

87-226-16027

GEOLOGICAL REPORT

ON

5/88

BOND 1 CLAIM, KELOWNA, B.C.

50°^{01'}~~00'33"~~N; 119°^{34'}~~28'30"~~W: NTS 82L/4E

BEAR CREEK, 14 Km NNW of Kelowna
Vernon Mining Div., British Columbia

by

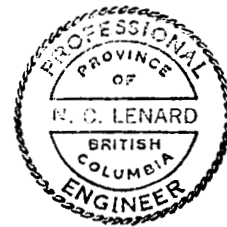


N.C.Lenard, P. Geol., P. Eng.
Consulting Geologist, Westbank, B.C.

Field Work Done: April 20, 21, 27, 28, 1987

Operator/Owner: N.C.Lenard.

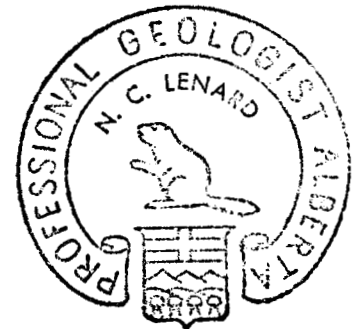
April 29, 1987



Ex. Date Dec. 31, 1987

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

16,027



-FRONTISPIECE-

Fig. 1: Location Map

Report on the Bond 1 Claim
Vernon M. Div., N.C. Lenard, P. Eng.

April 29, 1987

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

1:126,720 NTS:82L4E



GEOLOGICAL REPORT ON BOND 1 CLAIM

Vernon Min. Div., British Columbia

INTRODUCTION:

This report covers reconnaissance geologic mapping of the 20-unit Bond 1 claim, done to broaden the exploration base for gold-bearing vein structures from one already established (Lenard, 1984, 1986).

The claim is on the west side of Bald Range Creek, and extends over a height of land into the Reil Creek drainage slope. Both creeks drain into Bear Creek, which empties into Okanagan Lake to the east. Bond 1 is about 14 Km northwest of Kelowna, and about 4 Km northwest of the old Bluehawk gold prospect on Bluegrouse Mountain.

Evaluation is based on data acquired in the field by the writer over a 4-day period from April 20-28, inclusive, 1987. Mapping was done by belt chain and compass, tied to logging roads and topographic features.

PURPOSE:

Aim of this work was to provide a base for establishing geologic and structural controls for gold-quartz veins that occur on the property, at the Bluehawk mine, and in a similar geologic setting to the west 2-3 Km (1.5 - 2 miles) on Skyworld Resources' Zumar claims.

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 snowfree 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 on the Bond 1 claim area consists of two reports by the writer on local soil geochemistry, economic geology, and physical work done to expose vein showings (see References).

Earlier trenching work recorded by Argentia Mines Ltd. on the west side of the present property could not be found.

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 (11mi.) 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 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.

Recently, Skyworld Resources shipped three truckloads of gold-quartz to Trail from its Zumar claims, 1.5-2 miles west of Bond 1, which reportedly averaged 1.38 ounces of gold and 1.23 ounces of silver per ton.

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.

Intrusives:

Intrusive satellites of the Vernon pluton present on the claim and sought as potential gold deposit controls include:

Quartz diorite plugs and dikes.
Diorite plugs and dikes.
Quartz Porphyry dikes, lenses.
Albitite and quartz-albitite dikes.
Lamprophyre dikes, associated with faults,
quartz veins, and other dikes.

Contact of the Vernon pluton with the older Cache Creek andesites and metasediments is usually covered by drift, but shearing, hydrothermal bleaching, hematization, silicification and pyritization mark an approach to the intrusive contact. Precious metal values are not necessarily related to this alteration, and are inferred to be late in the tectonic history, possibly late Cretaceous in timing.

