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**Gold Commissioner's Office
VANCOUVER, B.C.**

SUMMARY REPORT

on

DUNCAN LAKE MINERALS PROPERTY

Duncan Lake Area

Slocan Mining Division

Latitude: 50° 25' Longitude: 117° 57'

by

E. A. LAWRENCE, P.Eng.

WESTBANK, B.C.
15 July 1997

25 107

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SUMMARY REPORT

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INTRODUCTION

Summary Report

DUNCAN LAKE MINERALS PROPERTY

DUNCAN LAKE B.C.

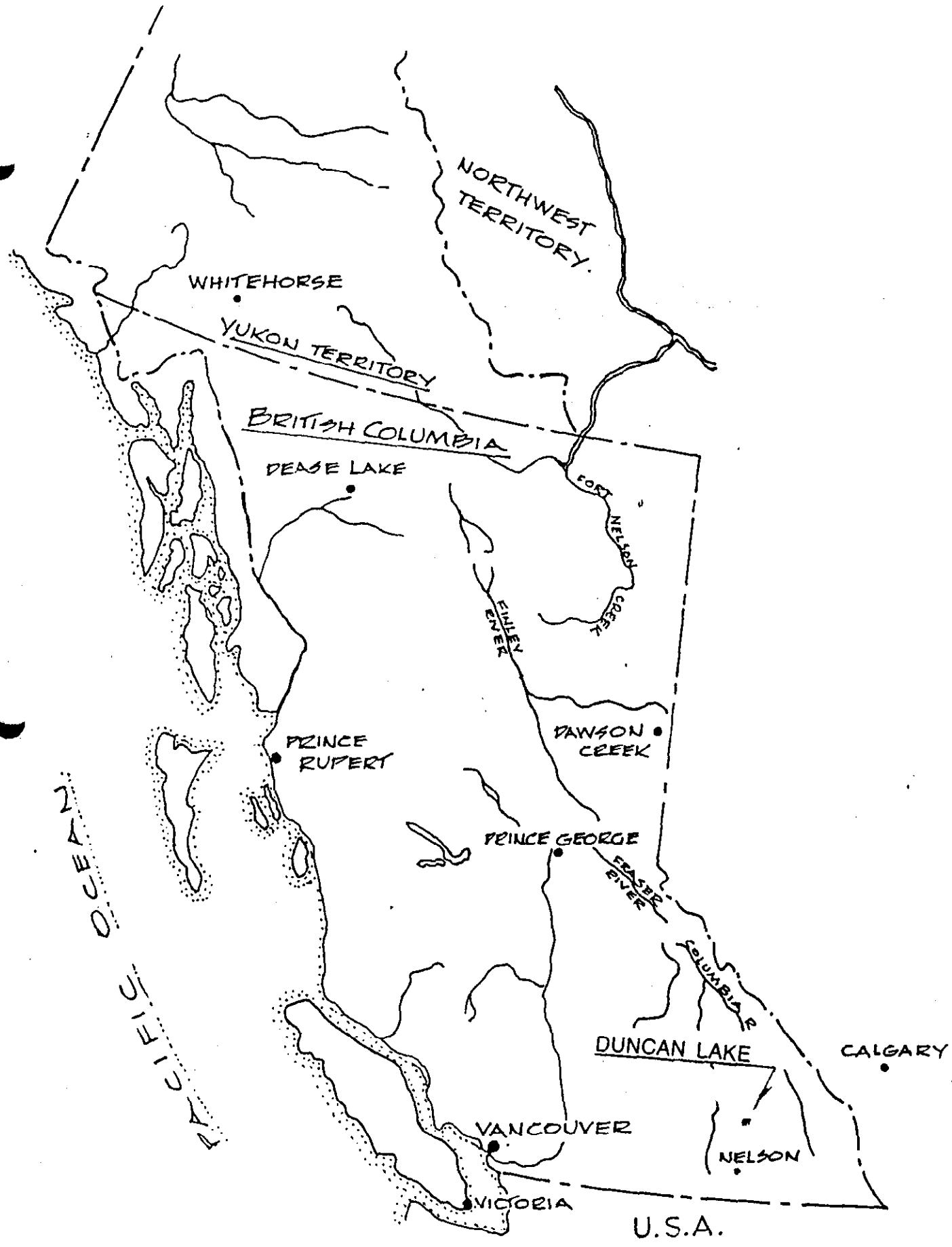
INTRODUCTION

The Duncan Lake Minerals (DLM) property consists of a linear series of nine 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 centers 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 has a small potential due to limited markets. To date, the high grade chlorite pods have been the main source of carving stone.

