

392

Report on a Geological Survey

The D.R.D. Claim Group

Williams Lake Area, Cariboo Mining District

52° N 122° W SE

British Columbia 93B/1E

John H. Low Ph.D., P.Eng. and Harold F. Morrow Ph.D., P.Eng.

Claims Holder - Mr. Dan Rottacker, Williams Lake, B.C.

Work done for Bell Asbestos Mines Ltd.

July 28th. - September 7th, 1961.

392

TABLE OF CONTENTS

	Page
Introduction . . . . .	1
Property, Location, Access . . . . .	1
Topography . . . . .	2
Regional Geology . . . . .	2
Survey Procedure . . . . .	3
Geology of the D.R.D. Claim Group	4
Table of Formations . . . . .	4
Granite . . . . .	5
Gabbro . . . . .	5
Ultrabasic Rocks . . . . .	5
Cache Creek Group . . . . .	6
Economic Geology . . . . .	7
Conclusions and Recommendations . . . . .	8
1 Geological Outcrop Map	} in folder at back
2 Geological Map	

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 392 MAP .....

## INTRODUCTION

Chrysotile asbestos was discovered in the vicinity of Williams Lake, British Columbia in the spring of 1961 by Mr. Dan Rottacker and Mr. Rudy Johnson. A group of 22 claims, the D.R.D. group, was staked to cover the showing and the serpentine body in which it occurs. These claims are held by Mr. Johnson.

The property was optioned by Bell Asbestos Mines Limited in July and a program of bulldozer trenching and geological mapping was undertaken in August and September. This report describes the results of this program.

## PROPERTY, LOCATION, ACCESS

The D.R.D. group consists of 22 claims but these are considerably undersized due to convergence of the location lines and overlapping of claims as shown in the accompanying plan.

The property lies about 5 miles southeast of the town of Williams Lake, British Columbia but on the opposite side of Williams Lake so that a drive of about 10 miles is required to reach the claim group by way of the main highway and secondary ranch and logging roads which reach within about one-quarter mile of the showings.

The main line of the P.G.E. Railroad along the south side of Williams Lake lies within three-quarters mile of the asbestos occurrences.

#### TOPOGRAPHY

The asbestos occurrences lie on the south-facing slope of a ridge some 3,000 feet in height which rises above the south shore of Williams Lake. Most of the property is drift-covered with less than 10% rock exposure. Most outcrops are along the crest of the ridge in the north-central portion.

The greater part of the property is wooded with large grassy clearings in the southern half and large areas of decomposed serpentine in the centre of the group.

A small spring occurs near the showings which supplies a limited amount of drinking water but the closest source of water in quantity is in a pond some 600 feet in diameter in the extreme southwestern corner about one-half mile from the showings.

#### REGIONAL GEOLOGY

Map 12-1959 of the Geological Survey of Canada shows the geology of the Quesnel area at a scale of 1 inch to 4 miles in a broad, general way. At this scale, the serpentine body in which the Johnson asbestos showings occur is too small to appear.

The showings area is shown as underlain by rocks of the Cache Creek group of Permian and (?) earlier age which includes chert, argillite, limestone, greenstone, minor greywacke and conglomerate.

These rocks are intruded by Mesozoic granitic and dioritic rocks on the east.

To the south, the Cache Creek group is unconformably overlain by volcanics and sediments of Miocene and (?) Pliocene age.

The age of the serpentine is in doubt but probably is of middle or late Jurassic age like the serpentine masses which occur to the north in the Prince George area.

#### SURVEY PROCEDURE

As the location lines proved to be unreliable, two parallel base-lines 2,000 feet apart trending  $N80^{\circ}W$  were cut by picketing. The No. 1 post of D.R.D. 1 was taken as the point of reference for the baselines. The south baseline (B) was located on a crossline running  $S10^{\circ}W$  from 18  $\swarrow$  OOE.

Geology and other features were located by pace and compass traverses from these baselines and plotted at a scale of 1 inch to 200 feet.

