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REPORT ON THE  
ALOUETTE LAKE PROPERTY  
NEW WESTMINSTER M.D.

92 G 84

FOR

SKAT RESOURCES LTD.

BY: M. K. Lorimer, B.A.Sc., P.Eng.

L. J. Manning & Associates Ltd.,  
610 - 890 West Pender Street,  
Vancouver 1, B. C.

January 25, 1971

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PROPERTY FILE

**L. J. MANNING & ASSOCIATES LTD.**  
CONSULTING MINING AND GEOLOGICAL ENGINEERS

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January 26, 1971

The President and Directors,  
Skat Resources Ltd.,  
Vancouver, B. C.

Dear Sirs:

The following report is based on two visits to the property, the first to the southeastern area in October, 1970, and the second to the northwestern area in January, 1971, and on a study of the reports listed in the Bibliography.

SUMMARY:

The Alouette Lake property of Skat Resources Ltd. comprises 45 located claims on the eastern side of the lake and about 12 miles northeast of Haney. It is accessible by logging road and boat depending on the part of the property to be visited.

The claims are underlain by quartz diorite into which a number of dykes and small basic stocks have been intruded. Occurrences of copper and molybdenum minerals are found near these intrusions in at least two widely-separated localities and are reported to occur in the intervening areas.

Because of the widespread mineralization and the extensive areas obscured by overburden, further exploration work appears justified.

A phased programme of geologic and aerial and ground magnetometer surveys followed by diamond drilling, if warranted, is recommended at an estimated cost of \$45,900.

LOCATION:

The property lies between Alouette and Stave Lakes, the centre being about 12 miles northeast of Haney. The area is mapped on Sheet 92 G 8W of the National Topographic System. The Geographic location is 49°18'N, 122°23'W.

Elevations range from 400 feet on the eastern shore of Alouette Lake to 3,800 feet on the southwest flank of Mt. Crickmer.

ACCESS:

Ground access may be gained by two routes. The first is by road, paved except for the last three or four miles, from Haney to a point a few hundred yards north of the mouth of Gold Creek on the western side of Alouette Lake. From here a boat is necessary to cross about one mile to the eastern shore and the western limits of the property. A steep logging road leads inland from the lake. The second route consists of seven miles of logging road from the Dewdney Trunk Road north of Whonnock. This road leads to the eastern part of the property. It is rough in places and requires the use of a four - wheel drive vehicle. Within the claims old logging roads give fairly convenient foot access to most of the area but a few washouts would have to be filled before wheeled vehicles of any type could be used.

TITLE:

The property consists of 45 claims as listed below. The pertinent information was obtained from the Vancouver Mining Recorder's Office on 21 January, 1971

<u>Claims</u>	<u>Record Nos.</u>	<u>Expiry Date</u>	<u>Owner</u>
Top 1-6	24812-17	16 Oct./71	M.P. Raftery
M 5-6	23445-6	30 April/71	"
M 9-10	23449-50	"	"
M 15	23483	11 May/71	"
M 17	23485	"	"
M 19	23487	"	"
M 21	23489	"	"
M 23	23491	"	"
M 25	23493	"	"
M 27	23495	"	"
M 29	23497	"	"
M 31	23499	"	"
M 33	23501	"	"
M 35	23503	"	"
M 36-43	24449-56	"	"

<u>Claims</u>	<u>Record Nos.</u>	<u>Expiry Date</u>	<u>Owner</u>
W 7-8	23447-8	30 April/71	W. L. Fowler
W 11-12	23451-2	"	"
W 13-14	23481-2	"	"
W 16	23484	11 May/71	"
W. 18	23486	"	"
W 20	23488	"	"
W 22	23490	"	"
W 24	23492	"	"
W 26	23494	"	"
W 28	23496	"	"
W 30	23498	"	"
W 32	23500	"	"
W 34	23502	"	"

The official staking map shows a gap of about 3,000 feet between the Top claims and the M and W claims. Since the old claims in the gap were forfeited before the Top, M and W claims were staked, the indicated open ground is probably erroneous but the point should be checked on the ground. The four Edd claims in the southeastern quarter of the group are held by others.

