

GEOLOGICAL-GEOCHEMICAL
PROSPECTING REPORT *01/87*
ON

BOND 1 CLAIM, KELOWNA, B.C.

00.8' *33.4'*
50° ~~00.8'~~ N; 119° ~~33.4'~~ W: NTS 82L/4E
BEAR CREEK, 14 Km NNW of Kelowna
Vernon Mining Div., British Columbia

by

N.C.Lenard, P. Geol., P. Eng.
Consulting Geologist, Westbank

Field Work Done: May 23; Sept. 5,12;
October 10-25; and
December 22, 1985.

FILMED

Operator/ Owner: N.C.Lenard. April 14, 1986.



**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

14,511

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-FRONTISPIECE-

Fig.1: Location Map

Report on the Bond 1 Claim

Vernon M.Div., N.C. Lenard, P. Eng.

April 14, 1986

Scale: 1in.=2 mi.; 1cm=1.267km

1:126,720 NTS:82L4E



PROSPECTING REPORT ON BOND 1 CLAIM

Vernon Min. Div., British Columbia

INTRODUCTION:

This report covers the precious metal prospects of fault controlled quartz veining on a portion of the subject 20-unit Bond 1 claim. The showings were found by the owner through a search for quartz float along the contact trend of a metasediments-andesite unit and a younger quartz diorite pluton and its satellite plugs. The property is on the west slope of Bald Range Creek, which flows southerly in Bear (Lambly) Creek that drains east into Okanagan Lake. It is about 14 Km northwest of Kelowna, and about 4 Km northwest of the old Bluehawk gold mine on Bluegrouse Mountain.

Evaluation is based on data gathered in the field by the writer over a ten-day period from May 23rd - December 22nd, 1985. Mapping was by belt chain and compass tied to logging roads and topographic features.

PURPOSE:

The aim of this prospecting work was to expose two discovered gold showings for their trend and scope and for unweathered samples for assaying: one near creek level; and the original, bordering a small quartz diorite plug some 300m higher near the center of the property.

LOCATION & ACCESS:

The property is about 5 Km west of Okanagan Lake with an upper overage elevation of 1000m (780-1260m:2559-4134 ft.) It is snow-free for about 7-8 months a year. Access is by 2 or 4 wheel drive vehicle via logging roads north of Bear Lake road, reached from Highway 97 at the westside turnoff, about one mile west of the Kelowna bridge. Fair to good logging roads span the property.

PROPERTY:

The property consists of the 20-unit Bond 1 claim staked April 25, 1984 to expand the prior Bond 1-4, 2-post claims to more effectively cover prospective geology. The six 2-post Bond 2-7 claims adjoining the southeast edge of Bond 1 are held by N.C. Lenard.

<u>Claim</u>	<u>Units</u>	<u>Record No.</u>	<u>Tag No.</u>	<u>Record Date</u>	<u>Owner</u>
Bond 1	20	1779	77699	May 1, 1984	N.C. Lenard

WORK HISTORY:

Previous work known to the writer on the ground covered by Bond 1 claim is the soil survey, blasting, sampling, assaying and mapping work done on the prior Bond 1-4 claims and earlier Bond 1, 2-post claim.

Earlier trenching work recorded in 1975 by Argentia Mines Ltd. west of the central area plug could not be found by the writer.

GENERAL GEOLOGY:

The property is on the west border of the Shuswap metamorphic terraine, a broad region of old sedimentary belts and granitic plutons. Bond 1 lies along the southwest border of the Vernon quartz monzonite pluton, which consists of partly foliated Jura-Cretaceous 'Nelson' granitics partly intruded by inferred Tertiary age 'Valhalla Complex' porphyritic granodiorite.

Gold quartz prospects in the area are sparse. The old White Elephant gold mine in granitics of the Vernon pluton lies about 16 Km (11 mi.) due north, and the nearby old Bluehawk gold prospect is about 4 Km southeast of Bond 1 claim on Bluegrouse Mountain. The Bluehawk's only recorded production was 5 tons in 1935, grading 1 oz. gold and 3.5 oz. silver per ton. Mineralization there consists of sparse amounts of base metal sulphides, common bismuth tellurides, and spotty native gold. Silver carriers are not obvious.

