

82-229-10294

ASSESSMENT REPORT

GEOCHEMICAL REPORT  
ON THE  
ARGUS 1 to 4 CLAIMS  
(32 UNITS)

OMINECA MINING DIVISION

by

SHEILA A. CRAWFORD

10,294

LOCATION: 57°18' to 57°21' N Latitude  
126°55' to 127°00' W Longitude  
N.T.S. 94E/7W

OWNER/OPERATOR: SEREM LTD.

DATES WORK PERFORMED: June 25, August 16, 17, 1981

DATE OF REPORT: MARCH 1982

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## INTRODUCTION

The Argus 1 to 4 claims are located between 57°18' N and 57°21' N latitude and 126°55' W to 127°00' W longitude in the Toodoggone River map sheet area, N.T.S. 94E/7W, Omineca Mining Division (see Figures 1 and 2). Elevation ranges from about 1430 metres (4700 feet) to 2010 metres (6600 feet) above sea level. Most of the property is above tree line. Topography is moderately rugged. Outcrop is well exposed on the mountains but generally covered by glacial till in the valleys.

Access to the property is by plane from Smithers to Sturdee Airstrip, a distance of 280 kilometres and from Sturdee Airstrip to the property by helicopter, a distance of about 13 kilometres.

The 4 claims currently consist of 8 units each. They are owned and operated by SEREM Ltd. Previous work is described in the 1981 assessment report submitted by SEREM.

Work performed in 1981 by SEREM Ltd. includes geochemical soil sampling on a grid and geochemical rock sampling along two contour traverses. A total of 176 soils were analysed for gold, silver, copper, lead and molybdenum, and 82 rocks analysed for gold and silver. The number and type of samples taken on each claim are listed below.

| <u>Sample Type</u> | <u>Claim</u> | <u>No. of Samples</u> |
|--------------------|--------------|-----------------------|
| Soil               | Argus 1      | 67                    |
|                    | Argus 2      | 110                   |
| Rock               | Argus 3      | 27                    |
|                    | Argus 4      | 55                    |

The purpose of the survey was to follow up geochemical anomalies in silt samples taken from creeks draining the area and soil samples taken along contour traverses. The geology is favourable for the formation of epigenetic mineralization.

