

Geophysical and Geochemical Assessment Report

on the

STEM #1 to #12, DICK and SPID CLAIMS
(Pipe Group)
Situated

20 kilometers northeast of Hope, B. C.

New Westminster M. D.

N.T.S. 92H/11W

Latitude $49^{\circ} 32'N$. Longitude $121^{\circ} 18'W$

on behalf of

LONGBAR MINERALS LIMITED

Field work between September 13 and
September 20, 1977.

Report by

D. R. Cochrane, P, Eng.

and

A. L. Littlejohn, B. Sc.

October 14, 1977

Revised June 28, 1978

Delta, B. C.



Cochrane Consultants Limited
4882 Delta St., Delta, B.C. V4K 2T8 946-9221
Geotechnical Consulting / Exploration Services

geology
geophysics
geochemistry

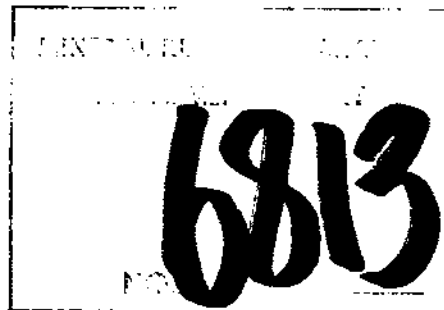
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PREFACE

In September 1977 a field crew under the direction of Jon Stewart and A. Littlejohn completed ground Magnetometer and Geochemical Soil Sampling Surveys on the Stem, Dick and Spid Claims, located in the Coquihalla Gold Belt of southern British Columbia.

This report describes the work done, the procedures used and the results obtained. Metric units have been used exclusively in this report.



SUMMARY AND CONCLUSIONS

1. Longbar Minerals Ltd. hold title to twelve (12) Stem claims, the Dick claim (12 units) and the Spid claim (6 units) situated in the Coquihalla Gold Belt of southern British Columbia.

2. During September of 1977, a field crew completed a ground control grid on the Stem claims and conducted coincident ground magnetometer and geochemical soil sampling surveys. Reconnaissance geochemical soil sampling and prospecting was carried out on the Dick and Spid claims.

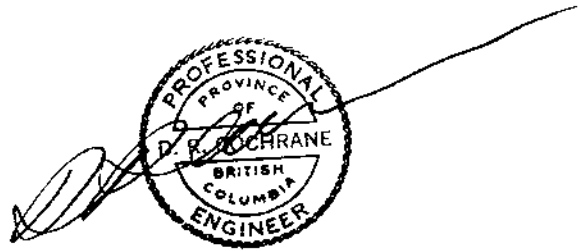
3. The magnetometer survey shows the area is characterized by gentle magnetic relief. This suggests the area is underlain by a relatively homogeneous lithology.

4. Six (6) upper B horizon soil samples contained gold in excess of 75 parts per billion (p.p.b.)



5. Investigation as to the cause of the anomalous geochemical features is recommended.

Respectfully submitted



D. R. Cochrane, P. Eng.

A handwritten signature in cursive script that reads "A. L. Littlejohn".