In the vicinity of the asbestos showings, an area 1,500 feet east-west by 1,200 feet north-south was

mapped 1 inch to 50 feet using picket lines spaced 50 feet apart.

GEOLOGY OF THE D.R.D. CLAIM GROUP

As shown on the accompanying map, outcrops on the D.R.D. group are so scarce and widely scattered as to preclude accurate interpolation. The individual outcrops are therefore shown but boundaries of rock units have been omitted.

Most of the property appears to be underlain by ultrabasic rocks and altered derivatives within which lie small areas of Cache Creek volcanics and sediments.

Table of Formations

Cenozoic

Pleistocene and Recent: Till, gravel, sand and clay.

Mesozoic (Jurassic?)

Granite

Gabbro

Peridotite, serpentized dunite,  
silica - carbonate rock

Paleozoic

Permian and Earlier

Cache Creek group: greenstone, slate,  
conglomerate.

Granite

Outcrops of light grey to almost pink gneissic biotite granite occur in the extreme northeastern corner of the claim group indicating the fringe of a large area of such rocks which extends to the south and east.

Gabbro

A single outcrop of massive green-black medium-grained gabbro in the southeastern corner of D.R.D. No. 18 suggests the presence of basic rocks lying between the granite and the ultrabasic mass.

Ultrabasic Rocks

Judging from the scattered outcrops 80% or more of the claim group appears to be underlain by ultrabasic rocks. In the southern portion of the group red-brown weathering, black-green peridotite is most abundant. In the centre of the group greenish-black serpentized dunite prevails which in places is very highly sheared to form fish-scale serpentine or white talc-antigorite-magnesite schist. This material appears to inhibit growth of vegetation and in D.R.D No. 4 there are large slides of fine serpentine talus.

In many places the ultrabasic rocks have been intensely altered by hydrothermal action to a rusty-weathering silica-carbonate rock composed principally of ankerite traversed by thin seams and veinlets of opaline silica. This rock is best exposed in rugged terrain in D.R.D. No. 15. In the northeastern corner of the property this rock has a greenish cast due perhaps to the presence of the nickel-bearing serpentine, garnierite. A deposit of garnierite-bearing serpentine was diamond-drilled several years ago in this vicinity but gave only low values in nickel. Garnierite with a little chromite was identified also in D.R.D. No. 3 and in the southwestern corner of the property.

Cache Creek group

Rocks of the Cache Creek group are represented by a poorly-sorted conglomerate with a sandy matrix containing pebbles from one-quarter inch up to boulders twelve inches or more in diameter. This rock is best displayed in a low scarp in D.R.D. No. 3.

Three outcrops of greenstone in D.R.D. No. 14 appear to indicate small inliers of basic to intermediate lavas and tuffs now altered to dark green chlorite schist.



ECONOMIC GEOLOGY

Interest in this area was first occasioned by the discovery of the nickel-bearing serpentine mineral, garnierite. Drilling of this occurrence by previous investigators gave discouraging results however.

Chrysotile asbestos was found in the spring of 1961 in a small outcrop of serpentinized dunite projecting through drift in the vicinity of the No. 1 post of D.R.D. No. 1. The fibre was up to three-eighths inches in length and of good quality. Rock is very poorly exposed in the vicinity and a program of bulldozer trenching was therefore undertaken to investigate the occurrence.

This work showed that most of the rock in the vicinity was highly sheared fish-scale serpentine and talc-antigorite-magnesite schist containing masses of relatively massive serpentinized dunite. Only in these relatively unsheared bodies of dunite are cross-fibre asbestos veins developed to any extent; the schists are almost completely barren.

It was found that the best development of fibre lay in a band some 40 feet in width and 150 feet in length trending approximately east-west through the No. 1 post of D.R.D. No. 1 where fibre up to one-quarter inch occurs. The best section here indicated 4.5% un-

corrected over one and one-half feet with other sections of 3.4% over two feet and 2.6% over four feet.

The overall grade of the zone would therefore be too low to be of interest.