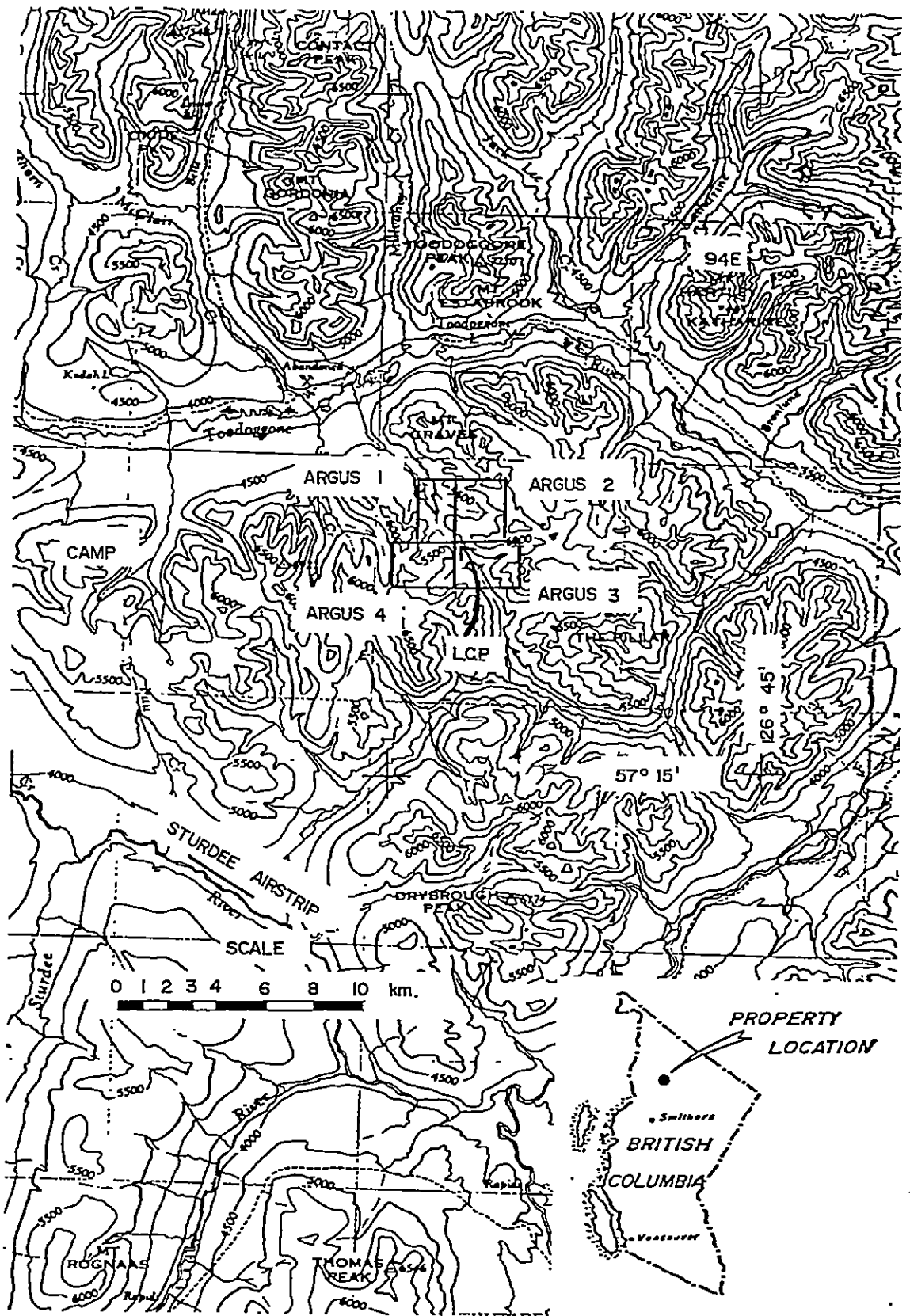


Fig. 1 Location of Argus 1, Argus 2, Argus 3 and Argus 4 claims

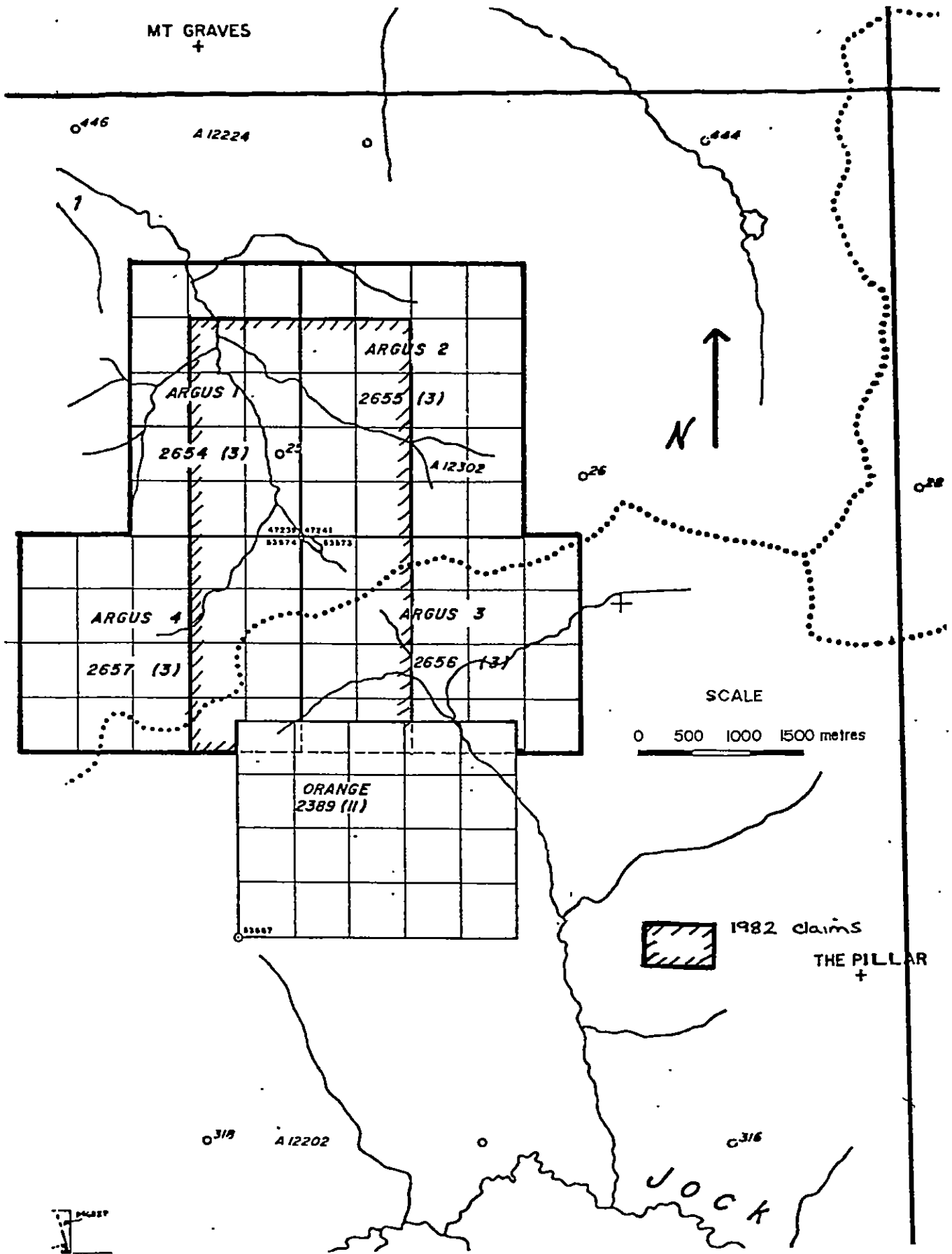


Fig. 2 Claims Map: Argus 1, Argus 2, Argus 3 and Argus 4 claims

### GEOCHEMICAL SOIL AND ROCK SAMPLING

Soils were taken at 50-metre intervals on lines 50 metres apart. A baseline was set with surveyor's chain and compass and picketed every 50 metres. Soil lines were run from the baseline using Topofil and compass for control. All sample sites were flagged with the grid coordinates. Soil was placed in brown paper envelopes and the locality, topographic features and soil characteristics noted. The grid is located in a forested area and soil horizons are well developed. Most samples were taken from the B horizon.

Rock samples were taken at approximately 30-metre intervals along traverses at constant elevation. Each 1.5 to 2 kilogram sample is composed of rock chips taken at random from an area approximately 2 metres in diameter. Most samples are from felsenmeer or talus. True outcrop is rare: rock in this area is highly altered and fractured, making it susceptible to frost heaving.

## GEOCHEMICAL ANALYSIS

Samples were sent to Min-En Laboratories and were analysed for gold, silver, copper, lead and molybdenum. The analytical procedure for each element is briefly described below:

The samples are dried at 95° C. Soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed and pulverized by ceramic plated pulverizer.

For gold, a suitable sample, weight 5 or 10 grams, is pretreated with HNO<sub>3</sub> and HClO<sub>4</sub> mixture.

After pretreatment, the samples are digested with Aqua Regia solution, and after digestion the samples are taken up with 25% HCl to suitable volume.

Sample solutions are prepared with Methyl Iso-Butyl Ketone for the extraction of gold.

With a set of suitable standard solutions, gold is analysed by Atomic Absorption instruments. The obtained detection limit is 5 ppb.

For silver, copper, lead and molybdenum, samples weighing 1.0 gram are digested for 6 hours with HNO<sub>3</sub> and HClO<sub>4</sub> mixture.

