

**GEOLOGICAL AND GEOCHEMICAL REPORT**

**ALLEGRO CLAIMS**

**OSOYOOS MINING DIVISION**

By

J. Nebocat

June 26, 1980

LOCATION: 14 Kilometres NW of Keremeos, B.C.  
Latitude 40° 19'; Longitude 119° 55'  
N.T.S. 82E/5W

CLAIMS OWNED BY: Newmont Exploration of Canada Limited

WORK DONE BY: Newmont Exploration of Canada Limited

WORK DONE BETWEEN: June 8, 1980 and June 14, 1980

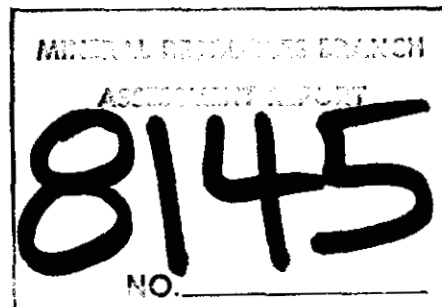


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MAPS

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### LOCATION, ACCESS, TOPOGRAPHY

The Allegro claim is located at the summit of the Thompson Plateau in south-central British Columbia. The plateau is steeply incised by the Similkameen River and its drainages and is bordered to the south and west by the Cascade Range Mountains. The claim is located 4.5 km south of Apex Mountain and 14 km NW of Keremeos, B.C. on map sheet 82E/5W.

Access to the claim is by a 17 kilometer 4 wheel drive road which branches off highway 3A at Olalla, B.C., 7 km north of Keremeos. The road climbs over 1520 meters from the highway.

The topography on the claims varies from gently rolling terrain to the south and east and flattens out to the NW. Relief on the claim ranges from 1800 meters (5900') ASL to 2040 meters (6700') ASL.

Scrub jackpine and fir with little underbrush grow on the well-drained slopes on the southern and eastern portion of the claim. Large spruce and fir occur along the northern and western parts of the claim where the terrain is more gentle and is extensively covered with swamps and small drainages.

### HISTORY

The Allegro claim was staked by Newmont Exploration of Canada Limited on June 13, 1979 and recorded on June 15, 1979, record no. 754. The six units (2N, 3E) surround the Star of Hope and Eclipse Crown-Granted claims (lots 2670 and 2671) to the east. Trenching and diamond drilling of gold-bearing veins was done on the Star of Hope and Eclipse claims in the late 1960's but the owner at the time is unknown.

An old adit on the claim occurs in a silicified and pyritized hornfels. The adit probably dates back to the early part of the century.