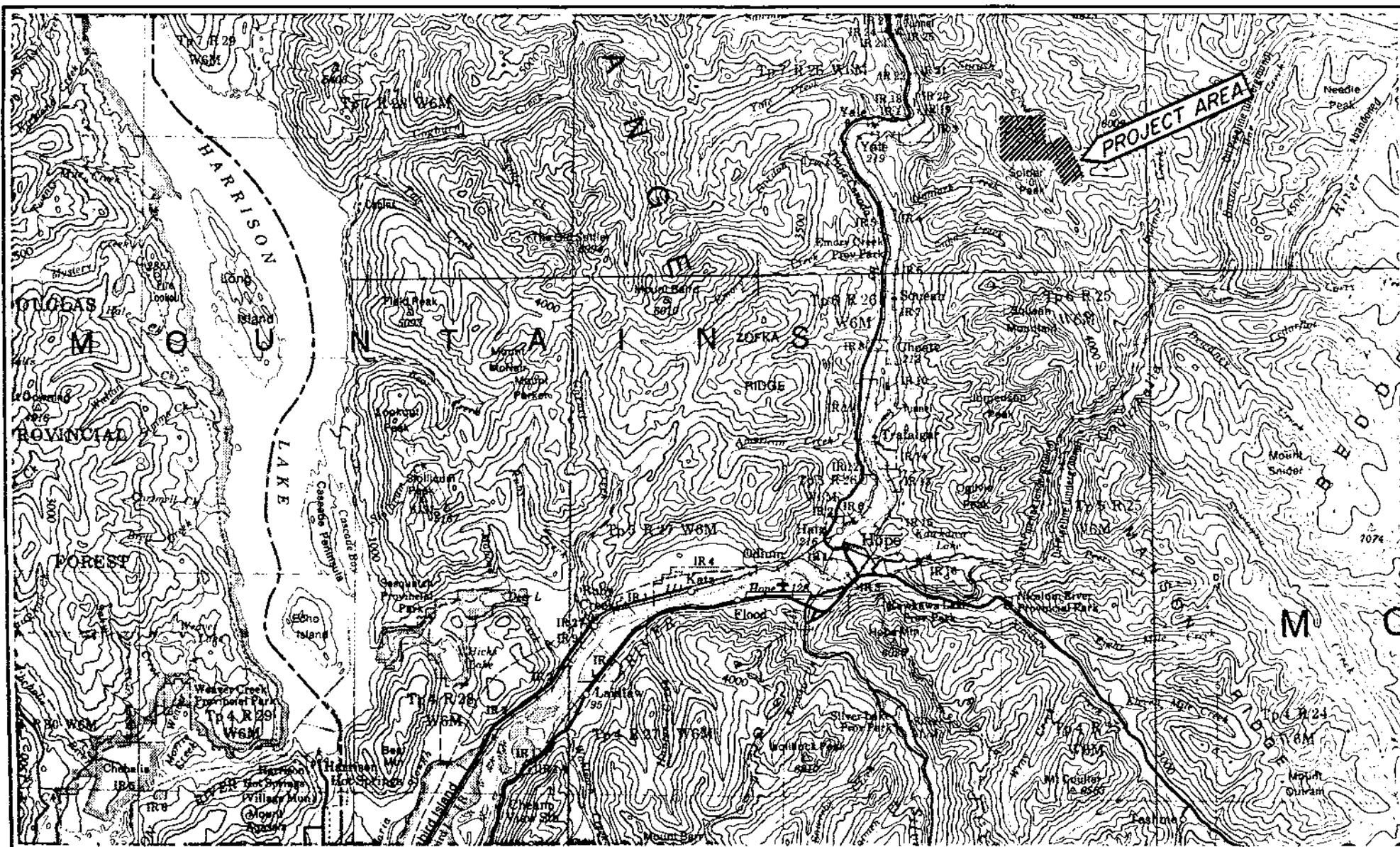
A. L. Littlejohn, B.Sc. M. Sc.,

October 14, 1977,

Delta, B. C.

Revised June 28, 1978





LONGBAR MINERALS LTD.

Pipe Group, Siwash Cr. Area, B.C. (Stem, Spid & Dick Claims)
 New Westminster Mining Division

N.T.S. 92H/11

LOCATION MAP

Figure 1

0 5 10 km

Scale: 1:250,000

B.A.C. NOV. '77.
 Revised JUNE '78.



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 4683 Oak St., Oak, B.C. V4E 2T5 243-8221