Structure:

Structural grain of the property appears to be northwest-southeast, with the Wilson gulch linear trending from the SE toward the auriferous quartz diorite plug in the center of the claim. Strong hydrothermal alteration along part of Bald Range Creek crossing that lineament suggests that Bald Range Creek is fault-controlled. Reil Creek, west of Bond 1, has similar linearity, and probable fault control.

The strong scarp along the north border of the claim appears to mark the contact of the Vernon pluton with Cache Creek beds NW & SE from near the 5N2W claim post.

WORK RESULTS & ANALYSIS:

Contact of the Vernon pluton with Cache Creek strata is generally hidden and may in part be structurally complex, as mapped to the west by B.N. Church (1980).

Similarly, limestone through marble/andesite relationships appear to be rapidly alternating as in a sandwich.

Roadcut outcrops of intrusive dikes on the claim are not usually traceable because of deep overburden, so that valid strikes can't be established. One exception to this is an undersaturated, porphyritic quartz diorite dike near the 4N4W claim post, which follows the structural grain of 143° onto the prominent ridge of andesite to the southeast.

SUMMARY & CONCLUSIONS:

1. Geologic mapping is much restricted by lack of outcrops and thickness of glacial drift cover.
2. Lamprophyre dikes or float mark some fault zones on the property, are uncommon in occurrence, and are a useful exploration guide to quartz veins in the locale.
3. Much inference is needed to map geologic contacts on the property, as often only fresh float is available for such purpose.
4. Diorite and quartz-diorite plugs occur erratically on the claim, requiring sampling of all outcrops to reveal their presence. They may be important structural traps for gold-quartz veins, as in the Lamaque model.
5. More field work is required to detail the contact areas of the Vernon pluton with the Paleozoics, and to investigate hydrothermally altered quartz porphyry dikes and metasediments along the north edge of the claim.

RECOMMENDATIONS:

Further prospecting and geophysical-geochemical surveys are warranted along selected portions of Bond 1 claim to find anomalies that may reflect blind gold-quartz lodes as veins or stockwork deposits.

Proposed exploration is as follows:

1. Do reconnaissance VLF-EM survey grid work and geochemical B zone soil-rock sampling for gold, silver, copper, antimony and arsenic at the following sites:

- (i) along the contact scarp of the Vernon pluton from claim posts 4N to 5N3W;
- (ii) north from the quartz-diorite plug at site A to the quartz-porphyry outcrop at site C.
- (iii) across the shear zone trend at site B: southwest over the diorite plug and northeast across Bald Range Creek.

2. Prospect and detail map the slope south of the quartz diorite plug, above, in the andesite terrain to find the source of quartz diorite float in the road cut in the NW sector of DL 2172.

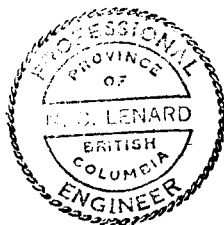
3. Attempt to trace the quartz porphyry dike in the roadcut south of claimpost 5N2W by VLF-EM reconnaissance and float mapping.

-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 (Honors 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 April 20-28, 1987, 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 twenty-ninth day of April, 1987.



Ex. Date Dec. 31, 1987

N. C. Lenard

Neall Curtis Lenard, P.Eng.P.Geol

-EXPENDITURES-

PERSONAL:

N.C.Lenard, P.Geol., 4 days @ \$400 \$1,600.00

TRANSPORTATION:

4WD: 4 days @ \$35 140.00

Gas: 24.00

REPORT PREPARATION:

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

Drafting: 2½ hr. @ \$15.00 37.50

Typing, reproduction, binding 65.00

TOTAL DISBURSEMENTS: 2,266.50

I certify that the above statement accurately represents expenditures made for the geological survey of Bond 1 Claim conducted from April 20-27, 1987 inclusive.