### SUMMARY OF WORK

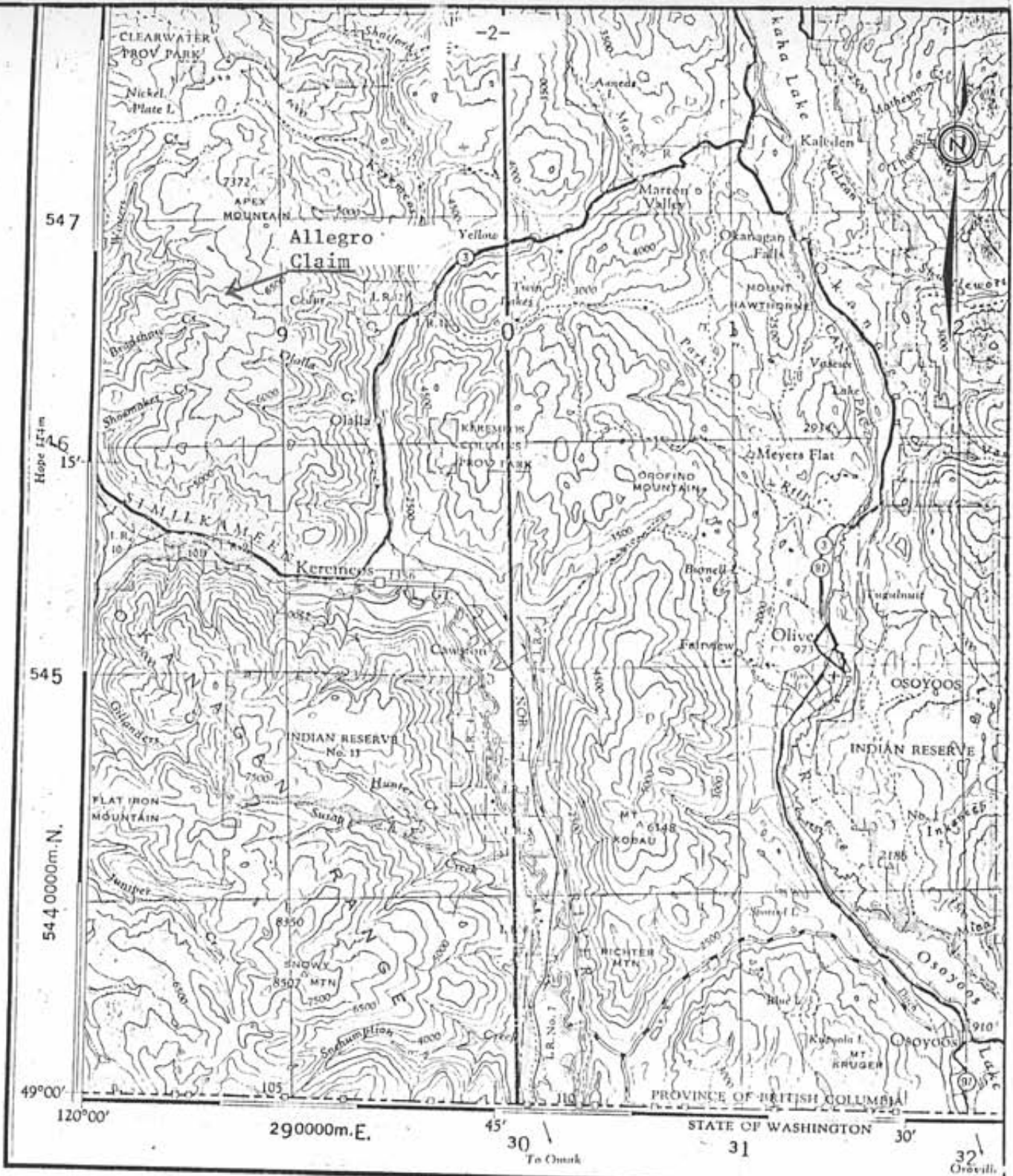
Between June 8 and June 14, 1980, the author and an assistant cut line, soil sampled and geologically mapped the west half of the Allegro claim. 179 soil, 1 rock geochem and 1 rock assay sample were taken on the claim.

8.3 line - kilometers of grid lines were established and used for control in soil sampling and mapping.

Geological and geochemical maps were prepared at a 1:2500 scale.

### PREPARATORY WORK

An east-west baseline originating from identification post 1N was blazed and flagged over 700 meters towards the Star of Hope claim. 1" x  $\frac{1}{4}$ " wooden laths



THE DECLINATION OF THE COMPASS NEEDLE 1955



The declination of the compass needle at any place along a red line is the declination given on that red line. At other places the declination is between those given on the neighbouring red lines; thus at the place marked A, the declination is between 22° 50' W and 23° 00' W.

Produced and printed by the Surveys and Mapping Branch, Department of Mines and Technical Surveys, 1957, from air photographs taken in 1946 and 1947.

REFERENCE

Roads:  
 hard surface, all weather .....  
 more than 2 lanes .....  
 less than 2 lanes .....

NEWMONT EXPLORATION OF CANADA LTD.

INDEX MAP - ALLEGRO CLAIM

|           |          |               |
|-----------|----------|---------------|
| SCALE     | LOCATION | DATE          |
| 1:250,000 | 83E/5W   | June 26, 1980 |
| SURVEY BY | DRAWN BY | NO.           |
| JN        | JN       | Map 1         |

were used for pickets along the baseline. Cross-lines were put in every 100 meters by use of a compass and hip-chain. Pickets were placed at stations every 40 meters. Slope corrections were made as applicable.

