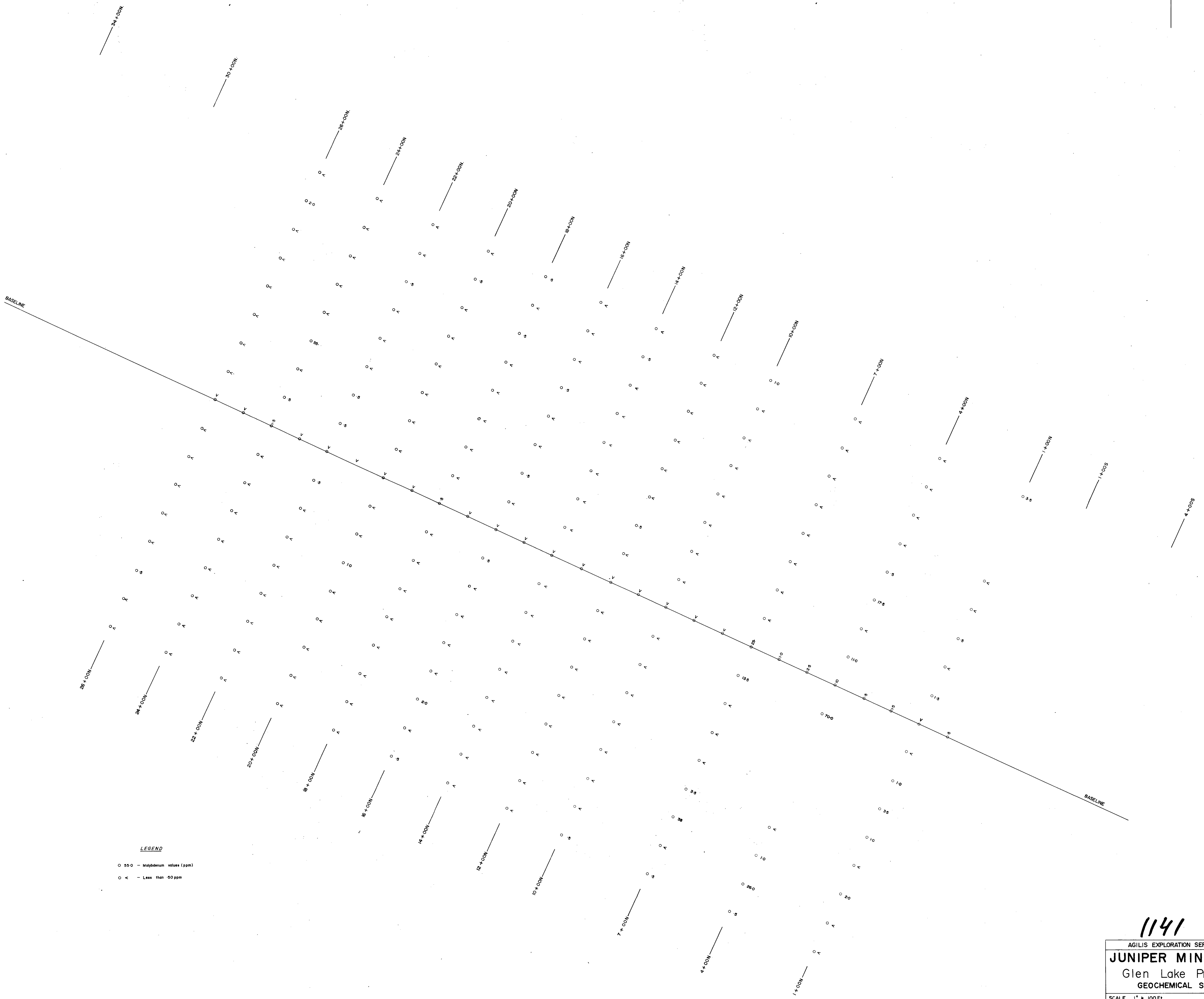


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LEGEND
Magnetic readings (gammas)
Contour interval - 50 gammas
Instrument : Sharpe MF-1

JUNIPER MINES LTD
GLEN LAKE AREA
MAGNETOMETER SURVEY

Scale: 1" = 100' March 31, 1967



LEGEND
○ 55.0 - Molybdenum value (ppm)
○ < - Less than 50 ppm

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AGILIS EXPLORATION SERVICES LTD.
JUNIPER MINES LTD.
Glen Lake Property
GEOCHEMICAL SURVEY
SCALE 1" = 100 FT. DECEMBER 1967