#### TOPOGRAPHY:

The claims area is very steep on the Alouette Lake side and up to about 3,000 feet. From this elevation there is considerable moderation in general relief except close to the flanks of Mt. Crickmer. Locally the many streams have cut deep valleys and canyons.

Parts of the area were logged many years ago. Although the logging roads are convenient, the debris and new growth on logged-off areas make travelling difficult.

Several creeks flow across the property providing a ready source of water. There are several small lakes and fairly extensive areas of swampy ground.

#### CLIMATE:

The climate is moderate with heavy precipitation. The lower elevations are usually free of snow throughout the winter but the higher elevations are snow-covered for two or three months each winter.

HISTORY:

As far as is known there is no history of mining activity on the property.

GEOLOGY:

Most of the area is covered with a heavy mantle of overburden and forest growth but there are enough rock outcrops to show the general geology. However, minor features of economic importance could very well be obscured. The best observations of geologic details in the two areas examined by the writer are made in the creeks and along the logging roads which have cut deeply into the bedrock in places. As far as is known no detailed geologic mapping has been done in the area but the Geological Survey of Canada has done regional mapping on a scale of 4 miles to the inch. The information is presented on Maps 8-1956 and 1151A from which some of the following information is taken.

Map 8-1956 shows a contact between quartz diorite on the north and diorite on the south running east-west through the centre of the property; Map 1151A (1965) shows this contact as being much farther south and only cutting the property in the extreme southeast corner. Because the later map is more likely to be correct it may be assumed that the property is underlain by quartz diorite. Although this is undoubtedly the dominant rock there is an assemblage of other rock types in at least two areas. Locally the rocks range from granite to gabbro with dykes from aplite to basalt and quartz veins carrying epidote.

The major structural trend appears to be northerly, roughly normal to the major contact. In the southeast corner Seventynine Creek occupies a prominent shear zone striking N 10 degrees E. Within this shear zone there occur many dykes, some of which might be more properly called sills; others cut the shear at a slight angle. But all have a general northerly trend. Similarly on the northwest a number of basic dykes have the same orientation. In general the quartz veins also conform to this pattern but there are numerous cross-veins in random directions. Small stocks also occur in these areas of basic intrusion. The basic rocks are moderately to strongly magnetic.

The minerals of economic interest are molybdenite and chalcopyrite. Molybdenite is common in both examined areas while the chalcopyrite appears stronger in the southeast. According to a report on a prospecting programme carried out in 1970, occurrences of these metals are to be found throughout the property but this could not be confirmed by the writer due to snow conditions.

As far as could be ascertained the metallic mineralization is associated with the dykes and small stocks, particularly the basic ones. It occurs in nearby quartz veins, as fracture-fillings and, particularly in the case of molybdenite, as blebs in the granitic rocks. Pyrite and epidote are common associate minerals. Malachite staining was observed in the Seventynine Creek area. Locally many of these showings are impressive but in the observed localities they are too scattered to constitute ore.

#### SAMPLING:

Because of the modes of occurrence it is virtually impossible to take meaningful samples of the examined showings except by bulk sampling. On this examination three samples were taken to check for the presence of various metals in different rocks. The results should not be regarded as representative values of the showings. The assay values are tabulated below:

<u>Sample</u>	<u>Rock</u>	<u>Observed Minerals</u>	<u>Width (ft.)</u>	<u>% Copper</u>	<u>% Moly</u>	<u>% Nickel</u>
32526	Hornblende porphyry	Nil	Grab	0.02	Tr.	0.01
32527	Granite	Molybdenite	3.0	0.01	0.32	-
32528	Quartz diorite	Pyrite	4.0	0.01	0.02	-

#### CONCLUSIONS:

On the basis of very limited observations it appears that this property lies in an area of widespread copper and molybdenum mineralization. Although the observed occurrences do not constitute ore, the possibilities of economic deposits under the omnipresent overburden cannot be discounted without further exploration.

The observed association of metallic minerals with magnetic dykes and intrusives offers a ready means of locating target areas by magnetic surveys. The presence of pyrite would probably mask more desirable minerals and make electric surveys inconclusive unless a definite relationship between pyrite, chalcopyrite and molybdenite could be established.

Because of the rugged terrain and deep humus, geochemical surveys would be unsuitable over much of the area although there might be applications for them in certain localities.