## GEOLOGY AND MINERALIZATION

### Regional

Sediments and volcanics of the Bradshaw, Independence, Shoemaker and Old Tom Formations (Pennsylvanian-Permian), and sedimentary rocks of the Nicola Group (Upper Triassic) are intruded by apophyses of the Similkameen Batholith (early to Mid-Jurassic).

Gold, molybdenum and tungsten deposits and showings are formed where the Similkameen Batholith has intruded and skarnified limestone and other calcareous sediments.

### Allegro Claim

Biotite hornfels, quartzites, metachert and minor skarn of the Independence and Shoemaker Formations is intruded by fine to medium grained hornblende diorite and medium to coarse grained hornblende/biotite granodiorite of the Similkameen Batholith. A few aplite, granite and quartz/feldspar porphyry dykes locally intrude the metasediments. The diorite is well fractured with joints cross-cutting in several directions. Quartz, quartz/feldspar and aplite veins fill some of the fracture sets.

Molybdenite and powellite is seen to occur in a prominently veined fracture set that strikes east-west with dips from 27° to 33° north. Veining is erratic with some areas hosting cross-cutting and sub-parallel veins, to areas with only parallel veins with or without mineralization. Vein density varies from 10's of cms to several meters where present, thicknesses from mms to several cms.

The quartz veins appear to occur exclusively within the diorite as none have been noted in the rocks which it intrudes. The granodiorite is possibly the mineralizing source but no quartz veins have been noted in it or the metasediments it intrudes.

A 1 m thick zone of silicified and pyritized hornfels is exposed by an old caved-in adit and is in contact with a quartz/feldspar porphyry dyke. A 1 m sample assayed 0.031 oz/t Au and 0.37 oz/t Ag.

Small zones of garnet/quartz/albite ? skarn occur within the biotite hornfels. A rock geochem of skarn yielded only 5 ppm Mo, 2 ppm W and 10 ppm Au.

## GEOCHEMISTRY

### Field Procedure

Soil samples were taken at all 40 meter stations where possible. The B horizon was sampled with a mattock and trowel at depths varying from .15 m to .50 m. The samples were collected in kraft paper envelopes.

The A horizon was shallow on the well drained slopes but exceeded 40 cm in flat poorly drained areas. In swampy areas the A horizon consisted of grey to black humus clay containing much organic material. The B horizon was not reached in these areas and hence no samples were taken.

Rock assay and rock geochem samples weighed from 1 kg to 2 kg.

### Laboratory Procedure

The samples were prepared and analyzed by Min-En Labs in North Vancouver, B.C.

After drying and sieving to -80 mesh, a 1/2 gram sample was placed in a tube and digested for 2 to 3 hours in a mixture of 3 ml perchloric acid and 2 ml of nitric acid. The mixture was then diluted to 25 ml with distilled water, mixed, and the sediment allowed to settle. The solute was analyzed by atomic absorption for Mo.

For W a 0.20 gm sample is fused with potassium bisulfate and leached with hydrochloric acid. The reduced form of tungsten is complexed with toluene 3,4 dithiol and extracted into an organic phase. The resulting color is visually compared to similarly prepared standards. Detection limit of 2 ppm.

The rock samples were crushed, pulverized to 100 mesh, acid digested and chemically analyzed. Gold and silver are analyzed by fire assay and atomic absorption.

## RESULTS AND INTERPRETATION

The Mo and W values for soil samples were plotted on 1:2500 scale maps (Maps 3 and 4 in pocket).

### Molybdenum

Molybdenum values are generally low but the background is slightly higher than normal with an average value of 5.7 ppm. The statistically anomalous value (95th percentile) is 13 ppm Mo.

Low order anomalies with no pattern to them occur on the grid. The highest sample value (30 ppm Mo) occurs on L1E, 400 N. It occurs in a flat, generally poorly drained area, and may be enhanced by organic contamination. The 18 ppm value at L2E, 480 N and the anomaly centered about L5E, 240 N

may also be caused by enhancement.