This report covers the work carried out in 1997, as well as a summary of past work. In 1997, work consisted of mapping the southern extension of the new zone (The East band) found in 1994.



LOCATION MAP

SCALE: 1" = 140 MILES APPROX.



figure 1.

SUMMARY REPORT

DUNCAN LAKE MINERALS PROPERTY

DUNCAN LAKE AREA

SLOCAN MINING DIVISION B.C.

SUMMARY

This property consists of nine 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. One of these parallel bands was discovered in 1994 on the East side of the main band in the central area of the property. This band - the 'East' band - is up to 15 meters thick, and has been traced for 400 meters. That part of the talcose zone has potential for the industrial mineral market, and 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 1997 consisted of prospecting the east side of DLM #5 MC, and the south east corner of DLM #6 MC, locating a southern extension of the 'East Band'. (See Figure 4) Outcrops located were mapped and plotted on Figures 5 and 6.

PROPERTY OWNERSHIP

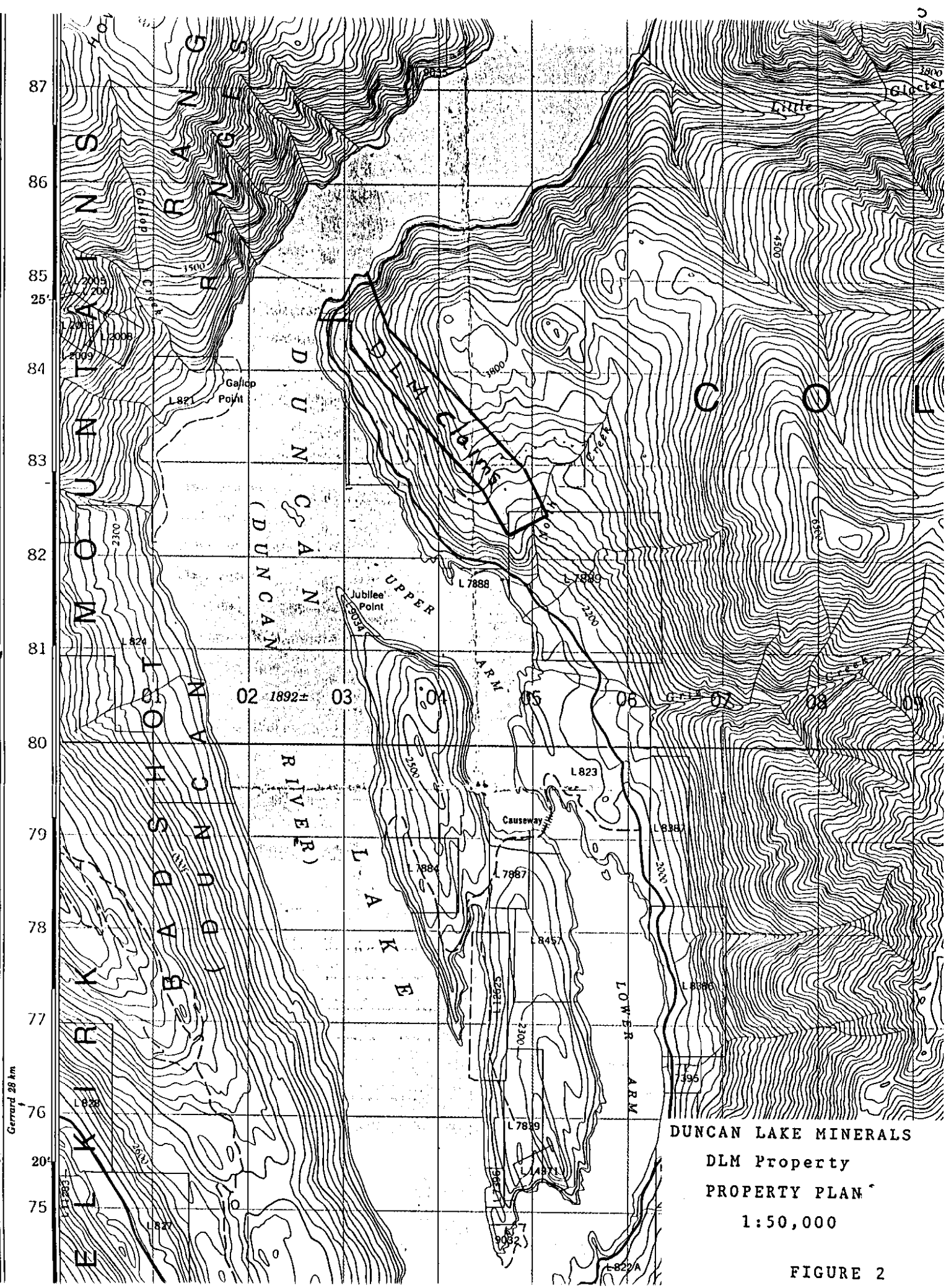
The property consists of nine two-post mineral claims as shown in Figure 2. Current status after 1997 assessment work is as follows:

