

ARIS SUMMARY SHEET

District Geologist, Kamloops

Off Confidential: 89.06.07

ASSESSMENT REPORT 17739

MINING DIVISION: Kamloops

PROPERTY: White Rock
LOCATION: LAT 51 18 00 LONG 119 54 00
UTM 11 5686962 297835
NTS 082M05W
CLAIM(S): White Rock 1-9
OPERATOR(S): National Res. Ex.
AUTHOR(S): Miller, D.C.
REPORT YEAR: 1988, 13 Pages

GEOLOGICAL

SUMMARY:

The property is underlain by the following Devonian-Mississippian (Eagle Bay Formation) sequence, which may be overturned: phyllite; argillite, quartzite, greenstone, chlorite schist. Mineralization occurs as galena-tetrahedrite-smithsonite pockets in quartz veins associated with fracture sets. Minor disseminated galena and pyrite occur in some greenstone beds.

WORK

DONE:

Geological, Physical
GEOL 40.0 ha
Map(s) - 2; Scale(s) - 1:5000
LINE 32.0 km
ROAD 6.1 km

FILE: 082M 066

LOG NO: 0912	RD.
ACTION:	
FILE NO:	

GEOLOGICAL ASSESSMENT REPORT
on the
WHITE ROCK 1 - 8, WHITE ROCK No. 9 Fr.,
and
WHITE ROCK CROWN-GRANTED MINERAL CLAIM

NTS 82M/5W

LATITUDE 51° 18' North
LONGITUDE 119° 54' West

FILMED

KAMLOOPS MINING DIVISION

FOR
NATIONAL RESOURCE EXPLORATIONS LTD

BY

D.C. MILLER, P.ENG
April 20, 1988

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

17,739

**GOLD COMMISSIONER
RECEIVED and RECORDED**
SEP 2 - 1988
M.R. _____ \$ _____
VERNON, B.C.

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SUMMARY AND CONCLUSIONS

During June to November 1987 work on the White Rock property included line cutting, geological mapping and road construction.

At least 20 occurrences of galena-tetrahedrite-smithsonite mineralization are present at the White Rock property. The mineralization occurs as spotty coarse-grained pockets in quartz veins which range from a few centimetres up to 1 m in thickness and are associated with four main fracture sets. The thickest and best mineralized veins strike from 350° to 020° and dip 60-85° eastward. The veins cut dolomite beds nearly perpendicular to bedding. Bedding strikes northwest and dips 35-50° southwest and may be inverted. Structurally overlying and underlying mafic to intermediate volcanic rocks are not known to be mineralized, however, the dolomite-limestone unit contains a few thin volcanic interbeds and at least one is locally weakly mineralized with disseminated galena and pyrite near its contact with dolomite.

It is concluded that the known mineralized quartz veins are not rich enough to be mined individually nor do they occur frequently enough to allow open pit mining. However, there are some fairly large areas of poor exposure between known veins and the geological and geochemical environment is sufficiently encouraging that additional work is warranted to test these areas and to probe the depth extensions of the vein system. Further geochemical surveys are warranted north of the present grid to test anomalous soils indicated in this area.

