

Geological Report

Dan 8 and Dan 11 Mineral Claims

Sarita River Area

Alberni Mining Division

Latitude 48° 53' N Longitude 125° 01' W

N.T.S. 92C/14E

for the owners & operators

Rainier Energy Resources Ltd.

Suite 1202

750 Pender Street West

Vancouver, B.C.

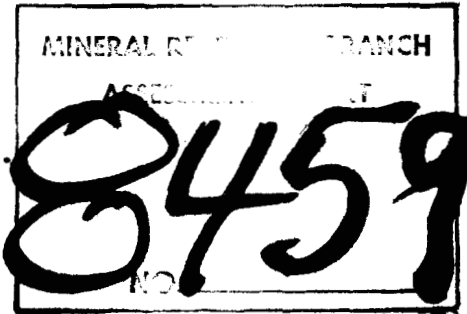
by

A. R. Bullis, P.Eng.

Bullis Engineering Ltd.

Mayne Island, B.C.

20 July 1980



Property:

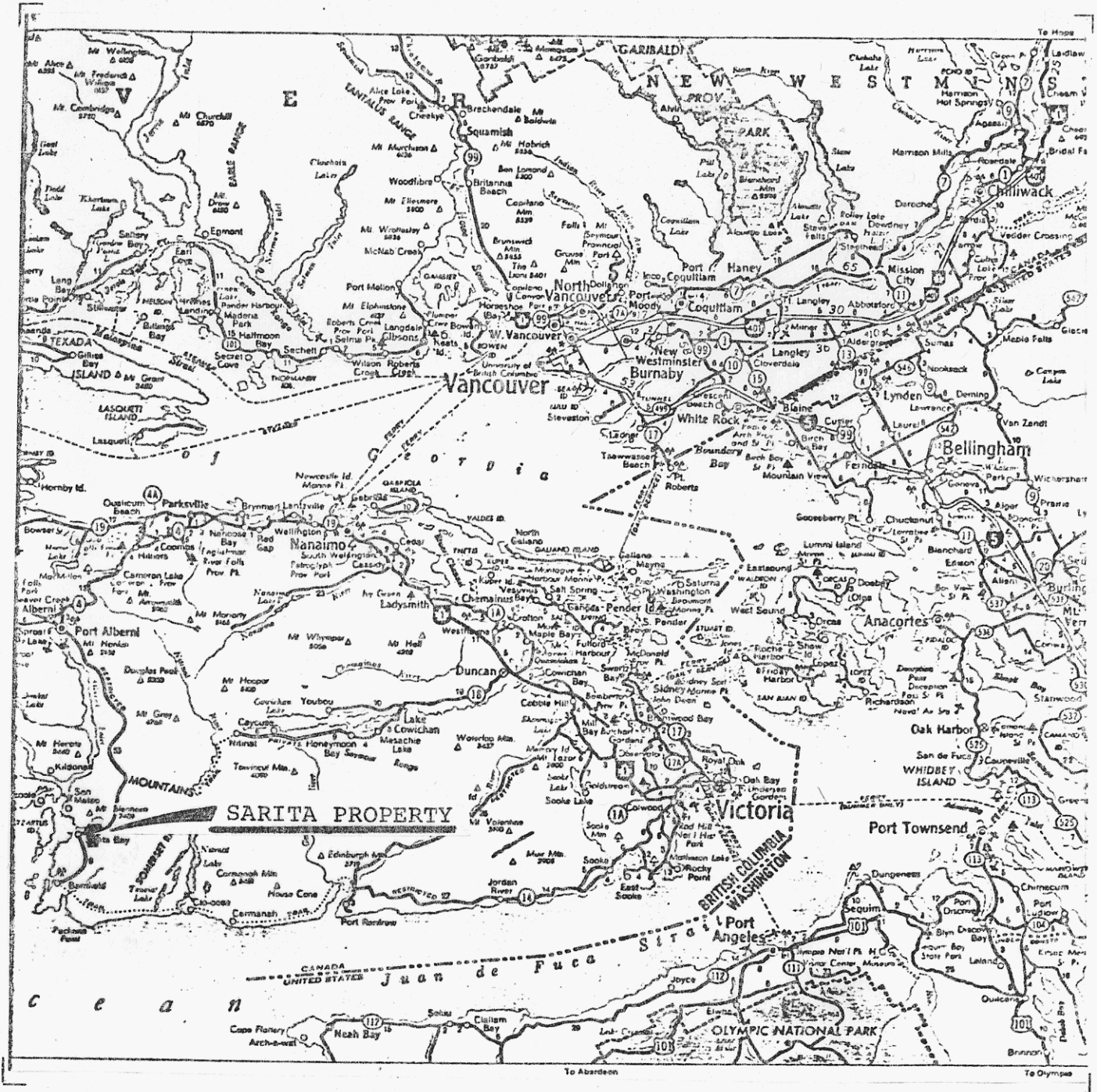
Dan 8 M.C. Record # 688

Dan 11 M.C. Record # 521

(These claims are grouped)