LOCAL GEOLOGY:

The southwest front of the Vernon granitic pluton trends northwesterly across the claim, marked by the drift-covered intrusive Contact of its quartz-diorite border phase with Paleozoic age Cache Creek andesites and metasediments. The latter may be an eastern Cache Creek facies or, may be a discrete terraine, the Thompson Assemblage (G.S.C. Open File 637, Map B).

Runoff drainage linears trend NW-SE across the property interrupted by zig-zag northerly linears of Bald Range Creek on the east border.

Outcrops are common along the roadcut of Bald Range Creek but are scarce on the steep, flanking hillsides. Elsewhere on the claim, outcrops are limited by a wide blanket of glacial drift.

PROSPECTING PROGRAM:

Prospecting focussed on two sites of known gold potential: the quartz-veined small diorite stock in the center of the property; and, a rusty quartz-stringered shear zone on the west side of Bald Range Creek.

Prospect traverses south and northwest of the 'A' site plug are shown on Fig. 3. Outcrop samples from sparse outcrops were geochemically analysed for gold and results in ppB are shown.

A. West Edge of Quartz Diorite Plug

Further soil sampling was done on the small stock with auriferous quartz veins, described in an earlier report (Lenard, 1984). This was done on the northwestern side where altered chert-carbonate breccia outcrops and andesite mark the contact. Although gold values in soils there were inconclusive, it was stripped by a D8 cat with rippers, affording 4 wheel Drive access to the site, and details of rock relations and alteration. Minor stripping was also done above the auriferous quartz veins trenched in 1984 (Fig.4).

B. Bald Range Creek Shear Zone

On the creekside showing, 31 prospect pits were hand dug to bedrock on a NS-EW grid on the steep hillside for sampling soils and bedrock and to map geology, structure, hydrothermal alteration and quartz veining (Fig.5).

Crushed, brecciated quartz stringers in the shear zone argillites and quartzites here are leached of all sulphides: generally coarse, cubic pyrite. Intense bleaching, pyritization and hematization mark the adjoining quartz diorite intrusive. It was hoped to obtain assayably fresh quartz from this site by planned drill-blasting, as the steep slope prevents cat stripping.

Also, limited reconnaissance of this showing was made uphill and downstream to locate outcrops for extent of the shear zone with limited success, due to overburden.

WORK RESULTS & ANALYSIS:

A. West Edge of Quartz Diorite Plug

Bulldozer stripping of brecciated, bleached, rusty limestone, pyritic chert and andesite with minor sheared quartz stringers (Fig.4) revealed no obvious potential gold hosts in the flanking intruded complex, confirming lack of significant previous metal values in soil samples. The site is about 400 ft. (122m) west, on strike of a gold-bearing quartz vein on the east shoulder of the small plug. One new spot-stripping above the latter vein did not find its extension.

Low visible permeability in the intruded sheared and brecciated Cache Creek rocks suggests limited channelways present for mineralizing carriers: abundant limestone along the west side is partly dolomitic, but most fractures are healed by secondary carbonate, as is the chert breccia by silica.

B. Bald Range Creek Fault Contact

The grid of prospect pits on the steep drift and talus-masked west side of Bald Range Creek reveals a sheared belt of meta-sediments

and andesite about 140 feet (42m) wide, trending NW-SE between Jura-Cretaceous quartz diorite southeast and a diorite plug northwest. Very pyritic and brecciated quartz stringers in the shears are fully leached of sulphides, although one overlying B zone soil analysis yielded 20 ppB gold. No anomalous gold values were found in soils over adjoining pyritized wallrocks of the quartz diorite.

Silicified quartz diorite float in pit E 3S could mark presence of one or more such dykes in the country rocks, and form potential sites for gold deposition.

Experience with blasting the soft shear zone suggests that core drilling may be necessary to get well below surface for fresh samples.

SOIL, ROCK GEOCHEM RESULTS:

Results of the 'B' profile soil sampling correlate well at the 'A' plug site with earlier work (Lenard, 1984), and forms a base for exploring the plug and borders.

Steepness of terrain at the creek 'B' prospect zone may limit soil geochemistry but, as gold values are reflected in soil (20 ppB) over one fully leached, pyritized stringer quartz vein, it should be useful, and vegetation analysis could be tried to further determine gold presence in the shear belt.

No significant values in base or precious metals were obtained from 2 downstream sediment samples. Only one anomalous soil gold value, 20 ppB, was received from soils sampled along the road below the 'B' site shear occurrence.