PART B: SETTING

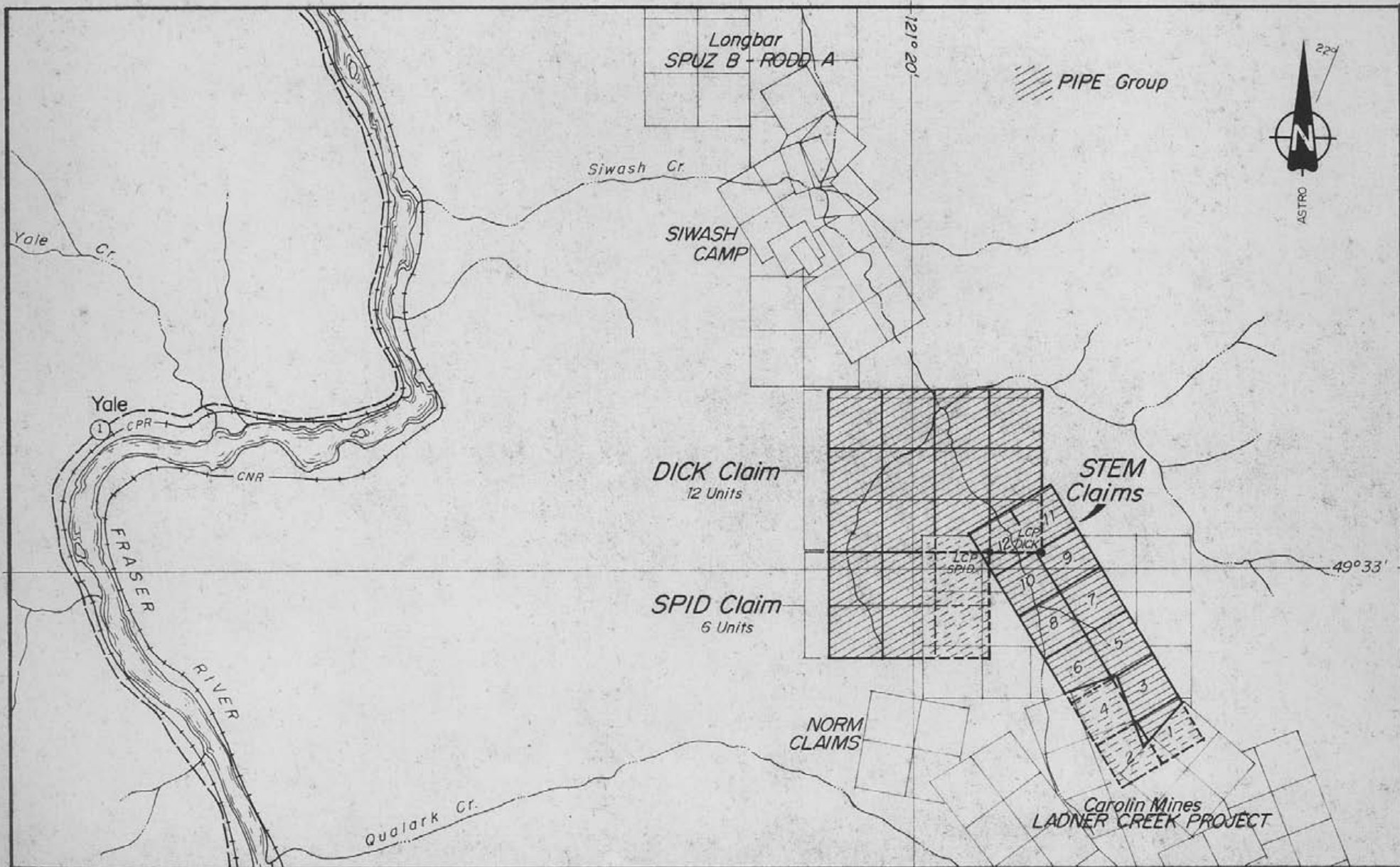
B-1 Location and Access

Land access to the Stem, Dick and Spid claims is restricted to pack trails and two such trails are available:

- (a) northerly from Carolin Mines Idaho Zone roads along the Pipestem trail for a distance of about four (4) kilometres, or
- (b) easterly around the southern point of Spider Peak from the top part of the Hillsbar (Qualark Creek) logging roads, a distance of approximately three (3) kilometres (but much steeper and no distinct trail).

The most facile access is by helicopter and a charter service is available from Hope. The air distance to the claims is twenty (20) kilometres. The NTS code for the area is 92H/11W; the latitude is $49^{\circ} 32'N$, and longitude $121^{\circ} 18'W$. (see location map)





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New Westminster Mining Division

(Stem, Spid & Dick Claims)
N.T.S. 92H/11

CLAIMS MAP

0 500 1000 2000m

Scale 1: 50,000

Figure 2

B.A.C. NOV. '77
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B-2 Claims and Ownership

The Stem #1 to #12, Dick and Spid claims are owned by Longbar Minerals Ltd. of 11450 - 124th St., Edmonton Alberta. Their free Miners License is 166196 issued March 17th,

The following table list pertinent claims information:

Claim Name	Record #	Expiry Date before A.W. filing	Expiry Date applied for
Stem #1-5 (incl.)	29356-60	July 2, 1979	July 2, 1980
Stem #6-12 (incl.)	29361-67	July 2, 1978	July 2, 1980
Dick (12 units)	232	Sept. 21, 1978	Sept. 21, 1980
Spid (6 units)	231	Sept. 21, 1978	Sept. 21, 1980



The Stem claims form a contiguous block, two (2) old claims wide (3000 feet) by six (6) old claims long (9000 feet). The location line runs north-northwesterly. (see Claims Map)

The Dick claim consists of 12 units, the Spid claim consists of 6 units. They lie northwest of the Stem claims and are adjacent to them.

They are recorded in the New Westminster Mining Division and their approximate location is shown on B. C. Department of Mines Mineral Claims Map # 92H/11 (west $\frac{1}{2}$).



B-3 General Setting

The Stem, Dick and Spid claims lie along the Coquihalla Gold Belt, an unusual north-northwest metalogenic zone situated in the north Cascade Mountain Range. The country is an impressive portion of British Columbia, characterized by high mountain peaks, deeply incised stream valleys and luxurious sub-coastal forest cover.

The claims lie along an unnamed ridge immediately east of the parallel to the Spider Peak Ridge. Elevations vary from just over 1300 metres at the south end of the property to approximately 800 metres above sea level at the north end of the property. The area is drained by the south fork of Siwash Creek, a tributary of the Fraser River.

The Stem claims lie east of the Coquihalla Serpentine Band, and entirely within the Jurassic Ladner Slate sequence, a thick sedimentary pile of argillites, greywackes and slates. The Dick and Spid claims lie across the Serpentine Band. The Ladner slates are host rocks to replacement type gold deposits such as Carolin Mines, McMaster and Idaho Gold zones.



B-4 PREVIOUS WORK

During the late summer of 1975 a field crew completed a ground control grid on the Stem #1 to #8 claims and conducted coincident VLF-EM, magnetometer and geochemical soil sampling surveys. The results of this work may be found in Cochrane (1976).



C PROCEDURES

A "flag" ground control grid was layed out and ties into the north end of previously layed out grid. Station 0+00 on the new grid corresponds to station 28N +00 on the old grid. The base line was cut and chained and trends N30^oW. Cross lines were flagged at 100 metre intervals with stations at 50 metre intervals along all lines.

