

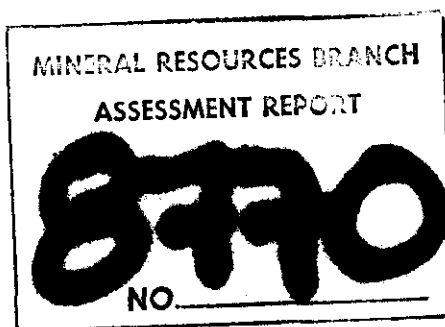
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A PROSPECTING REPORT
ON THE
MIDNIGHT NAILS 1 AND 2 CLAIMS

VERNON MINING DIVISION

NTS 82 L / 2 E

50° 10' 118° 33'



Written by:

Ted Archibald,
Claim owner.

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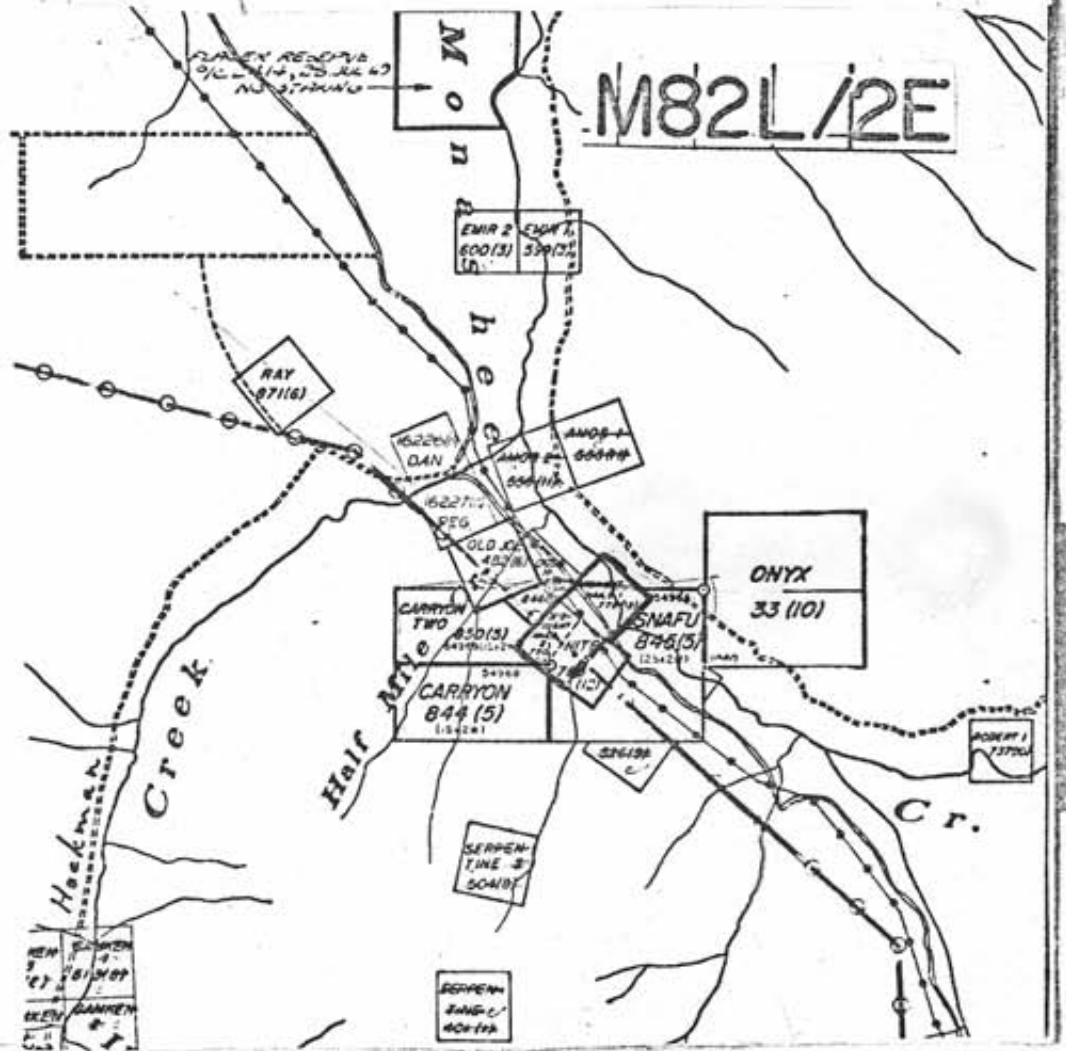
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**VERNON
82 L**



INTRODUCTION

The Midnight Nails claims along Highway 6, 9.5 km east of Cherryville; 750 metres east of Half Mile Creek. The claim consists of two two-posters, the claim line running 1500 feet northwesterly on the west side of Highway 6, and covering 1500 feet either side of the claim line.