Small patches of even lower-grade material were found about 75 feet south of the main zone and a small outcrop about 1,000 feet to the northwest carried a few one-sixteenth inch veinlets.

CONCLUSIONS AND RECOMMENDATIONS

Occurrences of chrysotile asbestos on the D.R.D. claims are confined to masses of more competent serpentized dunite enclosed in highly sheared serpentinous schist.

Close trenching of the immediate area around the original discovery showed that the asbestos-bearing rock was of limited lateral extent and too low-grade to constitute ore.

Other asbestos occurrences found on surface were even less extensive and of lower grade.

In the absence of other encouraging features such as a definite structural pattern, no further work is recommended at the present time.

Respectfully submitted,

Toronto, Ontario  
December 6, 1961

John H. Low, Ph.D., P. Eng.

LOW AND MORROW

Harold F. Morrow, Ph.D., P. Eng.

*Harold F. Morrow*

392

REPORT ON A GEOLOGICAL SURVEY  
OF  
THE D.R.D. CLAIM GROUP  
WILLIAMS LAKE AREA, CARIBOO MINING DISTRICT  
BRITISH COLUMBIA

LOW AND MORROW  
CONSULTING GEOLOGISTS

JOHN H. LOW, PH.D., P.ENG.  
42 RIVERCREST ROAD  
TORONTO 9, ONTARIO  
ROGER 2-5241  
RES. ROGER 2-1046

HAROLD F. MORROW, PH.D., P.ENG.  
2592 BOWKER AVENUE  
DAK BAY, VICTORIA, B.C.  
TEL. EV 3-9762

Direct Expenditure for work on the D.R.D. Claim Group

By Bell Asbestos Mines Ltd. - July 28 - Sept. 7, 1961.

San Jose Logging Ltd., Williams Lake, B.C.

Contract D-8 Bulldozer work - \$ 1,542.00

Waino Lahti and William Gautier, salary - 1,325.00

stripping, trenching, cleaning trenches,

line cutting and prospecting July 28-Sept. 7, 1961

Dr. John H. Low Aug. 14-19 - 6 days mapping - 900.00

3 days map and report preparation - 450.00

Dr. Harold F. Morrow Aug. 9-11 - 2 days mapping - 300.00

TOTAL - \$ 4,517.00

No travelling or living expenses are included.

*Harold F. Morrow*

Harold F. Morrow Ph.D. P. Eng.  
LOW & MORROW

THE D.R.D. CLAIM GROUP NUMBERS

<u>Claim Name</u>	<u>Tag number on Claim Post</u>	<u>Claim Map Number</u>
D.R.D. No. 1	348138	E 24997
D.R.D. No. 2	348139	E 24998
D.R.D. No. 3	348140	E 24999
D.R.D. No. 4	348141	E 25000
D.R.D. No. 5	348142	E 25001
D.R.D. No. 6	348144	E 25002
D.R.D. No. 7	286073	E 25003
D.R.D. No. 8	286074	E 25004
D.R.D. No. 9	286075	E 25087
D.R.D. No. 10	286078	E 25088
D.R.D. No. 11	286081	E 25089
D.R.D. No. 12	286082	E 25090
D.R.D. No. 13	B86265	E 25091
D.R.D. No. 14	B86266	E 25092
D.R.D. No. 15	B86263	E 25093
D.R.D. No. 16	B86267	E 25094
D.R.D. No. 17	864161	E 25095
D.R.D. No. 18	B13613	E 25096
D.R.D. No. 19	221900	E 25097
D.R.D. No. 20	291196	E 25098
D.R.D. No. 21	A92381	E 25099
D.R.D. No. 22	286077	E 25100