Between L5E, 40N and L7E, 40S exists a weak anomaly in close proximity to the weakly mineralized diorite.

On L5E, 160S a 20 ppm Mo value occurs over diorite outcrop.

### Tungsten

The tungsten values roughly follow the molybdenum but a few low order anomalies occur independantly.

The statistical average W value is 4.7 ppm with the anomalous value occurring at 15.9 ppm (95th percentile).

On L2E, 440 N and 480 N occur 25 ppm and 23 ppm values respectively. Tungsten is not as readily affected by organic enhancement thus its association with anomalous Mo values may be of some significance.

28 ppm and 23 ppm values occur between L5E and L6E near the baseline, and coincide with anomalous Mo values over the diorite. A 30 ppm W value coincides with a 18 ppm Mo value at L7E, 280 N.

A 35 ppm value on L5E, 200 S is underlain by diorite and a projected fault.

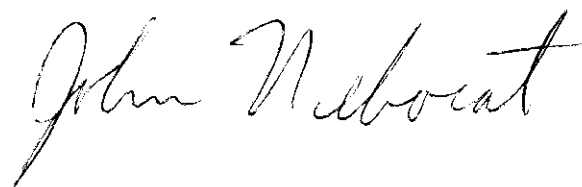
Between L0 and L4E, south of the baseline, five low order anomalies occur within the area of known hornfels, quartzites and minor skarn.

### CONCLUSIONS

1. Weak and scattered Mo and W anomalies occur on the claim.
2. The erratic distribution of the mineralization and of the geochem anomalies suggests that no deposits of any significance occur within the area of the grid.

### RECOMMENDATIONS

1. Examination of the coincidental Mo and W anomalies on the grid should be done.
2. Prospecting and mapping of geology in the NE portion of the claims should be carried out to see if any favourable rocks occur there.

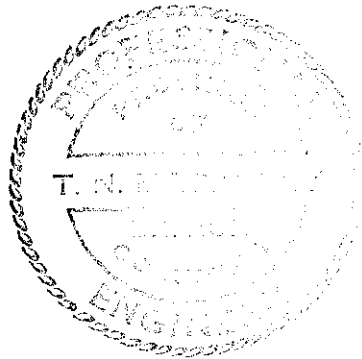



I, John Nebocat, do hereby certify that:

1. I am a geological technician presently employed by Newmont Exploration of Canada Limited.
2. I am a graduate of the British Columbia Institute of Technology (Diploma of Technology, 1974).
3. I have supervised and carried out the geochemical survey and the geological mapping described in this report.

  
John Nebocat

I, Terrence N. Macauley, do hereby certify that I supervised the work described in this report.

