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SUMMARY REPORT

on

DUNCAN LAKE MINERALS PROPERTY

Duncan Lake Area

Slocan Mining Division

Latitude: 50° 25' Longitude: ~~117°~~ 57'
116

82K 7W

by

E.A. LAWRENCE, P.Eng.

FILMED

WESTBANK, B.C.

12 December 1994

GEOLOGICAL BRANCH
ASSESSMENT REPORT

23,692

T A B L E O F C O N T E N T S

INTRODUCTION	-----	1
SUMMARY	-----	3
PROPERTY OWNERSHIP	-----	4
PHYSIOGRAPHY	-----	4
REGIONAL GEOLOGY	-----	6
GEOLOGY OF THE PROPERTY	-----	6
LOCATION AND ACCESS	-----	8
PREVIOUS WORK	-----	8
CURRENT WORK	-----	11
PROCEDURES	-----	12
RESULTS	-----	12
CONCLUSIONS	-----	13
STATEMENT OF COSTS	-----	14
STATEMENT OF QUALIFICATIONS	-----	15
REFERENCES	-----	16

SUMMARY REPORT

L I S T O F F I G U R E S

FIGURE				PAGE
1.	B.C. LOCATION MAP	8½x11	1"=140 miles	2
2.	PROPERTY LOCATION MAP	8½x11	1:50,000	5
3.	REGIONAL GEOLOGY	11x17	1"= 1 mile	In pocket
4.	TALCOSE ZONE/TOPO	22x34	1:5000	In pocket

INTRODUCTION
Summary Report
DUNCAN LAKE MINERALS PROPERTY
DUNCAN LAKE B.C.