RAINIER ENERGY RESOURCES LTD.

SARITA PROPERTY



Dan 8 and Dan 11 Mineral Claims

Alberni Mining Division

Scale: 1 to 1,250,000

CRK

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C. W. B.

SUMMARY

A reconnaissance geological survey of the Dan 8 & Dan 11 M.C.'s show that the area is at least 70% overburden covered. The rock outcrops indicate most of the area is underlain by volcanic rocks of the Bonanza Formation. Limestone and skarn outcrop on the north end of the Dan 11 Claim. Two small "plugs" of intrusive granodiorite of late Jurassic age also outcrop on the north end of the Dan 11 Claim.

The most important structural features on the claim are several large faults and subsidiary shear zones.

All rock formations are, more-or-less, mineralized with pyrite, pyrrhotite and some chalcopyrite. The sulfides are sparse and disseminated in the volcanic rocks and the granodiorite but the skarn where seen in outcrop is well mineralized.

The author took five samples across shear zones over relatively narrow widths and these were assayed for gold only. Two of these samples indicate the presence of gold. The author has recommended additional exploration on both Claims.

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DAN 8 & DAN 11 CLAIMS

INTRODUCTION

Rainier Energy Resources Ltd., who own and operate the Dan 8 and Dan 11 Mineral Claims, engaged Bullis Engineering Ltd., to map the rocks underlying the claims. A reconnaissance type of geological survey was conducted by the author during the month of June 1980 and maps and reports were prepared in July 1980. The claims were mapped on a scale of 1 to 15,000.

Purpose of Survey

The purpose of the survey was to gain knowledge of the underlying rocks with the view of determining whether, or not, zones of mineralization exist that could be of economic importance.

The author found several outcrops in road-cuts where the rock contained pyrite, pyrrhotite and chalcopyrite. Four "chip" samples, taken across varying widths, indicate the presence of gold on the Dan 11 Claim. The author has recommended that additional work be done in the area.

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Location & Access

The Dan 8 and Dan 11 Mineral Claims are located in the Sarita River area of Vancouver Island, east of the Alberni Canal and are approximately fifteen kms. north-east of Bamfield.

The property is easily accessible from Alberni via the road to Bamfield which traverses the Dan 11 Claim. Secondary logging roads lead to all parts of the Dan 8 and Dan 11 Claims and these are shown on the McMillan - Blodell maps of the Sarita River Division. The area is shown on N.T.S. Sheet 92C/14E. and is located in the Alberni Mining Division at $48^{\circ}53'$ N Lat & $125^{\circ}01'$ W Long.

History

The region has undoubtedly been prospected in the past but no reference to the specific area of the mineral claims could be found in the literature. However, some work was done on a property that directly adjoins the Dan 11 Claim to the east. Gold was discovered on the Numakimas 1 Indian Reserve in 1979 by Nomad Mines Ltd. and on the Nomad property which adjoins the Dan 11 Mineral Claim.

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RECOMMENDATIONS

1. Additional prospecting on the Dan 11 Claim is recommended because gold has been discovered on the property directly adjoining to the east and two samples taken by the author indicate the presence of gold on the Dan 11 Claim.

The areas of interest are:

- (a) Northeast of Fredrick Lake
- (b) Along the east side of the Claim.

The skarn zone should be traced along strike to the west and tested by trenching and sampling.

2. Additional exploration and prospecting should be carried out on the Dan 8 M.C. Soil sampling in the stream valley that leads up from Pachena Lake to the north-east corner of the Claim indicated the presence of gold in the watershed.

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MAPPING PROGRAM

The claims were mapped on a reconnaissance basis using all roads and trails identifiable on the available topographic maps. Prominent topographic features, such as road intersections, bridges and stream junctions, were used as control points; traverses were conducted along roads and trails by chaining or by pacing from the control points. Where necessary, short chain-and compass traverses were run between roads and trails to locate out-crop. A suite of rocks was collected in the field, to assist classification and identification.