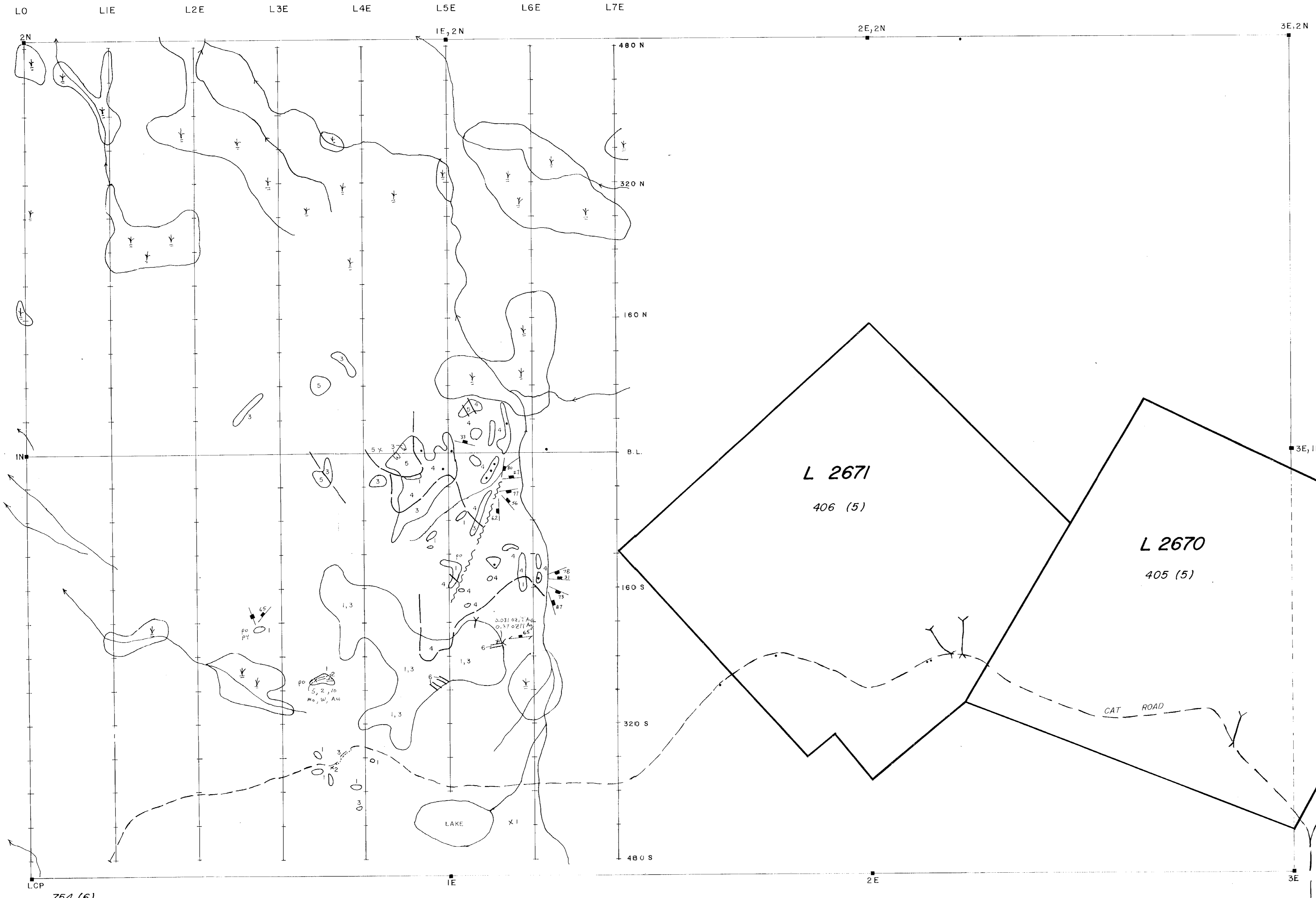


  
T. N. Macauley, P. Eng.  
Exploration Manager  
Western Division  
NEWMONT EXPLORATION OF CANADA  
LIMITED.



STATEMENT OF COSTS

| <u>Personnel</u>                     | <u>Dates (1980)</u>                                | <u>Office Days</u> | <u>Field Days</u> | <u>Total Days</u> | <u>Daily Wage</u> | <u>Cost</u>              |
|--------------------------------------|--|--------------------|-------------------|-------------------|-------------------|--------------------------|
| Geological Technician                | June 8 - 14, 24 - 26, 1980                         | 3                  | 7                 | 10                | \$84              | \$ 840.00                |
| Assistant                            | June 8 - 14, 24 - 26, 1980                         | 3                  | 7                 | 10                | \$58              | 580.00                   |
| <u>Accommodations</u>                | 7 days between June 7 and June 17, 1980 @ \$28/day |                    |                   |                   |                   | 196.00                   |
| <u>Food</u>                          |  |                    |                   |                   |                   | 120.00                   |
| <u>Fuel</u>                          |  |                    |                   |                   |                   | 40.00                    |
| <u>4 x 4 Vehicle Rental</u>          | 7 days @ \$20.00/day                               |                    |                   |                   |                   | 140.00                   |
| <u>Analyses</u>                      | 179 soil samples for Mo, W and preparation charge  |                    |                   |                   |                   |                          |
|                                      | @ \$6.10/sample =                                  |                    |                   |                   | \$1,091.90        |                          |
|                                      | 1 rock geochem for Mo, W and Au                    |                    |                   |                   | 11.75             |                          |
|                                      | 1 rock assay for Au, Ag                            |                    |                   |                   | <u>13.00</u>      | 1,116.65                 |
| <u>Report Typing, Printing, Etc.</u> |  |                    |                   |                   |                   | <u>100.00</u>            |
|                                      | <b>TOTAL</b>                                       |                    |                   |                   |                   | <u><u>\$3,132.65</u></u> |