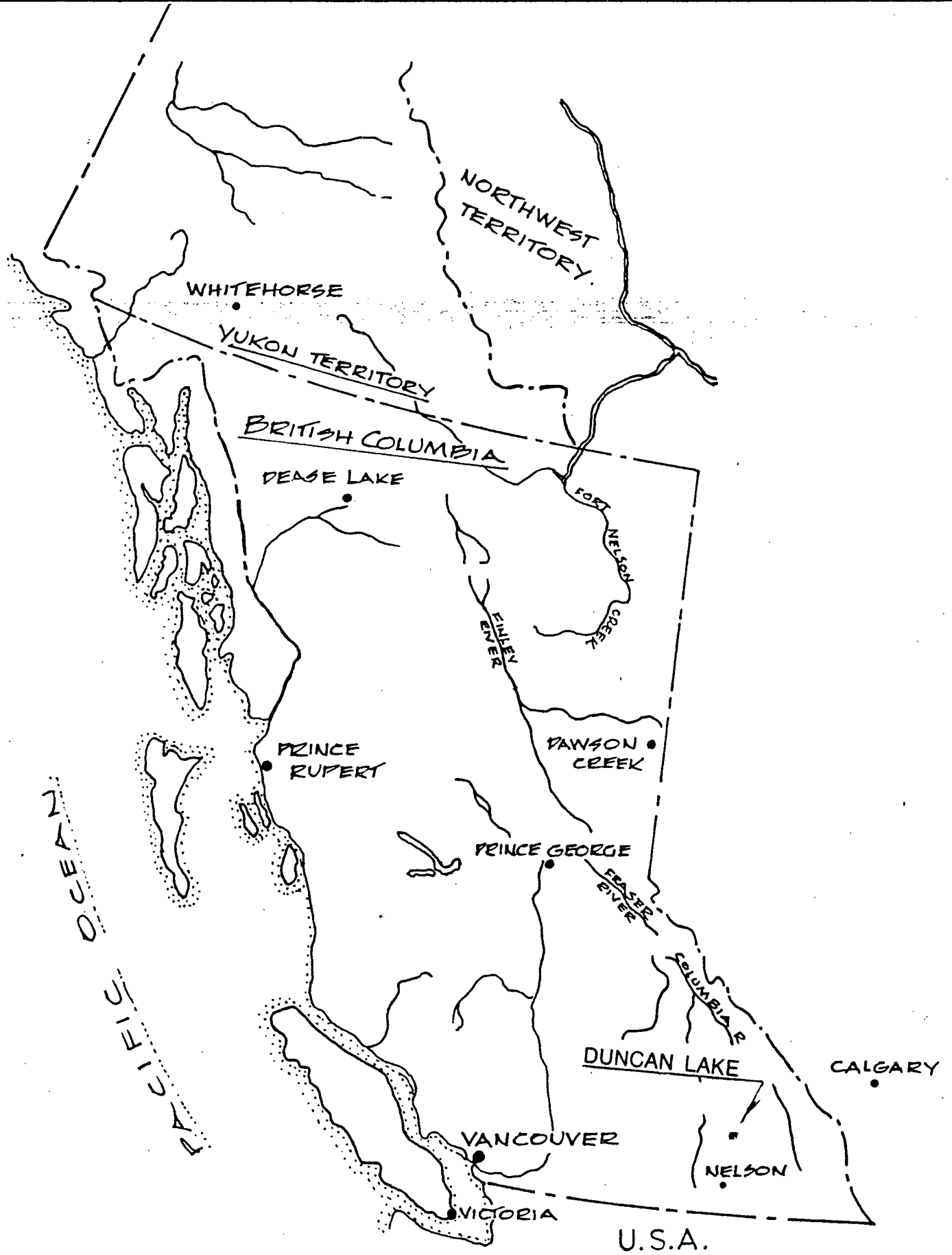
INTRODUCTION

The Duncan Lake Minerals (DLM) property consists of a linear series of twelve two-post mineral claims, following a north-westerly trending zone of 'talcose' rocks within schists of the Lower Index Formation of the Hamill group. This talcose zone is composed mostly of talc and magnesite, with occasional pods of nearly pure chlorite. Petrographic work suggests that the talc-magnesite component is an altered dunite (peridotite). This talcose zone averages about 35 meters in width and has been traced for over 3000 meters.

Economic interest centres on the industrial mineral potential for the property. Talc occurs as a mixture with magnesite, samples tested ran about 63% talc, and about 34% magnesite. Preliminary metallurgical work suggests that both a talc and a magnesite concentrate can be produced with basic milling methods.

Another interesting industrial mineral potential exists in carving stone products. However, this is a small potential due to limited markets. To date, the high grade chlorite pods have been the main source of interest.

This report covers the work carried out in 1994, as well as a summary of past work. In 1994, work consisted of 1) tying in an old road, and a new logging road, using chain and compass, 2) prospecting two areas of interest, 3) mapping the geology at a scale of 1:1200.



LOCATION MAP

SCALE: 1" = 140 MILES APPROX.



figure 1.

SUMMARY REPORT

DUNCAN LAKE MINERALS PROPERTY
DUNCAN LAKE AREA
KOOTENAI MINING DIVISION B.C.

SUMMARY

This property consists of twelve two-post mineral claims covering near vertical talcose bands trending north-westerly in the Duncan Lake area. These talcose bands contain material that has potential both for the industrial mineral and the carving stone markets. The overall talcose zone has been identified in outcrops from the shore of Duncan Lake where it is exposed in a road cut, to North Creek where it is found in an outcrop, a total strike length of about 3050 meters. It consists of one main vertical band with a width of 6 to 45 meters, striking north-westerly, and several narrower, less continuous vertical bands paralleling the main band.

That part of the talcose zone that has potential for the industrial mineral market consists mostly of a medium-grained mottled grey mixture of talc and magnesite with minor chromite magnetite and pyrite. The talc content varies from 52 to 75% in the samples tested. The magnesite content ranged from 21 to 47%. The minor minerals accounted for up to 2%.

The carving stone potential exists primarily in the near pure chlorite pods that occur occasionally throughout the zone.

Work carried out in 1994 consisted of 1) surveying an old road and a new road using chain and compass, 2) prospecting on DLM#6, -#7, and -#8, 3) geological mapping of areas of interest on DLM#6, -#7 and -#8, at a scale of 1:1200.

The work on DLM#6 was encouraging in that a new band of talcose rock was discovered. This new band, up to 20 meters in width, parallels the main band, about 120 meters east of its east limit. Two new locations of chloritic 'soapstone' were also found.