After cooling, the samples are diluted to standard volume. The solutions are analysed by Atomic Absorption Spectrophotometers using the CH<sub>2</sub>H<sub>2</sub>-Air Flame combination for silver, copper, and lead. The C<sub>2</sub>H<sub>2</sub>-NO<sub>2</sub> mixture is used for molybdenum.

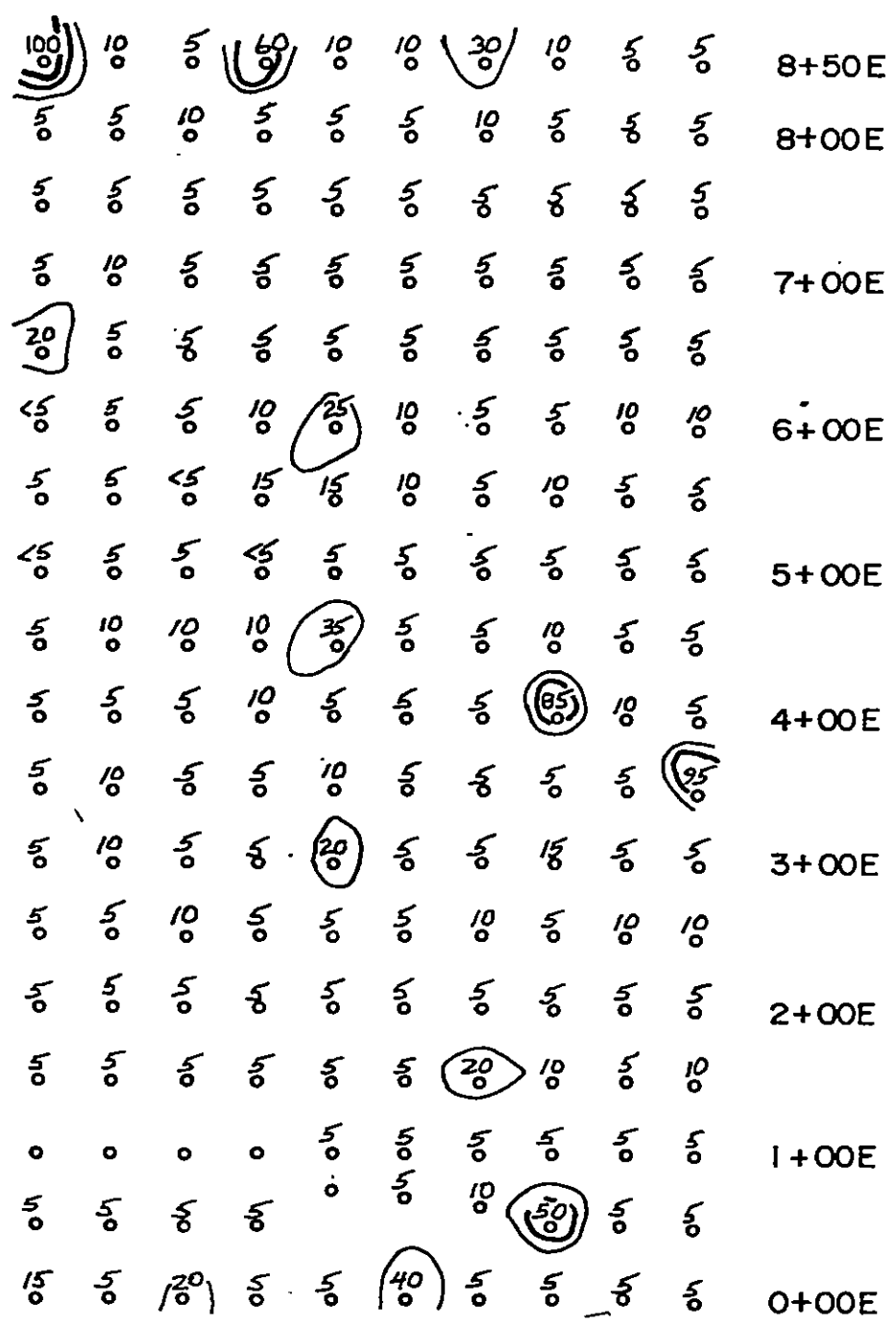


### GEOCHEMICAL RESULTS AND INTERPRETATION

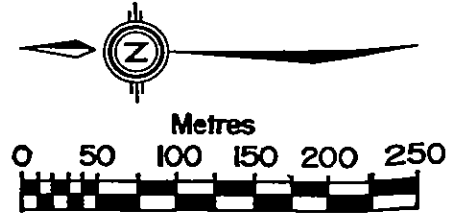
Gold, silver, copper, lead and molybdenum soil analyses are plotted on Figures 3a to 3e respectively. The values are contoured.

Gold anomalies are marginal, isolated and indicate no trends. A weak silver anomaly occurs on the southern portion of lines 5E and 6E and does not coincide with anomalies in other elements. Lead is marginally anomalous in many parts of the grid: outcrop in the vicinity of the grid is gossanous and lead is probably enhanced by residual enrichment in the leached gossans. Lead anomalies indicate structural trends of approximately  $045^{\circ}$  and  $110^{\circ}$ . Molybdenum values up to 40 ppm molybdenum also indicate a  $110$  to  $130^{\circ}$  trend. Weakly anomalous copper correlates with molybdenum or lead.

Gold and silver rock analyses are plotted on Figures 4a and 4b respectively. No significant anomalies occur in either element.



2+00N      1+00N      BASELINE      1+00S      2+00S



# ARGUS CLAIMS, SOIL GRID: GOLD VALUES

- LEGEND**
- Soil sample site, ppb Au.
  - ≥ 20 ppb Au.
  - ≥ 50 ppb Au.
  - ≥ 100 ppb Au.