INTRODUCTION

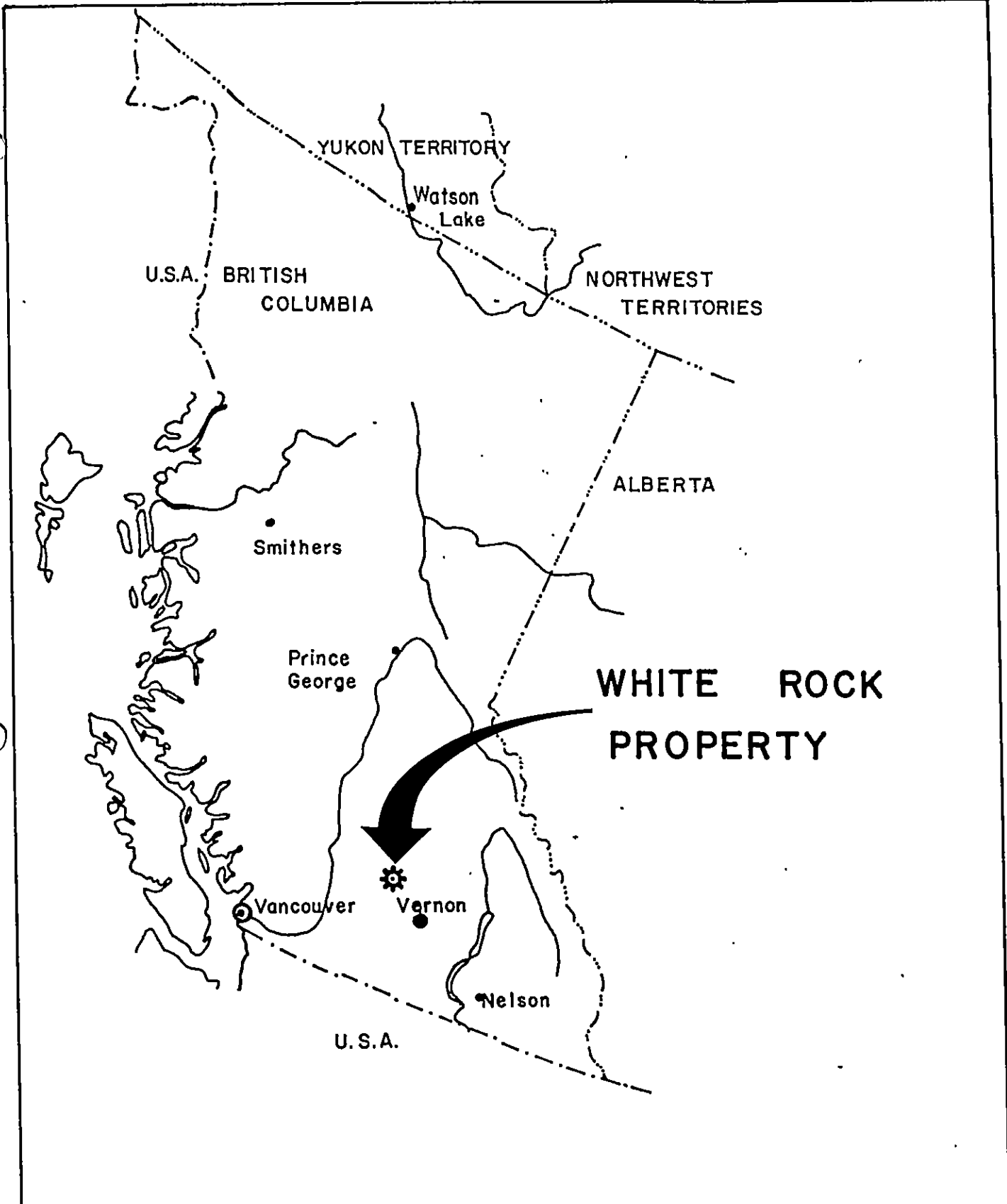
Control of the White Rock property was acquired by National Resource Explorations Ltd. from TRAVERSE HENRY THOMPSON of Bellingham, U.S.A. under the terms of an option agreement dated June 15, 1987. The property lies within a larger block of claims acquired by staking (Biere Group) by National Resource Explorations Ltd. in May 1987. Management of the property was undertaken by Discovery Consultants of Vernon, B.C.

LOCATION AND ACCESS

The property is located some 20 air-km northeast of Barriere, B.C. at geographic coordinates $51^{\circ} 18' N$, $119^{\circ} 54' W$, NTS map 82M/5W. Access to the property may be gained either from the North Barriere Lake Road or from the East Barriere Lake road.

From the North Barriere Lake road a logging road turns right at a point some 20.5 km from Barriere and 0.5 km south of the Barriere River bridge. This road leads northeastward to a large logging clearcut area. A good pack-trail starts from the east boundary of the clear-cut at a point 2 km northeast of the North Barriere Lake road. This trail leads 1.7 km northeastward to a good cabin located immediately southwest of a number of showings on the property. These showings are connected by a series of trails.

Alternative access to the upper part of the claims starts from the East Barriere Lake road at Russel Creek. From this point one follows the Barriere Ridge Road northward for 3.9 km and then turns westward and follows old logging roads and mineral exploration roads for some 5.6 km to reach drill sites near the east edge of the property.



**WHITE ROCK
PROPERTY**

DISCOVERY CONSULTANTS	WHITE ROCK PROPERTY LOCATION MAP	
NATIONAL RESOURCE EXPLORATIONS LTD.	British Columbia, Can.	
	Project No. 266	July, 1987
	Drawn by <i>BEW</i>	Figure 1

PHYSIOGRAPHY

The claims are situated on a northwest facing hillside with an average slope of approximately 30°. Bedrock exposure is about 10% and forest cover comprises virgin stands of fir, pine and cedar with little underbrush. Some small cliffs are present in areas underlain by the limestone dolomite unit.

