

GEOLOGICAL AND GEOCHEMICAL REPORT

ON

DEADWOOD ONE

GREENWOOD MINING DIVISION

82E/2E, 49° 07', 118° 45'
2W

owned by

J. C. STEPHEN

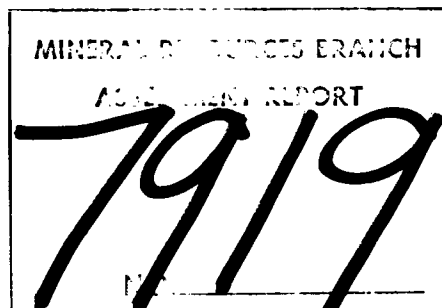
BY

J. T. SHEARER, M.Sc.

FOR

J. C. STEPHEN EXPLORATIONS LTD.

Field Work completed between September 19 - 21, 1979



March 25, 1980
North Vancouver, B. C.

CONTENTS

	<u>PAGE</u>
LIST OF ILLUSTRATIONS AND TABLES	i
SUMMARY	ii
INTRODUCTION	1
PROPERTY, List of Claims	3
LOCATION AND ACCESS	3
FIELD PROCEDURES	3
GEOLOGY	5
(A) REGIONAL	5
(B) LOCAL	7
GEOCHEMISTRY	8
CONCLUSIONS AND RECOMMENDATIONS	8
REFERENCES	10
APPENDIX I - List of Personnel and Dates Worked	11
APPENDIX II - Statement of Costs	12
APPENDIX III - Statement of Qualifications	13
APPENDIX IV - Analytical Procedures	14

LIST OF ILLUSTRATIONS AND TABLES

		PAGE	
FIGURE 1	LOCATION MAP	1:250,000	2
FIGURE 2	CLAIM MAP	1:50,000	4
FIGURE 3	REGIONAL GEOLOGY	1:63,360	6
FIGURE 4	LOCAL GEOLOGY	1:10,000	In Pocket
FIGURE 5	SOIL GEOCHEMISTRY, Au, As	1:10,000	In Pocket
TABLE 1	LIST OF CLAIMS		3

SUMMARY

- (1) The Deadwood One 20 unit Claim Record No. 1803(9) was located on September 17, 1979, situated 6.5 km west of Greenwood, B. C.
- (2) A crew of 5 men spent 20 man days on the property between September 19 and 21, 1979.
- (3) The claims are underlain by Marron Formation Volcanics and Kettle River Fm. coarse clastics. Older limestone is exposed in the northwest corner.
- (4) A total of 227 soil samples were analyzed for Au and As. Results are extremely low for both metals.
- (5) Limited follow-up soil sampling and soil profiling is recommended. Some fillin geological traverses are needed to check for additional outcrops.

