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REVIEW OF AN EXPLORATION PROGRAM CONDUCTED  
MAY TO AUGUST, 1962 ON THE KING EDWARD PROPERTY  
*82F-7*  
OF FRIDAY MINES LIMITED (N.P.L.)  
NEAR KEREMEOS, OSOYOOS MINING DIVISION, B. C.  
WITH RECOMMENDATIONS FOR FUTURE WORK IN THE AREA.

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2nd April, 1963.

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(After report by Chapman, Wood and Griswold Ltd. dated July 5, 1962)

## MAPS

Canada Department of Mines and Resources

- Map 341A, Keremeos (Geology)

Friday Mines Limited (N.P.L.)

- Drawing F.M., K.E.-2, King Edward Prospect  
(Claims)

Chapman, Wood and Griswold Ltd.

- Drawing No. 155, AFMAG Survey Profiles  
(Joint Survey)

- Drawing No. 156, Plan AFMAG Survey  
(Joint Survey)  
(With geology, old workings, etc.)

- Drawing No. 157, Profile Section A - A'  
(Joint Survey)  
(Showing relationship of X-Ray Diamond  
Drill Holes to old adit X-Cut.)

SUMMARY AND RECOMMENDATIONS

The King Edward copper-molybdenum prospect is located on Susap Creek, Hunter Creek and the intervening ridge. The claims lie 7 miles south of Keremeos, B.C. and from  $2\frac{1}{2}$  to 4 miles west of the Similkameen River.

Copper-molybdenum mineralization has been encountered intermittently along a strike length of 5,200 feet from Susap Creek in the west to Hunter Creek in the east.

The main showing on Susap Creek was cross cut by an old adit 150 feet below the surface exposure. This adit exposed a 60 foot width of copper-molybdenum mineralization with low gold and silver values. A later adit higher up the hill and somewhat to the east, again intersected the mineralized zone and when work ceased, the face was still in good mineralization.

A composite of eight 5 foot channel samples from this upper adit gave assay values of:

AU <u>oz./ton</u>	Ag <u>oz./ton</u>	Cu <u>%</u>	MoS <sub>2</sub> <u>%</u>
0.087	0.69	1.36	0.24

The Hunter Creek showing, 5,000 feet to the east-north-east, exposes mineralization of similar type. A short adit explored this occurrence for only 30 feet along the strike. Limited sampling of this adit has given average assay values of:

Au <u>oz./ton</u>	Ag <u>oz./ton</u>	Cu <u>%</u>	MoS <sub>2</sub> <u>%</u>
0.01	0.55	1.25	0.84

Consideration of the nature of the mineralization, mainly concentrations along slips and fractures in a complex, blocky fracture zone, indicate that bulk sampling will be required to provide a valid estimate of grade.

Four short X-Ray diamond drill holes have been completed at the Susap Creek showings. While the results are somewhat inconclusive, these holes have served to give some indication of the general structure of the mineralized zone in this area.

An AFMAG survey has been run in the area between the Susap Creek and Hunter Creek showings covering a block of ground approximately 5,000 feet long by 1,500 feet wide. The Susap or "A" zone of mineralization is estimated to be about 75 feet wide by 400 feet long and at least 150 feet deep. The interpretation of AFMAG data over weakly conductive zones associated with the present type of mineralization is more difficult and less certain than the interpretation of data obtained over strongly conductive, massive sulphide type deposits.

Analysis of the AFMAG data was made by Dr. Stanley H. Ward, Associate Professor of the Department of Mineral Technology at the University of California. Dr. Ward concluded that the weakly conductive "A" zone had been picked up by the survey. He further stated that a broad zone of greater conductivity was indicated adjacent to the base line from station 7E. to station 10E., a distance of some 1,100 feet.

It is recommended that future work initially be confined to the area of the AFMAG anomaly noted above and be directed toward the further elucidation and explanation of the anomaly. Considering the lower topographic relief of this area and the nature of the soil cover, a geochemical survey might locate an anomalous distribution of molybdenum and/or copper in the overburden. Bulldozer trenching, possibly combined with limited diamond drilling, could follow the geochemical survey to determine the nature of the casual factor or factors producing the AFMAG anomaly.

#### HISTORY AND GEOLOGICAL SETTING

The King Edward property is located in a remnant wedge of Kruger Syenite flanking the great Similkameen Batholith on the north. The property is situated about 7 miles south of Keremeos and  $2\frac{1}{2}$  to 4 miles west of the Similkameen River in the Osoyoos Mining Division of southern British Columbia. To the southeast, across the Similkameen River valley, a band of Kruger Syenite, some  $1\frac{1}{2}$  miles wide, flanks the margin of the batholith as it swings south across the international border. In this band is located the Horn Silver Mine. To the southwest, in the Snowy Mountain region, there is another flanking area of syenite which contains old prospects.