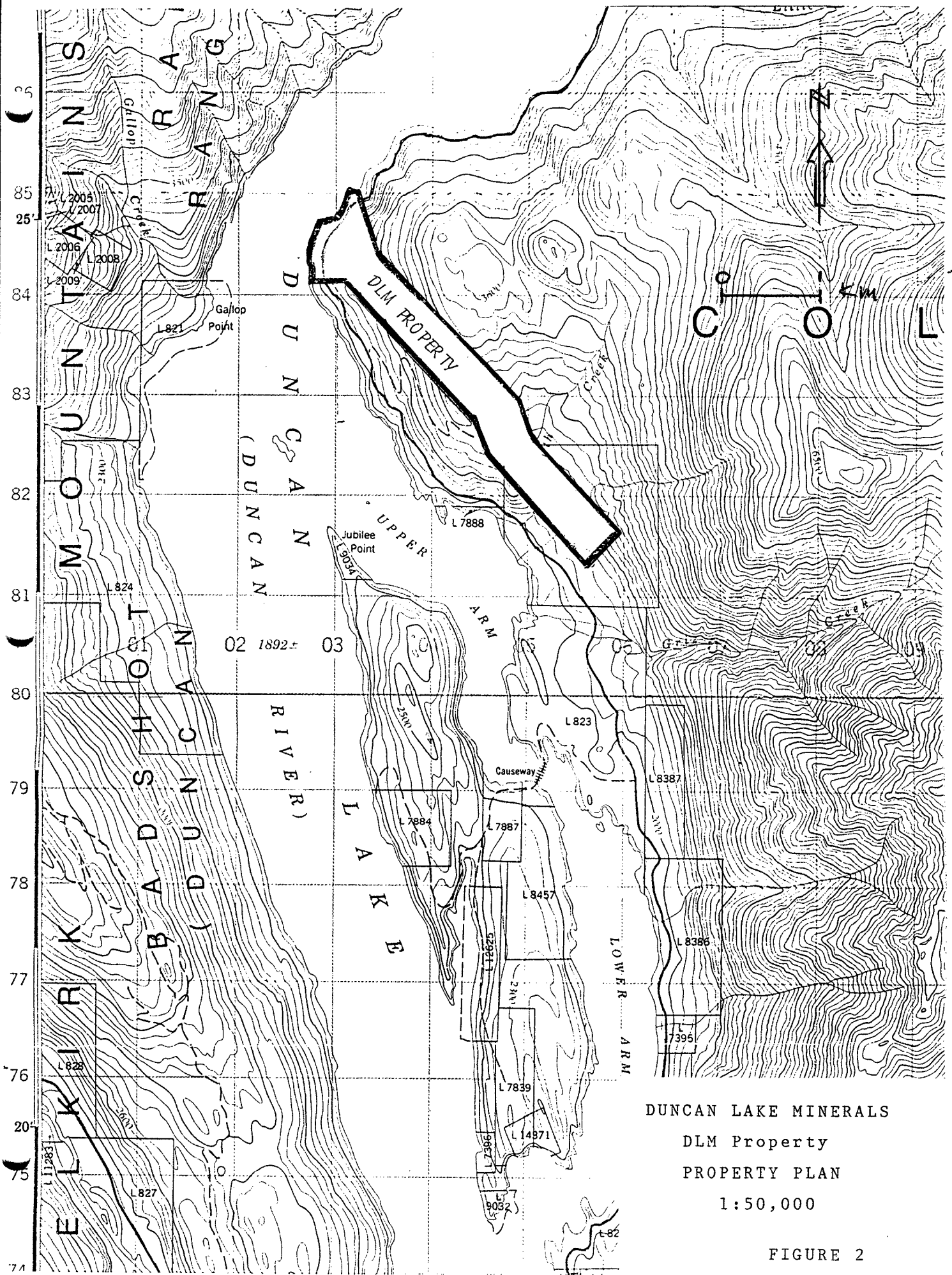
PROPERTY OWNERSHIP

The property consists of twelve two-post mineral claims as shown in Figure 2. Current status after 1994 assessment work is as follows:

CLAIM	OWNER	TENURE#	EXPIRY DATE
TED#1	EA LAWRENCE	256476	19 May 1998
TED#2	" "	257044	06 May 1996
DLM#1	" "	257064	10 July 1998
DLM#2	" "	257137	25 Oct 1998
DLM#3	" "	257138	25 Oct 1996
DLM#4	" "	257139	25 Oct 1996
DLM#5	" "	306918	08 Dec 1999
DLM#6	Mary Savage	306919	08 Dec 1997
DLM#7	" "	310028	04 June 1997
DLM#8	" "	310029	04 June 1997
DLM#9	" "	306921	08 Dec 1997
DLM#10	" "	306922	08 Dec 1999

PHYSIOGRAPHY

Duncan Lake is located in the north-south trending Purcell trench. The Purcell Mountains rise steeply to the east, some peaks reaching elevations of 10000 feet. The north end of the north-westerly trending claims terminate at the east shore of Duncan Lake. Following the claims to the south, the physiography is as described: very steep from the shore of Duncan Lake for about 250 meters, then a gently climbing bench for an additional 550 meters. From this point the slope steepens slightly until an elevation of about 1040 meters is reached, at about 2000 meters from the lake. From here the slope changes, dropping to about 820 meters at North Creek.



DUNCAN LAKE MINERALS
 DLM Property
 PROPERTY PLAN
 1:50,000

FIGURE 2

PHYSIOGRAPHY (continued)

Vegetation consists mainly of young evergreens. Logging has removed most of the mature timber in the central area of the property. No creeks flow through the north part of the claims. About 750 meters south of the Randy quarry, North Creek cuts through DLM#2 and #3.

REGIONAL GEOLOGY

The Duncan Lake area contains complexly folded sedimentary and volcanic rocks in a low to medium grade of regional metamorphism. These rocks belong to the Hamill group. Rare mafic dykes and amphibolite sills occur in the area. No plutonic rocks have been found in the area near the talcose zone. See Figure 3.