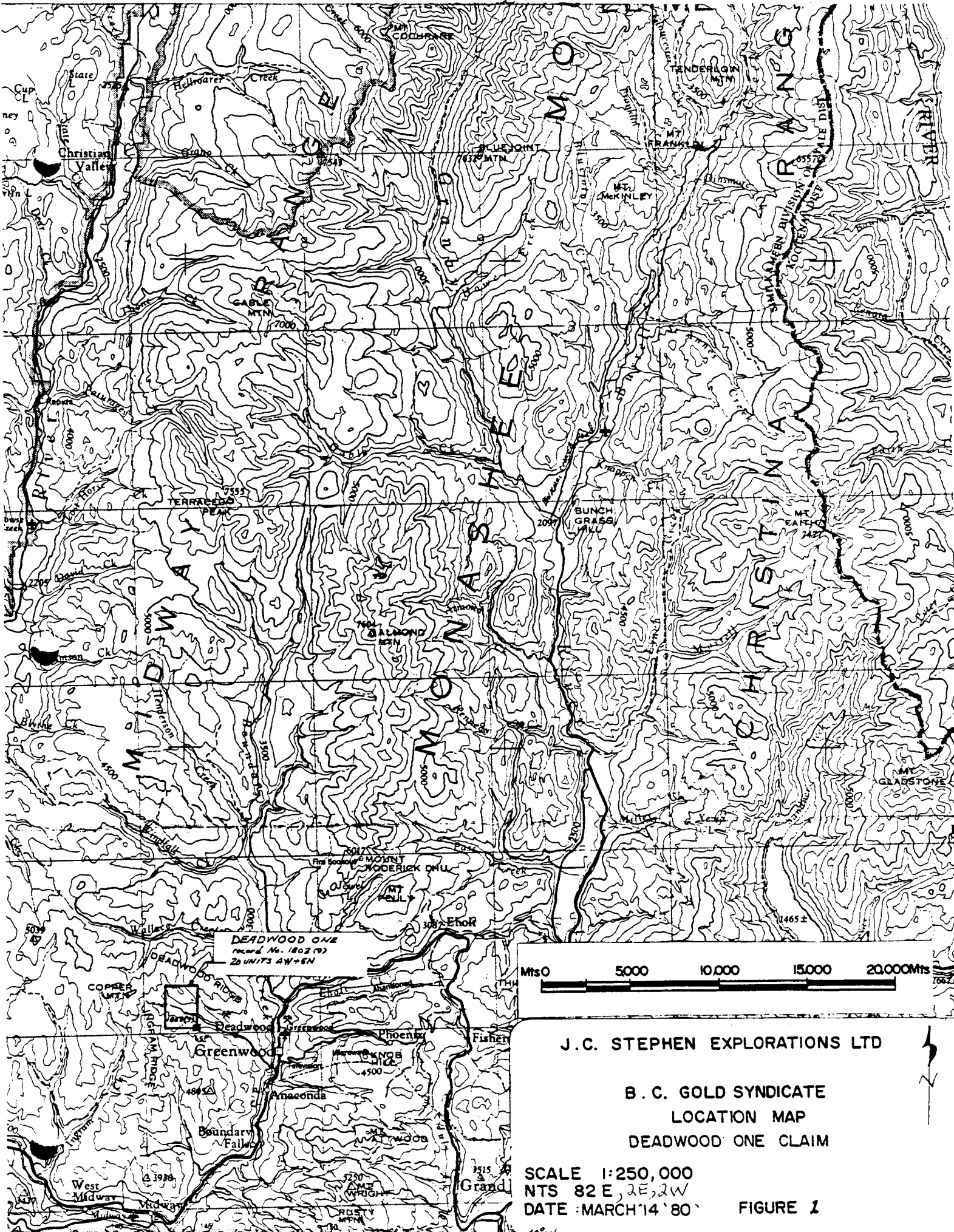
INTRODUCTION

A twenty unit claim, Deadwood One, was located to cover a fault bounded block of Kettle River Formation coarse clastics located between the historic Mother Lode Mine and the Old Copper Queen. Silicified Kettle River Formation arkose and acid tuff containing abundant fluorite is known to carry anomalous gold around the Deadwood Camp.

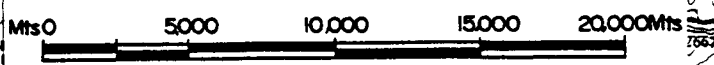
The Mother Lode claims were located on May 23, 1891. Nearly 4,000,000 tons of ore were produced from an ore body, 1,250 feet long, up to 550 feet thick and extending to 500 feet in depth. The ore was almost self fluxing and was smelted at the Greenwood smelter starting in 1900. The average grade in 1910 was 0.041 oz. Au/ton with 0.93% copper and 0.167 oz. Ag/ton.

Both Mother Lode and Copper Camp mineralization is hosted by Triassic skarnified sediments according to Little and Monger (1966) Seraphim (1956) lists four criteria that establish a pre-Tertiary age for the major skarn ore bodies such as Mother Lode and Phoenix. However, gold ore of Tertiary age has been mined at Republic (Meussig 1962) in Washington State and Dusty Mac near Okanagan Falls. The general geological setting at the Deadwood Claim approximates an environment known to carry anomalous gold in the Franklin Camp.

The objective of work on Deadwood One was to delineate gold bearing zones within the Kettle River Formation. Results to date are discouraging. A statement of costs is tabulated in Appendix II with one years assessment credit (\$2,000) applied to the claim.



DEADWOOD ONE
 Record No. 1802 (9)
 20 UNITS 4W+5N



J. C. STEPHEN EXPLORATIONS LTD

B. C. GOLD SYNDICATE
 LOCATION MAP
 DEADWOOD ONE CLAIM

SCALE 1:250,000
 NTS 82 E, 2E, 2W
 DATE : MARCH '14 '80' FIGURE 1

PROPERTY - List of Claims

The following table shows the record data concerning Deadwood One.

TABLE 1

<u>Claim Name</u>	<u>No. of Units</u>	<u>Record Number</u>	<u>Date of Location</u>	<u>Date of Recording</u>	<u>Expiry Date</u>
Deadwood One	20 4W+5N	1803(9)	September 18, 1979	September 24, 1979	September 24, 1981

Field work was conducted on September 18, 19, 20 and 21, 1979.