The magnetometer survey was done with a Scintrex MF-2 ground fluxgate magnetometer unit and was operated by A. Littlejohn. The survey was conducted by a "loop into base line" method, and all readings were corrected for diurnal variation by the operator.

Soil samples were collected at the stations on the cross lines and "B" horizon soils were collected. Reconnaissance sampling was done on the Dick and Spid claims. Stations were flagged. The samples were placed in grid numbered kraft paper bags and transported to Min-En Labs of North Vancouver where their gold content was determined.



Maps were drafted in the Delta office of Cochrane
Consultants Ltd. under the supervision of D. R. Cochrane,
P. Eng.



D DISCUSSION OF RESULTS

D-1 Magnetometer

Corrected ground magnetometer readings are all relative to a base station at 6+75 on the base line, where an arbitrary value of 0 gammas was set. Values range from a low of -552 gammas to a high of +43 gammas. The majority fall in the -100 to -200 gammas range.

The Isomagnetic Plan (figure #3) shows that the survey area is characterized by gentle magnetic relief with no sharp changes in direction or amplitude. The magnetic response suggests the survey area is underlain by a fairly homogeneous lithologic unit, presumably the Ladner Slate group. Outcrops of slate were observed in the creek beds and on the mountain side east to Siwash Creek.



Due to the rugged nature of the terrain and inclement weather, readings at sub-base stations could only be taken at 2 hourly intervals. This has apparently introduced some line bias into the corrected readings. In view of previous work done to the south this is not believed to be severe.



D-2 Geochemical Soil Sampling

Gold content of the soils range from less than the detection limit (5ppb) to 110ppb. Values between 45 and 75 ppb may be considered moderately anomalous; values greater than 75 ppb may be considered strongly anomalous. Twenty-two (22) samples are moderately anomalous; 6 samples are strongly anomalous. They are shown on Figure 4.

Respectfully submitted,



A circular professional seal for D. R. Cochrane, a Professional Engineer in the Province of British Columbia. The seal contains the text: "PROFESSIONAL PROVINCE OF BRITISH COLUMBIA ENGINEER" around the perimeter and "D. R. COCHRANE" in the center. A handwritten signature is written over the seal.

D. R. Cochrane, P. Eng.



A. Littlejohn, B. Sc., M. Sc.
Delta, B. C.
October 14, 1977
Revised June 28, 1978



APPENDIX I

ASSESSMENT WORK DETAILS

PROJECT: Stem Claims (Spick Group)

LOCATION: Coquihalla Belt

N.T.S. 92H/11W

ACCESS: trail or helicopter

SPONSOR: Longbar Minerals Ltd., Edmonton, Alberta

WORK DONE: Ground control grid, ground fluxgate magnetometer survey, geochemical soil sampling survey.

FIELD WORK DATES: September 13 - 20, 1977

FIELD PERSONNEL: Mr. Jon Stewart, Powell River, B. C.....
Supervision (Sept 15, 20).
Mr. A. Littlejohn, Vancouver, B. C.....
Magnetometer operator, geology (Sept. 15-20)
Mr. George Beyko, Surry, B. C...Linecutting soil sampling. (Sept 14-20)
Mr. Dave Heino, Hope, B. C....Linecutting soil sampling (Sept 14-20)
Mr. B. Mickle, Powell River, B. C.....
Soil sampling, prospecting (Sept 13.-20).



DATA PROCESSING:

Mr. A. Littlejohn, Vancouver, B. C.....Preparation of
rough maps, magnetometer corrections
(Sept 26-28).

Mr. B. Cochrane, Delta, B. C.....Drafting (Oct 13, 14, 1977
June 28, 1978)

Mr. D. R. Cochrane, Delta, B. C.....Report Preparation
(Oct 14)

COST BREAKDOWN:

Field costs, camp, wages, transportation,
supervision, geochemical analysis \$ 3,906.00

Data processing, report preparation, drafting, Topographic
mapping, \$ 1825.00

Total.....\$ 5731.00



APPENDIX I

ASSESSMENT WORK DETAILS

PROJECT: Stem Claims (Pipe Group)

LOCATION: Coquihalla Belt

N.T.S. 92H/11W

ACCESS: trail or helicopter

SPONSOR: Longbar Minerals Ltd., Edmonton, Alberta

WORK DONE: Ground control grid, ground fluxgate
magnetometer survey, geochemical soil
sampling survey.

FIELD WORK DATES: September 13 - 20, 1977

FIELD PERSONNEL: Mr. Jon Stewart, Powell River, B. C.....
Supervision (Sept 15, 20).
Mr. A. Littlejohn, Vancouver, B. C.....
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Mr. George Beyko, Surry, B. C...Linecutting
soil sampling. (Sept 14-20)
Mr. Dave Heino, Hope, B. C....Linecutting
soil sampling (Sept 14-20)
Mr. B. Mickie, Powell River, B. C.....
Soil sampling, prospecting (Sept 13.-20).