This ground was previously covered by the Reb Claims, owned by George Irwin of Kelowna. No work was recorded on these claims and they lapsed in December 1979. The area was restaked by Jim McDonald of Vancouver, and bought by the author the following Spring.

GEOLOGICAL DESCRIPTION

The claims for the most part are forested with little outcropping. The country rock seen consists of shale with some thin quartz veins. However, along a bank cut east of the claim line, a quartz vein of some 0.75 metres wide has been exposed to a depth of two metres. This vein contains small amounts of galena, and, upon assay, was discovered to have gold and silver values.

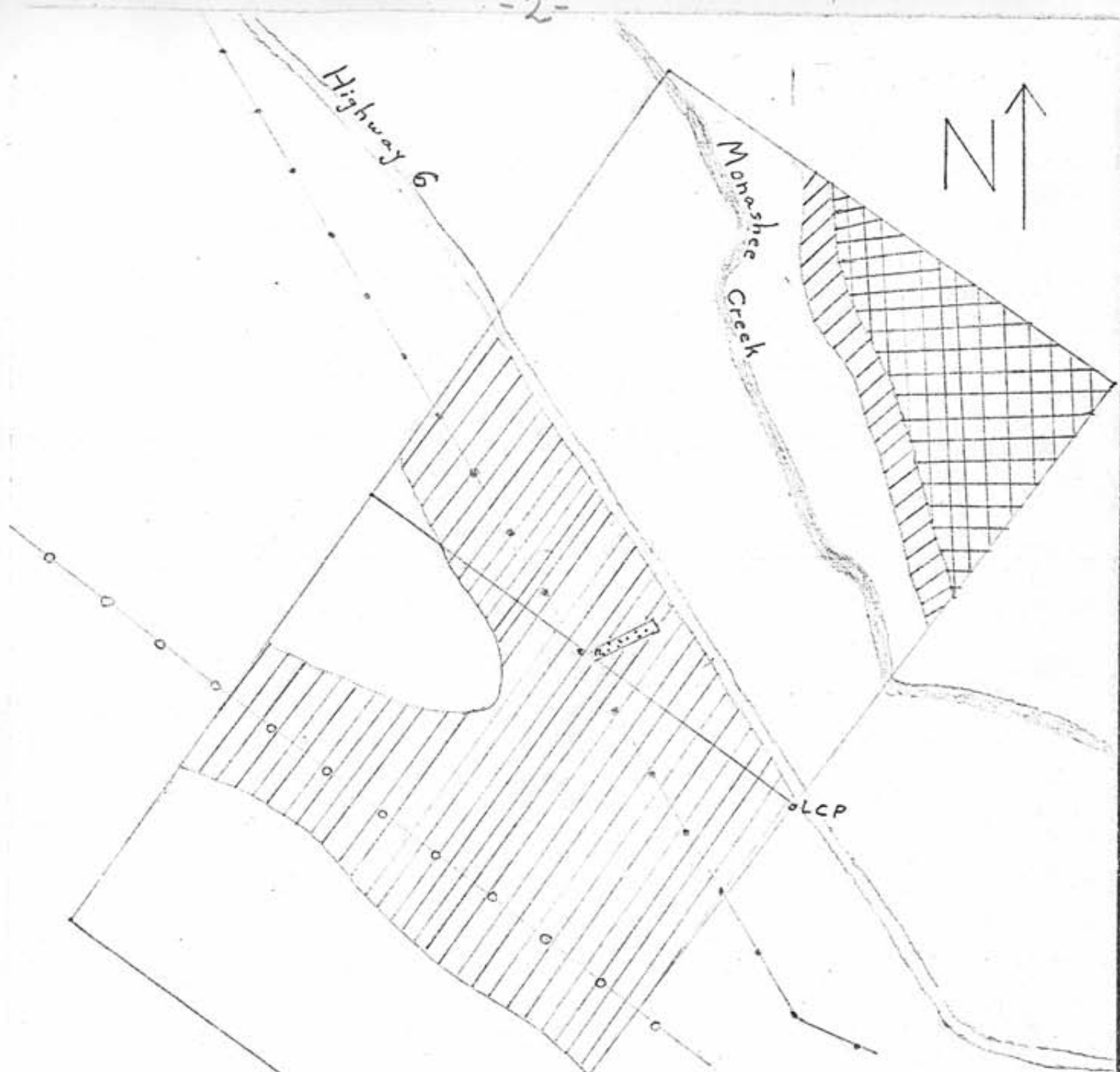
The vein strikes 100° and has been exposed for three metres back into the hillside (along one side).