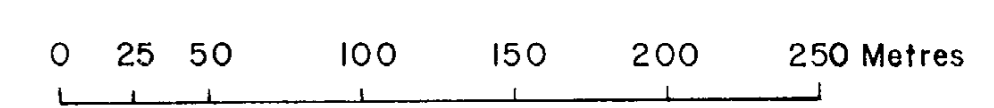


**LEGEND**

- 6 QUARTZ/FELDSPAR PORPHYRY DYKES
- 5 MEDIUM TO COARSE-GRAINED HORNBLende/BIOTITE GRANODIORITE, RELATED GRANITIC DYKES
- 4 FINE TO MEDIUM-GRAINED HORNBLende DIORITE, MINOR GABBRO. WELL FRACTURED, VEINED WITH QUARTZ, KSPAR AND APLITE. HOSTS MINOR MoS<sub>2</sub> AND POWELLITE.
- 3 TAN-YELLOW, RUSTY WEATHERING QUARTZITE AND METACHERT
- 1 2 BIOTITIC HORNFELS, LOCALLY WITH PYRRHOTITE. ANDRADITE/QUARTZ/ALBITE SKARN, LOCALLY PYRRHOTITIC. DIOPSIDE SKARN FLOAT
- GEOLOGIC CONTACT
- FAULT
- JOINTING: INCLINED, VERTICAL
- SHEAR
- MoS<sub>2</sub> OCCURRENCE
- AREA OF SWAMP
- STREAM
- ADIT
- TRENCH
- AREA OF OUTCROP

MINERAL RESOURCES BRANCH  
 GEOLOGICAL REPORT  
**8145**  
 NO.