<u>CLAIM</u>	<u>OWNER</u>	<u>TENURE#</u>	<u>EXPIRY DATE</u>
TED#1	EA LAWRENCE	256476	19 May 2000
DLM#1	EA LAWRENCE	257064	10 July 2000
DLM#2	EA LAWRENCE	257137	25 Oct 1999
DLM#5	EA LAWRENCE	306918	08 Dec 2000
DLM#6	Mary Savage	306919	08 Dec 1998
DLM#7	Mary Savage	310028	04 June 1998
DLM#8	Mary Savage	310029	04 June 1998
DLM#9	Mary Savage	306921	08 Dec 1998
DLM#10	Mary Savage	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 reach elevations of over 3000 meters. The north end of the north-westerly trending claims terminates 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.

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



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

FIGURE 2

REGIONAL GEOLOGY

The Duncan Lake area contains complex 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 intrusives 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 6m 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 within the talcose zone 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%

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. Of the two minerals, talc is the one of prime importance, with the possibility of a marketable magnesite byproduct and a mixed magnesite-talc 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.

1994 prospecting and subsequent geological mapping confirmed a new talcose band -- now referred to as the East band-- parallel to the east side of the main band, on the east side of DLM#6. The East band is also vertical, and varies in width from 5 to 15 meters. Visual examination of hand specimens indicate that it is of similar composition to the main band. No microscopic work has been done. An outcrop of black 'soapstone' (chlorite) was found at the south end of the new band, about 20 meters above the logging road.