GEOCHEMISTRY STUDY

A soil sampling program was carried out in April to look for any mercury or arsenic anomalies that might be caused by auriferous quartz. One hundred forty eight samples were collected, although only thirty eight have been assayed so far.

Highway 6

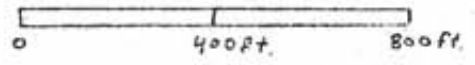
Monashee Creek



OLCP

Legend:

- Stream
- Highway
- Transmission Line
- Unexplored
- Little or no outcrop
- Quartz
- Schists, with occasional small qtz veining



Geological Map

SAMPLE ANALYSIS

Analysis of the soils was performed by the B.C. Ministry of Energy, Mines and Petroleum Resources laboratory in conjunction with Prospectors Assistance, who provided a prospectors assistance grant.

The samples were screened through an 80 mesh stainless steel screen and values were determined by atomic absorption using the following reagents and procedures.

MERCURY

Reagents

Stannous chloride: 10% w/v in 1N H_2SO_4 ; sodium chloride: 25% w/v in deionised water; hydroxylamine chloride: 25% w/v in deionised water; sodium chloride/hydroxylamine chloride solution: 400 ml 30% NaCl soln. and 480 ml NH_2OH+Cl (25%) solution made up to 1 litre with water; magnesium perchlorate (anhydrous) - drying agent; nitric acid (concentrated); NaOH pellets (caustic scrubber to remove NO_2 fumes); sulphuric acid: 54 ml concentrated acid in 1 litre deionised water.

Standards

1000 $\mu g/ml$ stock solution: weigh 677 mg of mercuric chloride into a 500 ml volumetric flask and make up to volume with 20% nitric acid. From the stock solution, make 100 $\mu g/ml$ and 1 $\mu s/ml$ standard solutions.

Procedure

(1) Weight 500 mg of sample into a 125 ml Erlenmeyer flask. (2) Add 10 ml concentrated nitric acid and leave 30

minutes. (3) Add 40 ml deionised water. (4) Into flasks containing 10 ml concentrated nitric acid, pipette 0.1, 0.2, 0.3, 0.4 and 0.5 ml from the 1 $\mu\text{g}/\text{ml}$ standard mercury solution. To each flask add 40 ml water. (5) To a blank of the same acid strength as the sample and standards, add 10 ml of the sodium chloride/hydroxylamine chloride solution and 10 ml of the stannous chloride solution. Immediately stopper the flask with the aeration apparatus. Zero the instrument. Repeat the procedure for standard solutions, using a fresh blank to zero between standards. Record peak absorbance for each standard. The mercury-carrying air stream is not recirculated but is vented into a dilute nitric acid trap. (6) Repeat step 5 for the samples, recording peak absorbance signals. (7) The mercury content of the samples is determined using a calibration curve prepared from the standards.

ARSENIC

Reagents

Stock solutions containing 1000 $\mu\text{g ml}^{-1}$ of arsenic (III) and arsenic (V) were prepared by dissolving Analar grade As_2O_3 and Na_3AsO_4 in deionised water with the required amount of NaOH and then acidifying with HCl. A stock solution containing 100 $\mu\text{g ml}^{-1}$ of antimony (III) was prepared by dissolving Fisher' Certified' antimony potassium tartrate in 6M HCl. All diluted solutions were prepared daily.

Fisher reference standard solutions of Fe, Co, Ni, Cu and Ag at the 100 $\mu\text{g ml}^{-1}$ level were used for the interference studies.

A 1-4% m/V aqueous solution of J.T. Baker sodium borohydride was freshly prepared for each set of measurements.