Sampling of the 'B' soil horizon was done by spade from an average depth of 1.5 feet (.45m) from the 'A' and 'B' prospect sites.

Rock geochemical results from site 'A' gave only 2 anomalous results in gold: 7 ppB from a dioritic andesite outcropping on a hilltop west of the plug; and, 32 ppB gold in pyritic, silicified andesite breccia on a road cut south of the quartz diorite plug. The latter anomaly warrants follow-up prospecting.

SUMMARY & CONCLUSIONS:

A. Quartz Diorite Plug

Results of the subject limited stripping and soil sampling program suggest that persistent gold-bearing structures may prefer the brittle plug rather than less competent intruded rocks, which hold only spotty stringers of quartz where exposed. On the southeast side, gold quartz veins fill internal fractures of the plug; and another internal rusty fracture zone occurs on the new cat road (Fig.4).

These observations suggest that the small plug warrants detailed geochemical and geophysical surveys for leads to precious metal drill targets in depth-persistent, quartz stockworks or silicified dioritic breccias.

B. Bald Range Creek Showing

Although the wide, sheared zone of andesite-metasediments at the creeksite appears to contain only quartz stringers, they are severly crushed and brecciated, very permeable, strongly altered and leached, which suggests deeply rooted plumbing suitable for gold deposition.

RECOMMENDATIONS:

Geochemical and geophysical surveys and prospect pitting are warranted for the subject 'A' and 'B' zones of Bond 1 claim to establish economic precious metal values in quartz-filled dilations in the brittle quartz plug and in silicified shears and possible dioritic dykes of the creek sheared structure.

Proposed exploration is as follows:

- A.
1. Establish a N-S, EW survey grid for soil sampling and pitting at 15m stations on 30m-spaced lines on the 'A' zone plug structure.
 2. Sample soils on the 'B' horizon and where possible, on the 'C'. Locally, sample the 'A' horizon for orientation and correlation. Assay for gold, silver, antimony and arsenic.
 3. Concurrently, map any significant float, gossans or depressions.
 4. Carry out VLF-EM and magnetic surveys on the grid, correlating results with faulted, crushed areas of the plug.
 5. Core drill the gold-quartz outcrop on southeast shoulder of the plug for fresh samples for assay.
- B.
1. Core drill silicified portions of the shear belt for assay purposes and to evaluate mineralization at the creek site.
 2. Prospect pit along the trend of the belt, and sample soils and trees for gold.
 3. Do reconnaissance VLF-EM and magnetic geophysics across the shear belt and over the quartz diorite plug of the 'A' site.

Plan further staged exploration given positive results from the work.



Ex. Date Dec. 31, 1986

-CERTIFICATION-

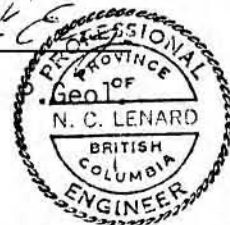
I, Neall Curtis Lenard, of the settlement of Westbank in the Province of British Columbia do hereby certify:

1. that I am a consulting geologist with an office mailing address of Box 863, Westbank, British Columbia, V0H 2A0,
2. that I graduated from the University of British Columbia with a Bachelor of Arts Degree in 1949 (Honours Geology),
3. that I have practised my profession continuously for thirty-six years,
4. that I am the sole owner of the subject Bond 1 mineral claim,
5. that the statements made in this report are based on personal examination of the claim from May 23rd to December 22, 1985, and, on a study of published and unpublished reports on the property area,
6. that I am a member of the Associations of Professional Engineers of British Columbia and Alberta,
7. that no legal survey has been conducted over the subject mining properties and, therefore, in accordance with the mining laws of the appropriate jurisdiction in which such properties are situate, the existence of and the area of such properties could be in doubt.

DATED AT: The Settlement of Westbank, in the Province of British Columbia, this fourteenth day of April, 1986.