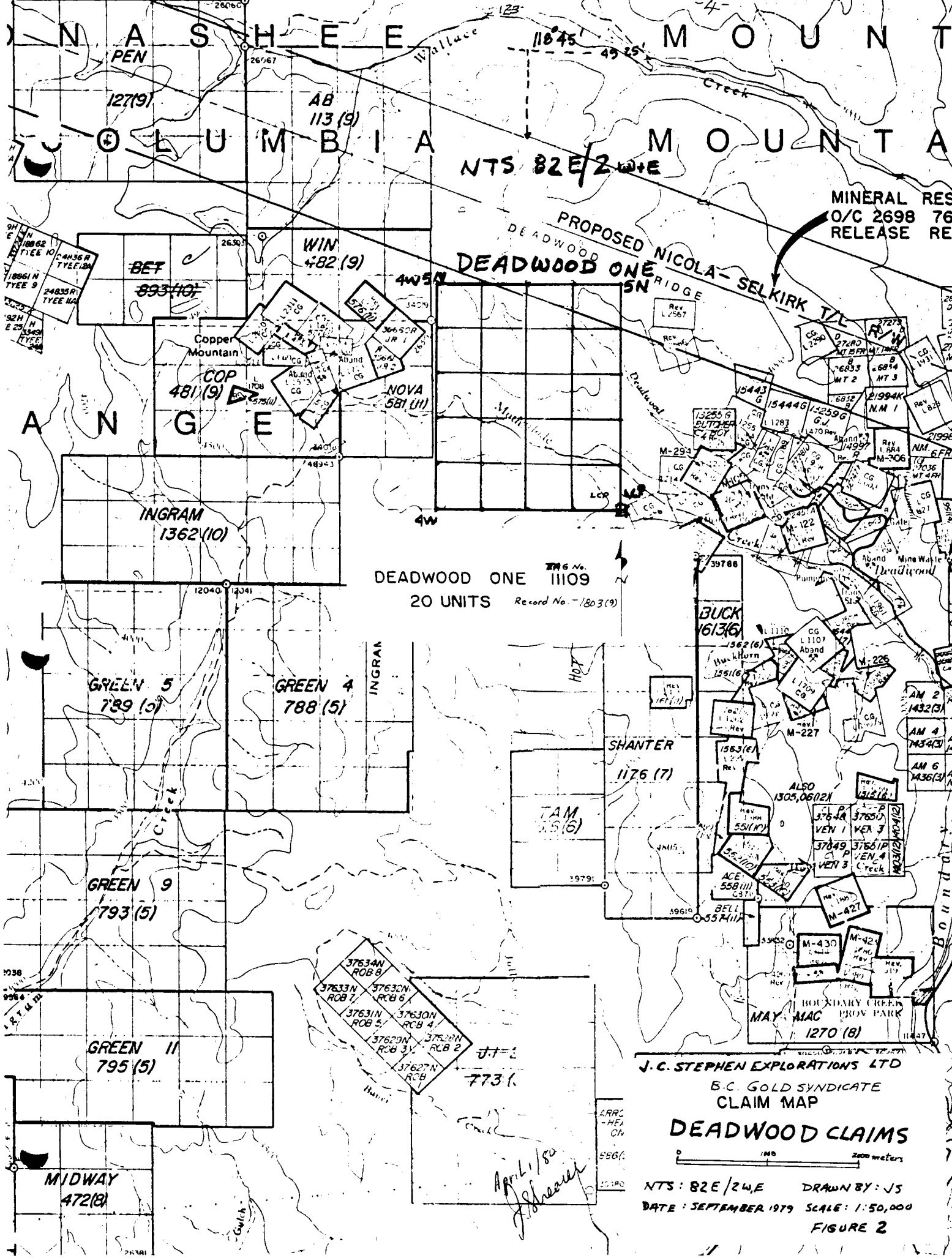
LOCATION AND ACCESS

The legal corner post is located 300m south of Mother Lode Creek at a point 4 km (2.5 miles) northwest of the Greyhound open pit. An excellent gravel road suitable for 2-wheel drive vehicles leaves Highway 3 on the outskirts of Greenwood and passes the east boundary of Deadwood One at 6.5 km as shown in Figures 1 and 2. The gentle rolling hills are characterized by open forest of Pine and Tamarack. The claim includes Tree Farm Licence 8 BK1, L2229s.

FIELD PROCEDURES

The claim lines were run with a Silva compass and roughly measured for slope corrections by a Topolite Belt Chain calibrated in meters for which the manufacturer claims a 0.1% accuracy. Claim lines were marked by blazes and orange flagging. Closure was within 10 meters going north-south with a 200m error at 4W3N east-west on the perimeter line. The perimeter line is approximately as shown on Figures 4 and 5 (in pocket).

Soil lines were run along the western perimeter line and east-west starting at selected stations on the claim line. Samples were taken every 50 meters on a total of five lines. 40 samples apparently plot outside



MINERAL RESE
O/C 2698 76
RELEASE REQ

PROPOSED NICOLA-SELKIRK T/L
DEADWOOD ONE

DEADWOOD ONE 11109
20 UNITS Record No. 1803(9)

J.C. STEPHEN EXPLORATIONS LTD
B.C. GOLD SYNDICATE
CLAIM MAP
DEADWOOD CLAIMS

0 100 200 meters

NTS: 82E/2W,E DRAWN BY: JS
DATE: SEPTEMBER 1979 SCALE: 1:50,000
FIGURE 2

April 1980
J. Stephen

the claim boundary and are not included in the statement of costs, (Appendix II). A grubhoe was used to sample the B horizon which averaged about 20 cm deep. Samples were put in a waterproof kraft bag and sent to Chemex Labs, 212 Brooksbank Avenue, North Vancouver. Analytical procedures are outlined in Appendix IV.