APPENDIX II

Bibliography:


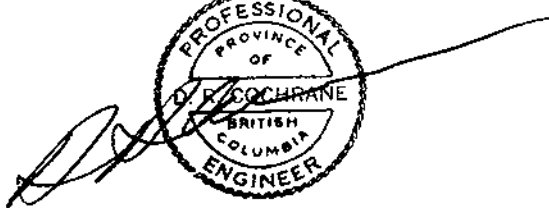
1. CAIRNS, C.E. (1929) The Serpentine Belt of Coquihalla Region, Yale District, B. C., G.S.C. Summary Report 1929-A
2. CAIRNS, C.E. (1924) Coquihalla Area, British Columbia, G.S.C. Memoir 139
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4. COCHRANE, D.R. (1976) Geophysical and Geochemical Assessment Report on the Stem No. 1 to Stem No. 12 Claims.
5. MONGER, J.W.H. (1969) G.S.C. Paper 69-47, Hope Sheet (west half)
6. McTAGGART, K.C., and THOMPSON, R.M., (1967) Geology of Part of the Northern Cascades, Canadian Journal of Earth Sciences, Vol. 4.
7. STEVENSON, J.S. Lode Gold Deposits, Southwestern British Columbia, B. C. Department of Mines Bulletin 20, part IV.



CERTIFICATE:

I, Donald Robert Cochrane of the Municipality of Delta, British Columbia, do hereby certify that:

1. I am a consulting geological engineer with an office at 4882 Delta Street, Delta, British Columbia. V4K 2T8
2. I am a graduate of the University of Toronto (1962) with a degree in Applied Geology (B.A. Sc.) and a graduate of Queen's University (1964) with a degree in Economic Geology (M. Sc. Eng.).
3. I have practiced my profession continuously since graduation and while being employed by such companies as Noranda Exploration Co. Ltd., Quebec Cartier Mines, and Meridian Explorations Syndicate. I have been in private independent practice since 1969.
4. I have no interest, either direct or indirect, in the properties or securities of Longbar Minerals Ltd., or Aquarius Resources Ltd., nor do I expect to acquire any such interest.
5. I am a member in good standing of the Association of Professional Engineers (A.P.E.) of the Province of British Columbia, and also a member of the A.P.E. in the Provinces of Ontario, Saskatchewan, and the Yukon Territories.



(signed) D. R. Cochrane p. Eng.
October 14, 1977,
Delta, B. C.



APPENDIX III

CERTIFICATE

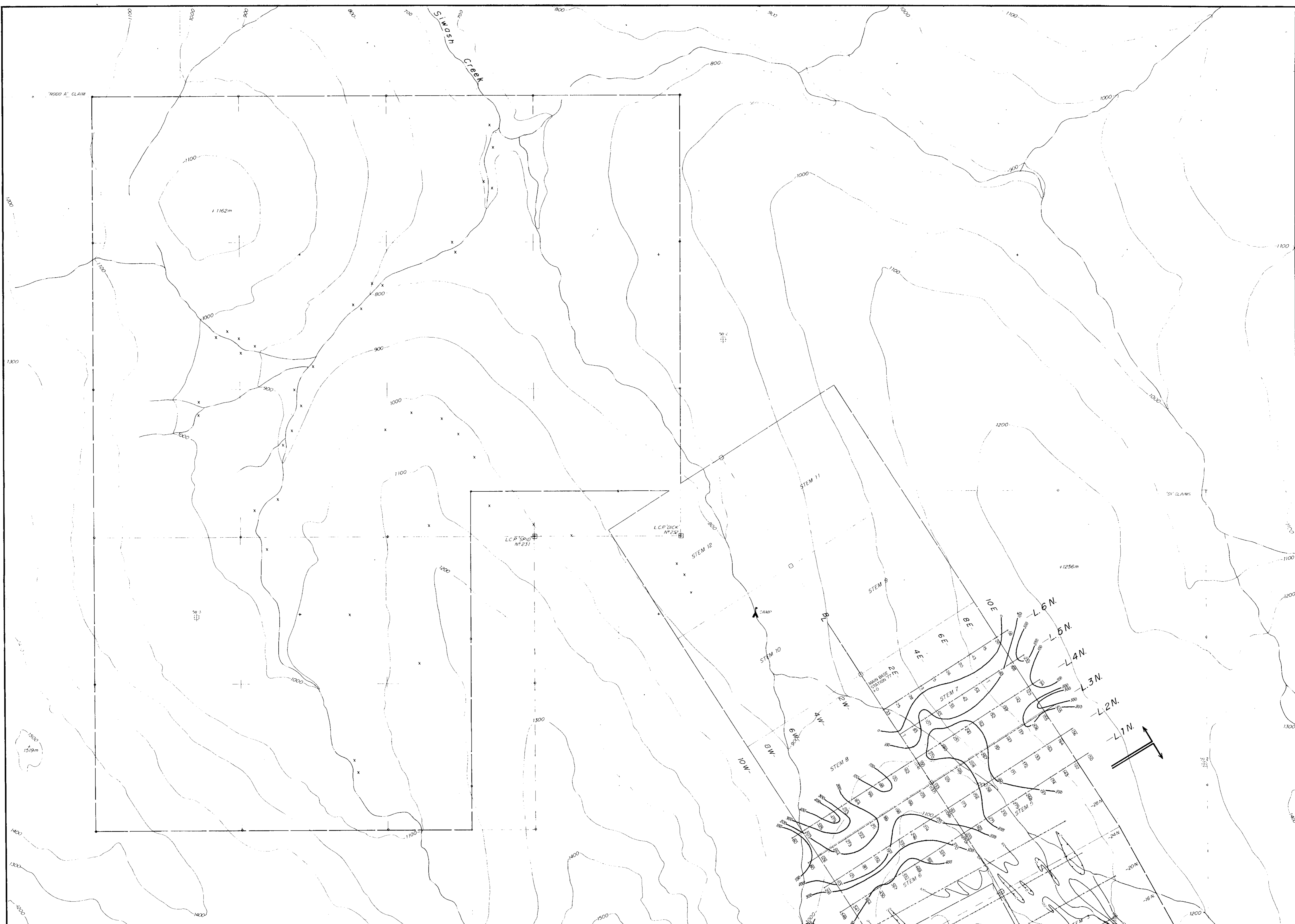
I, Alastair L. Littlejohn, of Vancouver, British Columbia, do hereby certify that:

1. I am a geologist with an office at 4882 Delta Street, Delta, B. C. V4K 2T8.
2. I am a graduate of Aberdeen University (1969) with a degree in Geology (B.Sc. Hons.) and the University of British Columbia (1972) with a degree in Geology (M.Sc.)
3. I have practised my profession continuously since graduation while being employed by such companies as Canada Tungsten Mining Corp. Ltd. and Amok Ltd.
4. I have no interest, either direct or indirect, in the properties of Longbar Minerals Ltd., nor do I expect to acquire any such interest.



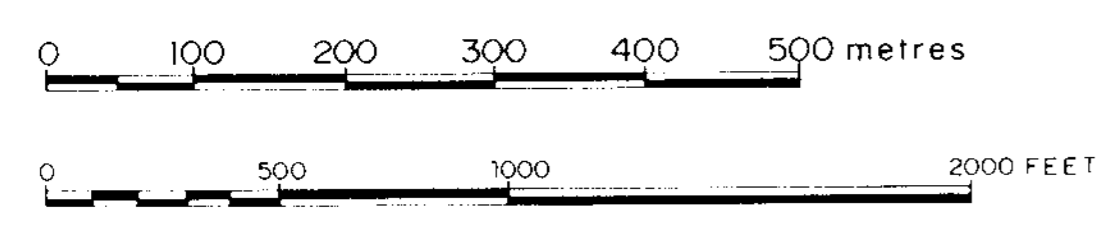
(signed) A. L. Littlejohn,
October 14, 1977,
Delta, B. C.





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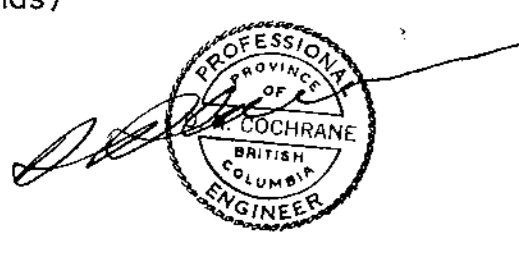
PIPE Group (Stem, Spid & Dick Claims)
New Westminster Mining Division, B.C. 92H/11



Base map from Topo Sheet 74 by Burnet Resource Surveys. Traced to metric interval (100m) Oct. 1977. by B.A.C. To accompany a report by D.R. COCHRANE, P. Eng., B.A.L. LITTLEJOHN, B.Sc., M.Sc., dated Oct. 14, 1977 at Delta, B.C., and revised June 28, 1978.

MAGNETOMETER PLAN
(gammas)