Hydrofluoric, hydrochloric, perchloric and nitric acids were all 'Baker analysed' reagent grade.

Procedure

Optimisation of Sensitivity and Precision

A 10.0 ng ml^{-1} solution of each element was used to optimise the following parameters:

- 1) nitrogen (B) flow-rate
- 2) strength and volume of sodium borohydride
- 3) acidity of sample solution
- 4) aliquot of sample solution to be injected into cell A.

Sample Decomposition

Aqua Regia. 10.0 ml of freshly prepared aqua regia was added to 250 mg of the sample in a calibrated test-tube. The solution was allowed to sit in the cold for $1\frac{1}{2}$ hours and, subsequently, in a water bath at 90°C for 2 hours. A vortex mixer was used three times during this decomposition period to ensure thorough attack by the acid mixture. After cooling, the volume was made up to 10 ml with aqua regia, the solution mixed and allowed to settle. An aliquot of 100 μl or less of this solution was taken and diluted up to 10.0 ml with 0.5M HCl. A μl aliquot of this dilute sample solution was then injected into cell A containing the reducing agent, sodium borohydride. The arsine or stibine liberated was measured by the peak absorbance traced on the recorder. This cell was then replaced by another and the next sample analysed. Standard solutions having a final concentration range of 0.0-50.0 ng ml^{-1} were also taken through this procedure.

HF/HClO₄/HNO₃. Seven ml of 50% HF were added to 250 mg of the sample in a platinum dish situated on a hot plate. The sample was gradually taken to dryness, after which 5 ml of HNO₃ and 2 ml of HClO₄ were added. The solution was evaporated to white fumes of perchloric acid. The sample was then taken up in 5 ml of 2M HCl, warmed and transferred to a calibrated test-tube, where, after cooling, the solution was made up to 10.0 ml with deionised water. An aliquot of 1000 ul or less of this solution was diluted up to 10.0 ml with 1.5M HCl, ready for analysis. Again, standard solutions of arsenic and antimony were subjected to this procedure.

Interference Study

Standard solutions, containing 0.0-50.0 ng ml⁻¹ of each element in a 10% aqua regia - 90% 0.5M HCl matrix, were spiked with each interferent (Fe, Co, Ni, Cu, Ag) at four different concentration levels: 100, 500, 1000, and 5000 ng ml⁻¹. A standard (with no interferent present) was analysed and the signal recorded. This was followed by the analysis of four standards with the interferent present at the four levels chosen and then the original standard rerun. This scheme avoided the possibility of any drift in the instrumentation being misinterpreted as interference.

A standard addition technique was also applied to various sample solutions to check for possible interferences.

T A B L E 1

S O I L S A M P L E D A T A

Sample No.	Depth (cms)	Horizon	Color*	Texture [#]	Notes
2	30	BM	RB	I	Shale bedrock
3	20	B	LB	I	Shale bedrock
4	25	B	LB	I	Shale bedrock
5	30	B	LB	I	Shale bedrock
6	25	B	LB	I	Shale bedrock
7	25	B	DB	I	---
8	20	B	DB	I	Shale bedrock
9	30	B	DB	I	Shale bedrock
10	25	B	LB	F	Wet soil
19	35	B	RB	I	Shale bedrock
21	25	B	RB	I	---
23	30	B	LB	I	Shale bedrock
24	35	B	DB	I	---
25	30	B	MB	I	---
26	20	B	MB	I	Shale bedrock
27	20	B	MB	I	Moist, claylike
28	25	B?	LG	F	Moist, claylike
29	30	B	RB	I	---
40	30	B	LB	I	---
41	30	B?	G/B	F	---
42	25	B	LB	I	---
43	25	B	MB	I	---
44	30	B	MB	I	---
45	25	B	MB	I	---
46	30	B	MB	I	---
47	30	B	DB	I	Shale bedrock
48	18	B?	DB/G	I	Shale bedrock
60	25	B	B/G	F	---
61	25	B	B/G	I	---
62	20	B	DB	I	---
63	30	B	DB	I	Very wet
64	25	B	MB	I	Shale bedrock
65	25	B	RB	I	Shale bedrock
66	25	B	RB	I	Shale bedrock
67	20	B	RB	I	Shale bedrock
68	25	B	RB	I	---