GEOLOGY

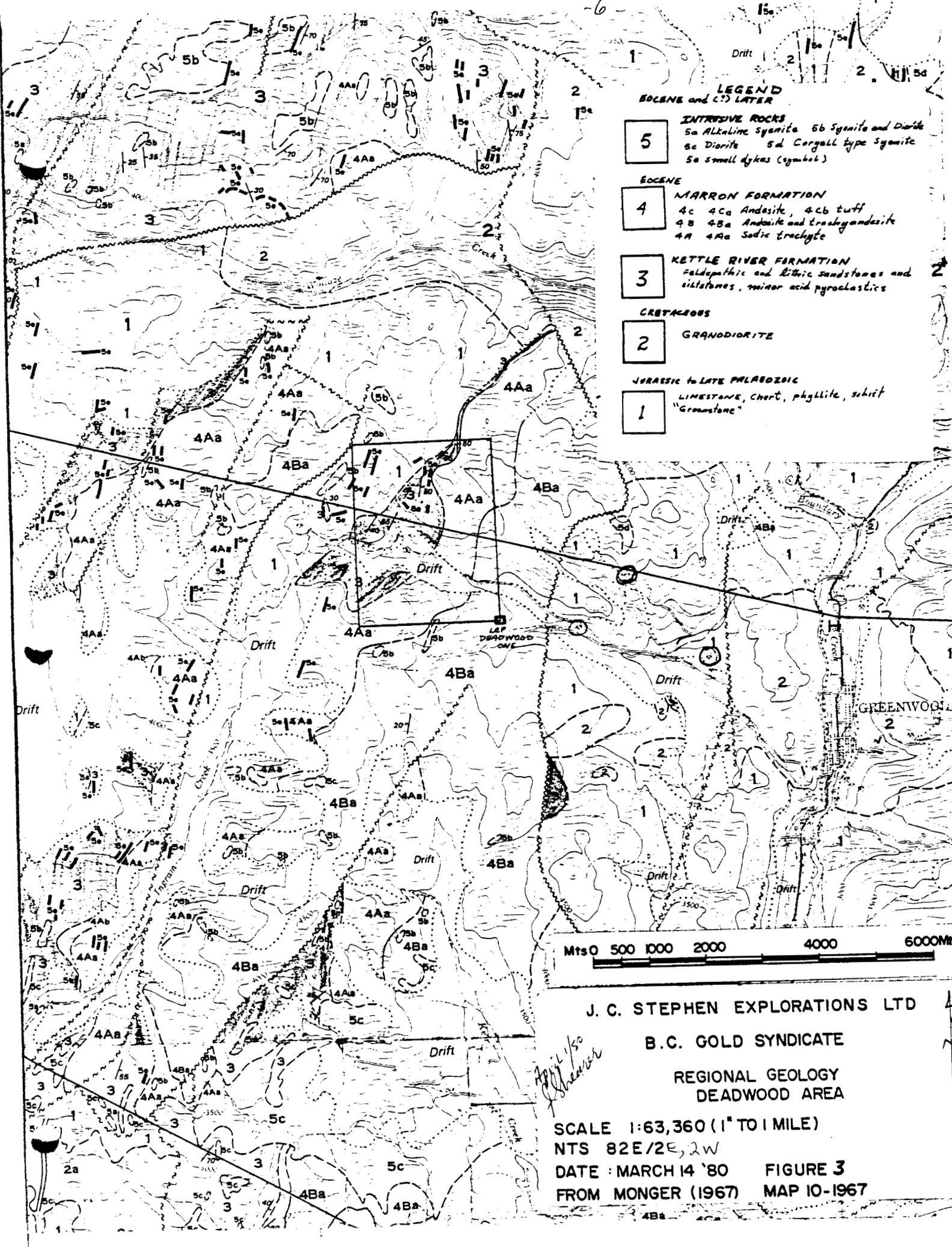
REGIONAL GEOLOGY

Tertiary rocks of the Greenwood Area have been treated in detail by Monger (1968). Figure 3 shows the general distribution of Tertiary units and is taken from Monger's map 10-1967.

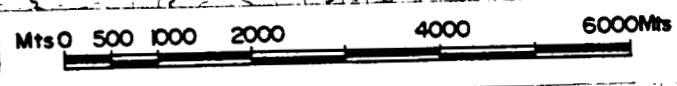
The basal Tertiary sequence is the Kettle River Formation composed mainly of feldspathic volcanic sandstone, lithic volcanic sandstone together with shale, tuff, agglomerate, dacite and conglomerate.

Marron Formation volcanics conformably overlie Kettle River Formation and consist largely of porphyritic trachytic to andesitic flows and minor interbedded tuffs. Monger (1968) subdivides the Marron Formation into three members based on chemical composition of flow rocks.