FIGURE 3

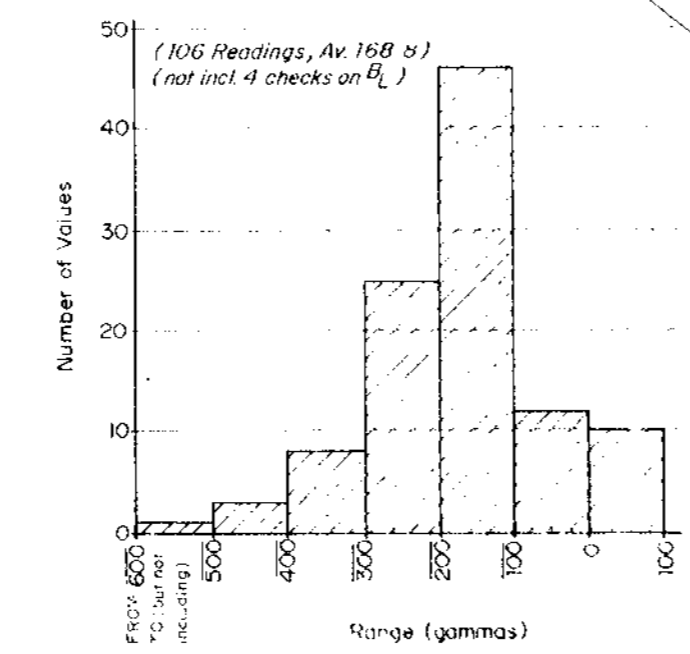


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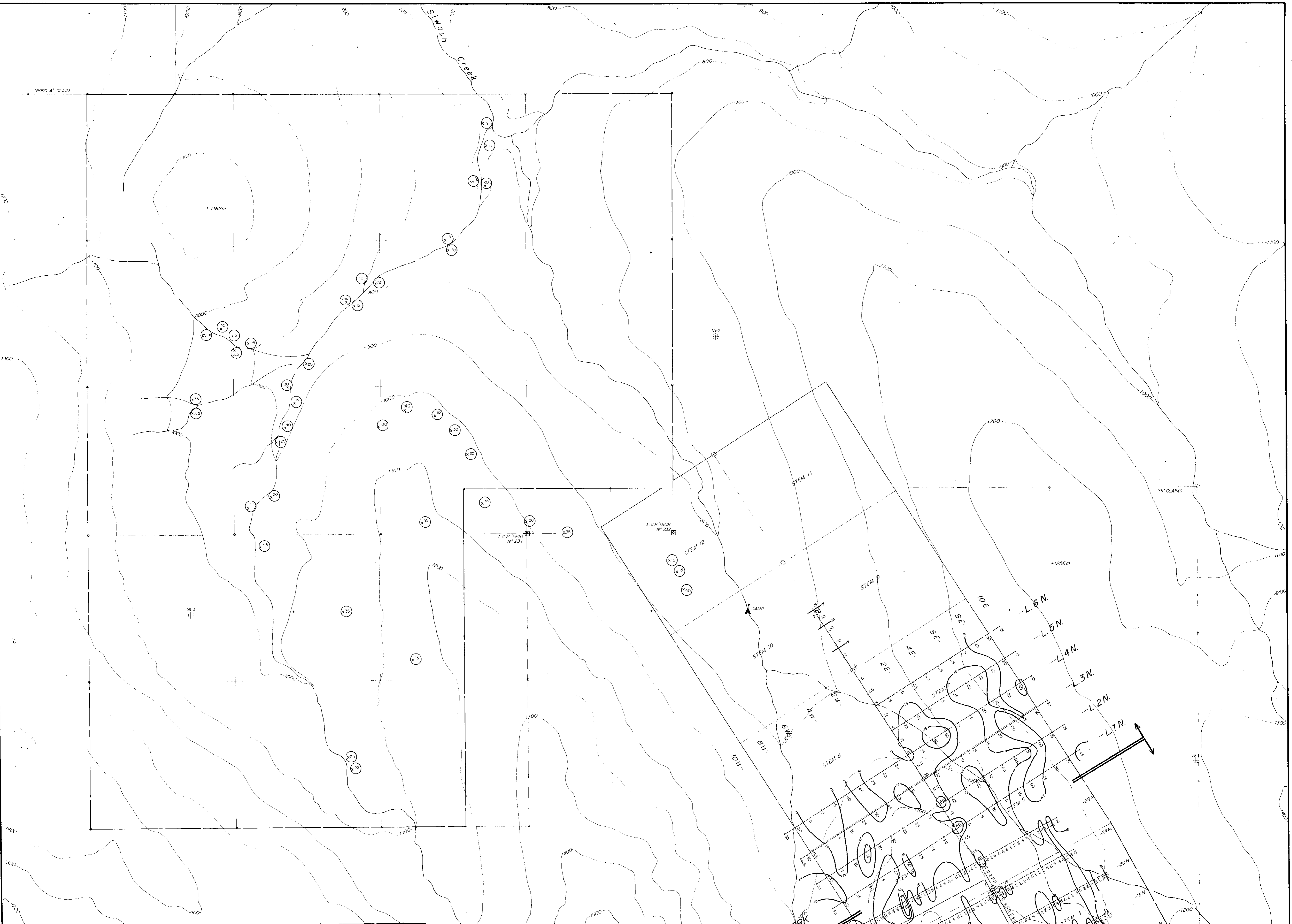


- Negative Value
- 1977 Work
- 1976 Work
- X Soil Sample Location (See Fig. 4)
- Mag Contour Interval: 100 gammas
- PIPE Group Claims Boundary
- Other Claims

