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# REPORT ON

THE BEN CLAIM GROUP LIARD MINING DIVISION BRITISH COLUNBIA

- for -

### DICTATOR MINES LTD. (N.P.L.)

534 - 789 West Pender Street Vancouver 1, B.C.

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James M. Dawson, M.Sc., P. Eng.

VERSATILE MINING SERVICES LTD. P.O. Box 6C9 Kamloops, B.C.

October 7th, 1969

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### INTRODUCTION:

This report has been prepared at the request of Mr. John H. Hachey, managing director of Dictator Mines Limited (N.P.L.). It describes the results of a property examination carried out on the Ben group of claims, Liard Mining Division, British Columbia.

The writer spent six days on the property, from September 1st to September 6th, 1969, accompanied by Messrs. John Hachey and Jack Hamilspeck of Smithers, B.C. Reconnaissance geologic mapping was carried out; a 500 foot grid being used as control where possible. Chip samples and selected samples were taken at a number of showings. The location and assay results of these are shown on figure 148-2.

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### **PROPERTY**:

The property consists of 39 full-sized claims as follows:

CLAIM NAME	RECORD NO.	TAG NO.	RECORD DATE
	ай м. — мал		
Ben #1	unknown	22101M	
to	at this	to	September 9, 1969
Ben #39	time	22139M	

Owner: Dictator Mines Ltd. (N.P.L.) 534 - 789 West Pender Street Vancouver 1, B.C.

#### LOCATION AND ACCESS:

The property is located in northwestern British Columbia, about 46 air miles southwest of the village of Telegraph Creek. The approximate geographic co-ordinates are  $57^{\circ}$  25' north latitude,  $131^{\circ}$  59' west longitude. It is situated at the headwaters of Decker Creek, about 7 miles above its mouth which is at the Stikine River.

3.

Access to the property can be gained by helicopter from Stuart, B.C., about 130 miles to the south-southeast. Float equipped aircraft can land on the Stikine River near the mouth of Decker Creek; however, helicopter is needed for the 7 mile distance from there to the property.

During the summer months, there is a weekly riverboat service between Telegraph Creek and Wrangle, Alaska, at the mouth of the Stikine River. Heavy equipment and weekly provisions could be transported to the mouth of Decker Creek in this manner during the field season.

On the property itself, most of the favourable zone is accessible, except for that which is covered by glaciers. Ropes have to be used in crossing glaciers as there are many thin shelves and crevasses near the edges of the ice.

#### PHYSIOGRAPHY AND CLIMATE:

The topography in the general area is typical of the Coast Range with rugged mountains dropping off sharply to U-shaped valleys. The Ben claims cover a small valley of one of the tributaries of Decker Creek as well as parts of the complimentary ridges. Maximum relief is in the order of 1,500 feet, the old camp being at 3,800 feet A.S.L. and the quartz monzonite ridge at about 4,700 feet A.S.L. Glacial ice occupies the saddle or divide between Decker Creek and the Pendant Glacier as well as parts of the ridges to the southwest and northeast.

4.

With the exception of the main valley and some of the lower parts of subsidiary gulches as well as the ice-covered areas, the property is mostly bare rock. It is practically devoid of vegetation, having only a few small patches of grass and caribou moss.

The climate is typical Coast Range, the annual precipitation being between 75 and 150 inches. Except during June, July, and August, precipitation in the mountains is generally snow. The property is free of non-permanent snow about July 1st, although work could begin on some portions of the property as early as June 15th. Field work can generally continue until about September 15th.

This part of the Coast Range is notorious for bad flying weather and low lying fog banks are present at least 75% of the time during the summer months.

### HISTORY:

The property was discovered by prospecting crews of Southwest Potash Corporation during the summer of 1961.

2.

During the 1962 field season, an exploration programme consisting of geological mapping, rock trenching, and sampling was carried out. According to assessment reports, 1,810 feet of trenches 4 feet wide by 4 feet deep were blasted; however, many of the trenches are discontinuous and less than 2 feet deep.

In August, 1963, four EX-size diamond drill holes totalling 196 feet were drilled.

No further work was carried out by Southwest Potash (American Metals Climax Inc.) and the last claims lapsed in the summer of 1968.

#### GEOLOGICAL SETTING:

The property is underlain by quartz monzonitic rocks which have intruded an older diorite mass. Younger dikes of quartz diorite porphyry intrude the quartz monzonite at a few places.

### Geological Setting (con't.)

The quartz monzonité has been arbitrarily divided into three categories: (1) unaltered, medium-grained, pinkish quartz monzonite, (2) a gradational zone which contains areas which are relatively unaltered as well as highly fractured and sheared rusty lenses, (3) a zone of intensely fractured and silicified, felsitic quartz monzonite.