Figure 3
**GEOLOGICAL MAP
 OF THE
 DUNCAN LAKE AREA**

Geology by James T. Fyles 1960-1963

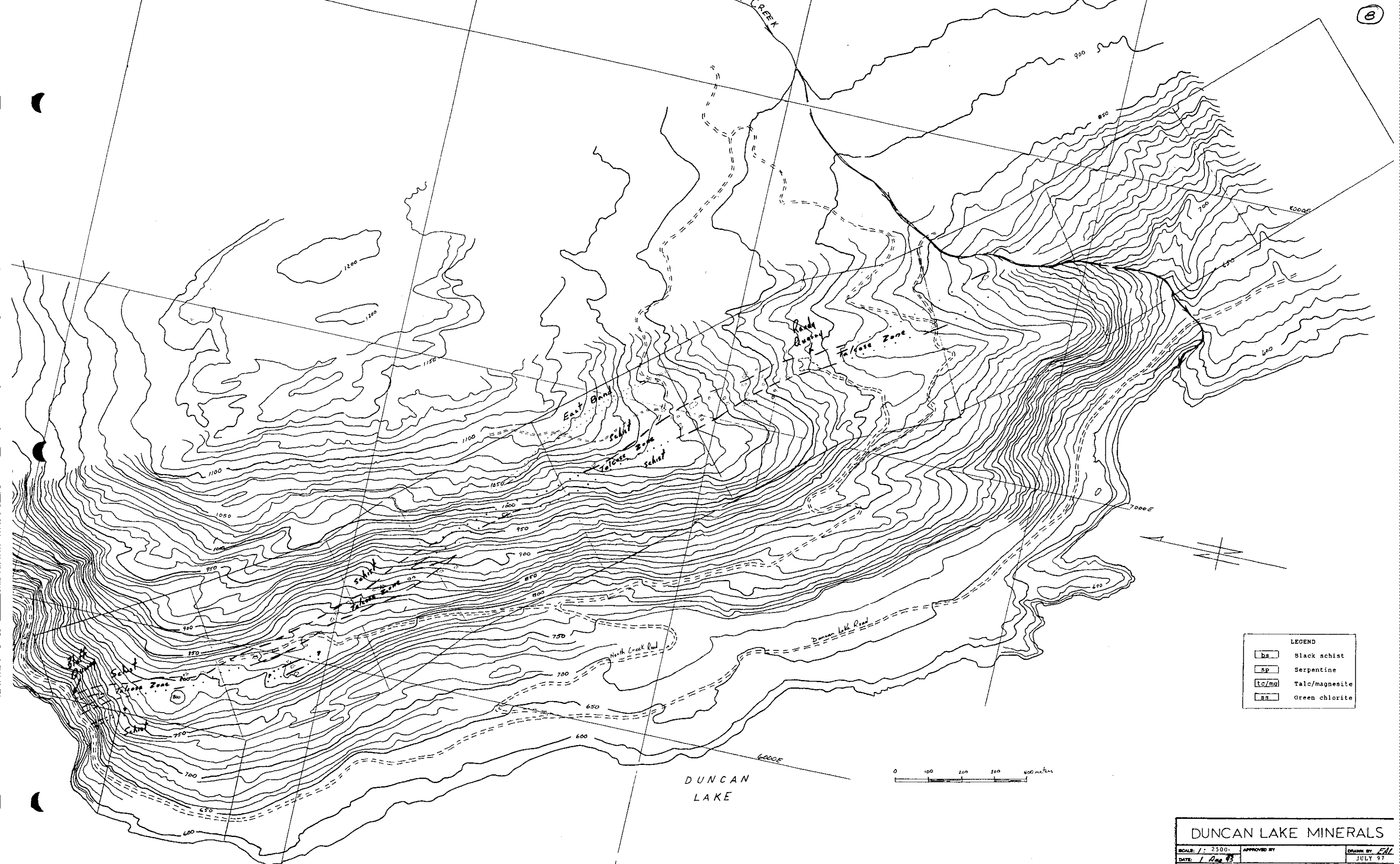
- LEGEND**
- GEOLOGICAL CONTACT defined, approximate, assumed
 - ~~~~~ FAULT defined, approximate, assumed
 - - - - ATTITUDE OF FOLIATION prominent foliation planes undifferentiated inclined, vertical
 - - - - ATTITUDE OF BEDDING inclined, vertical
 - - - - ATTITUDE OF CLEAVAGE AND SCHISTOSITY inclined, vertical
 - Plunge of lineations and axes of minor folds
 - > Adit
 - X Prospect
 - XO Marble quarry
 - == Main road
 - - - Side road
 - Trail
 - Building

Scale 0 1 2 Miles
 Contour interval 500 feet



- LEGEND**
- Areas of little or no outcrop.
 - BROADVIEW FORMATION**
 - 6 Green and grey quartzite, greywacke, grit and fine grained mica schist.
 - JOWETT FORMATION**
 - 5 Fine grained green chlorite schist.
 - TRIUNE, AJAX, AND SHARON CREEK FORMATIONS**
 - 4 4c- dark grey to black argillite. 4b- massive grey quartzite. 4a- grey and black quartzite.
 - INDEX FORMATION**
 - 3 Interlayered fine grained green and grey schist, minor limestone and quartzite.
 - UPPER INDEX: mainly fine grained green schist.
 3d- chlorite schist.
 3c- green mica schist and garnet mica schist.
 - LOWER INDEX: mainly fine grained grey schist.
 grey and white limestone, brownish quartzite,
 minor green and grey schist.
 - 3e Fine grained grey mica schist and garnet mica schist.
 - BADSHOT AND MOHICAN FORMATIONS**