GEOLOGY OF THE PROPERTY

The economic interest of this property exists in a very distinctive linear feature- referred to as the 'talcose' zone- that occurs within the dark schists of the Index formation. There appears to be one 'main' band, that is continuous from Duncan Lake south-easterly to North Creek, a distance of about 3050 meters. This band varies from 6 to 45m in width, and is vertical. There are also parallel bands, which tend to be narrower, and less continuous. 'Talcose' is a local term referring to the mixture of talc and magnesite that occurs within this zone. Petrographic work indicates that these minerals are an alteration product of dunite(peridotite), which probably occurred as dyke material along the eastern limb of the Hauser syncline. The present rock assemblage is distributed approximately as follows, in descending order as determined from observed outcrop distribution:

- | | |
|----------------------|----------------|
| 1) talc-magnesite | over 90% |
| 2) serpentine masses | less than 10% |
| 3) chlorite pods | less than 1% |
| 4) pure talc bands | less than 0.1% |

GEOLOGY(continued)

As shown in the above table, the talc-magnesite mixture is by far the most prevalent assemblage within the talcose zone. It is this material on which the economic potential of the property depends. And of the two minerals, talc is ^{the} one of prime importance, with the possibility of a marketable magnesite-talc, or a magnesite byproduct.

As noted earlier, it is believed that the talcose minerals are the result of alteration of dunite dykes. This interpretation is also supported by the good continuity of the zone, the sharp contacts with the schists, and the occasional crosscutting features.

An effort was made in 1994 to find more outcrop of talcose material in the area where the zone crosses DLM#8. No significant new outcrop was found, therefore no changes have been made to the location of contacts as shown on Figure 4. No further follow-up was done on the isolated outcrop of chloritic rock found in a draw about 500 meters south of North Creek, on the north end of DLM#4. 1994 prospecting and subsequent geological mapping confirmed a new talcose band parallel to the east side of the main band, on the east side of DLM#6. This new zone is also vertical, and varies in width from 10 to 20 meters. Visual examination of hand specimens indicates that it is of similar composition to the main band. No microscopic work has been done yet. An outcrop of black 'soapstone' (chlorite) was found at the south end of the new band, about 20 meters above the logging road.

The work done this year also discovered a series of four outcrops of black 'soapstone' along the east limit of the main band, about 125 meters west of the new band described above. This series of outcrops has a total strike length of 200 meters, and appears to be parallel to the main band. It is possible that this is a series of pods, or it could be a

GEOLOGY (continued)

continuous pod. In either case, there is now an improved potential for a substantial volume of carving stone. Further work is needed to confirm quality, dimensions, and continuity. Initially this would involve detailed geology followed by excavating with a light backhoe.

LOCATION AND ACCESS

The property is accessible by a good all-weather logging road. This road branches east off Highway 31 immediately south of the Cooper Creek bridge, then carries on along the east shore of Duncan Lake. The 'Bluff' area is located at about the 28.5 km point on the Duncan Lake main logging road. The Central (formerly referred to as the Upper area) area and the Randy area are accessed by the North Creek logging road which branches off the main road at about the 26.6 km point. The Central area is reached by following the north trending road that branches off at the third switchback. The Randy area is reached by branching off to the left on the first road after the fifth switchback. The new zone on the east side of DLM#6 is accessed by following the North Creek road past the junction with the Randy quarry road, and then turning left at the next junction. Follow this road up the hill, bearing left at the next junction also. Follow this branch until the next junction, which consists of a short stub (20 meters) to the left, with the main road continuing on to the right. It is in the vicinity of this junction that the new talcose band was discovered. See Figure 4 for more accurate location.

PREVIOUS WORK

Earlier attempts to locate data from the exploration done in the '70s was unsuccessful. However in the summer of 1990 contact was made with Dennis Currie of Nelson, B.C., who was able to direct the author to Arnold Rennich of the Creston office of Imasco. Mr. Rennich confirmed that their company had done

PREVIOUS WORK (continued)

some work in the '70s, but unfortunately didn't have access to the reports.

It wasn't until 1987 that additional work was initiated on the property. In 1987, RPW Holdings, under the direction of the late Ted Savage of Taghum, B.C. removed a small tonnage of black soapstone from the Bluff area. Selected samples were sent to soapstone sculptors in the Northwest Territories for their evaluation. In early 1988 the author carried out preliminary geological evaluation work. This initially involved a chain and compass survey to tie in the showings at the Bluff area with those at the central area. Vertical angles were carried in order to determine rough elevation differences between these showings. Geologic mapping followed at a scale of 1:1200 in the immediate area of the reconnaissance line. 11 short -0.30 meter-holes were drilled throughout the map area to test for hardness beyond the surface weathering. With the light gas drill used, it was not possible to penetrate unless the rock was near the hardness of talc, thereby giving a simple means to differentiate between talc and schist. Detailed mapping at a scale of 1:120 was done on the Bluff area exposures from station A to station C. The exposures along the road in the vicinity of station A were cleaned up utilizing a back-hoe/frontend loader and a truck. Two loads were taken to Nelson for sorting, cleaning and sampling.