The first type is a relatively fresh, pinkish rock which is part of a large quartz monzonite pluton, about 15 miles long from north to south and at least 10 miles wide. Minor molybdenite and pyrite have been noted in several quartz veins in this rock.

The second type lies intermediate between the fresh quartz monzonite and the highly altered zone near the diorite contact. Much of it is quartz monzonite which has been sericitized to some degree but there are lenticular northwest-trending zones of highly fractured, limonite stained rock containing veins and stringers of quartz. Small amounts of molybdenite and pyrite are frequently found within these zones.

The third type is an intensely fractured, silicified and sericitized rock which is buff to orange-brown in colour and fine grained and felsitic in character. The surface is usually limonite

### Geological Setting (con't.)

stained and black manganese stains are found in some areas. Quartz veining and pervasive silicification is common in some zones which appear to be northwest-trending. This is the rock type in which the most interesting molybdenum mineralization is found.

7.

The contact between the quartz monzonite and diorite trends northwesterly and is exposed on one of the outcrops protruding through the glacial ice. Blocks of dioritic material are found in the quartz monzonite and some veins of quartz monzonitic material penetrate the diorite for short distances.

The diorite is considered to be the oldest intrusive rock in the area (Kerr, 1948). Some parts of it are typical medium-grained, greenish diorite but there appear to be gneissic or foliated phases. These latter rocks may represent older volcanics or sediments which have been partly digested by the diorite proper.

A number of narrow (2 to 20') dikes of "quartz diorite porphyry" were noted on the property, particularly on the northeast portion; however, only the largest ones have been plotted on the map. These rocks are fine-grained, grey-green in colour with phenocrysts of plagioclase and quartz eyes. Sometimes phenocrysts of hornblende are found. Similar rocks were described by Kerr (1948) and named quartz diorite porphyry.

### STRUCTURAL GEOLOGY:

The diorite-quartz monzonite contact appears to be a zone of weakness, in the vicinity of which considerable fracturing and brecciation has taken place. Much of the rock appears to have been ground up and recemented by silica and felsitic material. A number of faults, or shear zones were noted trending north-northwesterly.

Two main directions of fracturing or jointing were noted: the strongest one trending north 45° to north 30° west; dips are variable but most appear to be moderately northeast. A second set of fractures and (?) faults trend north to north 15° east and are vertical or dip steep east or west. Most of the later "quartz diorite porphyry" dikes trend in this direction.

### MINERALIZATION:

Molybdenite mineralization, sometimes associated with pyrite is found over a large area--primarily in the altered, felsitic quartz monzonite. Small amounts are found in quartz veins in rusty shear zones in the less altered types of quartz monzonite.

### Mineralization (con't.)

In the altered, felsitic quartz monzonite, molybdenite is found as disseminations and tiny veinlets in veins and stockworks of quartz, and as thin fracture coatings, particularly where the rock has been pervasively silicified. The molybdenite is invariably fine-grained and many quartz veins have a bluish cast as a result of finely divided MoS<sub>2</sub> included in them. Minor amounts of ferrimolybdite were seen at a few places.

3.

The main zone of interest is at least 4,500 feet long (the extension is covered by glacial ice) and up to 1,500 feet wide. The central part of this zone is also largely covered by ice. Within this zone there are many "showings" or areas where molybdenite seems to be concentrated. A number of these showings were trenched by Amax and chip samples were cut by the writer. Selected character samples were also taken at a number of locations. These "showings" generally consist of a few high grade molybdenite-bearing quartz veins as well as many tiny mineralized quartz stringers and fracture coatings. They may vary from a couple of square feet to areas as large as 200 feet by 200 feet.

The largest such showing is located on a nunatak in the northwest corner of Ben #14. This showing was tested with a 200 foot trench and two short diamond drill holes by Amax. A large percentage of this outcrop is mineralized by tiny stringers and fracture coatings of MoS<sub>2</sub>.

### Mineralization (con't.)

Four 20 foot chip samples taken by the writer assayed: .017%, .019%, .028% and .062% MoS<sub>2</sub> respectively. However, higher grade material is found locally within this outcrop.

At the edge of the glacier near the southwest side of Ben #2, a mineralized area about 150 feet by 75 feet was noted. Underneath an ice shelf, much better mineralization was discovered. Only a small portion of this was sampled. A  $3\frac{1}{2}$  foot chip sample assayed 0.048% MoS<sub>2</sub> and a selected sample assayed 0.164% MoS<sub>2</sub>. In this same area, many well mineralized boulders of float were found under and at the edge of the glacial ice. A selected sample from this float assayed 2.80% MoS<sub>2</sub>.