Recent logging took place on a gently sloping bench just west of the property where the access trail begins. The base elevation on the western edge of the property is 650 m and the highest point on the claims at the southeast corner is about 1300 m.

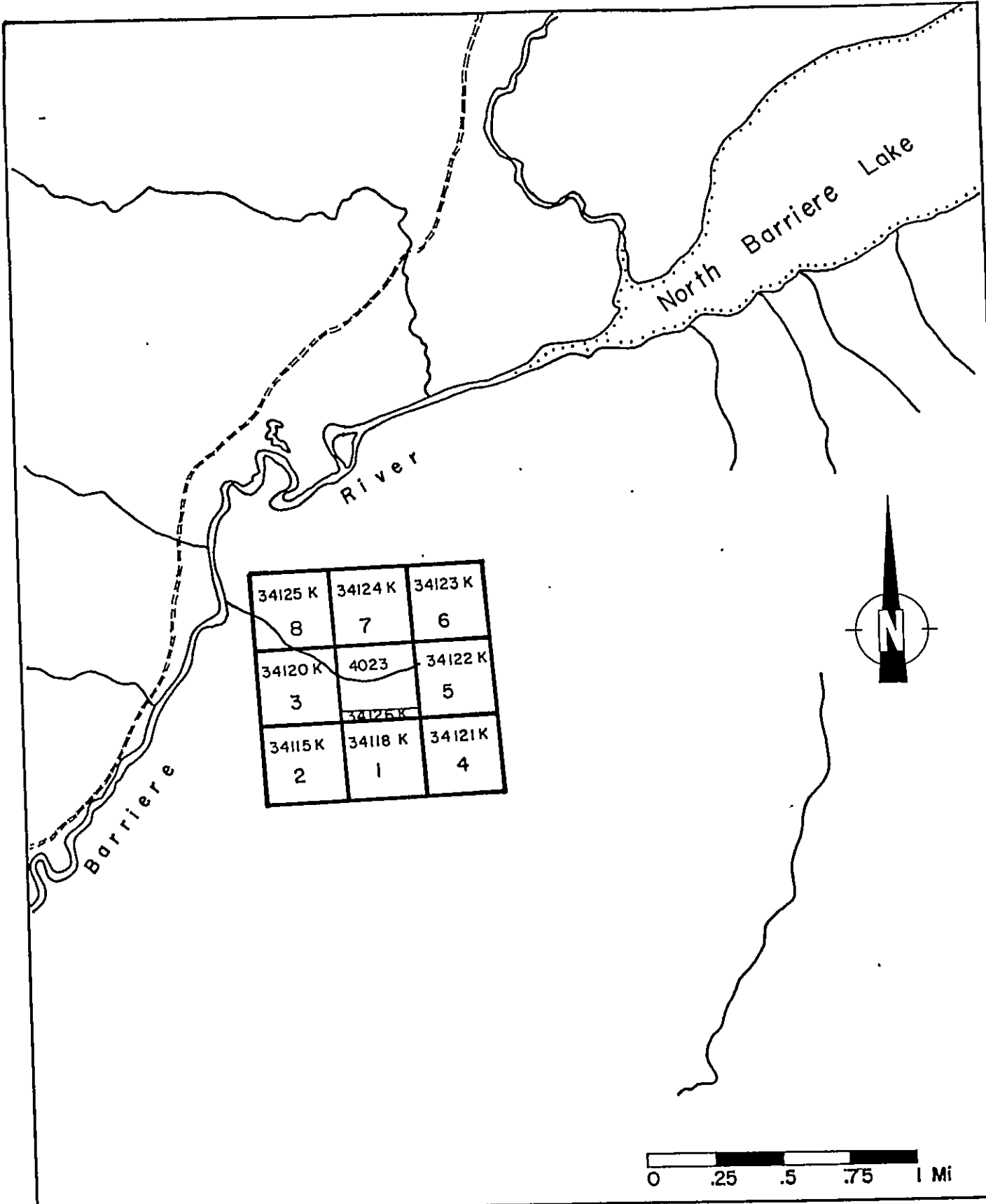
PROPERTY OWNERSHIP

The property includes one crown granted mineral claim (White Rock, Lot 4023) and 9 located 2-post claims as follows:

<u>Claim Names</u>	<u>Record Numbers</u>	<u>Anniversary Date</u>
White Rock 1 to 8	34118K to 34126K	August 8
White Rock No. 9 Fr.	34127K	August 8

HISTORY AND PREVIOUS WORK

The property was first staked in 1909 and previous work included trail construction, trenching and driving 3 adits. At least two cabins were built on the property including a recent 12'x16' structure which is currently in good condition. The current claims were staked in 1960.