Twenty-five km east of Deadwood, the oldest rocks in the area are exposed in a raised fault block of highgrade metamorphic gniess and schist representing the southernmost extension of the Shuswap Metamorphic Complex. Upper Paleozoic and Traissic assemblages referred to as the Knob Hill Formation and the "Attwood Series" are discussed by Seraphim (1956) and LeRoy (1913). Little (1965) (1966) has revised the stratigraphic succession through the Triassic and more revisions are likely with further detail work. A period of widespread intrusive activity occurred in Cretaceous time forming porphyritic granite of the Valhalla intrusions and mainly granodiorite of the Nelson Suite. Large stocks of Paleocene Coryell syenite are widespread north of Greenwood.



- LEGEND**
- Eocene and C? LATER**
- 5** **INTRUSIVE ROCKS**
 5a Alkaline Syenite 5b Syenite and Diorite
 5c Diorite 5d Coryall type Syenite
 5e small dykes (symbol)
- Eocene**
- 4** **MARRON FORMATION**
 4c 4Ca Andesite, 4Cb tuff
 4B 4Ba Andesite and trachyandesite
 4A 4Aa Sodic trachyte
- 3** **KETTLE RIVER FORMATION**
 Feldspathic and lithic sandstones and
 siltstones, minor acid pyroclastics
- Cretaceous**
- 2** **GRANODIORITE**
- JURASSIC to LATE PALAEZOIC**
- 1** **LIMESTONE, chert, phyllite, schist
 "Greenstone"**



J. C. STEPHEN EXPLORATIONS LTD
B. C. GOLD SYNDICATE
REGIONAL GEOLOGY
DEADWOOD AREA

SCALE 1:63,360 (1" TO 1 MILE)
 NTS 82E/2E, 2W
 DATE: MARCH 14 '80 FIGURE 3
 FROM MONGER (1967) MAP 10-1967

*April 150
 Shearer*

Regional structural adjustments in early Tertiary time resulted in the development of the Republic Graben, a major down-dropped block that is from 10 to 16 km in width and has been traced over 100 km through to the Franklin Camp. The Republic Mining District is located along a major intragaben structural zone where continued subsidence resulted in increased thickness of flows and associated flow breccias and pyroclastics. Monger (1968) notes contemporaneous faulting during deposition of the Kettle River Formation.

LOCAL GEOLOGY

A outline of the detail geology of the Deadwood one claim is illustrated on Figure 4 (in pocket). The area has very little natural outcrop at lower elevations since the Kettle River Formation is extremely recessive. However, an old drill hole through the Kettle River Formation north of Mother Lode Creek showed that tuffaceous arkose is present although no alteration was noted in the scattered core.

Map units used on Figure 4 are as follows:

5 - 5a syenite, 5b diorite

4 - 4a Pulaskite dykes (porphyritic alkaline Syenite)

Marron Formation

3 - 3a Amydaloidal basalt, 3b porphyritic sodic trachyte

3c Porphyritic andesite 3d related tuffs

Kettle River Formation

2 - 2a Arkose, 2b siltstone, 2c Acid tuff

Triassic and older

1 - 1a Sharpstone Conglomerate, 1b Limestone

1c "Greenstone"

Exposures of the Marron Formation volcanics is relatively common on the surrounding hillsides near the boundaries of the claim. Magnetite is locally abundant in hornblende-feldspar andesite porphyry. Narrow Pulaskite dykes were seen cutting all other units.

The older rocks were found in the northwest corner where several outcrops of carbonate material are silicified and skarnified.

Some additional traverses are needed for better geological control in the low valley bottoms. However, no exposures were noted at lower elevation during the present work.

GEOCHEMISTRY

Gold and arsenic results for all soil samples are plotted on Figure 5 (in pocket). Gold is extremely low with only a few 20 ppb. There are two 40 ppb Au samples near 1500N 1700W. This is considered near threshold but should be resampled and a soil profile taken.

Arsenic is also very low with values ranging from 1.0 ppm to 46 ppm, averaging 7.4 ppm with a sample standard deviations of 6.2 ppm. Slightly higher arsenic values are associated with the Palaeozoic units in the northwest corner.

These soil results do not indicate any significant metal trend. The two slightly higher gold samples should be checked in the field when additional prospecting is carried out.

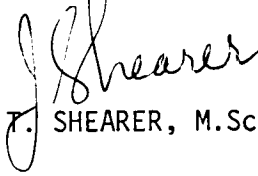
CONCLUSIONS AND RECOMMENDATIONS

Geological mapping has indicated a topographic depression underlain by recessive Kettle River Formation surrounded by Marron Formation volcanics. To the northwest the Kettle River Formation apparently rests unconformably on Triassic limestone and metavolcanics.

Of a total of 227 soil samples taken within the claim, none were clearly anomalous. Two gold samples should be checked and supplemented by soil profiles.

Additional prospecting is required to evaluate the possible presence of alteration zones within the Kettle River Formation.

Respectfully submitted,

A handwritten signature in cursive script that reads "J. T. Shearer". The signature is written in black ink and is positioned above the typed name.