The survey was made by the author and one assistant. The mapping was completed during the period 2nd to 9th June, 1980, and the data were plotted on the maps on a scale of 1 to 15,000.

CURB

GEOLOGY

The area, in which Dan 8 and Dan 11 Claims are located, is underlain by volcanic rocks, mainly lavas with some altered sediments such as phyllites, greywacke and limestone (and/or skarn). These rocks belong to the Bonanza Group of, possibly, early Jurassic age.

Later Jurassic intrusives, called the Island Intrusive Complex, have penetrated and cut the Bonanza Group to form small batholiths, stocks or dykes which outcrop on the Dan 8 Claim. The Island Intrusive complex includes rocks that vary in composition from diorites through quartz-diorites to granodiorite.

The volcanic flows and sediments strike east-west, or slightly north of west, and dip steeply to moderately south. Folding, if present, was not immediately apparent in either volcanic flows or sedimentary rocks on the Dan Claims.

The most prominent structures in the area are numerous shear zones and fractures that emanate from, or are subsidiary to, a large fault that follows the valley occupied by Pachena and Fredrick Lakes. The major fault strikes north twenty degrees east and is nearly vertical. The fault is not seen on surface but the author estimates the width of the zone to be forty to fifty metres; numerous branches and subsidiary shear zones cause the major fault to appear much wider along the Fredrick Creek Valley. The fault apparently divides into two major branches south of Pachena Lake, while north of Fredrick Lake the fault terminates against a second fault occupying the valley of the Sarita River.

UARB

The apparent offset (horizontal component) of the fault is illustrated at the north end of the Dan 11 Claim where a small "stock" of granodiorite has been cut by the fault. The west side of the fault has been displaced approximately one hundred metres to the north. Overburden covers the fault zone and the apparent displacement on the fault is deduced from the relative positions of the two portions of the stock that can be seen in outcrop.

The effect of the major fault can readily be seen in rock outcrops (roadcuts) along the Bamfield highway where it follows the valley of Fredrick Creek. The old rail-road grade, which is located lower in the valley and closely follows Fredrick Creek, was built on glacial debris and deltaic stream gravels and, therefore, reveals little of the underlying rock even though the grade is probably close to the fault.

The volcanic rocks exposed along the highway on the Dan 11 Claim are sheared and fractured so that few fresh surfaces are seen in the hand specimen and much of the rock can be crumbled by hand. The volcanic rock varies in composition from basalt to rhyolite with some andesite present. Flow structure and those structures related to deposition are no longer apparent within the volcanic rocks; only those structures that are related to the deformation due to faulting and shearing can be mapped adequately.

All these assemblage of lava, tuff and breccia, have been mineralized more-or-less by pyrite, pyrrhotite, iron carbonates and minor chalcopyrite; limonite has developed near surface along the fracture planes. The mineralization is best developed adjacent to the major fault and especially within narrow (0.5 to 3.0 metres) shear zones that parallel, or splay from, the fault.

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Limestone, marble and/or skarn outcrop on the north end of the Dan 11 Claim and west of the major fault in Fredrick Creek. The outcrop strikes slightly north of east and can be traced for about eight hundred metres before it disappears under overburden to the west. The limestone disappears in the valley of Fredrick Creek, off the Dan 11 Claim to the east, where it probably terminates against the fault. Bedding within the limestone strikes slightly north of west and dips vertically to thirty degrees to the south. The western portion of the limestone has been converted to epidote-rich skarn in the vicinity of the small stock of intrusive rock mentioned above, and contains pyrite, pyrrhotite and minor chalcopyrite. The skarn outcrops on the north slope of a small hill and disappears under overburden to the west and is, apparently, terminated on the north side in a low east-west trending swampy gully that may be a fault.

The faulted stock of granodiorite also outcrops on the knoll and it, too, contains small pyrite crystals disseminated throughout the rock.

The only other outcrop of granitic rocks, seen on either the Dan 8 or Dan 11 Claims, occurs on the east slope of the Pachena Cone in a road cut along the Bamfield highway. Here a small east-west trending stock, or dyke, approximately two hundred metres wide is exposed along the road. The rock is similar to the granodiorite noted above and also contains disseminated pyrite. The contacts between the intrusive and the enclosing volcanic rocks were not seen and a search up-slope on Pachena Cone failed to locate the western extension of the stock.