FIGURE:  
**3a**

|     |     |     |     |     |     |     |     |     |     |       |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| 1.0 | 1.0 | 1.3 | 1.0 | 0.8 | 0.7 | 0.8 | 0.7 | 0.9 | 1.3 | 8+50E |
| 1.7 | 1.1 | 1.2 | 1.2 | 1.0 | 1.2 | 1.0 | 1.5 | 1.3 | 1.7 | 8+00E |
| 1.1 | 0.9 | 1.5 | 1.0 | 0.8 | 0.7 | 1.0 | 0.9 | 0.6 | 0.9 |       |
| 0.8 | 1.0 | 1.1 | 1.2 | 1.0 | 0.9 | 1.2 | 1.1 | 1.0 | 1.5 | 7+00E |
| 0.9 | 0.9 | 0.8 | 0.6 | 0.8 | 1.2 | 1.0 | 0.8 | 0.9 | 1.3 |       |
| 0.9 | 1.0 | 1.7 | 0.9 | 1.7 | 2.2 | 1.1 | 2.1 | 1.2 | 2.2 | 6+00E |
| 0.6 | 0.8 | 0.7 | 0.9 | 1.2 | 1.2 | 1.1 | 1.4 | 3.4 | 1.2 |       |
| 2.8 | 1.0 | 1.1 | 1.1 | 0.5 | 1.0 | 1.1 | 1.4 | 1.3 | 1.0 | 5+00E |
| 1.2 | 1.3 | 0.8 | 1.2 | 1.3 | 1.4 | 1.3 | 1.4 | 1.3 | 2.0 |       |
| 1.4 | 0.9 | 1.2 | 1.0 | 1.1 | 1.1 | 1.2 | 1.2 | 1.3 | 0.8 | 4+00E |
| 0.7 | 1.0 | 0.9 | 1.2 | 1.0 | 1.0 | 1.6 | 1.2 | 1.2 | 1.1 |       |
| 0.7 | 0.4 | 0.9 | 0.7 | 1.3 | 1.5 | 1.2 | 1.5 | 0.6 | 1.6 | 3+00E |
| 1.1 | 0.7 | 1.0 | 1.0 | 1.6 | 1.1 | 0.4 | 1.1 | 0.4 | 0.7 |       |
| 0.9 | 0.8 | 0.6 | 0.7 | 0.4 | 0.4 | 0.6 | 0.7 | 0.3 | 0.9 | 2+00E |
| 1.0 | 0.7 | 0.6 | 1.2 | 0.8 | 1.0 | 1.3 | 0.4 | 0.9 | 0.6 |       |
| 0   | 0   | 0   | 0   | 0.6 | 1.8 | 1.0 | 1.3 | 0.6 | 1.0 | 1+00E |
| 1.4 | 1.6 | 1.5 | 1.5 | 1.2 | 1.2 | 1.4 | 0.8 | 1.2 | 0.7 |       |
| 1.1 | 0.7 | 0.4 | 0.4 | 0.7 | 1.4 | 1.1 | 1.6 | 1.2 | 1.0 | 0+00E |