15+00 W

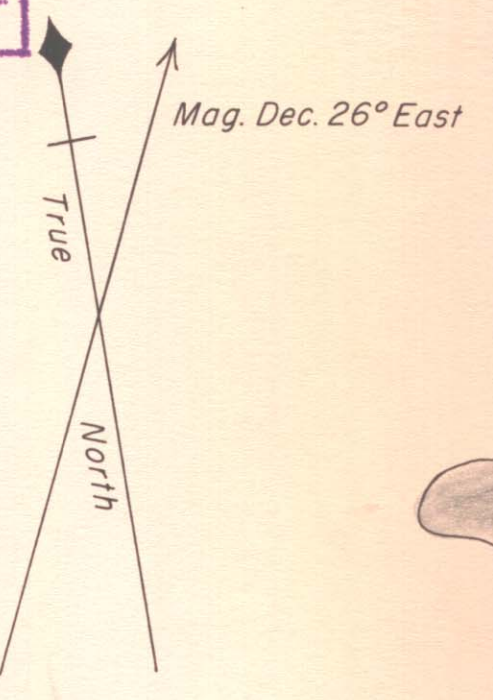
10+00 W

10+00 W

5+00 W

0+00 W

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 392 MAP 2

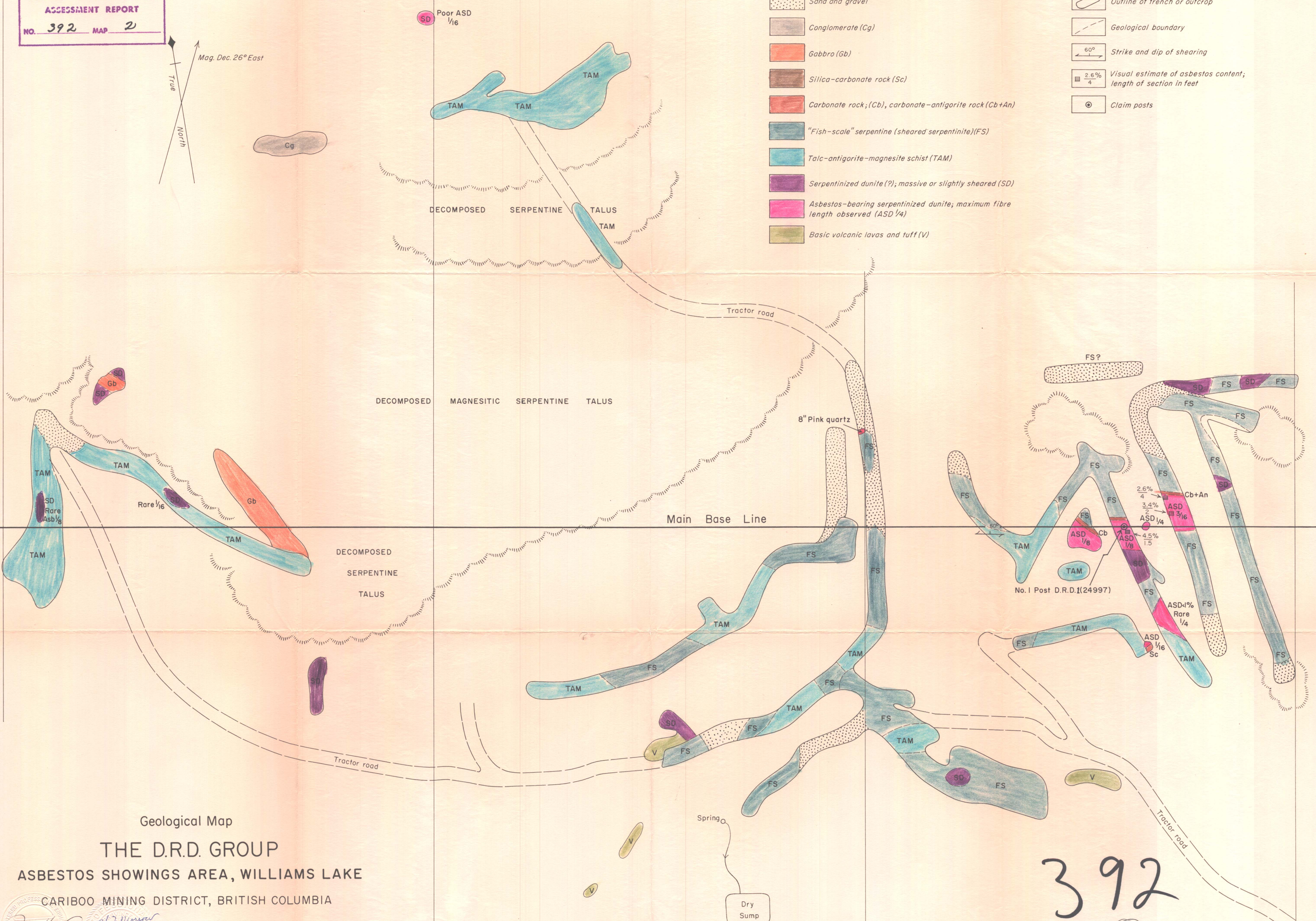


LEGEND

- Sand and gravel
- Conglomerate (Cg)
- Gabbro (Gb)
- Silica-carbonate rock (Sc)
- Carbonate rock, (Cb), carbonate-antigorite rock (Cb+An)
- "Fish-scale" serpentine (sheared serpentinite) (FS)
- Talc-antigorite-magnesite schist (TAM)