DISCOVERY CONSULTANTS

WHITE ROCK PROPERTY
CLAIMS

NATIONAL RESOURCE EXPLORATIONS LTD.

KAMLOOPS M.D., B.C.

82 M / 5 W

SCALE 1" = 1/2 Mile

July 16, 1987

Drawn by *BEW*

Figure 2

CURRENT WORK

Current work started in June 1987 and consisted a preliminary assessment of the property including the sampling of mineralized exposures. Subsequent work was done during June to November 1987 and included the following:

- (1) Brushing out and regrading 5 km of old logging roads and construction of 1.1km of new drill access roads. Of this work, 1.4 km including the new road was done within the White Rock property boundary.
- (2) Linecutting-total 32 km; orientation by compass, and chaining of the baseline by nylon chain. Crosslines at 100 m intervals were chained with hip chains. A total of 15.6 km of linecutting was done within the White Rock property boundary.
- (3) Geological Mapping - 40 ha were mapped at 1:2500 scale within the White Rock property boundary.

REGIONAL GEOLOGY

The property is underlain by the Devono-Mississippian Eagle Bay Formation (Preto and Schiarizza, 1984). Near the subject property this unit includes: greenstones and chlorite schists derived from mafic to intermediate volcanic rocks, dolomite and limestone, quartzite, argillite, conglomerate, phyllite, slate, siltstone and sandstone. Regionally these rocks strike north-westward and dip mainly eastward at moderate angles. There is some evidence beds are overturned on the property.

PROPERTY GEOLOGY

On the property the dolomite-limestone unit is well exposed. It strikes northwest and dips moderately southwestward near the showings. It is both over and underlain by greenstones and chlorite schists, apparently conformably. It also contains a few thin greenstone interbeds within it.

Underlying the lower greenstone is a sequence including quartzite, argillite, greenstone and conglomerate. The conglomerate contains cobbles of greenstone, argillite, quartzite and limestone and suggests the conglomerate may be younger than the overlying greenstones and limestone. More structural evidence is required to confirm this hypothesis as limestone, argillite and quartzite are also known to occur within the underlying greenstone on a regional scale. The following table lists rock units on the property and correlates them with regional units mapped by Schiarizza and Preto (1984). Also included in this table is a phyllite unit which overlies unit 5 greenstone to the east beyond the property boundary:

Table of Formations

<u>Property Unit</u>	<u>Approximate Thickness (m)</u>	<u>B.C.D.M. Correlative Unit</u>
6 Phyllite	300 +	EBGp
5 Greenstone and chlorite schist	160	EBG
4 Mainly dolomite and limestone, lesser greenstone (4a).	400	EBGt
3 Mainly greenstone and chlorite schist, lesser conglomerate-sandstone (3a), limestone (3b), argillite (3c) and quartzite (3d)	550	EBG, EBGcg, EBGc, EBGs
2 Greenstone and chlorite schist	1200	EBG

Much of the geology beyond the White Rock claim boundary was obtained from previous work by Noranda Exploration Company Ltd.

MINERALIZATION AND ALTERATION

The White Rock property contains a number of occurrences of coarse-grained galena-tetrahedrite-smithsonite mineralization associated with generally widely spaced quartz veins which cut dolomite/limestone beds at angles nearly perpendicular to bedding. Mineralized quartz veins range from a few centimeters to 1 m in thickness and are exposed over strike-lengths up to 20 m. Some 20 mineralized veins occur in an area measuring 400 m by 400 m. The veins occur in 4 main sets along with many unmineralized veins and dry fractures. Vein and fracture intensity ranges from more than 20/m to less than 1/m. In some outcrops quartz veins (mainly barren) form stockworks replacing up to 50% of the outcrop. The fracturing and veining is uneven in distribution and intensity and within individual outcrops may be restricted to certain beds. The strongest and thickest veins (1 m +) strike at 350 to 020° and dip steeply eastward. Weak sets have attitudes of: 050°/50-75° SE, 080-100°/85N and 130°/75° NE.

Galena-tetrahedrite-smithsonite mineralization occurs in coarse-grained pockets within otherwise barren quartz. The best mineralization is commonly near the walls of veins. Although individual samples of selected mineralization run as high as 18oz/t silver 13% lead and 24% zinc, corresponding true width samples of mineralized occurrences average less than 1oz/t silver and 1% lead-zinc over average widths ranging from 2 to 100 cm.