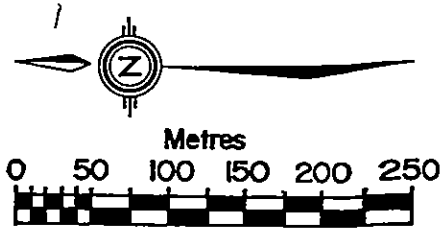
2+00N

1+00N

BASELINE

1+00S

2+00S

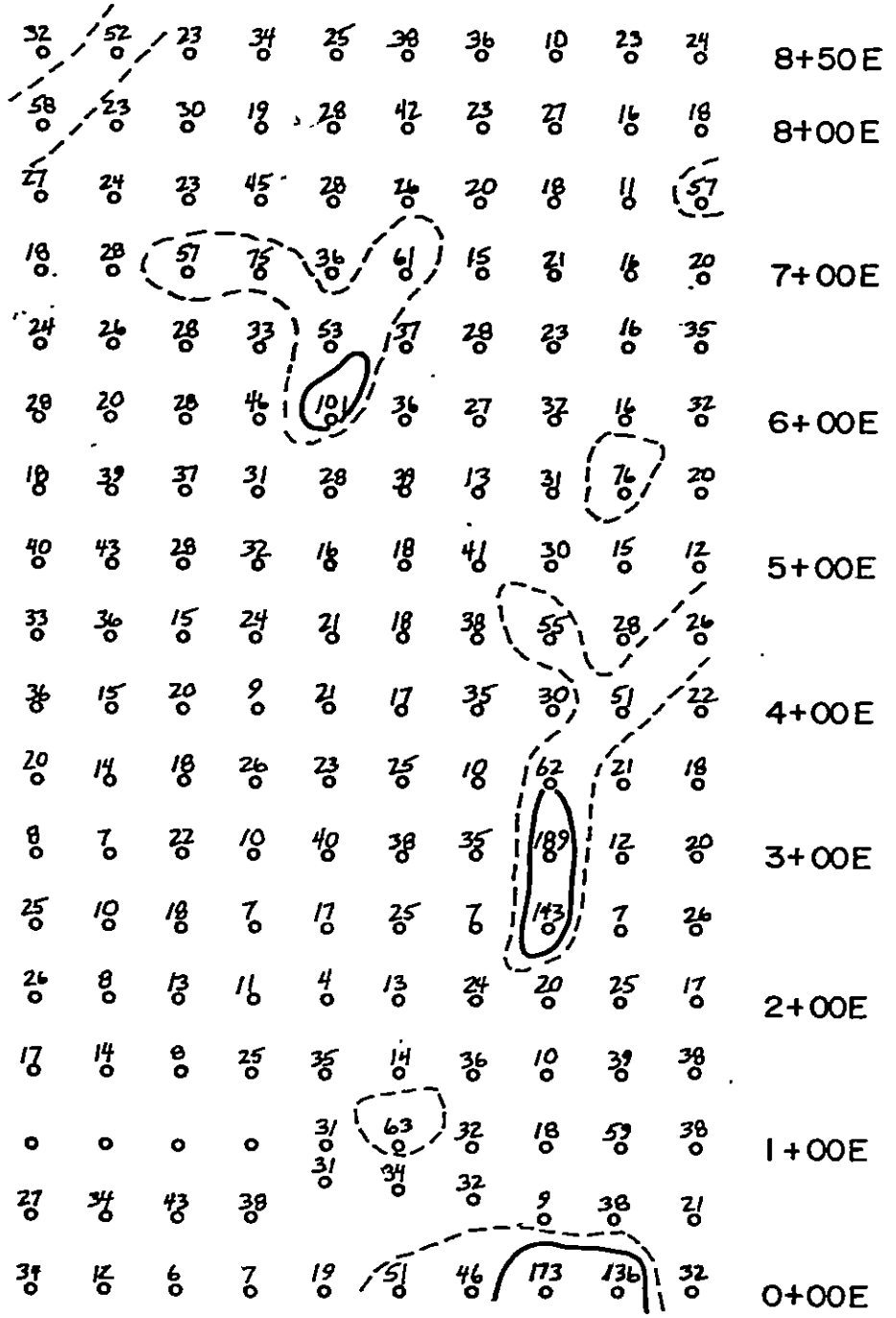


# ARGUS CLAIMS, SOIL GRID: SILVER VALUES

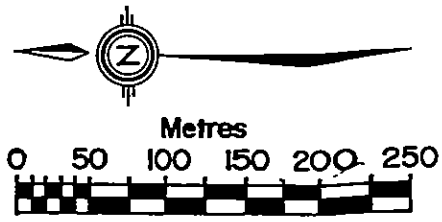
- LEGEND**
- Soil sample site, ppm Ag.
  - ≥ 2.0 ppm Ag.
  - ≥ 3.0 ppm Ag.
  - ≥ 4.0 ppm Ag.

FIGURE:  
**3b**

*St*



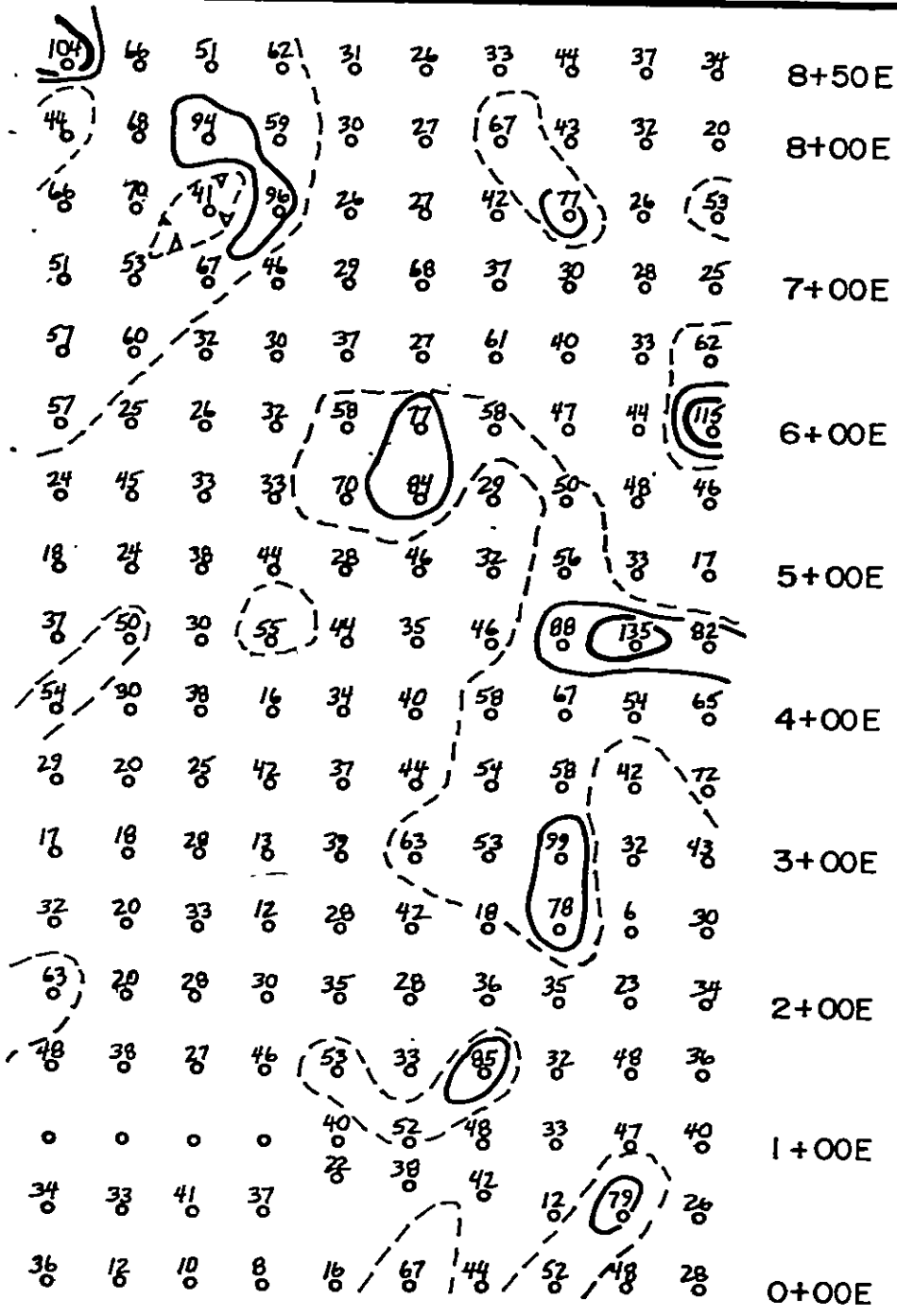
2+00N  
1+00N  
BASELINE  
1+00S  
2+00S



# ARGUS CLAIMS, SOIL GRID: COPPER VALUES

- LEGEND**
- Sample site, ppm Cu.
  - - - ≥50 ppm Cu.
  - — — ≥100 ppm Cu.
  - — — ≥200 ppm Cu.