Hand-trenching on the Main Band at the Bluff area near station B was done to further expose a section of higher grade material. A few hundred pounds were removed for specimens samples and test work.

In 1989 the author showed the property to an associate of a consulting firm, that has had experience with industrial talc. Following this examination it was decided to obtain samples to determine if any serious contaminants exist that could cause marketing problems. The Main zone was targeted for this study in that more background information was avail-

PREVIOUS WORK (continued)

able on this zone. Cuttings were collected from 6 foot percussion holes, drilled to crosscut the formation. These were composited and analyzed for asbestos, and also were analyzed with whole rock ICP and 27-element ICP. In addition to the above, a large sample was obtained by drilling and blasting. This provided a fresher sample than was previously available. About 35 tons of rock was broken which yielded a number of good specimens, and a representative sample from the Bluff area of the Main band. Two 6-foot holes were also drilled into an area of serpentine at the Bluff area, providing a good sample of cuttings from this material.

In addition to the Bluff area work, cuttings and a large rock sample were obtained from the old quarry near station x-8. The drilling and blasting in both areas also provided some good information on the feasibility of extracting soapstone using controlled blasting techniques.

A very rusty 15 inch band of sulphide, located beside the road near station X-10, was sampled and analyzed for gold. Only 5 ppb gold was detected. No harmful contaminants were detected in any of the other samples.

Quarrying for 'black' soapstone at both the Bluff and the Randy quarry in 1990 and 1991 resulted in much more exposure of this variety. This has resulted in a better understanding of the shape, continuity, internal variations and size range possibilities of the black soapstone, which in turn has helped to plan for future quarrying. Experience gained has helped design a more productive extraction method. A 9900 foot (3000m) transit-chain survey was carried out to tie together the various areas of the deposit. Field data was plotted on 1:1200, 1:2400, and 1:6000 scale plans.

PREVIOUS WORK (continued)

A preliminary metallurgical Flotation test confirmed that a 95% talc con can be produced with a simple process on the talcose material. Recovery was 59.24%. A byproduct grading 67% magnesite and 32% talc also was produced.

Testing of two cutting techniques for quarrying soapstone were evaluated in 1991. This work established that the 'saw-cutting' method using a tungsten-carbide equipped chain, was a viable and practical way of quarrying in a deposit of this type and scale. A 3082m chain and transit survey, commencing at the south end of the open survey completed in 1990, established a closed loop for the southern part of the property. This substantiated earlier plotting of out crops, and also tied in claim locations, physical work, and road locations. Calculations and plotting of this new data was completed in 1993.

New 1:5000 base plans with a 10m contour interval were prepared, using a more accurate and current data base. New survey data was also plotted on these plans. Previous geologic data was transferred to the new plans. Reconnaissance mapping on the DLM3 to 7 claims improved the confidence in previous projections. A new occurrence of chlorite similar to that found in the quarries was found on DLM#4

CURRENT WORK

No physical work was carried out in 1994. Surveying and geology was completed as follows. A 120 meter chain and compass survey was done to tie in an old logging road in the west-central area of DLM#9. This road passes close to a talcose outcrop located west of the Main band. Another hip-chain and

CURRENT WORK (continued)

compass survey was completed on a new road that commences in the south-central area of DLM#6(5170N,6990E), and continues northerly for about 600 meters to 5680N,6800E.

Reconnaissance mapping was done along this road, and resulted in the discovery of the new talcose band described earlier. Further prospecting and mapping in this area located additional outcrops of talcose rock at 5560N,6690E. Another outcrop was found west of the road described above at 6685N, 5570E. New occurrences of black 'soapstone' (chlorite) were found between 5165N,6950E and 5275N,6810E. All new survey and geologic data were plotted on current plans.

PROCEDURES

Road surveys- the road located on DLM#9 was tied in to the existing transit survey station R30. The method of location was by chain and compass. The road located on DLM#6 was tied in to the geologic mapping work using hip-chain and compass.

Prospecting and geology- prospecting and geology was done on 1:1200 field sheets, using compass, hip-chain and altimeter for location. Location checks were made when the traverse came near a previously surveyed feature (claim post, survey station, road etc). Outcrop within 10 meters of the traverse was identified and plotted. No microscopic or analytical work was done on any material found this year.