J. T. SHEARER, M.Sc., F.G.A.C.

REFERENCES

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APPENDIX I
LIST OF PERSONNEL
AND DATES WORKED

APPENDIX I

LIST OF PERSONNEL AND DATES WORKED

NAME	OCCUPATION	ADDRESS	DATE WORKED ON PROPERTY
J. T. Shearer	Geologist	R. R. #1 Mason Avenue, Port Coquitlam, B. C.	September 18, 19, 20, 21, 1979
B. Atkinson	Geologist B.Sc. Geology McMaster Univ. 1977, 3 summers experience	R. R. #1 Bright, Ontario	September 18, 19, 20, 21, 1979
J. D. Clarke	Prospector 4 seasons experience	Garibaldi Highlands Squamish, B. C.	September 18, 19, 20, 21, 1979
S. L. Shearer	Soil Sampler 1 summer experience	R. R. #1 Mason Ave., Port Coquitlam, B. C.	September 18, 19, 20, 21, 1979
D. Shellard	Soil Sampler 1 summer experience	1124 West 15th St., North Vancouver	September 18, 19, 20, 21, 1979

APPENDIX II
STATEMENT OF COSTS
DEADWOOD ONE
FIELD TIME SEPTEMBER 19, 20, 21, 1979

STATEMENT OF COSTS

DEADWOOD

Field time September 19 to September 21 and Report Writing,
Wages and Fringe benefits.

J. T. Shearer	3 days @ \$81.72 per day	\$ 245.16
B. Atkinson	3 days @ \$65.29 per day	195.87
J. D. Clarke	3 days @ \$60.26 per day	180.78
D. Shellard	3 days @ \$50.22 per day	150.66
S. Shearer	3 days @ \$57.75	<u>173.25</u>
	Total	\$ 945.72

Food: 15 man-days - restaurant and lunches	138.77
Hotel: four nights	184.80
Transportation 30 miles @ .25¢ per mile	7.50

Geochemistry

Soil Sampling 227 soil samples Au + As analysis handling 6.25 + 45 = \$6.70 per sample Chemex, Certificate No. 50732-50738	1,520.90
Reproduction and Drafting	200.00
Report Preparation, typing	<u>300.00</u>
	\$3,297.69
Apply \$100 per unit for one year 20 units =	\$2,000.00
Into PAC Account B. C. Gold Syndicate (J. C. Stephen Explorations Ltd.)	1,297.69

APPENDIX III

STATEMENT OF QUALIFICATIONS


J. T. SHEARER, M.Sc., F.G.A.C.

STATEMENT OF QUALIFICATIONS

I, J. T. Shearer of the City of Port Coquitlam, in the Province of British Columbia, hereby certify that:

- 1) I am a graduate of the University of British Columbia (1973) B.Sc., and University of London, Imperial College (1977) M.Sc., DIC.
- 2) I am a Fellow of the Geological Association of Canada.
- 3) I have worked continuously in Mineral Exploration since 1973 for McIntyre Mines Limited, Cities Service Minerals Corp., and J. C. Stephen Explorations Ltd.
- 4) I personally worked on the Deadwood One claims between September 19 and 21, 1979. This report is based on an interpretation of data collected.

Dated at Vancouver, British Columbia



J. T. SHEARER, M.Sc., F.G.A.C.

APPENDIX IV
ANALYTICAL PROCEDURES
CHEMEX LAB LTD.
212 Brooksbank Avenue
North Vancouver, B. C.
V7J 2C1

Hart Bickle - Chief Geochemist

APPENDIX IV

FEB./80

Joe Shearer - J. C. Stephen Expl.

GEOCHEM PROCEDURES

PPM Antimony: a 1.0 gm sample digested with conc. HCl in hot water bath. The iron is reduced to Fe⁺² state and the Sb complexed with I⁻. The complex is extracted with TOPO-MIBK and analyzed via A.A. Correcting for background absorption 0.2 ppm ± 0.2 Detection limit.