The area is rugged and mountainous and is bounded on the south by Susap Creek and on the northeast by Hunter Creek. The elevations range from 3,300 feet on Hunter Creek to 5,000 feet on the ridge between Susap and Hunter Creeks.

Damming of these creeks <sup>at</sup> ~~of~~ suitable, available locations would provide a dependable year-round water supply.

Southern Transprovincial Highway No. 3 passes through Keremeos. A cut-off road which follows the Similkameen River south from Keremeos and then crosses the Richter Pass to Osoyoos is currently being paved.

A branch line of the Great Northern Railway system runs north along the Similkameen River from the international boundary near Nighthawk.

Present access is by a  $2\frac{1}{2}$  hour horseback ride from the Richter Ranch, a few miles south of Cawston.

All the claims, (see Friday Mines Ltd. map F.M.K.E.-2) lie within the present boundary of District Indian Reservation No. 13, District Lot 3117s.

Maps available are topographic and geological sheets Nos. 341A, Canada Department of Mines and Resources and map 82E/SW, Penticton, Department of Lands and Forests, B. C.

The area is mentioned in the Annual Reports, Minister of Mines, B. C., for 1903, page 175, and 1921, page 178.

Mineralization as molybdenite, chalcopyrite, pyrite and sparse arsenopyrite, is found along a blocky fracture complex closely following an east-north-east trending contact between augite-syenite and intrusive granodiorite of Upper Mesozoic age.

In the early work the claims, as two separate properties, were developed as a gold, silver, copper prospect. The main showing on Susap Creek was cross cut by an adit 150 feet below the surface. It is felt that cessation of this work was due to a poor financial climate coupled with an insufficient gold content.

About this time the Hunter Creek showing was explored by a short shaft and a 30 foot adit along strike.

In 1918, some further work was done on Susap Creek as a result of the interest in molybdenum produced by war-time conditions. At this time, a 35 foot adit was put in higher up the hill and further to the east than the old adit. Again an intersection of the mineralized zone was made. The face was in good mineralization when work ceased. The end of the war probably accounted for the termination of this work.

#### EXPLORATION

An initial examination was made on March 18, 1962. A small scale exploration programme was conducted from early May to late August, 1962.

The properties were inspected on June 18 and 19, 1962 by John A. Wood of Chapman, Wood and Griswold Ltd., Consulting Mining Engineers and Geologists, who supplied consulting services for the balance of the programme.

Full details of the progress and results of the exploration activity are to be found in the Daily Reports, Semi-monthly Reports and maps produced by Friday Mines Limited staff and in the Progress Reports, proposals and maps of Chapman, Wood and Griswold Ltd. This data is on file at the Head Office of Friday Mines Limited (N.P.L.), 230 West Broadway, Vancouver 10, B. C. and at the field office near Keremeos, B. C.

An outline only will be given here of the exploration programme.

1. The general area was prospected.
2. The main, lower adit on Susap Creek was rehabilitated and timbering installed to protect the portal approach and the first 5 feet of the adit proper. Loose in the back was barred down. The east wall, most of the back and part of the west wall were cleaned off in the zone of mineralization. A reconnaissance map was made of the geology and a detailed examination of the character of the mineralization. Owing to the geometry of the mineralized fractures channel sampling would not produce valid results and bulk sampling is required.
3. Six 5 feet channel samples were cut in the old pits on the surface outcrop.
4. The short, upper adit on Susap Creek was cleaned out and eight 5 feet chip-channel samples taken.
5. Old cuts on the crest and slopes of the ridge between Hunter and Susap Creeks were mucked out and cleaned up with a brush. The exposures were examined in detail.
6. The old adit on Hunter Creek was examined and three channel samples were cut.
7. A baseline was laid out and traversed. The bearing of the baseline was accurately determined by sighting on Polaris. All features of interest were tied in by triangulation and traversing. A claim survey was made and tied in to an old Crown Grant legal survey.
8. Four fractional mineral claims were staked to cover open, stakeable ground.
9. The geology was mapped where not covered by the extensive over-burden.
10. Four X-Ray diamond drill holes, D.D.H.'s K.E. 1, 2, 3 and 4, were drilled in the vicinity of the old adits and cuts on Susap Creek. (See Profile Section A - A', Chapman, Wood and Griswold Ltd. Drawing No. 157).
11. An AFMAG survey covering a block 5,000 feet long and approximately 1,500 feet wide was carried out between Susap and Hunter Creeks. (See Chapman, Wood and Griswold Ltd. Drawings No. 155 and No. 156.)

#### RESULTS AND CONCLUSIONS

The "A" block in the Susap Creek area is estimated to be about 75 feet wide by 400 feet long and at least 150 feet deep. This zone is cut by a high angle post-mineral fault on its eastern limit and is covered by talus on the west.

Results of sampling in this area and in the Hunter Creek area are shown in Tables 1 - 3. Because of the character of the mineralization, the sampling serves only to indicate the range of values which might be encountered. Bulk

sampling will be required to establish true metal values of mineable bodies.