**MAP 2**



NEWMONT EXPLORATION OF CANADA LTD

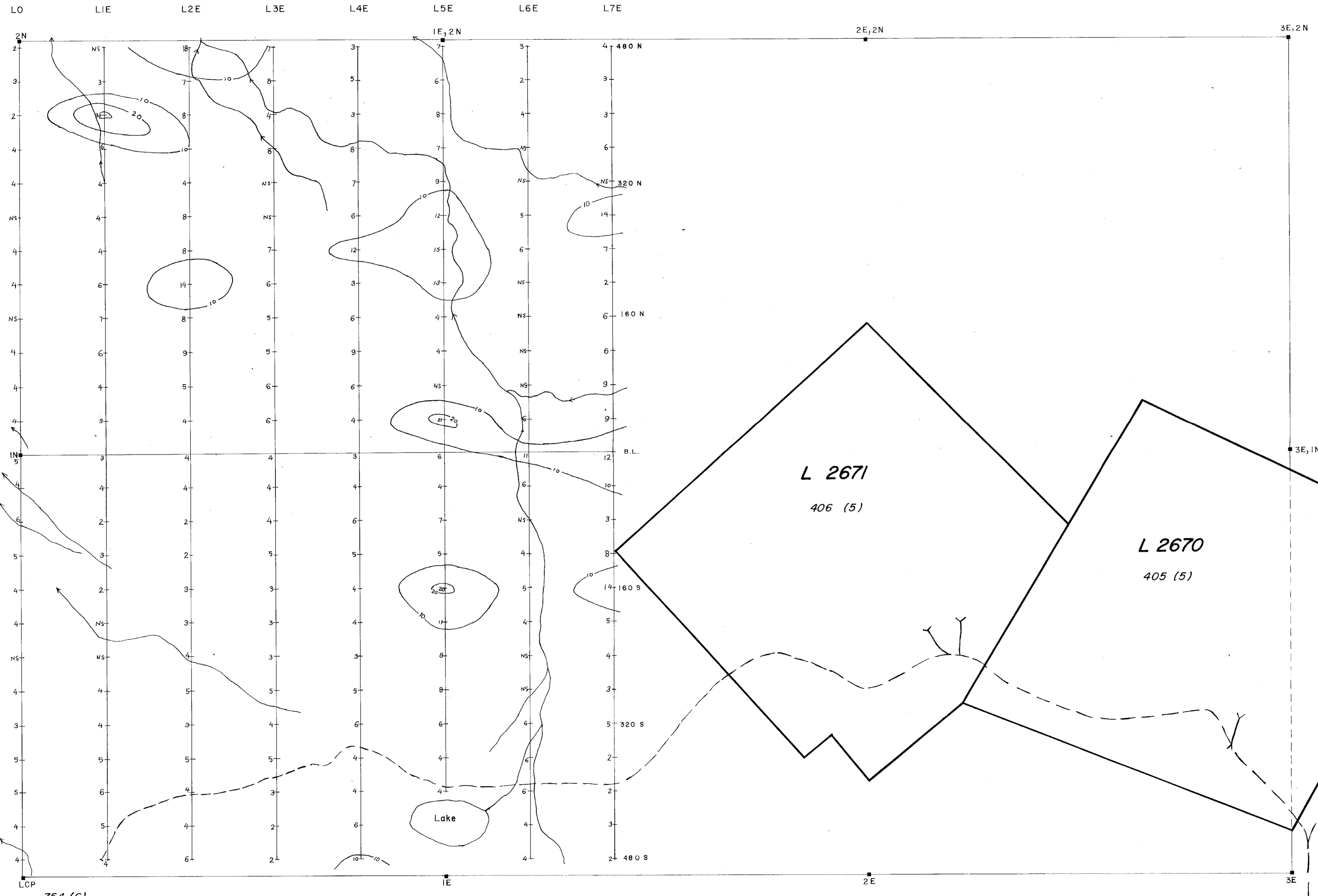
ALLEGRO CLAIM

GEOLOGICAL PLAN

OSOYOOS MINING DISTRICT, B.C.

NTS: 82E/5W      DATE: JUNE 26, 1980      DRAWN BY: J.G., J.N.

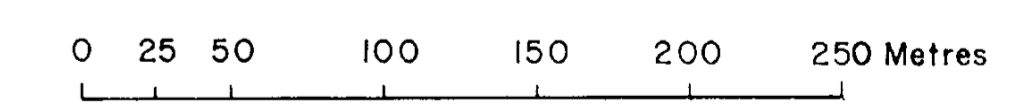
754 (6)



- 10 ppm - 19 ppm
- 20 ppm - 29 ppm
- 30 ppm - 39 ppm
- NS - NOT SAMPLED
- VALUES IN ppm Mo

MINERAL RIGHTS BRANCH  
**8145**  
 NO.