N. C. Lenard, P. Eng.

Neall Curtis Lenard, P. Eng.,



Ex. Date Dec. 31, 1986

-EXPENDITURES-

PERSONAL:

N.C.Lenard, P.Geol., 10 days (6 net) at \$400 \$2,400.00

TRANSPORTATION:

4WD: 10 days @ \$35. 350.00

Gas 60.00

D8 BULLDOZER, TRAILER: Stripping, roadwork 697.50

DRILLING & BLASTING: 195.94

GEOCHEM SOIL SAMPLING, Power Auger, Assistant 135.00

GEOCHEM ANAL., ASSAYS: 34 geochem, 3 assays 364.10

EQUIPMENT: Topo line, flagging, sample bags 21.00

REPORT PREPARATION:

N.C.Lenard, P.Geol.: 1 day @ \$400. 400.00

Drafting 3 hr. @ \$15.00 45.00

Typing, reproduction, binding 65.00

TOTAL DISBURSEMENTS: \$4,733.54

I certify that the above statement is an accurate representation of expenditures made for the geological-geochemical prospecting survey of Bond 1 claim conducted periodically in ten days from May 23rd to December 22, 1985 inclusive.

N. C. Lenard, P. Eng.
N.C.LENARD, P.GEOL, P.ENG.



Ex. Date Dec. 31, 1986

-REFERENCES-

EMMONS, W.E. 1937 Gold Deposits of the World: Arno Press, 1974.

C.I.M.M. VOL. 1948 Structural Control of Canadian Ore Deposits
p. 882-891. (Lamaque Mine).

MOOREHOUSE, W.W. 1942 Gold Mineralization in Minor Igneous Intrusions:
Ec. Geol. V37, 4, p. 318-329.

OKULITCH, A.V., & CAMPBELL, R.V. 1980

Geol. Surv. Can., Open File 637, Map B.

B.C. MINISTRY OF ENERGY, MINES & PETR. RESOURCES

ASSESSMENT REPORT:

1984:

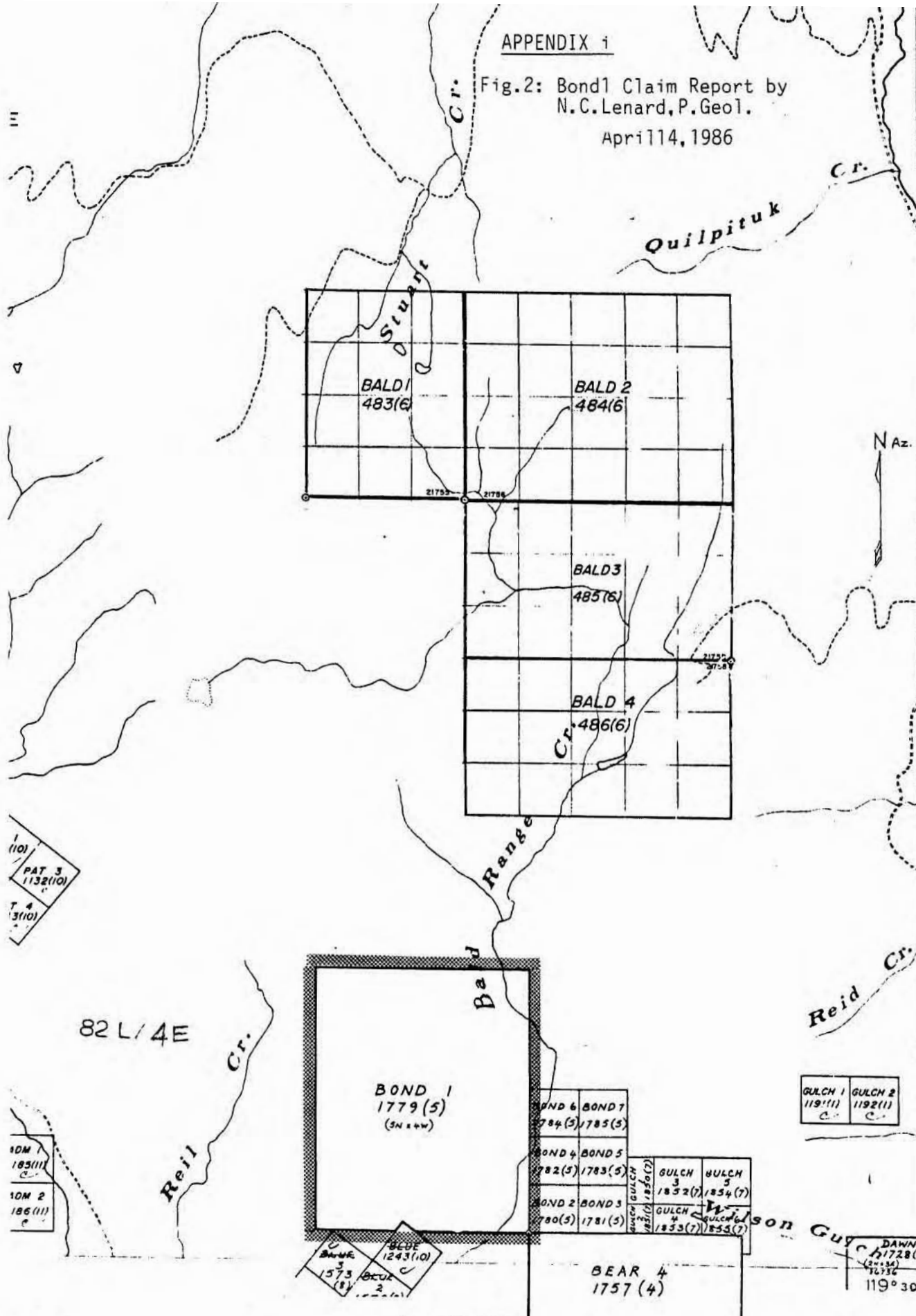
Lenard, N.C., 1984: Geological Evaluation of a Gold Quartz-Veined
Acid Stock on the Bond 1-4 Claims, Kelowna, B.C.