In general mineralization is confined to quartz veins within the dolomite-limestone unit, however, at one location (Line 113N, 115+50E) disseminated pyrite, galena and tetrahedrite are present in bleached volcanic rocks near their contact with dolomite. This volcanic unit is a thin interbed within the limestone-dolomite unit.

Alteration includes dolomitization and silification of limestone. Pinkish manganese and brownish siderite alteration is present at some locations and is particularly evident in diamond drill hole core.

REFERENCES

- Kyba, B.W., 1987 Assessment Report on Geological and Geochemical Surveys on the White Rock Property, Kamloops Mining Division.
- Shevchenko, G. 1985 1984 Exploration Results, North Barriere Mineral Property, Kamloops Mining and Bradish, L. Division, private report, Noranda Exploration Co. Ltd.
- Schiarizza, P. 1984 Preliminary Map No. 56, Geology of the and Preto, V. Adams Plateau - Clearwater Area: B. C. Ministry of Energy, Mines and Petroleum Resources.

STATEMENT OF COSTS

1). Professional Services

D.C. Miller		
July 8, 9, Oct. 14, 26, 27,		
Nov. 5, 6, 10, 12, 1987		
9 days @ \$450/diem	\$4050.00	
Report and geological section		
5 days @ \$450/diem	2250.00	
		\$6300.00

2). Expenditures & Disbursements

Transport		
July 8, 9, Oct. 14, 26, 27,		
Nov. 5, 6, 10, 12, 198		
9 days @ \$40/day	360.00	
1093 km @ \$0.35/km	382.55	
		742.55
Drafting		500.00
Map prints, photocopies		125.00
Secretarial		<u>100.00</u>
		\$7767.55