CLP 15

The Dan 8 and Dan 11 Claims are underlain by the volcanic rocks of the Bonanza formation, so far as can be judged from the sparse outcrops, with the exception of the limestone/skarn and two small granitic stocks noted above. The area is at least seventy percent over-burden covered and all bedrock geology has been extrapolated between rock outcrops.

CWAB

MINERALIZATION

A variety of rocks were found in outcrop on the Dan 11 Mineral Claim and all types contain sulfide mineralization. However, the amount of sulfide present and its' distribution within the various rock units varies greatly. For instance, north of the Bamfield road, on the knoll described previously, the skarn has been heavily mineralized with pyrite, pyrrhotite and a small amount of chalcopyrite. The skarn gives way to less altered rock on the east end of the outcrop, near M & B Branch 105A, and here marble and limestone outcrop which contains relatively little disseminated pyrite.

The granodiorite "plug" cut by the major fault, which outcrops on the knoll and on M & B Branch 106, is also sparsely mineralized with disseminated pyrite. Disseminated pyrite was also noted in the granodiorite "dyke" or "plug", exposed in the road cuts on the Bamfield highway, six hundred metres south of the junction with the road to the M & B Sarita Headquarters.

The volcanic rocks, exposed on the south half of the Dan 11 Claim, all contain, more-or-less, pyrite and/or pyrrhotite. Most of the iron sulfide mineralization is confined to faults and shear zones which emanate from, or are parallel to, the major fault in the area and these zones vary in width for one half metre to fifteen metres. Several samples were taken from the shear zones and these are described in the following section.

Alluvial fans debouche into the valley of Fredrick Creek and obscure the bedrock on the east side of the Dan 11 Claim as noted in the Geology section. However, one stream deposit contains "rusty" soil and small boulders of basalt that are mineralized with pyrite, chalcopyrite and, possibly, pyrrhotite. These alluvial

CURB

boulders are probably derived from the bedrock lying east of the Dan 11 Claim but this could not be confirmed in the field and they remain a possible target for future investigation.

The rocks exposed in outcrop on the Dan 8 Mineral Claim are all volcanic in origin and contain sparse, disseminated pyrite. No noteworthy concentration of iron or copper sulfides were noted on the Dan 8 Claim.

Almost all outcrops on Dan 8 and 11 Claims are stained by limonite which forms in fractures, especially within faults and shear zones. Many of the shear zones within the volcanics contain iron carbonates which also contribute to the rusty appearance of the rock outcrops.

CARB

SAMPLING

The author noted several narrow faults that contained pyrite and, sometimes, chalcopyrite along the Bamfield Highway on the Dan 11 Claim.

Four samples were taken across mineralized zones containing pyrite, and/or pyrrhotite and minor chalcopyrite.

A fifth sample was taken as a grab sample from the mineralized skarn at the north end of the Dan 11 Claim.

The position of the samples are noted on the accompanying map and other data tabulated below:

<u>Sample No.</u>	<u>Width in Metres</u>	<u>Gold, ozs/ton</u>
1	1.60	0.034
2	0.65	0.003
3	0.65	(less than) 0.003
4	3.25	(less than) 0.003
5	5.00	(less than) 0.003

CCP/15

COST STATEMENT

Geological Survey

Field Wages

2 June to 9 June 1980

Geologist:	7 days @ \$200.00	\$1,400.00
Assistant:	7 days @ \$ 50.00	300.00

Report & Map Preparation

July 1980

Geologist Fees	600.00
Secretarial & Drafting	100.00

Expenses

Travel: Ferry plus Vehicle	\$ 142.45
Meals & Groceries	148.23
Assay Costs	50.00
Field Supplies	8.84