A number of other chip and selected samples were taken (see figure 148-2) and for the most part values were low; however, many interesting showings could not be sampled because the bedrock is polished smooth by glacial action.

### ECONOMIC POTENTIAL:

In the writer's opinion this property has excellent exploration potential particularly in the area near the nunatak (northwest corner of Ben #14) where the surrounding bedrock is covered by a thin layer of glacial debris. In addition, much of the area between this nunatak and the showings near the boundary of Ben #10 and Ben #1 is covered by glacial ice. Mineralization has been found on the north, south, and east sides of this ice and boulders of well mineralized material have been found in the streams flowing out from under the ice.

The area at the edge of the ice near the boundary of Ben #1 and #2 is fairly well mineralized over an area 150 feet by 75 feet and extends for an unknown distance under the ice. Prospecting under the edge of the glacier at this point has revealed large numbers of well mineralized boulders.

The very large area of mineralized rock and the fact that molybdenite tends to occur in stockworks of quartz as well as fracture coatings indicate the possibility of finding zones of much better grade mineralization in areas of the property as yet unexplored. (i.e. under the ice and drift-covered areas and at depth).

#### SUMMARY AND CONCLUSIONS:

4.

5.

- The Ben group of 39 full-sized claims is located at the headwaters of Decker Creek about 46 air miles southwest of Telegraph Creek in the Liard Mining Division, northwestern British Columbia.
- 2. The property was discovered in 1961 and some exploration work including geological mapping, rock trenching, and limited diamond drilling was carried out during the 1962 & 63 field seasons by Southwest Potash Corporation.
- 3. Molybdenite mineralization occurs in quartz veins and stockworks and as fracture coatings over a large area, but is more abundant in a zone of highly fractured, felsitic quartz monzonite which is at least 4,500 feet long and up to 1,500 feet wide. A large portion of this favourable zone is covered by glacial ice.

Chip samples taken from old trenches all assayed less than .05% MoS<sub>2</sub> over 10 to 20 foot widths; however, a number of other showings could not be sampled because the bedrock has been polished smooth by glacial action. Selected samples of float assayed as high as 2.80% MoS<sub>2</sub>.

The property is considered to have excellent exploration potential and further work is justified.

12.

### **RECOMMENDATIONS:**

1.

3.

It is recommended that further work be carried out as follows:

- An accurate base map at a scale of 500 or 400 feet to the inch be prepared from existing air photographs.
- 2. An accurate 500'or 400'grid be laid out over the accessible parts of the property. This should be expanded to a 200 foot or even a 100 foot grid over the main zone of interest.
  - The property should be prospected and mapped at a scale of 500 or 400 feet to the inch. Detailed mapping (200 or 100 feet to the inch) should be done on the main zone of interest.
- Rock trenching and sampling should be carried out on the best mineralized areas as outlined by the geologic mapping.

5. At least 2,500 feet of diamond drilling should be carried out to test the mineralization at depth. This should be done after the mapping and sampling are completed and the trends and controls of the mineralization are better understood.



Respectfully submitted, VERSATILE MINING SERVICES LTD.

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James M. Dawson, M.Sc., P. Eng., Geologist

### APPENDIX A

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# ESTIMATED COST OF RECOMMENDED PROGRAMME

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Appendix A (con't.)

	Carr	ied Forward	\$ 42,810.00
7.	Diamond Drilling 2,500 feet at \$12.0	00 per foot	30,000.00
8.	Assaying 500 samples @ \$5.00	)	2,500.00
9.	Consulting fees		1,500.00
10.	Miscellaneous:		
	Preparation of maps and reports	s 500.00	
	Travel expenses	1,500.00	
	Phone and misc. overhead	200.00	
	Accounting fees	300.00	2,500.00
•	Sub	total	79,312 - 89,310.00-
an an	Con	tingency 0 10%	7931 -8,931.00-
	Total estimated co	st of Phase I	87241 \$ 98,241.00

ROUNDED

87,000 \$ 98,000.00

# AMMENDMENTS

## RECOMMENDATIONS & ESTIMATED COSTS

#### RECOMMENDATIONS:

#### PHASE I

It is recommended that:

- An accurate base map at a scale of 400 feet to the inch be prepared from existing air photographs.
- 2. An accurate 400-foot grid be laid out over the accessible parts of the property. This should be expanded to a 100-foot grid over the main zone of interest.
- 3. The property be prospected and geologically mapped at a scale of 400 feet to the inch. Detailed mapping (100 feet to the inch) should be done on the main mineralized zone.
- Rock trenching and chip or channel sampling be carried out across the best mineralized areas as outlined by the geologic mapping.