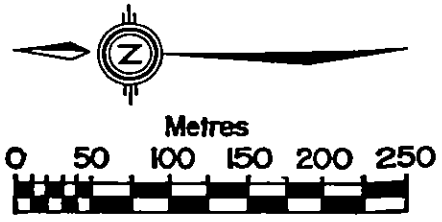
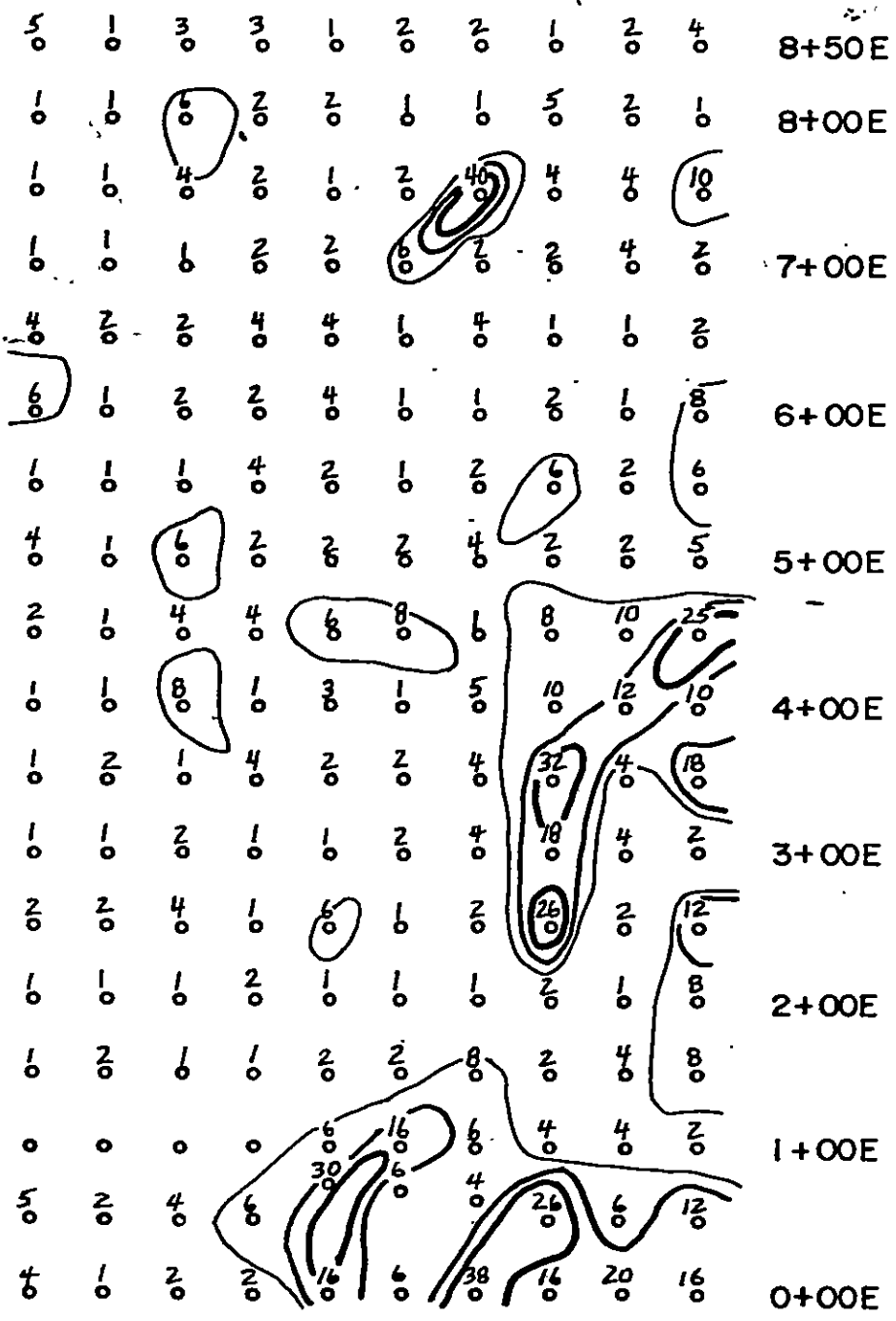
FIGURE:  
**3C**



# ARGUS CLAIMS, SOIL GRID: LEAD VALUES

- LEGEND**
- Soil sample site, ppm Pb.
  - ≥50 ppm Pb.
  - ≥75 ppm Pb.
  - ≥100 ppm Pb.

FIGURE:  
**3d**



# ARGUS CLAIMS, SOIL GRID: MOLYBDENUM VALUES

- LEGEND**
- 16 ○ Soil sample site, ppm Mo.
  - ≥6 ppm Mo.
  - ≥12 ppm Mo.
  - ≥24 ppm Mo.

FIGURE:  
**3e**

CONCLUSIONS AND RECOMMENDATIONS

A porphyritic monzonite stock outcrops near the soil grid. Extensive hydrothermal alteration and pyritization occur in both intrusive and volcanic rocks in the area.

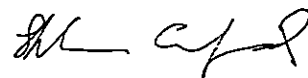
Precious metal values are not significantly anomalous in the soils and rocks sampled in the survey. However, molybdenum-copper anomalies are of some interest and are probably related to porphyry-type mineralization. No significant sulphide mineralization has been discovered during initial mapping. It is recommended that prospecting, detailed geological mapping, and supplementary geochemical sampling be carried out to follow up the anomalies. Further work would depend on these results.

CERTIFICATE OF QUALIFICATIONS

I, Sheila A. Crawford, certify that:

1. I am a geologist, employed by Serem Ltd.
2. I have an Honours Bachelor of Science Degree (First Class) in Geology from Carleton University in Ottawa, Ontario.
3. I have worked in mineral exploration or geological mapping since 1976 and have acted in responsible positions since 1979.
4. I personally examined the property and directed the geochemical survey.
5. I have no financial interest, either direct or indirect, in the property.