TOTAL COST ----- \$ 2,749.52

A. R. Bullis, P.Eng.

20 July 1980



CERTIFICATE OF QUALIFICATIONS

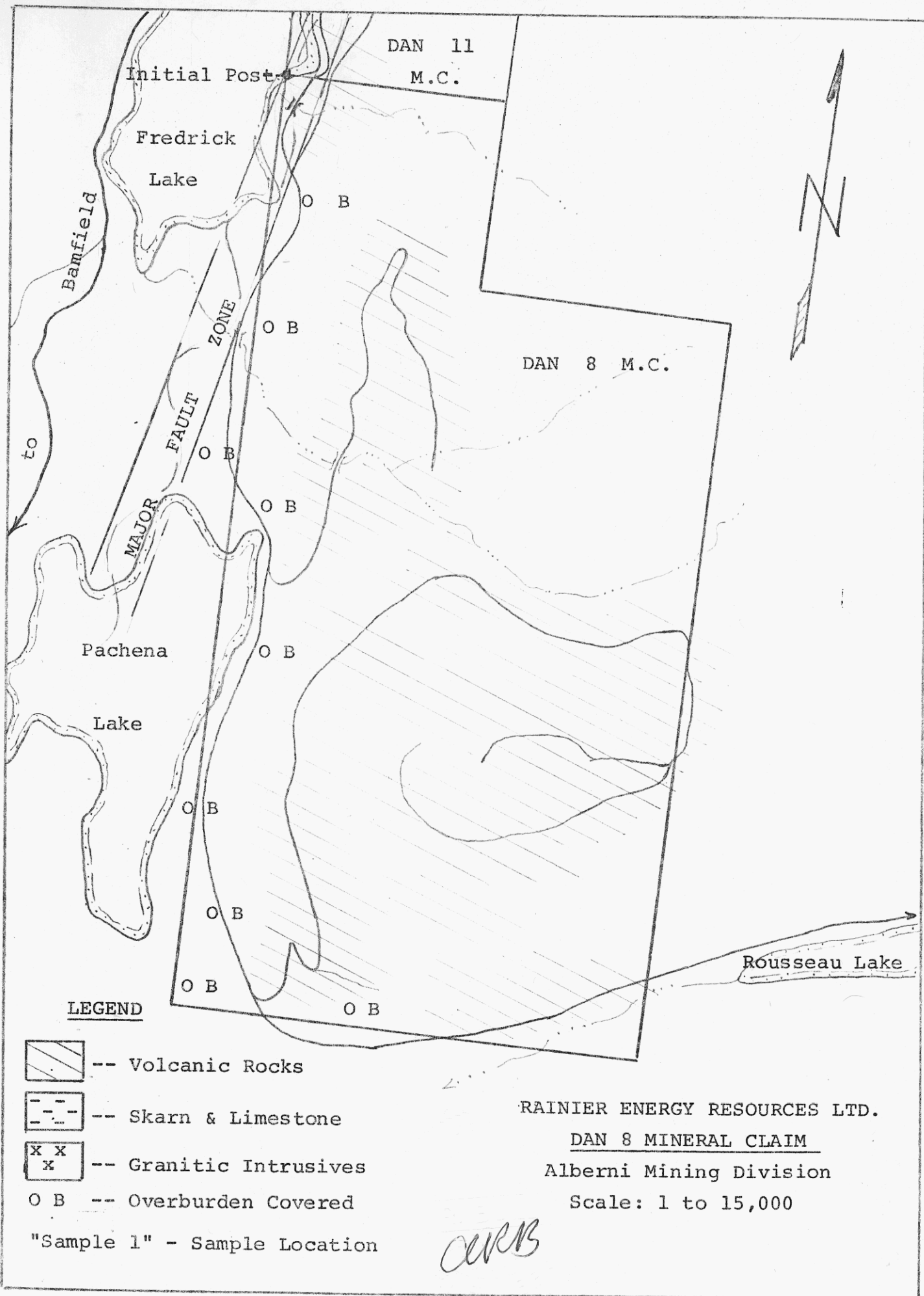
I, Albert Ralph Bullis, do hereby certify:

1. I am a practising geological engineer with residence on Porter Road, Mayne Island, B.C.
2. I am a graduate of the University of B.C.
3. I have practised my profession since 1952.
4. I am a member of the Association of Professional Engineers of British Columbia.
5. I have no interest directly, or indirectly in the property or securities of Rainier Energy Resources Ltd.
6. The report is based on information obtained personally while performing the work program described in the report during June 1980.