+++++

APPENDIX i

Fig.2: Bond1 Claim Report by
N.C.Lenard, P.Geol.

April 14, 1986



DATE OF MICROFILM:

85-14-11

PAT 3
1132(10)
T 4
3(10)

10M 1
185(11)
10M 2
186(11)

82 L/4E

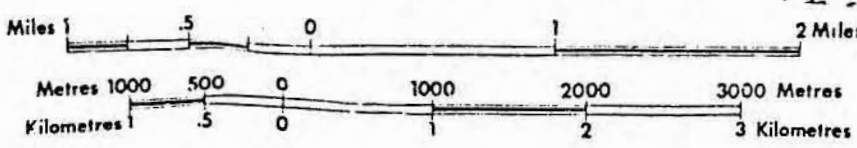
GULCH 1 119(11)
C.
GULCH 2 1192(11)
C.

BEDE
1243(10)
BEAR
3 1573
2

DAWN 300
1728(3)
119° 30'
50° 00'

ROL

Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources







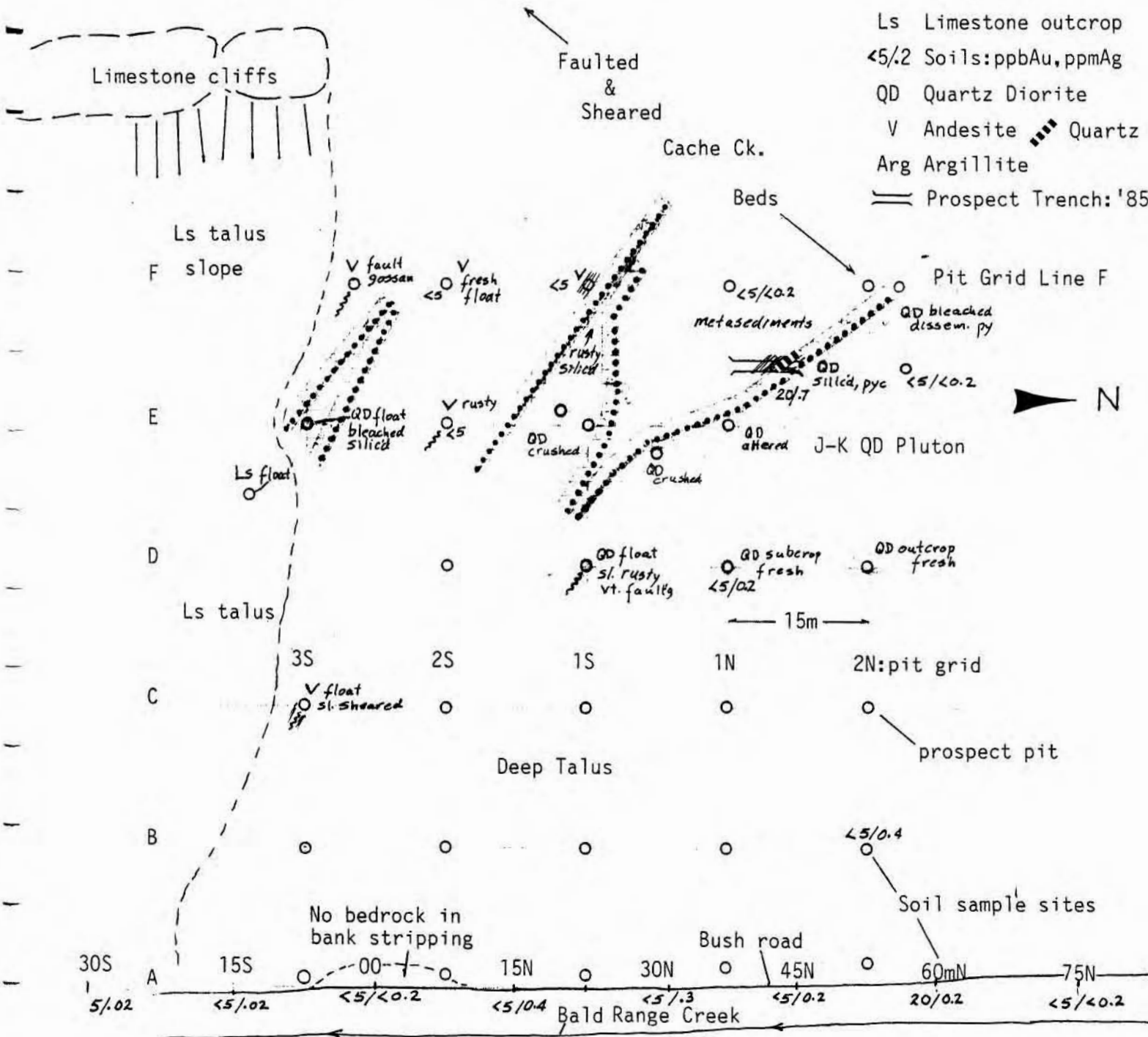
serve as a guide
2 Miles mineral claims

Fig. 5 : Area B, Grid of Prospect Pits; Geology, Geochemistry
 Elevation: West Slope Bald Range Creek Valley

To Accompany Report on Bond 1 Claim
 by N.C. Lenard, P. Geol. April 14/86

-LEGEND-

-  Shearing
-  Faulting
-  QD contact
- Ls Limestone outcrop
- <5/.2 Soils: ppbAu, ppmAg
- QD Quartz Diorite
- V Andesite
- Arg Argillite
-  Prospect Trench: '85



GEOCHEMICAL LAB REPORT

Mr. Neall Lenard