 - 2 2a Grey and white crystalline limestone and dolomite and interlayered limestone and mica schist.
 - MARSH ADAMS FORMATION**
 - 1 Grey and brown micaceous quartzite, mica schist and white quartzite.
 - Amphibolite

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



LEGEND

ba	Black schist
sp	Serpentine
tc/mg	Talc/magnesite
gs	Green chlorite

DUNCAN LAKE MINERALS		
SCALE: 1: 2500	APPROVED BY	DRAWN BY: <i>ELL</i>
DATE: <i>1 Aug 93</i>		JULY 97
TALCOSE ZONES		
		DRAWING NUMBER: <i>Fig 4</i>

A series of four outcrops of black 'soapstone' was also discovered in 1994 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 continuous pod.

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 28.5km 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 26.6km 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 East band on the east side of DLM#5 and 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 Figures 4 and 5 for more accurate location.

PREVIOUS WORK

Earlier attempts to locate data from the exploration done in the 1970's were 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 some work in the 1970's but unfortunately did not have access to the reports.

It was not 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. Eleven 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, penetration was not possible 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/front-end 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 available 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 (chlorite) 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. In 1990, transit-chain open 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.

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 outcrops, 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.

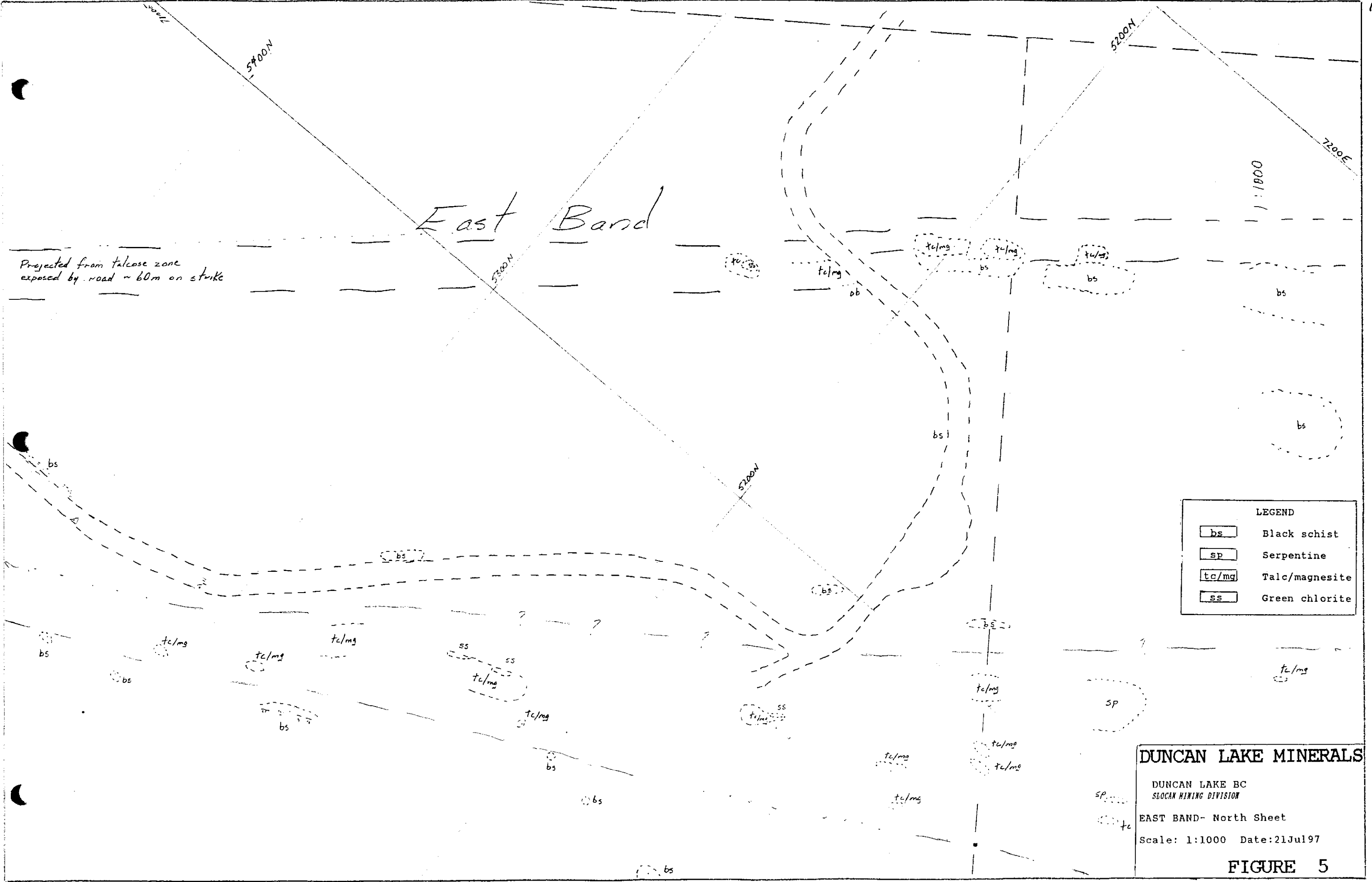
No physical work was carried out in 1994. Surveying and geology was completed as follows. A 120 meter chain and compass survey was done to tie in an old logging road in the west-central area of DLM#9. This road passes close to a talcose outcrop located west of the Main band. Another hip-chain and compass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

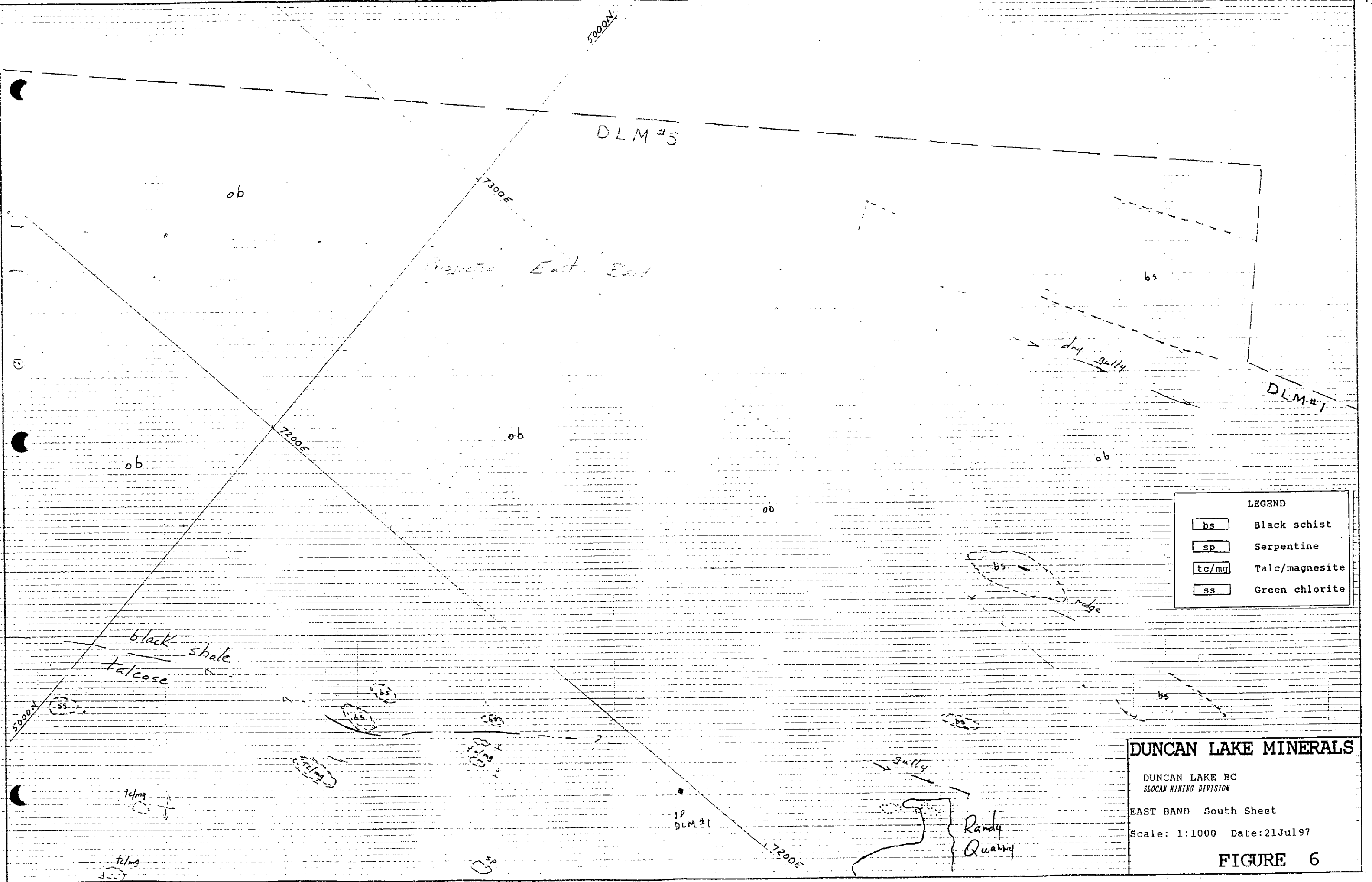
CURRENT WORK

The objective of the 1997 seasons work was to determine if the East Band continued south of its previous most southerly exposure (5222N, 7070E). Working south from this point located a talc-magnesite outcrop along the projected strike, at 5183N, 7115E. No talcose outcrops were found southerly along strike beyond this point to the 5000N coordinate. Overburden may be obscuring them here.

Another traverse was run east of the Randy quarry (~4800N), to about 7450E. No talcose outcrops were found here, but the projected location along strike could be located along an overburden-filled gully. Only black schist was found in this area.