A. R. Bullis, P.Eng.

20 July 1980





LEGEND

-  -- Volcanic Rocks
-  -- Skarn & Limestone
-  -- Granitic Intrusives
- O B -- Overburden Covered

"Sample 1" - Sample Location

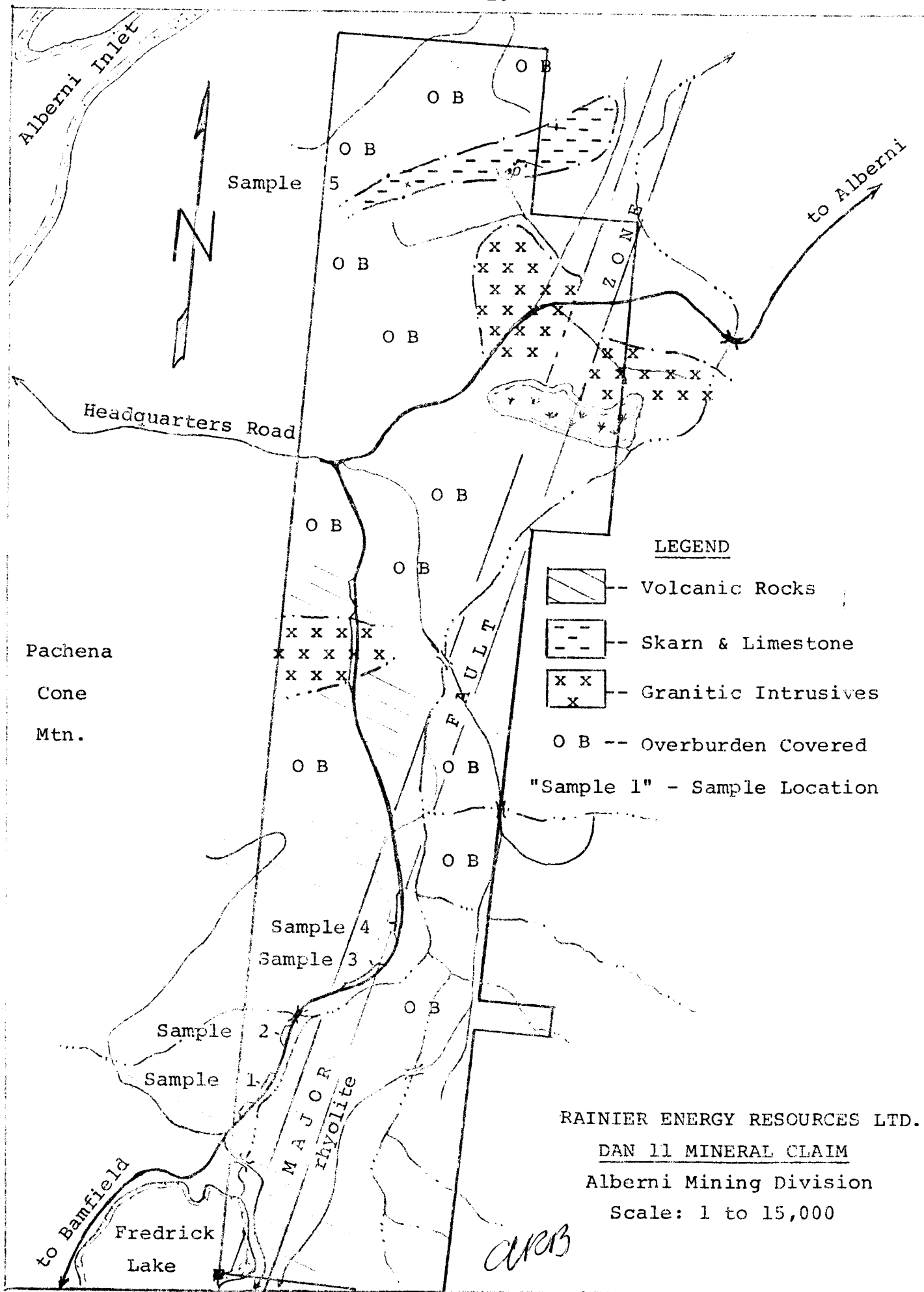
RAINIER ENERGY RESOURCES LTD.

DAN 8 MINERAL CLAIM

Alberni Mining Division

Scale: 1 to 15,000

CVRB





CHEMEX LABS LTD.

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• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO: Bullis Eng.
 Box 1039, Station A
 Delta, B.C.

ATTN: A.S. Ashton c.c. A.R. Bullis, Mayne Island

CERTIFICATE NO. 68428
 INVOICE NO. 36430
 RECEIVED June 12/80
 ANALYSED June 24/80

SAMPLE NO. :	oz/ton	
	Au	
1	0.034	} Don H. Clain CURB
2	0.003	
3	<0.003	
4	<0.003	
5	<0.003	

CURB

[Signature]
 REGISTERED ASSAYER, PROVINCE OF BRITISH COLUMBIA