Box 863,
Westbank, B.C.
VOH 2A0

DATE October 30, 1985.
ANALYST _____
FILE NO. G 1408

KRAL NO.	IDENTIFICATION	ppb Au	ppm Ag						
1	1	5	1.3						
2	2	L5	0.7						
3	3	10	18.5						
4	00-A	L5	-						
5	A1-A	L5	-						
6	A2-A	L5	-						
7	1E-A	L5	-						
8	2E-A	L5	-						
9	E2-S	L5	-						
10	F1S-A	L5	-						
11	F2S-A	L5	-						
12	S 2	L5	-						
13	00 B	L5	-						
14	A ₂ "B" Hor.	L5	-						
15	A ₁ C Soil	L5	-						
16	1E-B	L5	-						
17	2E-B	L5	-						
18	E25B (E2S-B)	L5	-						
19	F1S B	L5	-						
20	F2S B	L5	-						
21	S 7	L5	-						

Bond 1 B site pits

Bond 1 A plug #2 loca^{strip}

Bond 1 B zone pits

Bond 1 B zone pits

Bond 1: A plug strip I

L means "less than"

Sample preparation: Rock - Crush grind to -100 mesh

Soil - Screen to -80 mesh

Au Method: Fire assay, Atomic absorption

Ag Method: Hot acid extraction, atomic absorption.

Bondar-Clegg & Company Ltd.