Checking northerly along strike up to the 5000N coordinate revealed no outcrop either. Overburden may not be deep here, and trenching would be feasible to locate the southern extension if any.





DUNCAN LAKE MINERALS
 DUNCAN LAKE BC
 SLOCAN MINING DIVISION
 EAST BAND - South Sheet
 Scale: 1:1000 Date: 21 Jul 97
FIGURE 6

PROCEDURES

Geology was located on 1:1000 field plans by tying in to the DLM#⁵MC Final Post in the northern area, and by tying in to survey station X-45, located near the Randy quarry, for the traverse east of the quarry. Chain and compass was used during the traverses to establish locations. New data was plotted on 1:1000 plans.

RESULTS

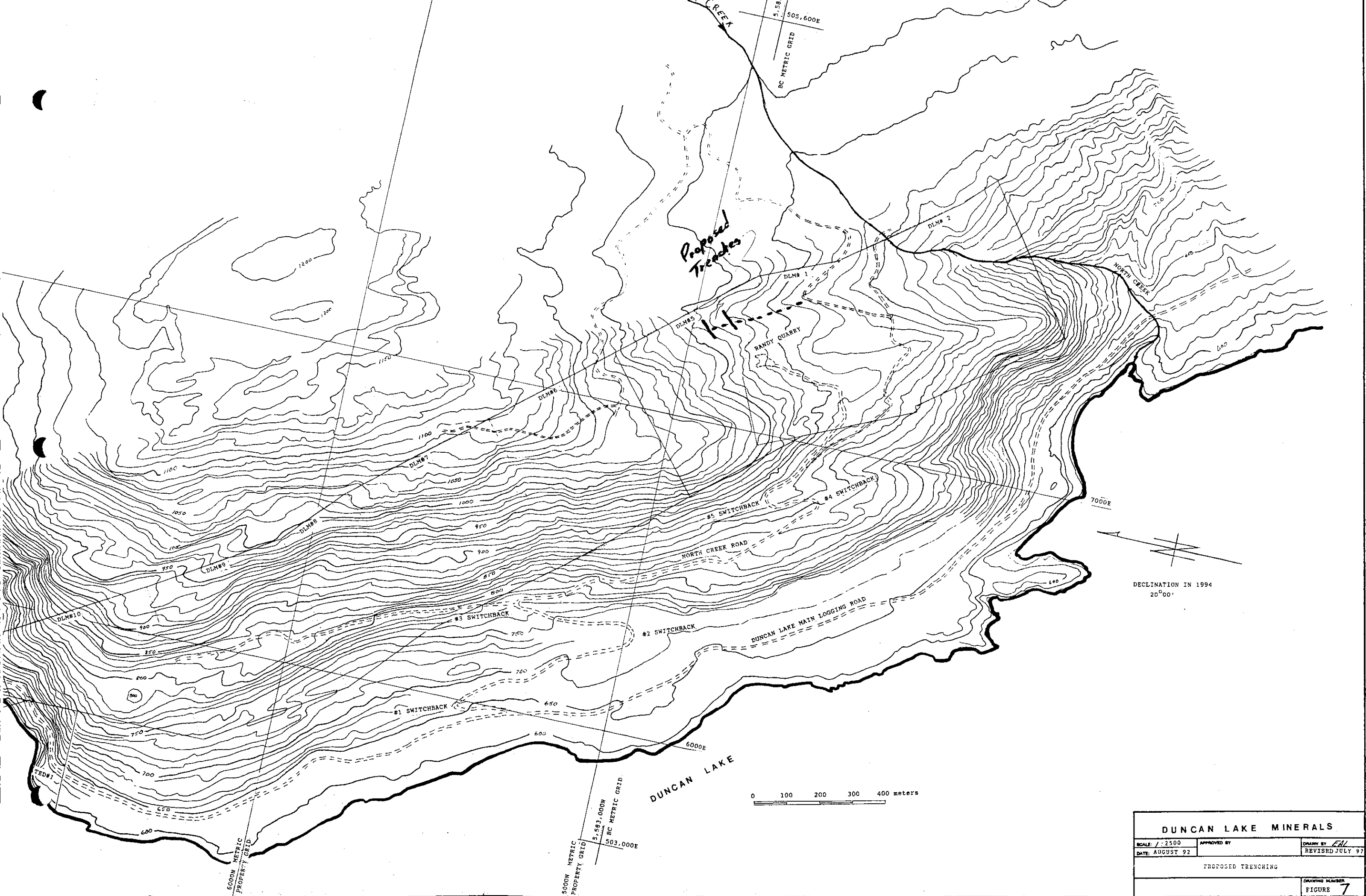
Geology

More geological data was collected in the area east of the Main band, between the Randy quarry and the upper logging road. This confirmed the existence of the East band for at least 85m south of its previous most southerly location.

CONCLUSIONS

The southern continuation of the East band is confirmed to at least 5183N, 7115E. If it extends further south to the area east of the Randy quarry it would greatly enhance the economics of extracting the black 'soapstone'. It is therefore justified to carry out the work needed to confirm this. It is proposed that two narrow trenches be dug approximately perpendicular to the projected strike of the zone, spaced about 70 meters apart. The first trench would cut the projected zone at about 