- Serpentinized dunite (?); massive or slightly sheared (SD)
- Asbestos-bearing serpenitized dunite; maximum fibre length observed (ASD 1/4)
- Basic volcanic lavas and tuff (V)

SYMBOLS

- Outline of trench or outcrop
- Geological boundary
- Strike and dip of shearing
- Visual estimate of asbestos content; length of section in feet
- Claim posts



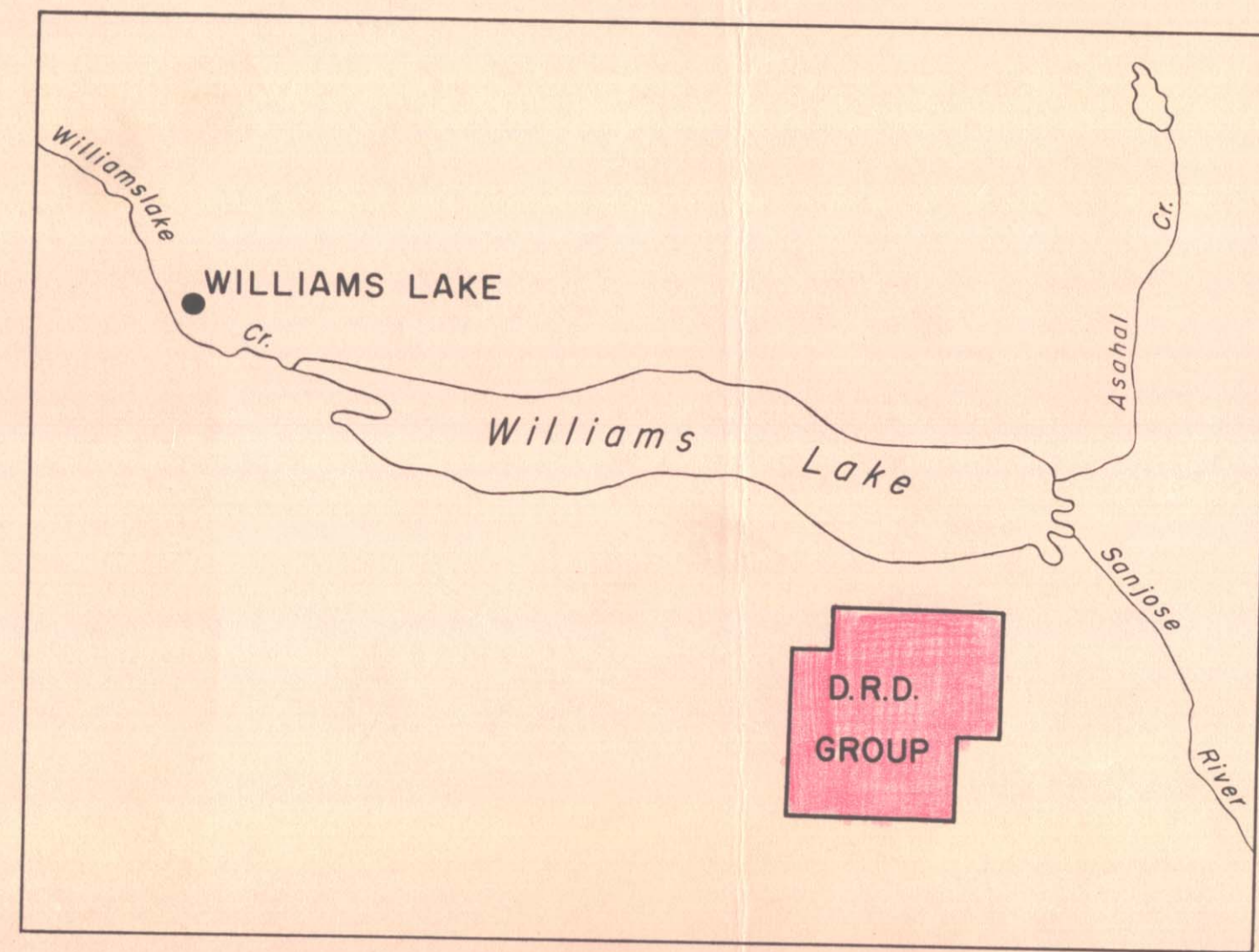
Geological Map  
THE D.R.D. GROUP  
ASBESTOS SHOWINGS AREA, WILLIAMS LAKE