130 Pemberton Ave.
North Vancouver, B.C.
Canada V7P 2R5
Phone: (604) 985-0681
Telex: 04-352667



Geochemical
Lab Report

REPORT: 124-4015

PROJECT: BOND CREEK 04

PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Au PPB	NOTES
---------------	---------------	--------	--------	-------

S B2N		0.4	<5	<i>Prospect pits 'B' zone. Bald K. Crk</i>
S D1N		0.2	<5	
S E1N		0.7	20	
S E1N+5		<0.2	<5	
S E1N+15		<0.2	<5	

S F1N		<0.2	<5	<i>B zone soil over stringer quartz</i>
S F1N+10		<0.2	<5	
S F1S		<0.2	<5	

& Company Ltd.
 on Ave.
 ouver, B.C.
 7P 2R3
 (604) 985-0681
 04-352667



Geochemical
 Lab Report

REPORT: 124-3662

PROJECT: BOND CREEK 84 PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au PPB	Au PPB	Sb PPM	NOTES
S 00m					<0.2	<5			<i>B: creek road: B soils</i>
S 15mN					0.4	<5			
S 30mN					0.3	<5			
S 45mN					0.2	<5			
S 60mN					0.2	20			
S 75mN					<0.2	<5			
S 00:3mE					0.2	<5			
S 15mS					0.2	<5			
S 30mS					0.2	5			
S 45mS					<0.2	<5			
S 5W:00m					0.2	<5			<i>Stream: Bond R. Crk.</i>
T SS1-225mS		1	<2	12	<0.2	<5		5	
T SS2-45mS		2	3	15	<0.2	<5		5	
R 84:10mS					<0.2		2		<i>Rock of Crk. road: B site</i>
R 84:75mN					0.6		2		

Bondar-Clegg & Company Ltd.
 130 Pemberton Ave.
 North Vancouver, B.C.
 Canada V7P 2R5
 Phone: (604) 985-0681
 Telex: 04-352667



BONDAR-CLEGG

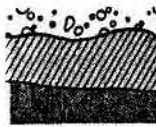
Geochemical
 Lab Report

REPORT: 124-3119

PROJECT: NONE GIVEN

PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Au PPB	NOTES
T P1		<0.2	3	
T P2		<0.2	<1	
R1			2	<i>Rock of geochem Bond 1 'A' area</i>
R2			2	
R3			3	
R4			7	<i>And-Dior. in N. of plug</i>
R5			1	<i>faulted silicid And. S. of plug</i>
R6			32	
R7			<1	
R P1		0.4	3	



Determination of Elements by Atomic Absorption Analysis

The samples of 0.5 grams in weight are digested in test tubes with concentrated nitric and hydrochloric acids. These tubes are heated in hot water baths for two and one-half hours. The sample is then diluted and mixed. The resulting solution is analyzed by atomic absorption using the appropriate lamp for each element. The absorbance is recorded and compared to a standard series to determine the amount of the element that is present. This procedure is used for the analysis of silver, copper, lead, zinc, molybdenum, cadmium, chromium, cobalt, iron, manganese, nickel, and vanadium. Some elements such as silver and lead have background correction applied to overcome matrix problems.

Contamination Prevention

The test tubes are used for atomic absorption analysis only. The test tubes are cleaned between uses with soap and deionized water rinses. If the samples are high, the test tubes are discarded.