Vancouver, B.C.



Sheila A. Crawford



STATEMENT OF EXPENDITURESAnalyses

|  |                       |              |          |
|--|-----------------------|--------------|----------|
| 176 soils analysed for Au, Ag, Cu, Pb, Mo                | @ \$10.55             | \$1,856.80   |          |
| 82 rocks " " Au, Ag                                      | @ \$ 9.25             | 758.50       |          |
| Sample shipment from Smithers to Vancouver<br>Laboratory | 258 samples @ \$ 0.30 | <u>77.40</u> |          |
|  |                       | \$2,692.70   | -\$2,693 |

Wages

Geochemical sampling, grid preparation,  
June 25, August 16, 17, 1981:

|                                     |                 |               |  |
|-------------------------------------|-----------------|---------------|--|
| C. Chisholm                         | 3 days @ \$ 58  | \$ 174.00     |  |
| G. Dawson                           | 1 day @ \$ 58   | 58.00         |  |
| C. Lormand                          | 2 days @ \$ 50  | 100.00        |  |
| Supervision and evaluation:         |                 |               |  |
| S. Crawford                         | 1 day @ \$ 92   | 92.00         |  |
| Report writing and map preparation: |                 |               |  |
| S. Crawford                         | 1 day @ \$115   | 115.00        |  |
| Drafting:                           |                 |               |  |
| C. Greig                            | 1½ days @ \$ 72 | <u>108.00</u> |  |

\$ 647

Board, Lodging and Field Expenses

|                           |        |
|---------------------------|--------|
| 7 man-days @ \$52/man-day | \$ 364 |
|---------------------------|--------|

Transportation

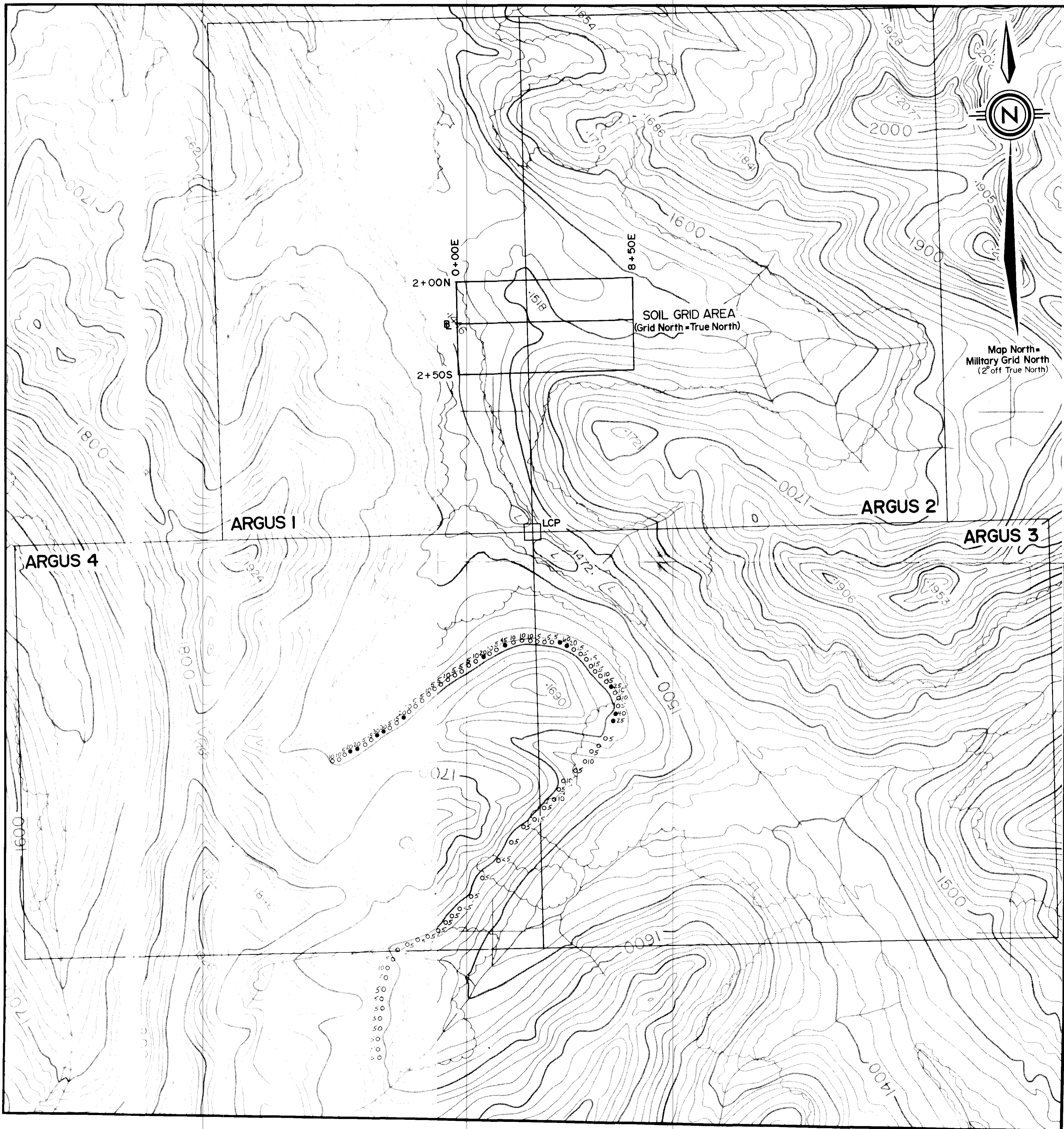
|            |   |        |
|------------|---|--------|
| Helicopter | 1 hour 15 minutes @ \$475/hour,<br>including fuel | \$ 594 |
|------------|---|--------|

Topographic map, 1:10,000 scale, 20 m. contours

|                   |               |
|-------------------|---------------|
| Burnett Resources | \$ <u>900</u> |
|-------------------|---------------|

TOTAL

\$5,198



**LEGEND**

- rock sample site, ppb Au.
- rock sample site, ≥ 20 ppb Au.