CARIBOO MINING DISTRICT, BRITISH COLUMBIA  
Scale: 1 inch to 50 feet  
John L. Reid  
Oct 31, 1961  
H. J. Morgan  
Oct 31, 1961

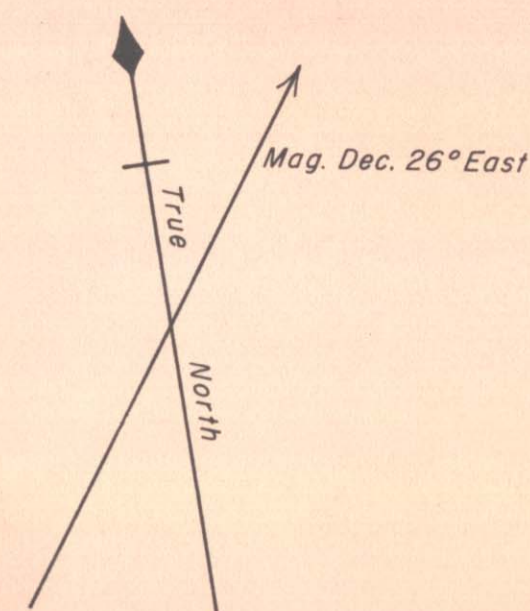
392

(M)