GEOCHEMICAL ANALYSIS METHODS

Sample preparation

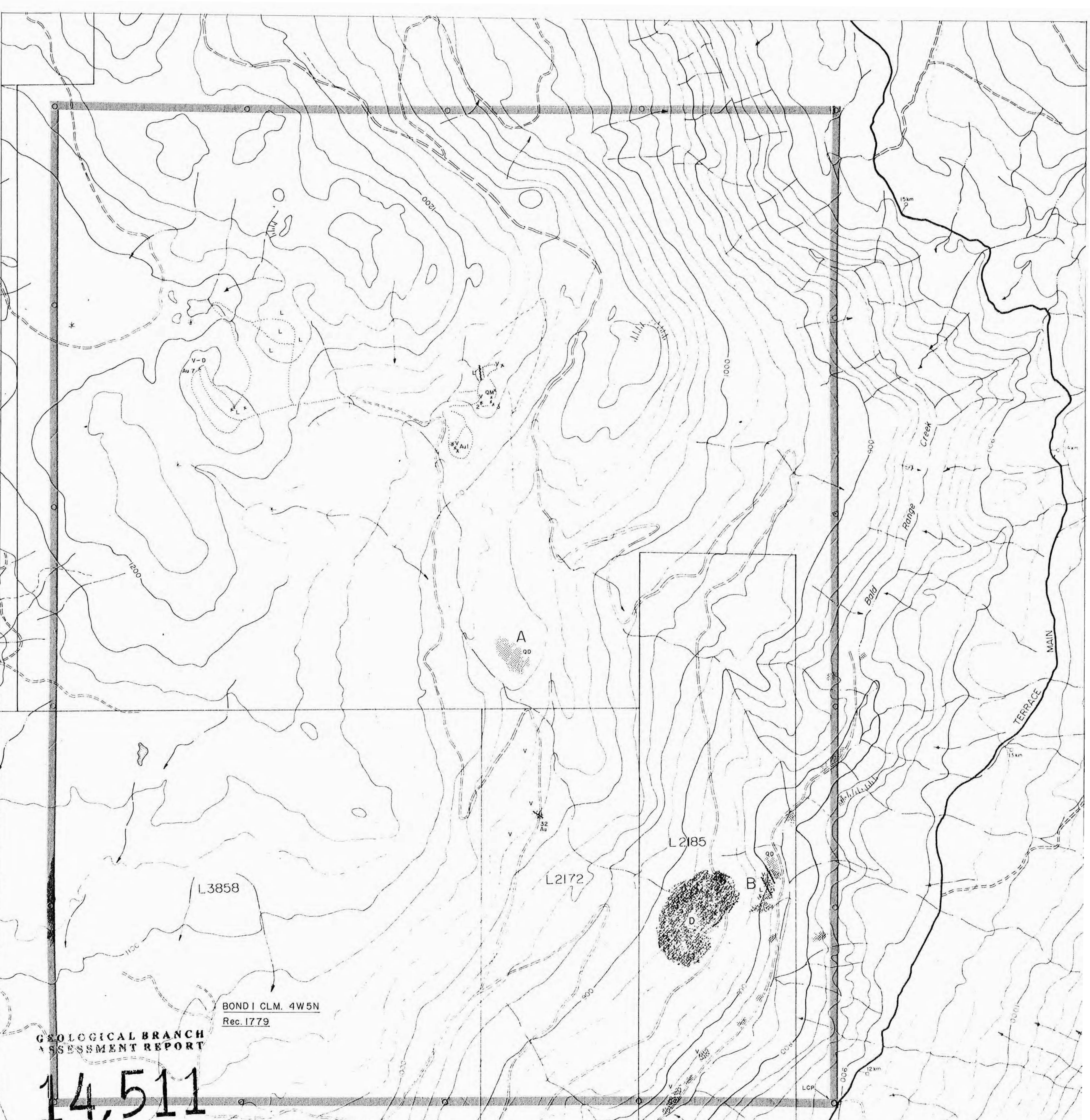
1. Soils - The samples are dried in our geochemical drying oven and then screened through a stainless steel 80 mesh sieve. The minus 80 fraction is reserved for analysis and the plus 80 fraction is discarded (unless we have been requested to save it).
2. Rocks - The samples are dried, crushed, split then ground using a ring-grinder to approximately -100 mesh.

Au Method

Half to one assay ton of sample is weighed, silver added, along with fluxes and the sample is started as a fire assay. After cupellation the bead is dissolved and the sample is mixed to ensure homogeneity and, after settling, is read on an atomic absorption spectrophotometer using an air acetylene flame.

Cu, Pb, Zn, Ag, Mo, Ni, Sb, Co, Fe, Cd, Bi, Mn
Atomic Absorption

Weigh 1 gram of sample into test tube. Add .5 ml nitric acid. Place in hot water bath for 30 minutes. Add 1.5 ml hydrochloric acid and leave in hot water bath for a further 90 minutes. Bulk to 10 ml with distilled water. Mix thoroughly and read on A.A. For Mo samples AlCl₃ must be added. Use background correction for Pb, Ag, Sb, Co, Cd.



BOND 1 CLM. 4W5N
Rec. 1779

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,511

Fig. 3: PROPERTY, TOPOGRAPHY, PROSPECT TRAVERSES.

To accompany Report on the Bond 1 Claim
by N.C. Lenard, P. Geol. April 14, 1986
Vernon M.D.

-LEGEND-

- QD Quartz Diorite
- V Permian Andesite
- L Permian Limestone
- QM: Quartz Monzonite
- D: Diorite
- Strip trenching 1985
- Prospect traverse
- Outcrop sampled
- Au 7 Rock geochem Gold ppb
- Faulting
- Bond 1 Claim Boundary, approx.

Scale: M 1/5000
1cm=25m



Ex. Date Dec. 31, 1989