The true dimensions of the Hunter Creek showing are unknown. The old adit explored the occurrence for only 30 feet along the strike.

The basic problem in the development of this prospect is to establish whether there are present extensive deposits, amenable to relatively low cost extraction, or whether the occurrences are of limited extent.

Analysis of the data resulting from the AFMAG survey by Dr. Stanley H. Ward, Associate Professor of the Department of Mineral Technology of the University of California, indicates that there is a broad zone of moderate conductivity adjacent to the base line from Station 7E. to Station 10E., a distance of about 1,100 feet.

It is recommended that future work initially be confined to the area of the AFMAG anomaly noted above and be directed toward the further elucidation and explanation of the anomaly. Considering the lowest topographic relief of this area and the nature of the soil cover, a geochemical survey might locate an anomalous distribution of molybdenum and/or copper in the overburden. However, it is possible that such a geochemical survey might fail to indicate the presence of an underlying mineralized zone, since the anomaly might be seasonal in character as has been indicated by geochemical work over a deposit in the Merritt area of B. C.

Bulldozer trenching, possibly combined with limited diamond drilling, could follow the geochemical survey to determine the nature of the casual factor or factors producing the AFMAG anomaly.

A photo-geologic interpretation of the area might supply valuable information.

The implementation of the recommended exploration programme has been in abeyance from September, 1962, to date, owing to the necessity of acquiring the mineral rights on a section of District Indian Reserve No. 13 which intervenes between two claim groups and is an area of interest. The successful conclusion of protracted negotiations with the Department of Indian Affairs appears to have been reached and the way is now clear for implementation of the recommended programme.

Respectfully submitted,

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TABLE ONE

## King Edward - Susap Creek - Surface Sampling

<u>Sample No.</u>	<u>Thiokness</u>	<u>Au.oz.</u>	<u>ThxAu</u>	<u>Ag.oz.</u>	<u>ThxAg</u>	<u>Cu %</u>	<u>ThxCu</u>	<u>MoS<sub>2</sub>%</u>	<u>ThxMoS<sub>2</sub></u>	<u>\$ Value</u> <u>per ton *</u>
34401	5.0	0.005	0.025	0.15	0.75	0.07	0.35	0.17	0.85	
34402	5.0	tr	0	0.05	0.25	0.10	0.50	0.04	0.20	
34403	5.0	tr	0	0.10	0.50	0.10	0.50	0.05	0.25	
34404	5.4	0.04	0.216	0.20	1.08	0.20	1.08	0.15	0.81	
34405	5.0	0.005	0.025	0.10	0.50	0.20	1.00	0.37	1.85	
34406	5.0	0.005	0.025	0.15	0.75	0.72	3.60	1.02	5.10	
	(30.4)		(0.291)		(3.83)		(7.03)		(9.06)	
		Avg.0.009		0.13		0.23		0.30		
		\$ 0.32		0.13		1.15		8.40		\$10.00

TABLE TWO

## King Edward - Susap Creek - B Adit - Sampling

34408	5.0	0.25	1.25	0.70	3.50	1.80	9.00	0.45	2.25	
34409	5.0	0.35	1.75	0.40	2.00	0.40	2.00	0.34	1.70	
34410	5.0	0.05	0.25	0.30	1.50	0.50	2.50	0.08	0.40	
34411	5.0	0.02	0.10	1.60	8.00	2.82	14.10	0.18	0.90	
34412	5.0	0.005	0.02	0.75	3.75	1.85	9.25	0.08	0.40	
34413	5.0	0.015	0.07	0.70	3.50	1.10	5.50	0.10	0.50	
34414	5.0	0.005	0.02	0.50	2.50	1.65	8.25	0.35	1.75	
34415	5.0	0.005	0.02	0.60	3.00	1.85	9.25	0.36	1.80	
	(40.00)Tot		(3.48)		(27.75)		(54.35)		(9.70)	
		Avg.0.087		0.69		1.36		0.24		
		\$3.13		0.69		6.80		6.72		\$17.34

TABLE THREE

## King Edward - Hunter Creek Adit - Sampling

34416	3.5	0.01	0.035	0.50	1.75	1.22	4.27	0.31	1.08	
34417	3.0	0.01	0.030	0.55	1.65	1.65	4.95	2.21	6.63	
34418	4.0	0.01	0.040	0.60	2.40	0.97	3.88	0.27	1.08	
	(10.5)		(1.05)		(5.80)		(13.10)		(8.79)	
		Avg.0.01		0.55		1.25		0.84		
		\$0.36		0.55		6.25		23.52		\$30.68

\* Gross value, Canadian funds, before allowance for metallurgical losses.

Au - \$36.00/oz.  
 Ag - \$ 1.00/oz.  
 Cu - \$ 0.25/lb.  
 MoS<sub>2</sub> - \$ 1.40/lb.