LOCATION MAP - SCALE 1 INCH TO 1 MILE

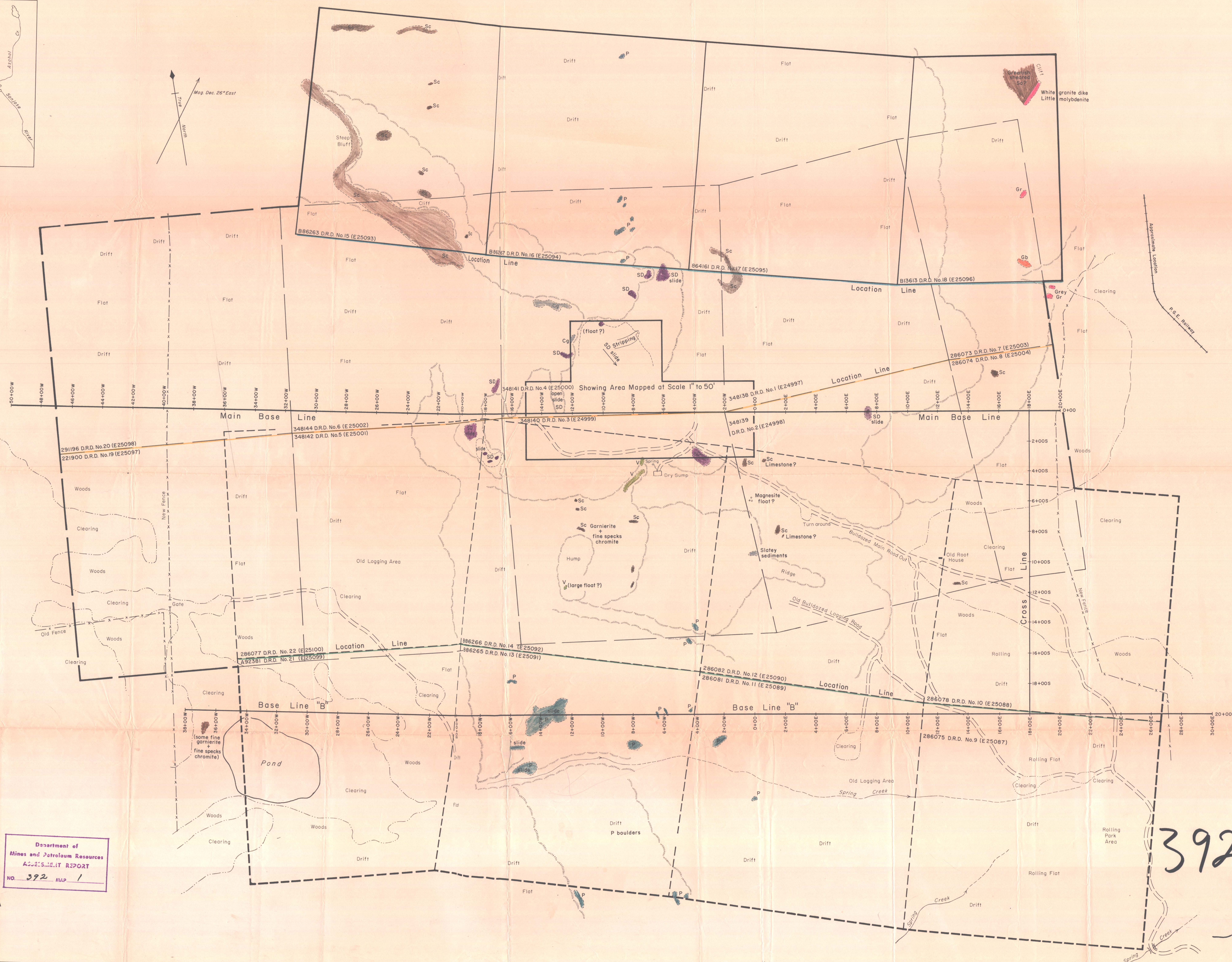


- LEGEND**
- Conglomerate (Cg) plus slaty sediments (Sl)
  - Basic volcanic lavas and tuffs (V)
  - Silica carbonate rock (Sc) (in places containing some garnierite plus chromite)
  - Granite (Gr)
  - Gabbro (Gb)
  - Peridotite (P)
  - Serpentinized dunite (asbestos bearing) (SD)

- SYMBOLS**
- Picket lines with stations
  - Cut out claim lines, with stripping
  - Claim boundaries (some overlapping)
  - D.R.D. No. 20 Claim name
  - 291196 Tag number on posts
  - (E25098) Claim number on claim map

Geology by John H. Low P. Eng.  
Harold F. Marrow P. Eng.  
Waino I. Lahti

July-August 1961



Geological Outcrop Map  
**THE D.R.D. GROUP**  
WILLIAMS LAKE

CARIBOO MINING DISTRICT, BRITISH COLUMBIA

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 392 MAP 1

Scale: 1 inch to 200 feet

H. F. Marrow  
Oct 31, 1961

392