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	Pocket

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PROPOSED EXPLORATION & DEVELOPMENT PROGRAM

SCRANTON MINE

SLOCAN MINING DIVISION, BRITISH COLUMBIA

for

DAVID MINERALS LTD. (N.P.L.)

INTRODUCTION

The purpose of this report is to outline a proposed exploration and development program on the Scranton property, as a continuation of the proposed program in the writer's report dated 25 October, 1977. which to date has been only partially completed. Results of this work indicate that a revision in the program is necessary, although the objectives remain the same, namely exploring the downward extension of the Grandview/Sunrise Basin vein structures and developing sufficient ore to place the Company's mill at Ainsworth, B.C., back in operation.

The proposed program is divided into two phases, implementation of the second phase being dependent on the results obtained in the first. Phase I includes continued exploration of the Grandview/Sunrise Basin structures and testing below the 5700 Level of known mineralized shoots in the West Sunset vein zone, which provided the most recent production above the 5700 Level. Direct and indirect cost figures for drifting, cross-cutting and diamond drilling, used in Phase I, are based on actual costs experienced from 15 March - 30 June, 1978.

SUMMARY

1. The results of recent work have been outlined in the writer's Progress Report, Scranton Mine Exploration & Development, Period 1 March - 22 July, 1978.

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All of the work was carried out from the 5700 Level workings. The drift has been advanced 727 feet, and for the last 270 feet has been within a zone of strong multiple shearing and faulting, alteration, mineralization and narrow quartz veining, believed to be the downward extension of the Grandview/Sunrise Basin vein structures. Diamond drill stations have been cut at approximately 150 foot intervals along the drift and the 8300 crosscut has been extended 100 feet into the west wall, near the south face of the drift, as a drill base to permit diamond drill exploration of the zone above the level. The total drifting, crosscutting and equivalent slashing footage was 958. Diamond drilling amounted to 1708 feet with 10 holes completed. Economic mineralization has not been encountered in the drifting, although in the last 270 feet several narrow sheared quartz veins, cutting the drift at low angles, were mineralized with pyrite, galena and sphalerite, and returned interesting values in gold, silver, lead and zinc. Investigation of these veins outside the drift section is warranted. The most important diamond drill intersection was in hole 78-7 which encountered what is believed to be the main structure 130 feet south of the present face across an estimated true width of 7.0 feet. A 3.1 foot core length (estimated 2.2 foot true width) within this zone assayed 0.38 ounces/ton gold, 11.20 ounces/ton silver, 15.70 $\frac{1}{2}$ /ton lead and 20.60 $\frac{1}{2}$ /ton zinc.

Three up-holes were drilled from 8300 crosscut to check the zone about 100 feet above the level over a strike length of approximately 125 feet. The most southerly hole, 78-9, intersected the main zone about 90 feet above hole 78-7, but assays were low. Hole 78-8, on line with the crosscut did

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not reach the zone due to poor ground conditions. Hole 78-10 encountered a 1.2 foot mineralized section within the main structure 60 feet north of the crosscut, but assays are not yet available.

2. There has been practically no exploration of the known mineralized zones below the 5700 Level on the West Sunset vein system, although these shoots above the 5700 Level provided the intermittent production from 1969 to 1978. There are at least three shoots, the average grades of which were calculated by W. M. Sharp, P.Eng., and presented in his August 1975 report for Mr. A. J. Cassidy, and tabulated herewith

Length Feet	Width Feet	Gold oz/ton	Silver oz/ton	Lead %/ton	Zinc %/ton
227	2.86	0.151	5.70	6.10	4.40
45	2.30	0.220	3.84	3.50	4.87
66	2.25	0.175	4.57	3.70	4.15

3. Exploration above the 5900 Level through to surface as proposed in the October 1977 report has been deleted, as mining in this area during the latter stages of production in January and February 1978 showed a marked weakening and change of attitude of the West Sunset structure. This lessens the tonnage potential to the point where exploration in this sector is not considered advisable at this time.