**MAP 3**



NEWMONT EXPLORATION OF CANADA LTD

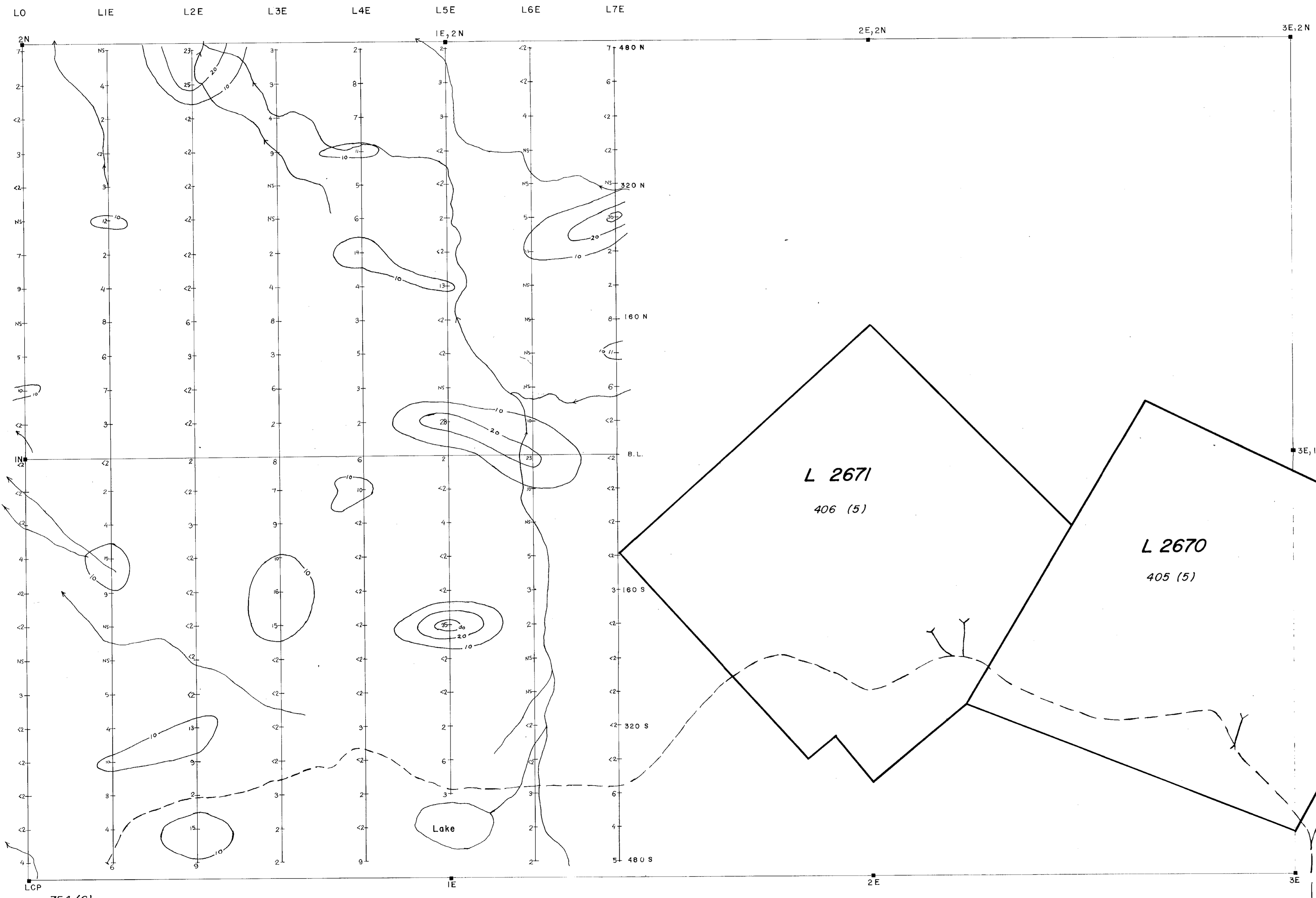
ALLEGRO CLAIM

GEOCHEMICAL PLAN - Mo

OSOYOOS MINING DISTRICT, BC.

|                 |                     |                  |
|-----------------|---------------------|------------------|
| NTS: 82 E / 5 W | DATE: JUNE 26, 1980 | DRAWN BY: JG, JN |
|-----------------|---------------------|------------------|

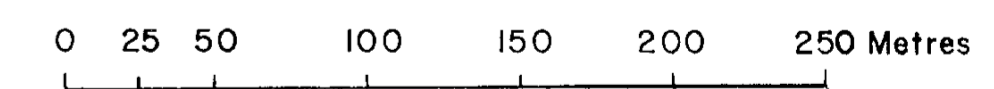
LCP 754 (6)



- 10 ppm — 19 ppm
- 20 ppm — 29 ppm
- 30 ppm — 39 ppm
- NS - NOT SAMPLED
- VALUES IN ppm W

MINING DISTRICT  
**8145**  
REGISTRATION NO.

**MAP 4**



NEWMONT EXPLORATION OF CANADA LTD  
 ALLEGRO CLAIM  
 GEOCHEMICAL PLAN - W  
 OSOYOOS MINING DISTRICT, B.C.

NTS: 82 E/5 W    DATE: JUNE 26, 1980    DRAWN BY: JG, JN

754 (6)