N.C. Lenard

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



Ex. Date Dec. 31, 1993

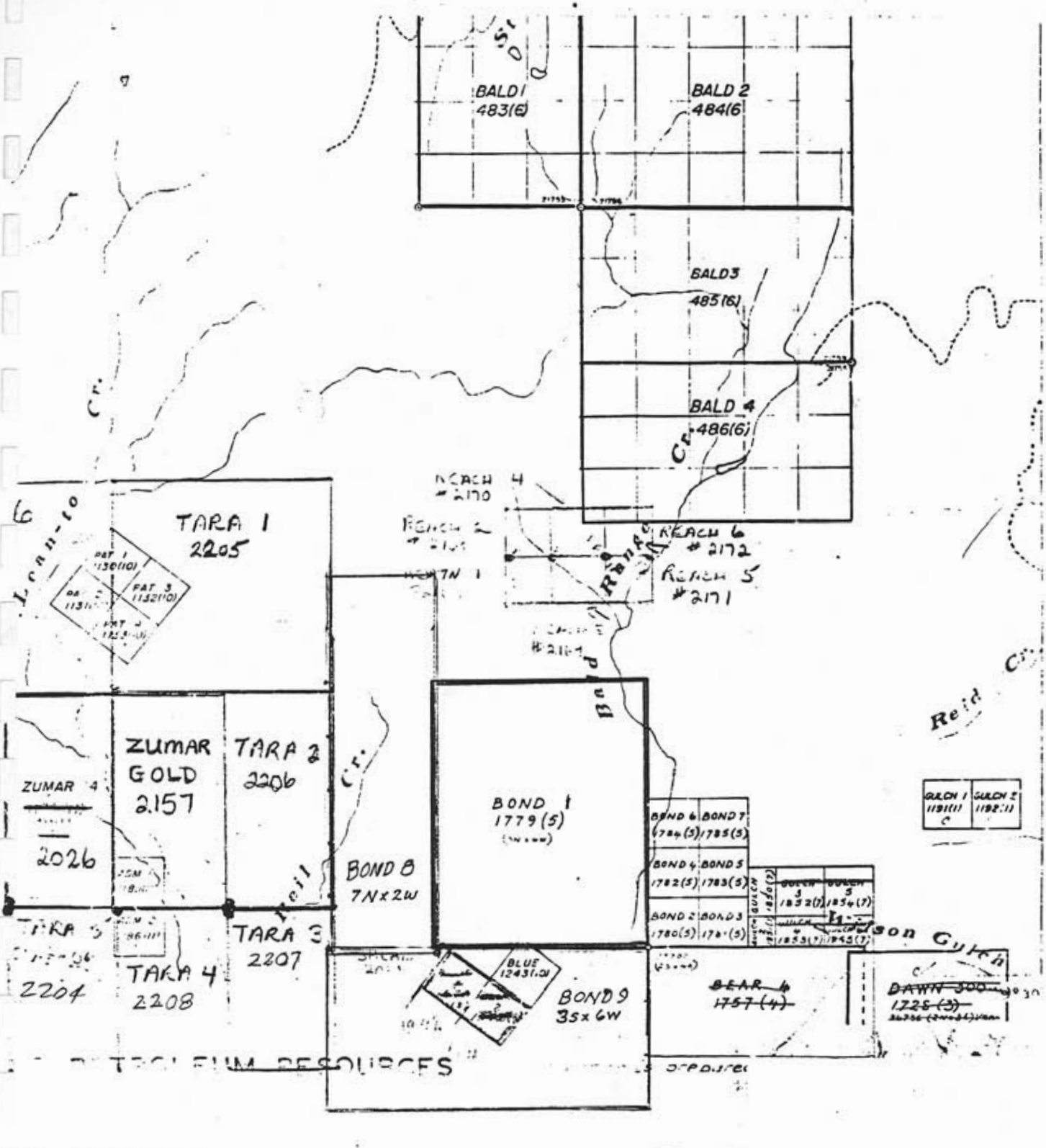
-REFERENCES-

- CHURCH, B.N. 1980 Geology of the Terrace Mtn.
Tertiary Outlier
B.C. Min. of E.M.Res. Revised
Preliminary Map 37
- 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:
- Lenard, N.C., 1984: Geological Evaluation of a
Gold Quartz-Veined Acid Stock on
the Bond 1-4 Claims, Kelowna, B.C.
- 1986: Geological-Geochemical Prospecting
Report on Bond 1 Claim, Kelowna, B.C.