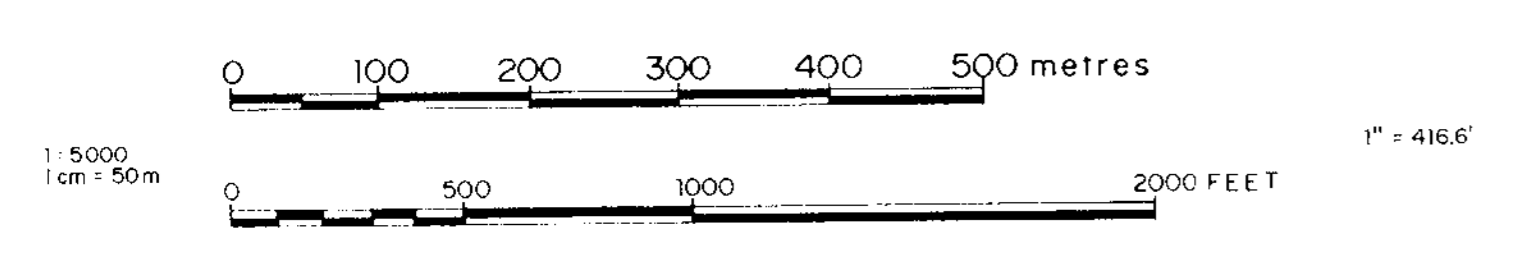
Frequency Histogram (1977 WORK)



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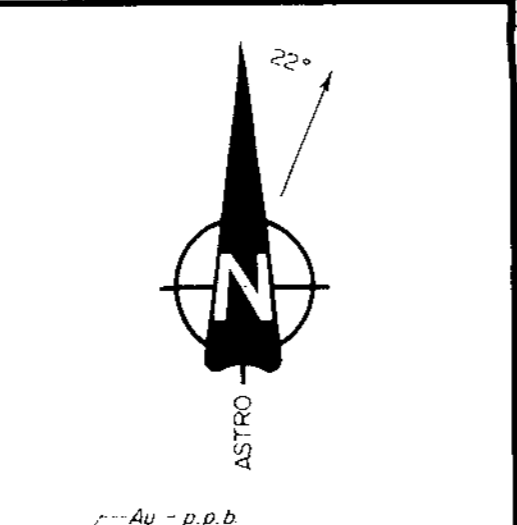


LONGBAR MINERALS LTD.
 PIPE Group (Stem, Spid & Dick Claims)
 New Westminster Mining Division, B.C. 92H/11

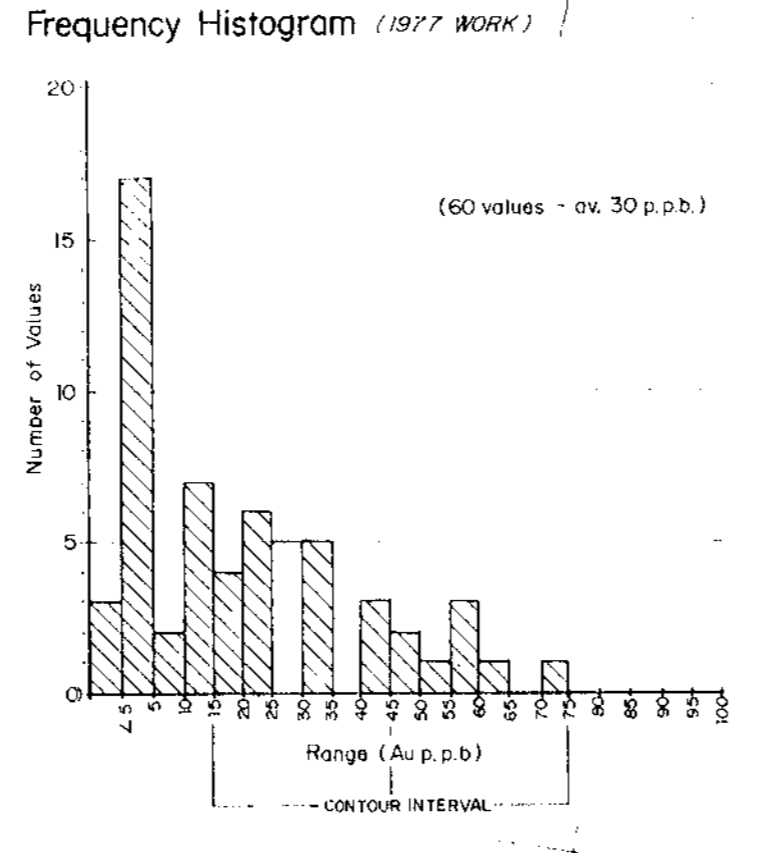


Base map from Topo Town Sheet 74 by Burnett Resource Surveys. Traced to metric interval (100m) Oct. 77 by B.A.C.
 To accompany a report by D.R. COCHRANE, P. Eng., B.A.L. LITTLEJOHN, B.Sc., M.Sc., dated Oct 14, 1977 at Delta, B.C., and revised June 28, 1978

GEOCHEMICAL PLAN **FIGURE 4**
 (Au - p.p.b.)



- Au - p.p.b.
- Reconnaissance Sample
- Sample Location
- 10 New Grid and Sample
- 20 Old Grid and Sample
- PIPE Group Claims Boundary
- Other Claims



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