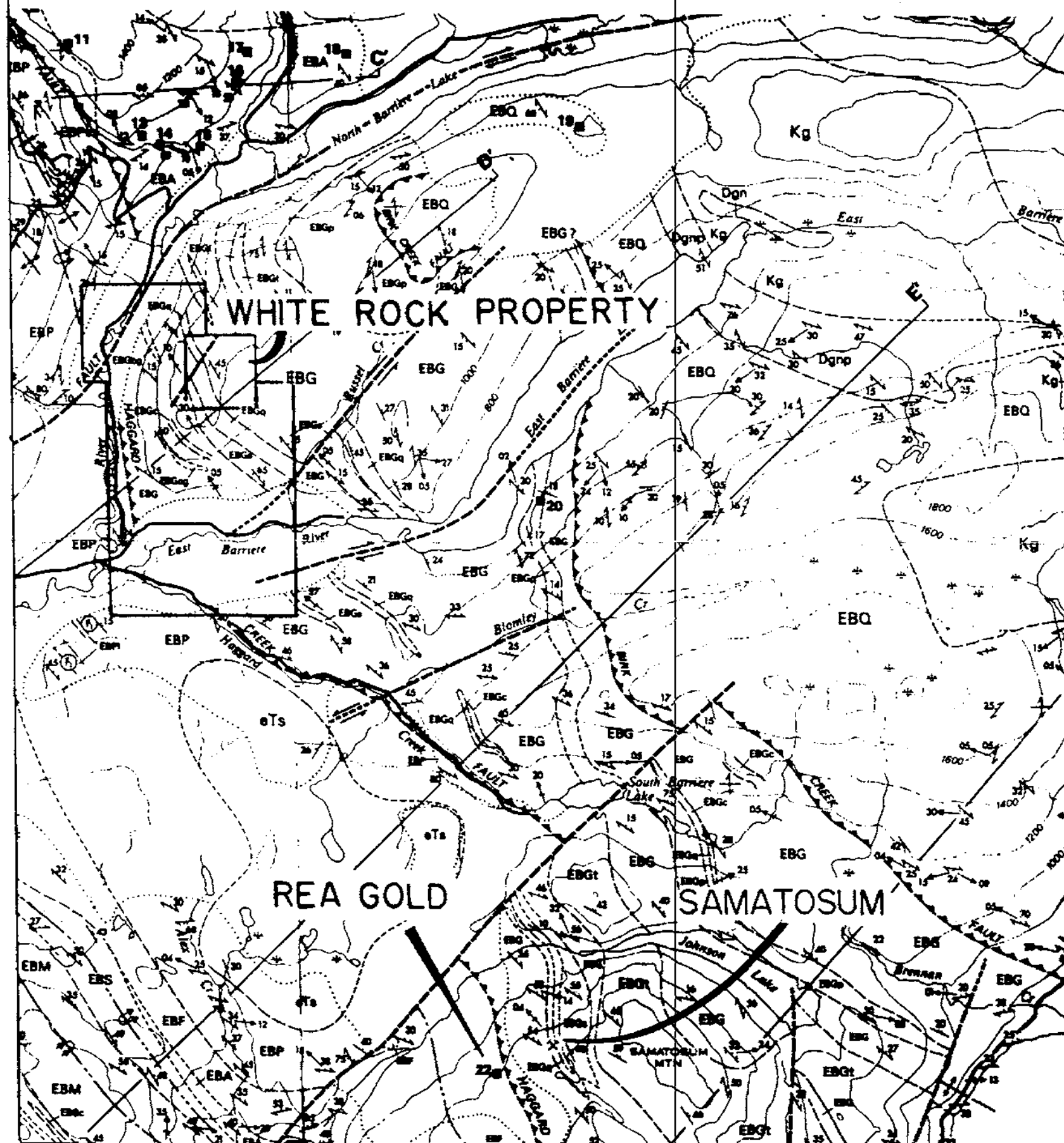
CERTIFICATE

I, Dave C. Miller, certify that:

- (1) I am a consulting Geological Engineer with an office at 769 Fraser Street, Kamloops, B.C., V2C 3H1
- (2) I am a graduate of the University of British Columbia (B.A. Sc. in Geological Engineering, 1959), a member of the Association of Professional Engineers of B.C. and a Fellow of the Geological Association of Canada.
- (3) I have practised my profession for over 25 years.
- (4) This report is based on personal observations at the subject property and on technical data obtained from various sources.

D.C. Miller
D.C. Miller
April 20, 1988

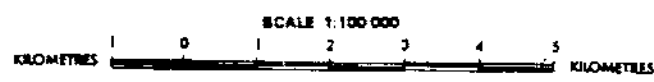
FIG. 3 WHITE ROCK PROPERTY REGIONAL GEOLOGY



Province of British Columbia
 Ministry of Energy, Mines and Petroleum Resources
 GEOLOGICAL SURVEY BRANCH

FIGURE 4 GEOLOGY OF THE ADAMS PLATEAU- CLEARWATER-VAVENBY AREA

TO ACCOMPANY PAPER 1987-2
 BY PAUL SCHIARIZZA AND VA PRETO
 GEOLOGY COMPILED BY PAUL SCHIARIZZA BASED ON GEOLOGICAL MAPPING
 BY VA PRETO, 1977-80, P. SCHIARIZZA, 1978-1981, 1985 G.P. McLAREN
 1978-1979, L.J. DIAKOW, 1979; AND D. FORSTER, 1980



LEGEND KOOTENAY TERRANE

LOWER CAMBRIAN (AND OLDER ?) TO MISSISSIPPIAN EAGLE BAY ASSEMBLAGE (EBP TO EBH)