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4. Proposed Exploration & Development Program

Refer Map Nos. 1 & 2

PHASE I Time estimated to completion - 4 months

A. Grandview/Sunrise Basin Area	5700 Level		
Drifting	300 feet @ \$208.42/foot	\$62,526.	
Crosscutting	175 feet @ \$208.42/foot	36,474.	
Diamond Drilling	2800 feet @ \$ 17.54/foot	<u>49,112.</u>	
			\$148,112.
B. West Sunset Area	5700 Level		
Crosscutting	125 feet @ \$208.42/foot	\$26,053.	
Diamond Drilling	1200 feet @ \$ 17.54/foot	21,048.	
Test Holing	300 feet @ \$ 5.00/foot	<u>1,500.</u>	
			\$ 48,601.
C. Surface Exploration - other properties in Area			
Prospecting, Geological mapping, sampling, etc.			\$ 10,000.
D. Capital Expenditures			
Additional trailer employee accommodation at minesite			<u>\$ 30,000.</u>
			\$236,713.
E. Contingencies			<u>35,287.</u>
Total property operating and capital costs			\$272,000.
F. Administrative Expenses July - November 1978			
5 months @ \$3500./month			17,500.
G. July 1978 Accounts Payable (Estimated)			<u>30,000.</u>
TOTAL ESTIMATED EXPENDITURE Phase I			<u><u>\$319,500.</u></u>

PHASE II Time estimated to completion - 5 months

A. Grandview/Sunrise Basin Area

5700 Level

Raising 220 feet @ \$170.00/foot \$ 37,400.

5900 Level

Drifting 700 feet @ \$210.00/foot 147,000.

\$184,400.

B. West Sunset Area

Rehabilitation of 5600 Level

400 feet @ \$ 50.00/foot \$ 20,000.

Drifting & crosscutting

950 feet @ \$210.00/foot 199,500.

219,500.

C. Surface Exploration

Trenching, Diamond Drilling, etc. 75,000.

D. Mill repair - Assay office installation

80,000.

\$558,900.

E. Contingencies

84,100.

Total property operating and capital costs

\$643,000.

F. Administrative expenses

5 months @ \$5,000./month

25,000.

TOTAL ESTIMATED EXPENDITURE Phase II

\$668,000.

## CONCLUSIONS & RECOMMENDATIONS

Although no ore has been developed in the Grandview/Sunrise Basin vein systems on the 5700 Level to date, the presence of lead and zinc mineralization with good gold and silver content, associated with strong controlling structures, 800 feet below surface mineralized zones, and the impressive assay results in hole 78-7, are sufficiently encouraging to warrant continued exploration in this area.

The mineralized zones in the West Sunset vein system have not been adequately tested below the 5700 Level and present relatively accessible possible sources of ore.

Phase I of the proposed program is therefore recommended for commencement immediately.

Phase II represents a major step which should be contemplated only if the results in Phase I indicate that economic production may be achieved through continued development, as proposed, and subsequent preproduction expenditures.

### PROPOSED EXPLORATION & DEVELOPMENT PROGRAM

PHASE I - Time estimated to completion - 4 months Refer Map Nos. 1 & 2

#### A. Grandview/Sunrise Basin Area - 5700 Level

It is proposed to further explore this area by advancing the drift south-westerly to open up the mineralization intersected in D.D.H. 78-7, 130 feet distant, and continue along this or other structures at least to the projected limits of the target area, and additional 170 feet. Near the south face

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crosscuts are planned into the west and east walls of the drift, 100 feet and 75 feet respectively, to permit testing of the zone above and below the level by diamond drilling. One hole will be drilled from the west crosscut to check the zone about 125 feet further south, while four inclined holes will explore to 150 feet above the level over a strike length of approximately 200 feet. Three down-holes from the east crosscut will test the structure approximately 100 feet below the level along a strike length of about 175 feet. Two additional steeper up-holes are required from the 8300 crosscut and drilling on the level is planned to check branching structures, existing mineralized shears and the southerly extension of a strong fault and alteration zone intersected at the bottom of hole 78-6.