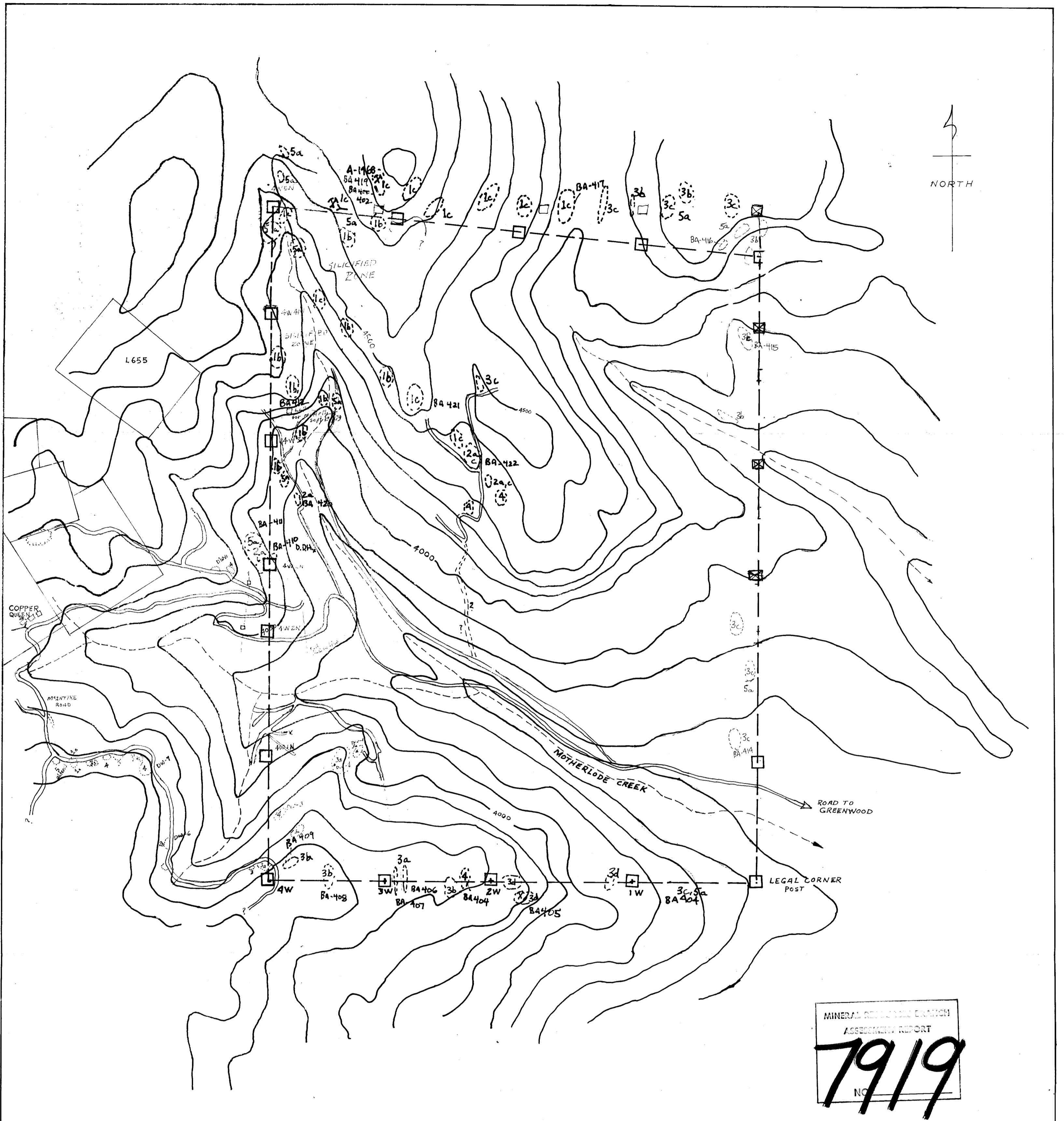
PPM Arsenic: a 1.0 gram sample is digested with a mixture of perchloric and nitric acid to strong fumes of perchloric acid. The digested solution is diluted to volume and mixed. An aliquot of the digest is acidified, reduced with KI and mixed. A portion of the reduced solution is converted to arsine with NaBH₄ and the arsenic content determined using flameless atomic absorption.
Detection limit - 1 PPM

PPB Gold: 5 gm samples ashed @800°C for one hour, digested with aqua regia - twice to dryness - taken up in 25% HCl⁻, the gold then extracted as the bromide complex into MIBK and analyzed via A.A.
Detection limit - 10 PPB

ASSAY PROCEDURES

Gold: - Fire Assay Method.

0.5 assay ton sub samples are fused in litharge, carbonate and silicious fluxes. The lead button containing the precious metals is cupelled in a muffle furnace. The combined Ag & Au is weighed on a microbalance, parted, annealed and again weighed as Au. The difference in the two weighing is Ag.



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
7919
NO.

SCALE 1:10,000 (Approximate)

LEGEND

- 5 5a SYENITE, 5b DIORITE
 - 4 4a PULASKITE DYKES (Porphyritic alkaline syenite)
 - 3 MARRON FORMATION
3a Amorphous basalt
3b Porphyritic sodic breccia
3c Porphyritic andesite
3d related tuffs
 - 2 KETTLE RIVER FORMATION
2a - ARKOSE
2b - SILTSTONE
2c - Acid tuff
 - 1 PALEOZOIC
1a SANDSTONE CONGLOMERATE
1b LIMESTONE
1c GREENSTONE
- SOIL SAMPLE
— Adit
○ Old Pit
✕ workings
- ROADS
— CLAIM POST and claim line

J.C. STEPHEN EXPLORATIONS LTD.