RESULTS

Road survey- 750 meters of road that was not previously on base plans was surveyed and plotted.

Geology - no significant changes to previously plotted contacts resulted from the work done on DLM#8. The work on DLM#6

RESULTS (continued)

on the other hand, resulted in several significant changes. A well-defined band of talcose rock (talc-magnesite) was located about 125 meters east of the east contact of the main band, this new band was exposed in a road cut and in an outcrop. It is similar in composition and appearance to the main band, being a medium to coarse grained grey-buff material with a hardness varying from 1 to 3. About 200 meters to the north, an outcrop of talcose material was found in an area previously thought to be schist. It may be the northern continuation of the band described above.

In addition to the new talcose band noted above, five additional outcrops of black 'soapstone' (chlorite) were found in the east area of DLM#6.

CONCLUSIONSRoad survey

Roads that were not previously plotted, are now on the property base plans, improving the reliability of location reference points.

Prospecting/geology

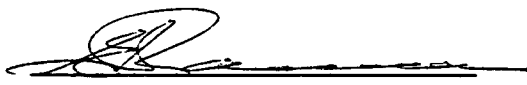
Locating the new band of talcose rock on DLM#6 has further increased the industrial mineral potential in an area with good road access and favourable topographic characteristics. Further detailed mapping and analyses of samples will be needed to fully evaluate this find. Prospecting to locate possible north and south extensions is also planned.

New outcrops of black 'soapstone' close to existing roads has improved the economic potential for the carving stone aspect of the property also. Further prospecting and detailed geological mapping in this area is warranted, with the possibility of revealing more occurrences of carvable stone.

Mapping in the area near DLM#7 initial post, indicates that the talcose band is narrower here than in other areas. However, due to minimal out crop, definite contacts are difficult to establish here.

STATEMENT OF COSTS
DUNCAN LAKE MINERALS PROPERTY
1994

FIELD WORK	GEOLOGIST	2 days @ \$300/d	\$ 600.00
	ASSISTANT	2 days @ \$ 80/d	160.00
OFFICE WORK	GEOLOGIST	4½ days @ \$275/d	1237.50
	(preparing geol. plans and report)		
	TYPE AND ASSEMBLE REPORT		55.00
VEHICLE	1021 kms @ \$0.30/km		306.30
MEALS			55.00
PRINTS AND PHOTOCOPIES			45.75
OFFICE SUPPLIES			21.60
TELEPHONE/FAX			29.93
<u>FILING FEE</u>			<u>160.00</u>
TOTAL COST			<u>\$2671.08</u>


E.A. LAWRENCE, P. Eng.

12 December 1994

STATEMENT OF QUALIFICATIONS

I, E.A. Lawrence, P.Eng., of 3590 Wiig Road, Westbank, B.C.

DO HEREBY CERTIFY

- 1) That I am a graduate of the University of British Columbia with a B.A.Sc. in Geological Engineering (1959).
- 2) That all of the technical work carried out on the property in 1994 was done by me.
- 3) That I am a registered Professional Engineer in the Province of British Columbia.



E.A. Lawrence, B.A.Sc., P.Eng.