The property appears to merit the expenditure of funds on further exploration work.

RECOMMENDATIONS:

It is recommended that an initial exploration programme be carried out in three phases, each phase to be dependent on the results of the preceding phase, as follows:

Phase I:

- (a) Establish a 3-man camp at a central location and carry out geologic and rough property surveys in order to provide a base map, to study the metallic occurrences and to gain information to assist in the interpretation of magnetic data.
- (b) Carry out an aeromagnetic survey on flight lines one-eighth mile apart.

Phase II:

Conduct ground magnetometer surveys of any areas meriting detailed work on the basis of the Phase I surveys.

Phase III:

Diamond drill any definite target areas located in phases I and II. A minimum of 2,000 feet of drilling would probably be required to conclude an initial exploration programme.

COSTS:

The estimated costs are:

Phase I:

Transportation and camp costs	\$ 1,500
Geologist: 3 weeks @ \$2,000/month	1,500
2 helpers: 3 weeks @ \$ 800/month	1,200
Assaying	500
Aeromagnetic Survey	<u>5,000</u>

Total Phase I	\$ 9,700
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Phase II:

Ground follow-up	2,000
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Phase III:

2,000 feet diamond drilling @ \$15.00	<u>30,000</u>
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Sub total	41,700
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Miscellaneous and contingencies @ 10%	<u>4,200</u>
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Total all phases	<u><u>\$ 45,900</u></u>
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*M. K. Lorimer*

M. K. Lorimer, P.Eng.

MKL:mjb



BIBLIOGRAPHY:

Geological Survey of Canada:

1. Map 8-1956, "Pitt Lake", 1956
2. Map 1151A, "Pitt Lake", 1965

Roddick, J. A.,

Geological Survey of Canada,  
Memoir 335, "Vancouver North,  
Coquitlam, and Pitt Lake Map  
Areas, British Columbia," 1965

Healey, K.D.

"Report on the Mining  
Property known as the Haney  
Property", Private report, 1971.

CERTIFICATE OF QUALIFICATIONS

I, MALCOLM KEITH LORIMER, of the City of Vancouver, Province of British Columbia, Mining Engineer, hereby certify:

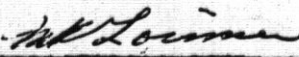
1. THAT I am a practicing Mining Engineer and reside at 3082 West 27th Avenue, Vancouver, B. C.
2. THAT I am a graduate in Mining Engineering of the University of British Columbia, Bachelor of Applied Science, 1950 and have been practicing my profession for over sixteen years.
3. THAT I am a member of the Association of Professional Engineers of the Province of British Columbia.
4. THAT I am a member of the Canadian Institute of Mining and Metallurgy.
5. THAT I am an associate of the firm of L. J. Manning & Associates Ltd., Consulting Mining Engineers, of 610 - 890 West Pender Street, Vancouver 1, B. C.

6. THAT the following is a true record of my employment and experience:

1950 - 52	General engineering, Consolidated Mining and Smelting Company of Canada Limited, Kimberley, B.C.
1952--56	Chief Engineer, Pioneer Gold Mines of B. C. Ltd., Pioneer Mines, B. C.
1956 - 57	Chief Engineer, Buchans Mining Co. Ltd. Buchans, Nfld.
1957 - 59	Chief Engineer and Mine Superintendent, Cowichan Copper Co. Ltd., Cowichan Lake, B. C.
1959 - 65	General Exploration work for various companies mostly in southern British Columbia.
1965 - Present	Associate, L. J. Manning & Associates Ltd., Vancouver.