PETROLOGIC DESCRIPTION OF OUTCROPS

Sample
Map No.---

1. Granodiorite, medium to coarse-grained, biotite-hornblende, porphyritic, locally rusty.
 - 2a Sandstone, rusty, light grey, fine-grained, sheared, brecciated and healed by pyritic quartz veinlets; locally albitized.
 - 2b (Adjoins 2a on westside: total 30m exposure) Limestone, grey, cut on west side by dike rocks: Quartz albitite, micaceous (muscovite), coarse-grained, brecciated, rusty, succeeding Diorite adjacent west, dark grey, faulted medium to fine-grained, disseminated pyrite, minor albitic: 6m width; west wallrocks are Limestone, dark grey micrite.
 3. 20m exposure of sequence similar to 2a,b: Quartz albitite dike, faulted, bleached, rusty, minor quartz veinlets 1-3cm with a few leached molds of coarse, cubic pyrite oxides. This cuts a sequence of Diorite, medium dark grey, sheared, brecciated, fine-grained, rusty; Quartz diorite, light grey, medium-grained, brecciated, rusty; Sandstone lens, dark grey, sheared, platy. Quartz albitite flanks the uphill west side of the sequence, and is slightly rusty on fracture planes.
 4. Granodioritic rock, poorly exposed, possibly large float block, biotitic, medium to coarse-grained, slightly fractured; Adjacent road float includes quartz fragments, white, rusty, minor vugs residual pyrite, cubic, very fine to medium-grained.
 5. Quartz albitite, poorly exposed, medium to coarse-grained, crushed, rusty, cutting Limestone on the downhill, east side, which is medium dark grey, micritic, pyritic and rusty, brecciated and bleached, partly silicified by quartz veinlets.
 - 6a Diorite dike float, fresh, medium dark grey, medium-grained, possibly 5-10% quartz in matrix; slightly porphyritic.
 - 6b Diorite, similar to 6a, in place, poor exposure: 143° from 6a.
 - 6c Diorite as at 6b but with disseminated pyrite.
 - 6d Diorite, as at 6c, dark grey, medium grey, part brecciated with inclusions of coarse-grained Albitite, minor pyrite, rusting, but no silicification. Width, about 16m.
-



2000
 30.00 Meters
 3 Kilometers
 CONCERNED.
 DATE OF MICROFILM: 66.01.09

Fig. 2 Claim Map, to accompany Report by N.C. Lenard, P. Eng. on Bond 1 Claim, April 29, 1987