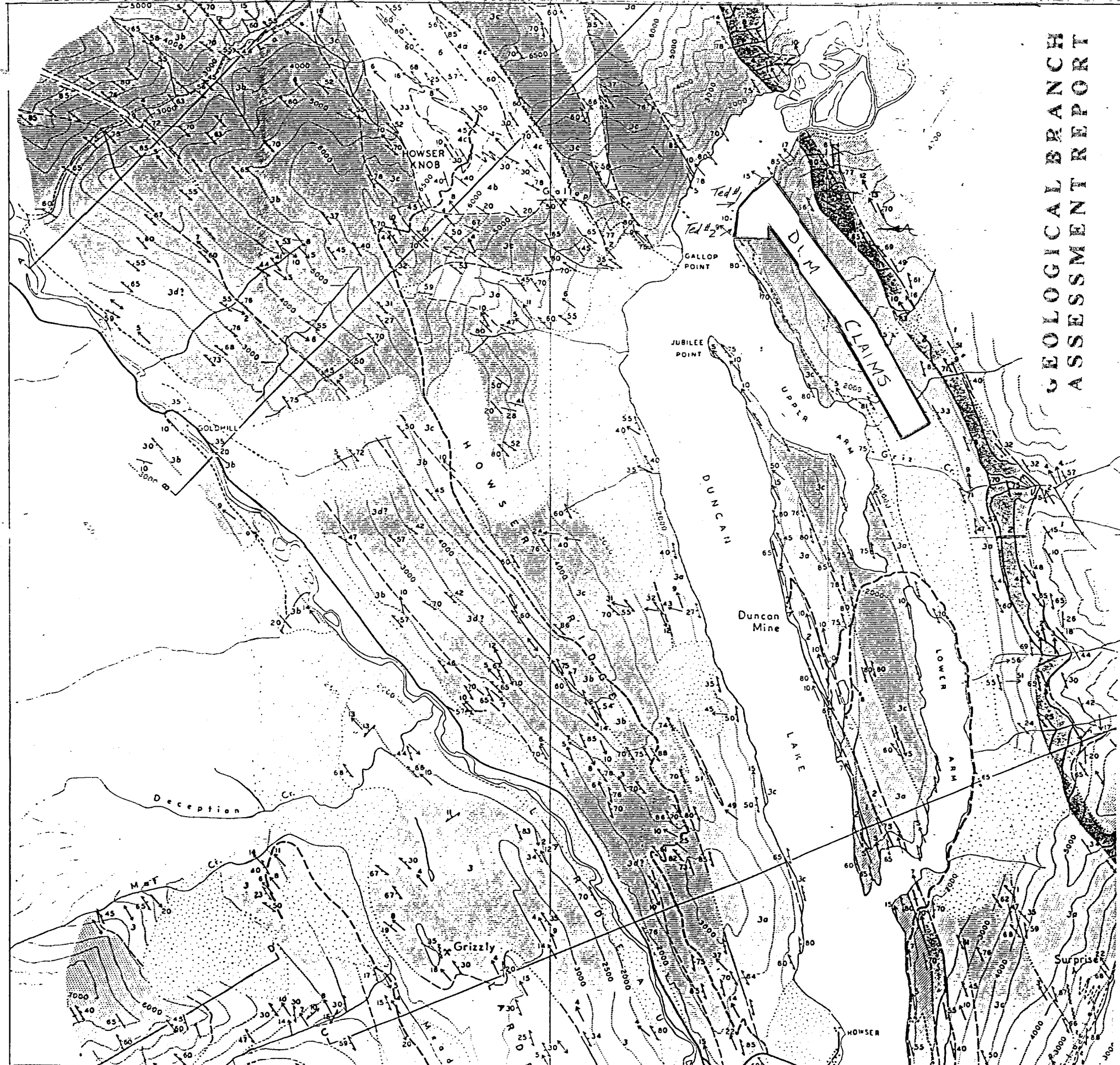
Dated:

This 12th day of December 1994
at Westbank, B.C. in the Province
of British Columbia.

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Duncan Lake Minerals Property
Duncan Lake, B.C.

T.K.