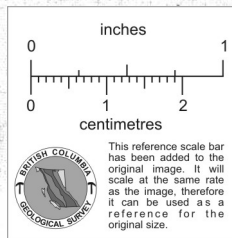
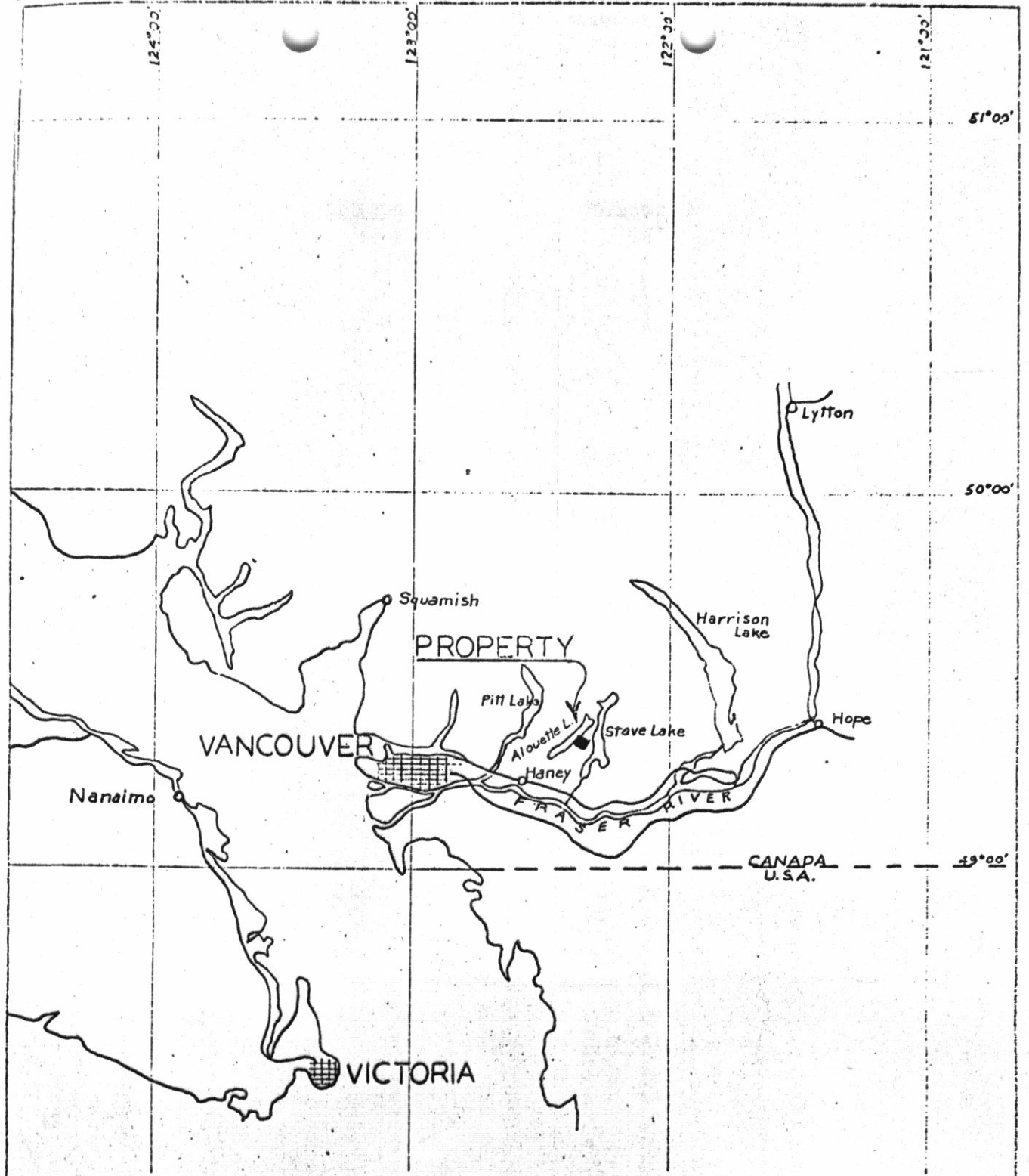
7. THAT I have no direct or indirect interest in the properties or securities of Skat Resources Ltd. or any of its affiliates nor do I expect to acquire any.

DATED at Vancouver, British Columbia, this 26th day of January, 1971.

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M. K. Lorimer, B.A.Sc., P.Eng.