* R-red
B-brown
G-grey

L-light
M-middle
D-dark

C-coarse
S-sandy
I-intermediate

F-fine
C-clay



Highway 6

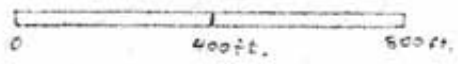
Monashee Creek

Area sampled expanded with values map

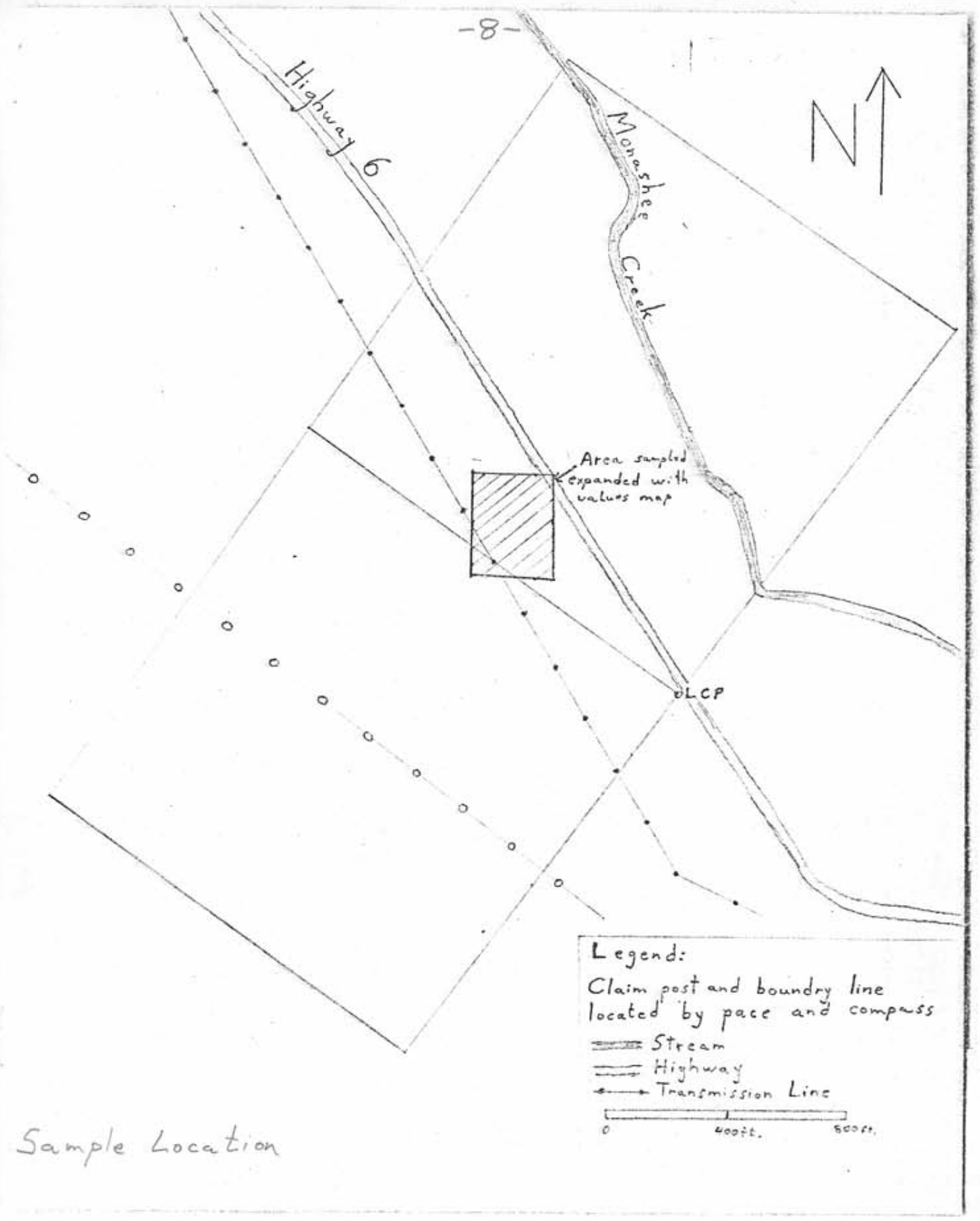


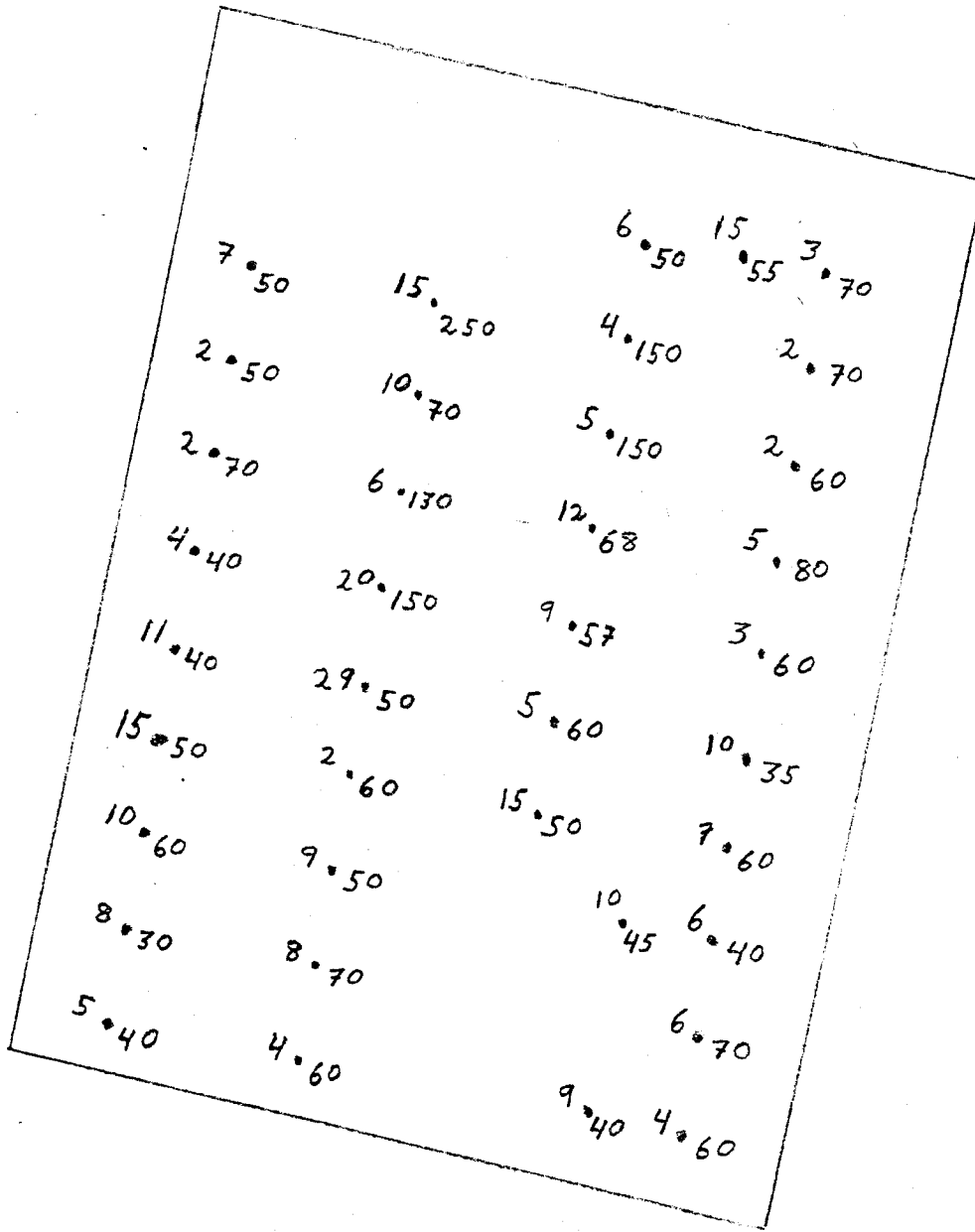
OLCP

- Legend:
- Claim post and boundary line located by pace and compass
 - Stream
 - Highway
 - Transmission Line



Sample Location





Plotted Data

Legend:

As (ppm)

• H₂ (ppb)

0 50ft. 100ft.

COST STATEMENT

May 12 - thirty eight soils, one day @ \$100.00/day	\$100.00
December 15 - writing Prospecting Report, one day @ \$100.00/day	<u>\$100.00</u>
TOTAL COST	<u><u>\$200.00</u></u>

AUTHORS QUALIFICATIONS

The author has completed and passed both the Basic and Advanced Prospecting Courses held by Prospectors Assistance, B.C. Ministry of Energy, Mines and Petroleum Resources.