GEOLOGICAL BRANCH
ASSESSMENT REPORT

23,692

Figure 3.
GEOLOGICAL MAP
OF THE
DUNCAN LAKE AREA

Geology by James T. Fyles 1960-1963

LEGEND

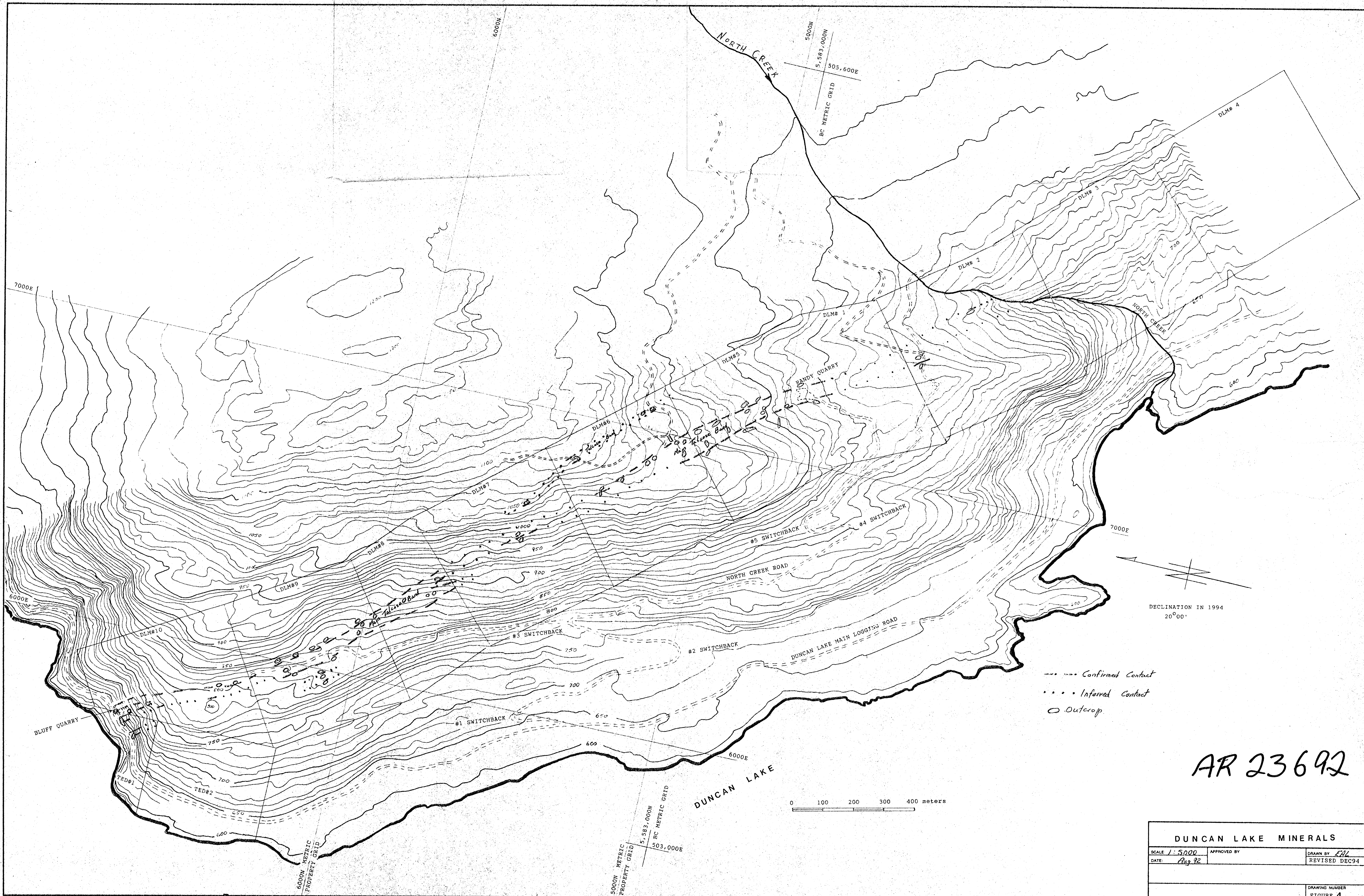
— · — · — · — · — ·	GEOLOGICAL CONTACT
— · — · — · — · — ·	defined, approximate, assumed
~~~~~	FAULT
~~~~~	defined, approximate, assumed
— — — — —	ATTITUDE OF FOLIATION
— — — — —	prominent foliation planes undifferentiated
— — — — —	inclined, vertical
— — — — —	ATTITUDE OF BEDDING
— — — — —	inclined, vertical
— — — — —	ATTITUDE OF CLEAVAGE AND SCHISTOSITY
— — — — —	inclined, vertical
— — — — —	Plunge of lineations and axes of minor folds
— — — — —	Adit
X	Prospect
Y	Marble quarry
XQ	Main road
— — — — —	Side road
— · — · — · — · — ·	Trail
— — — — —	Building

Scale 0 1 2 Miles
Contour interval 500 feet

LEGEND

□ (stippled)	Areas of little or no outcrop.
□ (dotted)	BROADVIEW FORMATION
□ (dotted)	Green and grey quartzite, greywacke, grit and fine grained mica schist.
□ (horizontal lines)	JOWETT FORMATION
□ (horizontal lines)	Fine grained green chlorite schist.
□ (vertical lines)	TRIUNE, AJAX, AND SHARON CREEK FORMATIONS
□ (vertical lines)	4c- dark grey to black argillite, 4b- massive grey quartzite, 4a- grey and black quartzite.
□ (diagonal lines)	INDEX FORMATION
□ (diagonal lines)	Interlayered fine grained green and grey schist, minor limestone and quartzite.
□ (diagonal lines)	UPPER INDEX: mainly fine grained green schist.
□ (diagonal lines)	3d- chlorite schist.
□ (diagonal lines)	3c- green mica schist and garnet mica schist.
□ (diagonal lines)	LOWER INDEX: mainly fine grained grey schist.
□ (diagonal lines)	grey and white limestone, brownish quartzite, 3b- minor green and grey schist.
□ (diagonal lines)	3a- Fine grained grey mica schist and garnet mica schist.
□ (diagonal lines)	BADSHOT AND MOHICAN FORMATIONS
□ (diagonal lines)	Grey and white crystalline limestone and dolomite and interlayered limestone and mica schist. -
□ (diagonal lines)	MARSH ADAMS FORMATION
□ (diagonal lines)	Grey and brown micaceous quartzite, mica schist and white quartzite.
□ (diagonal lines)	Amphibolite

To accompany B.C. Department of Mines and Petroleum Resources Bulletin 49, 1964



AR 23692

DUNCAN LAKE MINERALS		
SCALE 1:5000	APPROVED BY	DRAWN BY ELL
DATE Aug 92		REVISED DEC94
		DRAWING NUMBER
		FIGURE 4