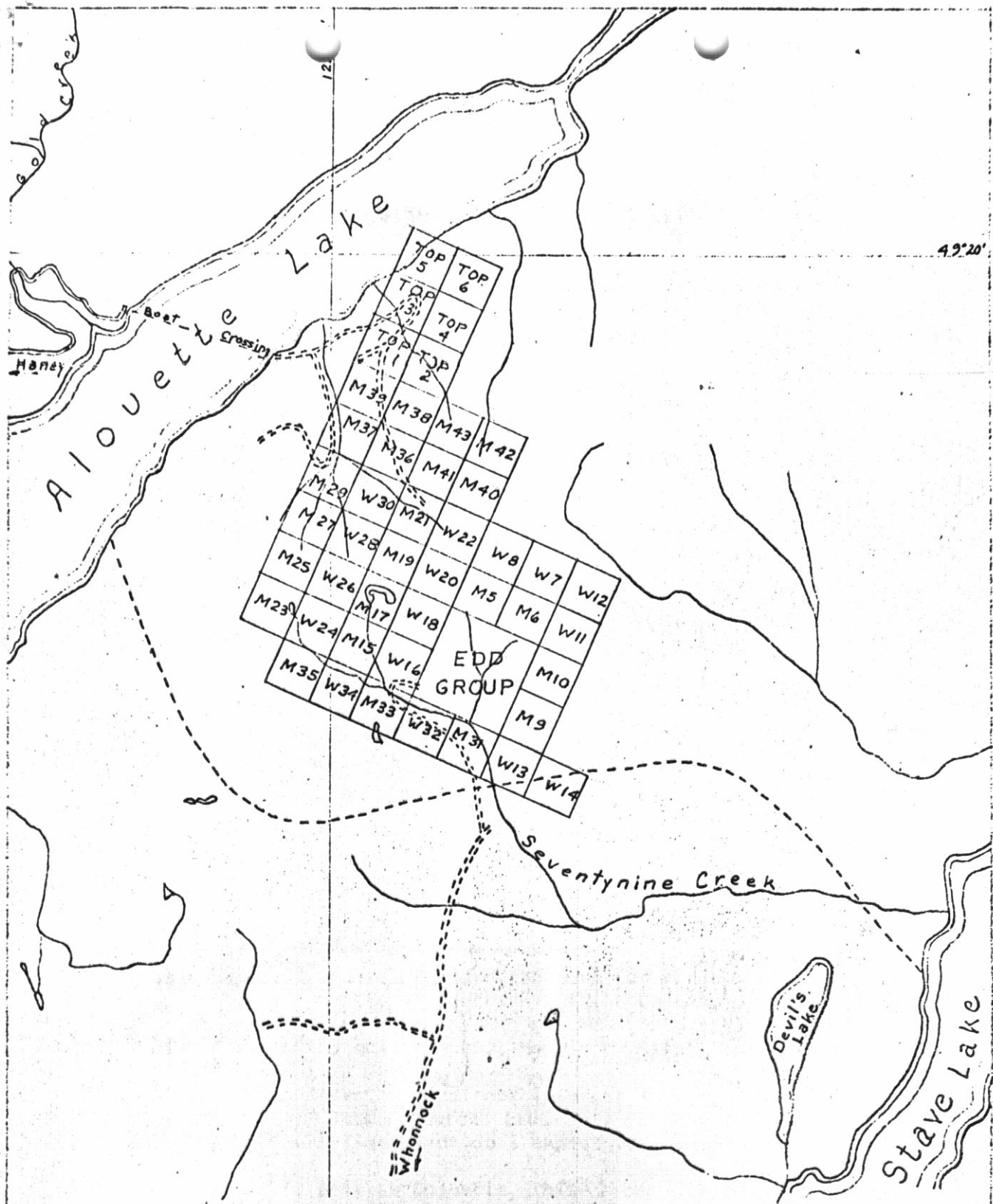


**MAP I**  
**SKAT RESOURCES LTD.**  
**ALOUETTE LAKE PROPERTY**  
**LOCATION MAP**

Scale: 1" = 25 mi.

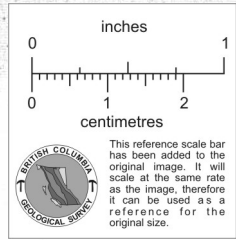
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 Jan, 1971

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- Quartz diorite
- Diorite

Claim locations approximate only.



**MAP 2**

**SKAT RESOURCES LTD.**  
**ALOUETTE LAKE PROPERTY**  
**CLAIMS AND GEOLOGY**

Scale: 1 : 50,000 or 1" = 0.8 mi (approx)

Drawn: M. K. Lorimer

Jan. 1971

L. J. MANNING AND ASSOCIATES LTD.

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