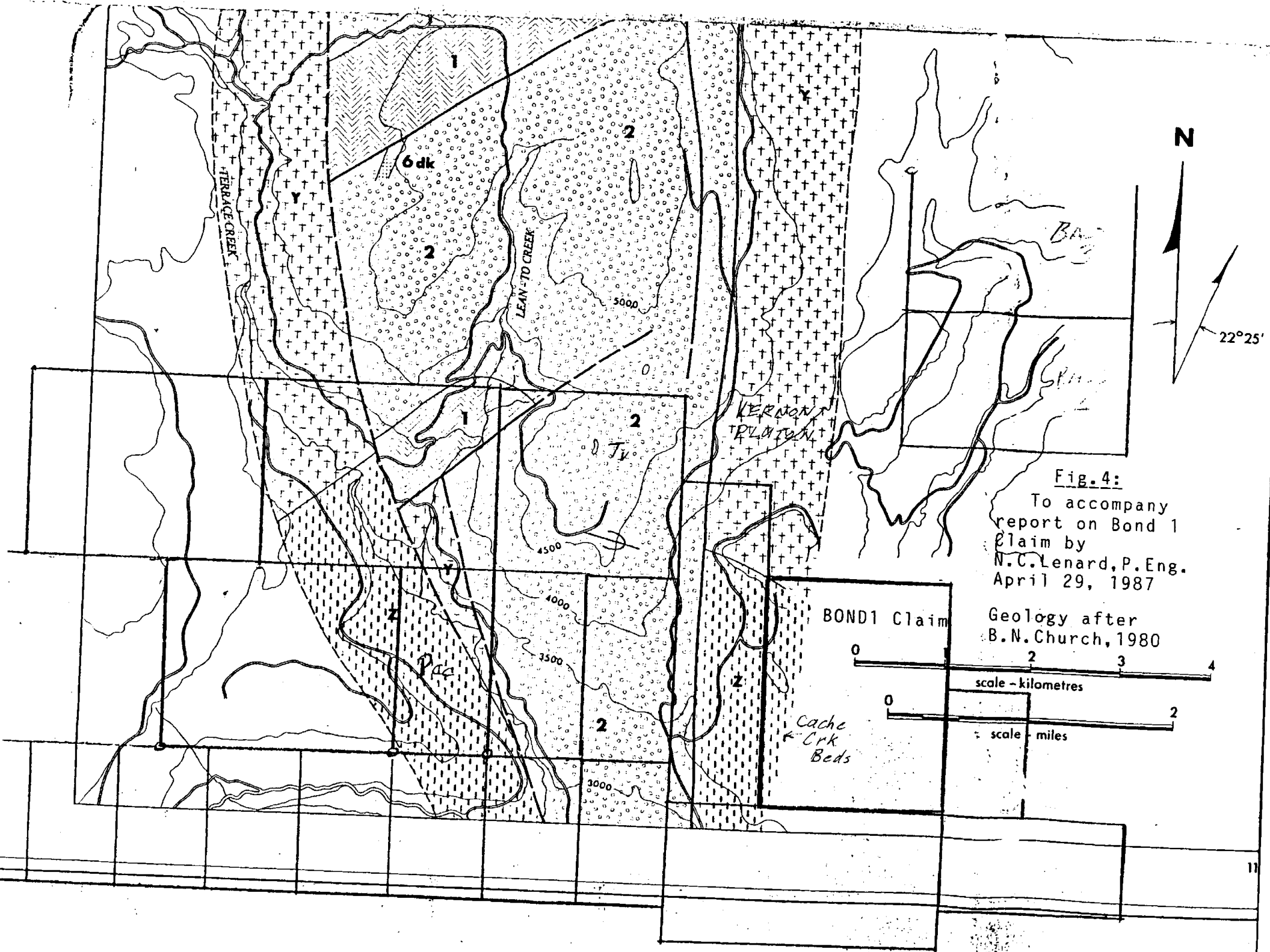


Fig. 4:
 To accompany
 report on Bond 1
 Claim by
 N.C. Lenard, P. Eng.
 April 29, 1987

Geology after
 B.N. Church, 1980

BOND1 Claim

0 2 3 4
 scale - kilometres

0 2
 scale - miles

Cache
 Crk
 Beds



Fig. 3: PROPERTY, TOPOGRAPHY, GEOLOGY.

To accompany Report on the Bond 1 Claim
 by N.C. Lenard, P. Geol. April 29, 1987
 Vernon M.D.

—LEGEND—

QD	Quartz Diorite	Scale: M 1/5000
V	Permian Andesite	0 50 100 150 200 m
L	Permian Limestone	
QM	Quartz Monzonite	
D	Diorite	
A	Albitite	
QA	Qtz Albitite	
Lp	Lamprophyre	
G	Gabbro	
—	87 current work	
—	85 traverses	
x	Outcrop sampled	
*	Rock float, fresh	
—	Faulting	
⑤	road number	
—	Bond 1 Claim Boundary, approx.	



GEOLOGICAL BRANCH
 ASSESSMENT REPORT

16,027