- MISSISSIPPIAN**
- EBP** Dark grey phyllite and slate with interbedded siltstone, sandstone and grit, lesser amounts of conglomerate, limestone, dolostone, chlorite-sericite-quartz schist, quartzite and metatuff. EBPI - limestone. EBPv - metavolcanic breccia and tuff
- DEVONIAN AND/OR MISSISSIPPIAN**
- EBF** Light to medium grey, rusty weathering feldspathic phyllite, schist and fragmental schist derived from intermediate tuff and volcanic breccia, minor amounts of dark grey phyllite and siltstone. EBFq - light grey massive 'cherty quartzite' (siliceous exhalite ?). EBFt - feldspar porphyry feldspathic schist, pyritic sericite-feldspar-quartz schist, metavolcanic breccia, trachyte
- DEVONIAN**
- EBA** Light silvery grey to medium greenish grey sericite-quartz phyllite and sericite-chlorite-quartz phyllite derived from felsic to intermediate volcanic and volcanoclastic rocks, including pyritic, feldspathic and coarsely fragmental varieties, lesser amounts of dark grey phyllite and siltstone, green chloritic phyllite, sericitic quartzite, and pyritic chert (exhalite ?). EBAgn - includes orthogneiss of unit Dgn
- LOWER AND/OR MIDDLE PALEOZOIC (?) (EBM TO EBS)**
- EBM** Grey and green vesicular and pillowed metabasalt, greenstone and chlorite schist, minor amounts of bedded chert, siliceous phyllite and fine-grained quartzite
 - EBK** Banded light grey and green actinolite-quartz schist and epidote-actinolite-quartz rock, lesser amounts of garnet-epidote skarn, chloritic schist and sericite-quartz schist
 - EBL** Calcareous black phyllite, dark grey limestone and argillaceous limestone
 - EBS** Grey and green phyllitic sandstone and grit, phyllite, chlorite-sericite-quartz schist, and quartzite, lesser amounts of dark grey phyllite, limestone, dolostone, green chloritic phyllite, sericite-quartz phyllite and feldspathic sericite-quartz phyllite. EBSq - light grey to white quartzite. EBSl - limestone, dolostone, marble; EBSb - greenstone, pillowed metabasalt, chloritic phyllite. EBScg - conglomerate. EBSp - grey phyllite and siltstone; EBSi - siderite-sericite-quartz phyllite and feldspathic phyllite (metatuff). EBSs - pyritic sericite-quartz phyllite and chlorite-sericite-quartz phyllite
- LOWER CAMBRIAN (?) AND/OR HADRYNIAN (?)**
- EBQ** Light to dark grey quartzite, micaceous quartzite, grit, chlorite-muscovite-quartz schist and phyllite, lesser amounts of calcareous phyllite, calc-silicate schist, carbonate and green chlorite schist, eastern exposures include staurolite-garnet-mica schist and amphibolite. EBQl - limestone; EBQgn - includes orthogneiss of unit Dgn, as well as sericite-quartz phyllite derived from quartz porphyry dykes and sills
- LOWER CAMBRIAN (may include older and/or younger rocks)**
- EBG** Medium to dark green calcareous chlorite schist, fragmental schist and greenstone derived largely from mafic to intermediate volcanic and volcanoclastic rocks; lesser amounts of limestone and dolostone, minor amounts of quartzite, grit and light to dark grey phyllite. EBGc - limestone, dolostone, marble; EBGt - Tahneh limestone member - massive, light grey finely crystalline limestone and dolostone. EBGs - dark to light grey siliceous and/or graphitic phyllite, calcareous phyllite, limestone, calc-silicate, cherty quartzite, minor amounts of green chloritic phyllite and sericite-quartz phyllite; EBGq - light to medium grey quartzite. EBGp - dark grey phyllite, calcareous phyllite and limestone, minor amounts of rusty weathering carbonate-sericite-quartz phyllite (metatuff ?). EBGcg - polymictic conglomerate; EBGt - largely hornblende-quartz-feldspar-sericite-chlorite schist (intermediate metatuff)
- LOWER CAMBRIAN AND/OR HADRYNIAN**
- EBH** Light to medium grey and greenish grey quartzite, grit and chlorite-sericite-quartz schist, minor amounts of pebble conglomerate, medium to dark grey phyllite and rusty weathering dolomitic sericite-chlorite schist (metatuff ?)