4925N, 7325E. Access for the excavator would be from the branch road that leads to the 'upper logging area' where the East band was discovered. (See Figure 7) Due to the gentle slopes in this area, the excavator would not require a road to gain access to the trench areas. Minimal tree removal would be required here as well.

Further prospecting and mapping of other areas of interest should be continued as funding permits. This should be done in an area by area approach as has been done in the past seasons, until the entire area of talcose potential is covered.




DUNCAN LAKE MINERALS		
SCALE: 1:2500	APPROVED BY	DRAWN BY <i>EDL</i>
DATE: AUGUST 92		REVISED JULY 97
PROPOSED TRENCHING		
		DRAWING NUMBER
		FIGURE 7

STATEMENT OF COSTS

DUNCAN LAKE MINERALS PROPERTY

1997

FIELD WORK - Geologist	1.5days @	\$300/day	450.00
OFFICE WORK - Geologist	1.5days @	\$300/day	450.00
VEHICLE	1096km@	\$0.35/km	383.60
MEALS	2 days @	\$ 16/day	32.00
ACCOMODATION			n/c
<u>TYPE AND ASSEMBLE REPORT</u>			<u>70.00</u>
DRAFTING			48.00
PRINTS/PCS			45.00
<u>PHONE/FAX</u>			<u>19.00</u>
<u>RECORDING FEE</u>			<u>90.00</u>
<u>TOTAL COST</u>			<u>\$1587.60</u>




 E.A. Lawrence P.Eng
 21 July 1997

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 1997 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 23rd day of July 1997
at Westbank, B.C. in the Province
of British Columbia.

REFERENCES

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