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**SEREM LTD.**  
**TOODOGGONE PROJECT**

**-ARGUS CLAIMS-**  
**GOLD IN ROCKS;**

CONTOUR TRAVERSES

|                 |               |
|-----------------|---------------|
| DATE: MARCH 82  | DATA: S.C.    |
| N.T.S.: 94E/7W  | DRAWN: C.G.   |
| SCALE: 1:10,000 | CHECKED: J.E. |

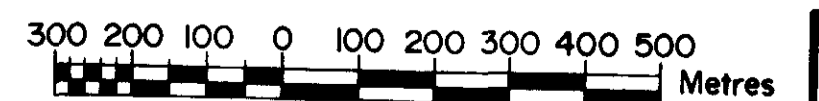
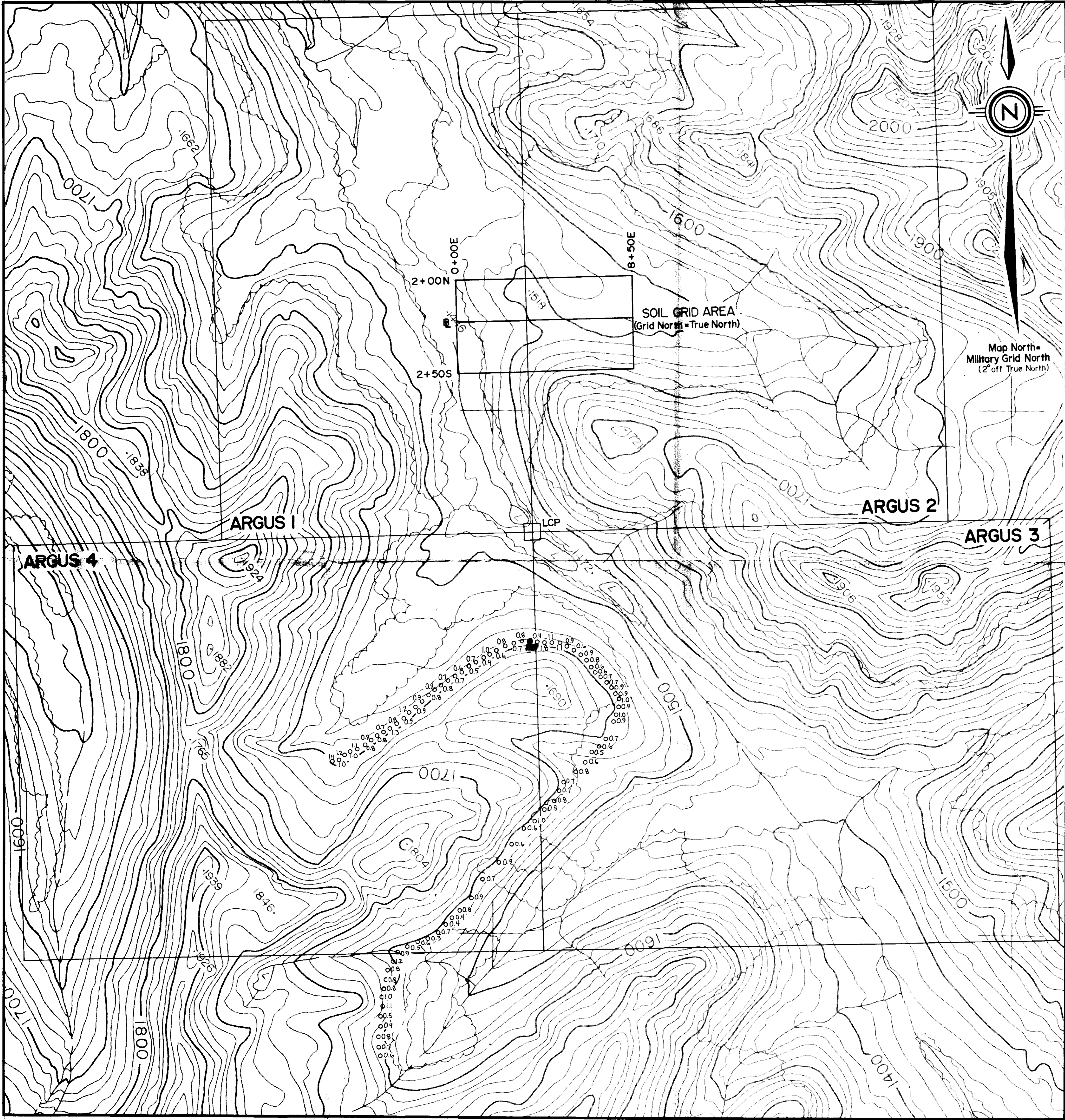


FIGURE:  
**4a**



**LEGEND**

- 0.0 rock sample site, ppm Ag.
- 2.0 rock sample site, ≥ 2.0ppm Ag.

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**SEREM LTD.**  
**TOODOGGONE PROJECT**  
**ARGUS CLAIMS**  
**SILVER IN ROCKS,**  
**CONTOUR TRAVERSES**

|                 |                             |
|-----------------|-----------------------------|
| DATE: MARCH 82  | DATA: S.C.                  |
| N.T.S.: 94E/7W  | DRAWN: C.G.                 |
| SCALE: 1:10,000 | CHECKED: <i>[Signature]</i> |

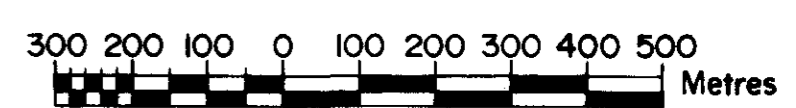


FIGURE:  
**4b**