Drifting	300 feet @	\$208.42/foot	\$62,526.	\$62,526.
Crosscutting				
West crosscut	100 feet @	\$208.42/foot	20,842.	
East crosscut	75 feet @	\$208.42/foot	<u>15,632.</u>	36,474.
Diamond Drilling				
West crosscut	5 holes -	1000 feet @ \$17.54/foot	\$17,540.	
East crosscut	3 holes	600 feet @ \$17.54/foot	10,524.	
8300 crosscut	2 holes	400 feet @ \$17.54/foot	7,016.	
Drift	6 holes	800 feet @ \$17.54/foot	<u>14,032.</u>	<u>49,112.</u>
				\$148,112.



3. West Sunset Area - 5700 Level

Diamond drilling is proposed to check the downward extension to the 5600 Level of the mineralized shoots previously developed on and mined above the 5600 Level. Two crosscuts are planned into the east wall of the drift 140 feet and 820 feet southwest of the portal, 50 feet and 75 feet in length respectively. Three down-holes are planned from each crosscut to cover a 175 foot strike length of both mineralized shoots at the 5600 Level. The only exploration at this elevation was a drill hole from the 5600 Level, Sunset workings, to check under the shoot 140 feet from the 5700 Level portal. Core was lost at the critical location, so that there is no information on the West Sunset vein system below the 5700 Level.

A mineralized branch of the main structure leaves the drift section, in the east wall, 35 feet southwest of the adit crosscut. A similar structure enters the drift from the east wall, 450 feet to the southwest, a few feet north of the first stoping. A series of ten 30 foot percussion holes are planned to test for the possible continuity of structure and mineral content of this section. This work was planned in the prior program but not executed.

Crosscutting

820 feet S.W.	75 feet @ \$208.42/foot	\$15,632.	
140 feet S.W.	50 feet @ \$208.42/foot	<u>10,421.</u>	\$26,053.

Diamond Drilling

820 feet S.W.	600 feet @ \$ 17.54/foot	10,524.	
140 feet S.W.	600 feet @ \$ 17.54/foot	<u>10,524.</u>	21,048.
Test Holing	300 feet @ \$ 5.00/foot		<u>1,500.</u>

\$48,601.

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C. A preliminary examination of the area in and around the crown granted claims formerly owned by Yale Lead & Zinc Co., some of which supplied production to the Ainsworth mill, has been carried out. Some mineral occurrences were noted requiring additional investigation. At this stage it is planned to carry out prospecting, preliminary geological mapping, geochemical surveying and sampling in selected areas with a view to eventually developing additional tonnage for the company's mill.

Planned expenditure \$10,000.

D. Additional accommodation will be required at the minesite if the scheduled time table of the program is to be maintained.

Estimated cost \$30,000.

E. Contingencies are estimated at approximately 15% of the property operating costs of \$236,713.

\$35,287.

F. Administrative expenses at the Vancouver office are estimated at \$3,500./month. The months July through November will be applied to this Phase of the program.

5 months @ \$3,500./month \$17,500.

G. Accounts payable for supplies and work performed at the property in July are estimated at

\$30,000.

TOTAL ESTIMATED EXPENDITURE PHASE I

\$319,500.

PHASE II - Time estimated to completion - 5 months.

A. Grandview/Sunrise Basin Area

It is planned to drive a raise from the 5700 Level on the strongest mineralization to confirm vertical continuity that may be inferred from diamond drilling. Drifting to open up the zone on the 5900 Level would be necessary for further preproduction development and provide a second access for mining.