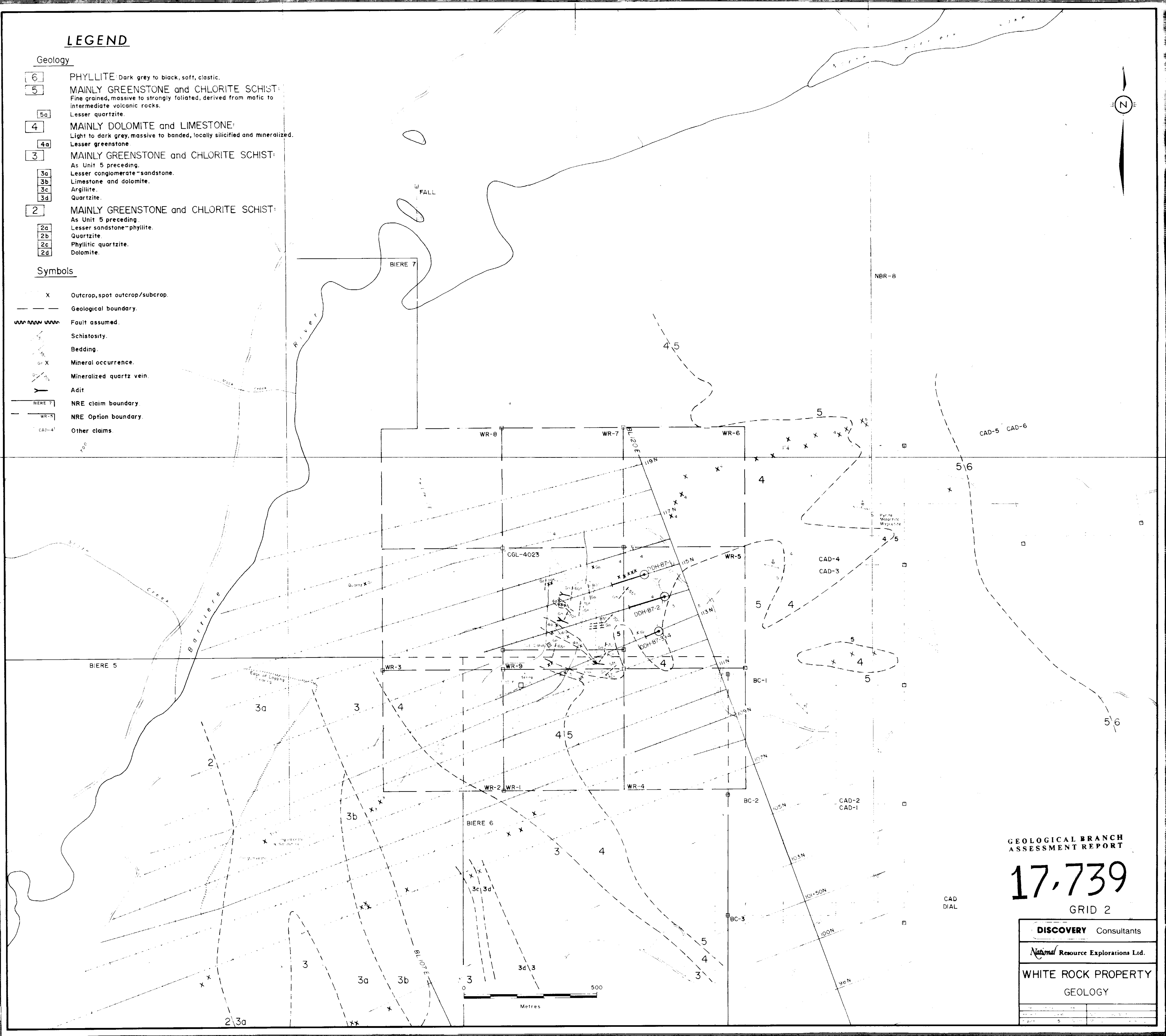
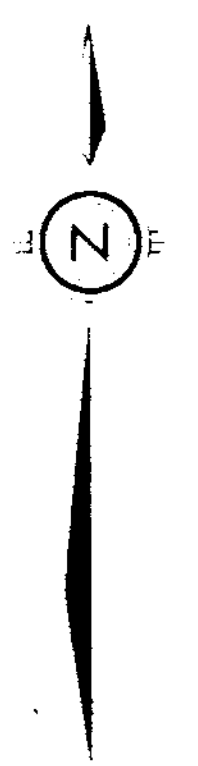
LEGEND

Geology

- 6 PHYLITE: Dark grey to black, soft, clastic.
- 5 MAINLY GREENSTONE and CHLORITE SCHIST:
Fine grained, massive to strongly foliated, derived from mafic to intermediate volcanic rocks.
Lesser quartzite.
- 5a Lesser quartzite.
- 4 MAINLY DOLOMITE and LIMESTONE:
Light to dark grey, massive to banded, locally silicified and mineralized.
Lesser greenstone.
- 4a Lesser greenstone.
- 3 MAINLY GREENSTONE and CHLORITE SCHIST:
As Unit 5 preceding.
Lesser conglomerate-sandstone.
Limestone and dolomite.
- 3a Lesser conglomerate-sandstone.
- 3b Limestone and dolomite.
- 3c Argillite.
- 3d Quartzite.
- 2 MAINLY GREENSTONE and CHLORITE SCHIST:
As Unit 5 preceding.
Lesser sandstone-phyllite.
- 2a Lesser sandstone-phyllite.
- 2b Quartzite.
- 2c Phyllitic quartzite.
- 2d Dolomite.

Symbols

- X Outcrop, spot outcrop/subcrop.
- Geological boundary.
- Fault assumed.
- ~ Schistosity.
- ~ Bedding.
- o-x Mineral occurrence.
- o-x Mineralized quartz vein.
- Y Adit
- BIERE 7 NRE claim boundary.
- WR-8 NRE Option boundary.
- CAD-4 Other claims.



GEOLOGICAL BRANCH
ASSESSMENT REPORT

17,739
GRID 2

CAD DIAL
DISCOVERY Consultants

National Resource Explorations Ltd.

WHITE ROCK PROPERTY
GEOLOGY