B.C. GOLD SYNDICATE

DEADWOOD ONE CLAIM
GREENWOOD MINING DIVISION

GEOLOGY

N.T.S.: 82E/2E

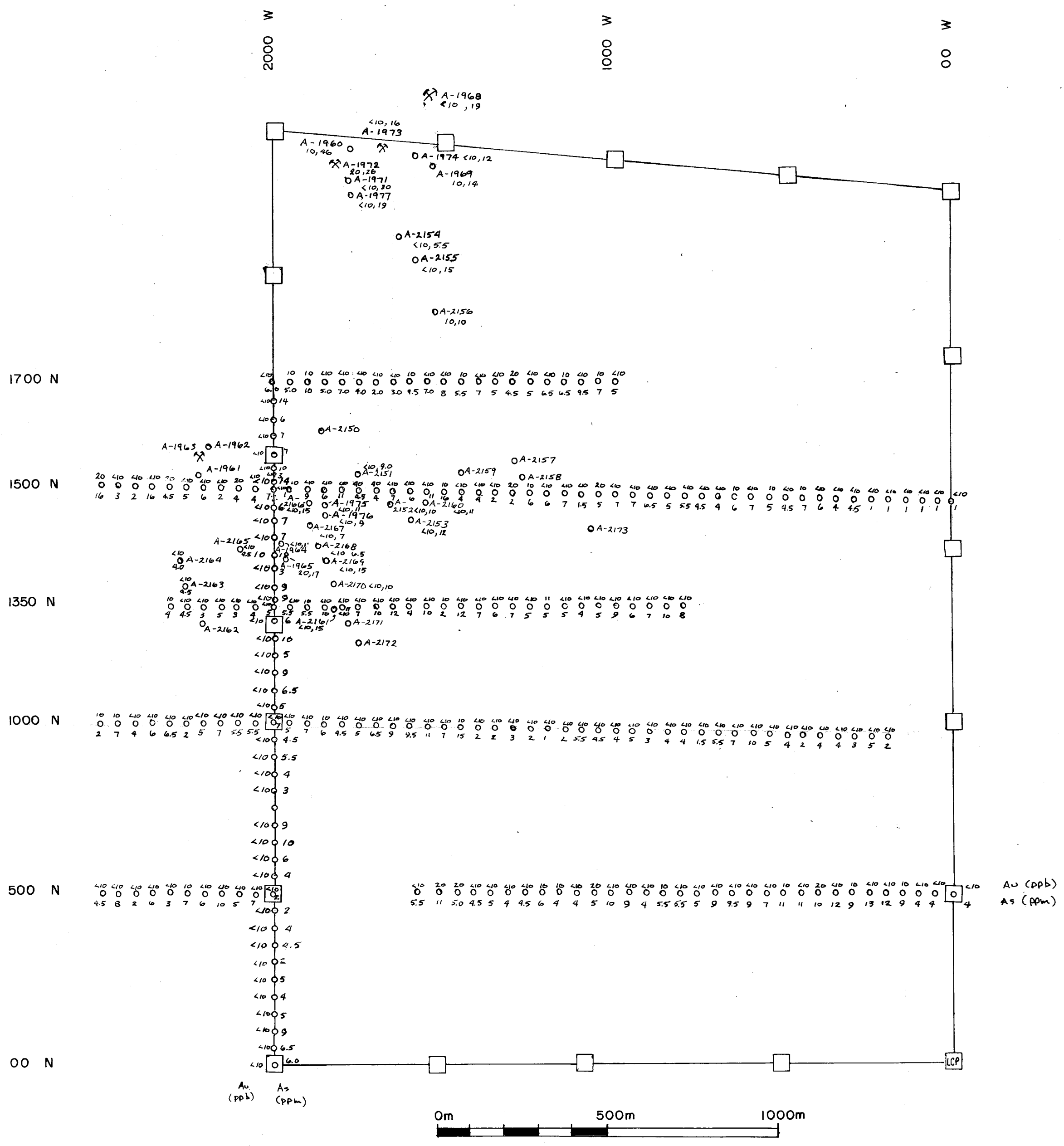
WORK BY: JS, BA, JC, SS, DS

DATE: SEPT. 21 1979
CLAIM STAKED ON SEPT. 18/79

DRAWN BY: BA, JS, JC.

FIGURE 4

*April 1980
J.C. Stephen*



MINERAL RESOURCES BRANCH
 REPORT NO. 7919

LEGEND

- ○ 7.0 SOIL SAMPLE Au ppb As ppm
- ○ 7.0 SILT SAMPLE
- ○ 7.0 ROCK SAMPLE
- CLAIM POST
- ⊗ OLD WORKINGS

SCALE - 1 : 10,000

J.C. STEPHEN EXPLORATIONS LTD.

B.C. GOLD SYNDICATE

DEADWOOD ONE CLAIM
 GEOCHEMISTRY

N.T.S. : 82 E / 2 E

WORK BY : J.S., B.A., J.C., S.S., D.S.

DATE : SEPT. 21, 1979

DRAWN BY : J.S., B.A., J.C.

FIGURE 5

*April 1980
 J. Schwaner*