5700 Level Raising 220 feet @ \$170.00/foot \$ 37,400.

5900 Level Drifting 700 feet @ \$210.00/foot 147,000.

\$184,400.

B. West Sunset Area

Development of mineralized shoots below the 5700 Level will entail rehabilitation of the 5600 Level to approximately 400 feet southwest of the portal where crosscutting to the vein zone would commence for a distance of 150 feet. Drifting on the structure would amount to approximately 800 feet.

Rehabilitation 5600 Level  
400 feet @ \$ 50.00/foot \$ 20,000.

Drifting & crosscutting  
950 feet @ \$210.00/foot 199,500.

\$219,500.

C. Surface Exploration

Trenching, diamond drilling and related surface exploration may be conducted during the latter part of the period.

Estimated expenditure 75,000.

D. Capital Expenditures

F. E. Worthington & Associates recommended repair and maintenance of the mill and installation of an assay office, as proposed in the October 1977 report, at an estimated cost of \$ 80,000.

E. Contingencies are estimated at approximately 15% of the property operating costs of \$558,900. 84,100.

F. Administrative expenses of the Vancouver office are estimated at \$5,000./month and for the 5 month period 25,000.

TOTAL ESTIMATED EXPENDITURE PHASE II \$668,000.

PROPERTY OPERATING COST ESTIMATE

The costs used in Phase I are based on actual expenditures experienced during the period 15 March to 30 June 1978 as detailed in the writer's Progress Report, 25 July, 1978. Some revisions have been necessary to take into account anticipated extras and basic cost escalations. Indirect costs have been pro-rated on a 4 month basis, on the assumption some fixed costs will be carried during Phase II.

PHASE I	DRIFTING & CROSSCUTTING		DIAMOND DRILLING		TOTAL
	2 months		2 months		EXPENDITURE
Time					
Footage	600		4000		
	EXPENDITURE	COST/FOOT	EXPENDITURE	COST/FOOT	
	\$	\$	\$	\$	\$
Direct					
Contract	66,000.	110.00	36,000.	9.00	102,000.
Cost Plus	27,000.	45.00			27,000.
Assaying	<u>300.</u>	<u>0.50</u>	<u>2,400.</u>	<u>0.60</u>	<u>2,700.</u>
	93,300.	155.50	38,400.	9.60	131,700.
Indirect					
Room & Board	2,000.	3.33	2,000.	0.50	4,000.
Power & Air	10,000.	16.67	10,000.	2.50	20,000.
Transportation Equip.					
Rentals, Road	10,000.	16.67	10,000.	2.50	20,000.
Repairs	6,750.	11.25	6,750.	1.69	13,500.
Insurance, Taxes	<u>3,000.</u>	<u>5.00</u>	<u>3,000.</u>	<u>0.75</u>	<u>6,000.</u>
	<u>31,750.</u>	<u>52.92</u>	<u>31,750.</u>	<u>7.94</u>	<u>63,500.</u>
TOTAL	<u>125,050.</u>	<u>208.42</u>	<u>70,150.</u>	<u>17.54</u>	<u>195,200.</u>

Respectfully submitted,




WALTER E. CLARKE, B.Sc., P.Eng.

1 August, 1978.

C E R T I F I C A T E

I, Walter Ernest Clarke, of the City of Victoria, British Columbia, do hereby certify that:

1. I am a consulting geological and mining engineer with an office at 1362 Dallas Road, Victoria, British Columbia. V8S 1A1.
2. I am a graduate of Queen's University (1939) with a B.Sc. degree in Geology and Mineralogy.
3. I have practiced my profession continuously since graduation.
4. I am a member in good standing of the Association of Professional Engineers in the Provinces of British Columbia and Ontario.
5. I have no interest, either direct or indirect, in the properties or securities of David Minerals Ltd. (N.P.L.), nor do I expect to acquire any such interest in the future.



WALTER ERNEST CLARKE, P.Eng.

1 August, 1978