### PHASE II

After the mapping and sampling are completed and the trends and controls of the mineralization are better understood, at least 2,500 feet of diamond drilling should be carried out to test the mineralization at depth.

### PHASE III

Contingent upon the success of Phases I and II, a programme consisting of detailed drilling and bulk sampling should be undertaken to fully evaluate the potential of the mineralized zone.



Respectfully submitted, VERSATILE MINING SERVICES LTD.

anus M. Dawson

Geologist

December 31st, 1969

PHASE III:

The costs for this phase of the programme would be largely dependant on the results of Phases I and II and an accurate estimate cannot be given at this time.

# APPENDIX B

# ASSAY RESULTS

geologists o geochemists o analysts o assayers

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BONDAR-CLEGG & COMPANY LTD.

1500 PEMBERTON AVENUE, NORTH VANCOUVER. B.C.

Phone 988-5315

### CERTIFICATE OF ASSAY

то	Versatile Lining Ser	rvicos,	Atin: Mr. J.M.	Dawson	Roport Number:	A-29-312	
	Pox 609,				Dato Reo'd:	Sopt. 12, 1	1969
· · · · · · · · · · · · · · · · · · ·	Kauloops, B. C.		······		Dato Complt'd:	Sept. 15, 1	.969

MARKED GOLD SILVER VoS2 TOTAL VAL PER TON Ounces Ounces Value Percent Percent Percent Percent Percent Percent (2000 LBS. Percent per Ton per Ton per Ton .023 .062 .043 .164 12 traco 12 .0'12 .007 .008 .006 .00% ,021 .095 -30 element spectrographie 1:1:01:0 .017 はつうつ .019

NOTE: Rejects retained two weeks Pulps retained three months unless otherwise arranged

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Gold & Silver values reported on these sheets have not been adjusted to compensate loses and gains inherent in fire assay methods.

Gold calculated at \$

geologists o geochemists o analysts o assayers

### BONDAR-CLEGG & COMPANY LTD.

1500 PEMBERTON AVENUE, NORTH VANCOUVER, B.C.

Phone 988-5315

### CERTIFICATE OF ASSAY

то	Versatile Mining Services,	Attention	lir. c	J.M.	Dawson	Report Number:	A-29-1	363	
 	P. O. Don (0),	и в 1				Dato Rec'd:	Sept.	24,	196
	Kauloops, F.C.					Date Complt'd:	Sopt.	26,	196

I have by revealing that the following are the results of assays made by us upon the herein described oro samples.

MARKED	Percent	MARKED	Percent	MARKED	Percent	
35/18/1 35/105 35/106 35/107	. 63 2.80 .1/2 1.50		70			
			-			

NOTE: Rejects retained two weeks Pulps retained three months



# BONDAR-CLEGG & COMPANY LTD.

1500 PEMBERTON AVENUE, NORTH VANCOUVER, B.C. Phone 988-5315



SAMPLE NO: 44948

# APPENDIX C

REFERENCES

Appendix C:

1. Kerr, F.A. (1948)

Lower Stikine and Western Iskut River Areas, British Columbia; G.S.C. Memoir 246.

- Annual Report of B.C. Minister of Mines and Petroleum Resources (1962) page 7.
- 3. Annual Report of B.C. Minister of Mines and Petroleum Resources (1963) page 8.

4. Personal Communication: Mr. J.H. Hachey Smithers, B.C.

# APPENDIX D

### . WRITER'S CERTIFICATE



### CERTIFICATE

- I, JAMES M. DAWSON, of Kamloops, B.C., hereby certify that:
- I am a geologist residing at 972 Jasper Avenue, Kamloops and employed by Versatile Hining Services Ltd., of P.O. Box 609, Kamloops, B.C.
- I am a graduate of the Memorial University of Newfoundland--B.Sc. (1960), M.Sc. (1963), and a member of the Association of Professional Engineers of B.C. I have practised my profession for five years.
- 3. I am the author of this report which is based on a five dayexamination of the Ben Claims.
- 4. I have no beneficial interest in Dictator Mines Ltd. or of the Property discussed in this report, nor do I expect to receive any.



VERSATILE MINING SERVICES LTD.

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James M. Dawson, M.Sc., P. Eng., Geologist

October 7th, 1969 Kamloops, B.C.

CONTRACTORS OF MINERAL EXPLORATION, ASSESSMENT AND DEVELOPMENT PROJECTS

# APPENDIX E

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MAP