

MAP No.

ASSESSMENT REPORT
PROSPECTUS
CONFIDENTIAL
OPEN FILE

DOCUMENT NO.:

091763

MINING DISTRICT:

WHITEHORSE

TYPE OF WORK:

MAPPING

115 Q 12

LS.N. 134646

REPORT FILED UNDER: Teck Exploration Co. Ltd.

DATE PERFORMED: 1953

DATE FILED: 1953

LOCATION	LAT..	61°30'N
	LONG.	139°40'W

AREA: Arch Creek

CLAIM NAME & NO.

MUSKATEER 1-24 63307-63330

VALUE \$

WORK DONE BY:

M.H. Frohberg

WORK DONE FOR:

Teck Exploration Co. Ltd.

DATE TO GOOD STANDING

REMARKS:

MUSKETEER #20

GEOLOGICAL REPORT

ON

MUSKATEER GROUP, ARCH CREEK VALLEY, KLUANE RANGE,
YUKON TERRITORY

DESCRIPTION OF CLAIMS

The Muskateer group held under option by Teck Exploration Co. Ltd. comprises the following 24 unpatented mining claims :

Muskateer No. 1	Cl. No. 63307	Staked by E. C. Bleiler
2	8	
3	9	
4	10	
5	11	
6	12	
7	13	
8	14	
Muskateer No. 9	Cl. No. 63315	Staked by J. A. McDiarmid
10	16	
11	17	
12	18	
13	19	
14	20	
15	21	
16	22	
Muskateer No. 17	Cl. No. 63323	Staked by M. McCallion
18	24	
19	25	
20	26	
21	27	
22	28	
23	29	
24	30	

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In accordance with the Yukon Quartz Mining Act, the above claims have been grouped as follows :

Muskateer Nos. 1 to 16, or M.C. Nos. 63307 to 63322, under Reg.Doc. Quartz No.2514, Grouping Certificate W/h 164 Q.

Muskateer Nos. 17 to 24, or M.C. Nos. 63323 to 63330 under Reg.Doc.Quartz No.2514, Grouping Certificate W/h 164 Q.

LOCATION AND ACCESS

Muskateer Claims Nos.1 to 24 are located on the south side of Arch Creek Valley, approximately 25 miles northwest of the small settlement of Burwash Landing on Kluane Lake. Access to the property is from the Alaska Highway over a truck road leading from Mile 1111 along Quill Creek to the camp of Hudson Bay Exploration and Development Co., and continuing from there as far as Twin Lakes in upper Arch Creek Valley. From the end of this improvised road, points on the south side of Arch Creek can be reached from a trail extending down-stream to Donjek Valley. Total distance from Twin Lakes to the Alaska Highway is about 13 miles, which under favourable conditions can be negotiated by trucks in 1½ hours.

On the northwest side, the Muskateer group is contiguous with the property of Prospectors Airways Ltd., the Hudson Bay West Claims, and a block of ground staked by Teck Exploration Co. in 1953. In the east, the Muskateer claims adjoin the main group of Hudson Bay Exploration and Development Ltd.

PHYSIOGRAPHY

As shown on the accompanying map, the Muskateer ground extends along the upper south slope of Arch Creek Valley, reaching far enough uphill to encompass most mountain peaks along the south ridge. It includes several major gulches which cut deeply into the south flank of Arch Creek Valley and terminate in old glacial cirques. The topographic features are most rugged on the southeast claims where peaks

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rise to more than 6,300 feet above sea level and in excess of 2,000 feet above the valley floor. As a result of the general decline of the south ridge in a northwesterly direction, the topography of the western-most claims is less rugged, with elevations ranging from 4,000 to 5,000 feet above sea level.

Though the major physiographic features show unmistakable signs of the former glaciation of Arch Creek Valley, there are no permanent accumulations of ice and snow, and all peaks are bare during the summer. However, owing to the short duration of the warm season, the ground thaws only to a depth of a few feet below the surface and remains permanently frozen for many feet below this horizon.

Extensive accumulations of talus material cover the lower portions of nearly all slopes on the eastern Muskateer claims, outcrops of solid rock being essentially confined to higher elevations. On the western-most claims, heavy deposits of glacial drift are masking the underlying rock formations, except where recent erosion has advanced deep enough to reach bedrock.

GEOLOGY

Detailed geological mapping by Mr. J. Walker of Teck Exploration Co. has shown that the Muskateer claims are underlain by a steeply tilted sedimentary-volcanic series which in places has been intruded by irregular, dike-like masses of diorite. The sedimentary types include arkose, quartzite, chert, conglomerate, slate, shale, and limestone. These rocks are locally interbedded with lava flows and some pyroclastic material. Purplish to greenish, amygdaloidal, lava flows close to andesite in composition are prominent on the southern tier of claims, where they make up the top portion of the main ridge.

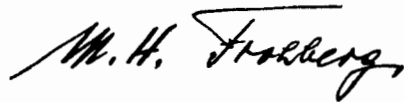
According to a verbal communication by Dr. Muller of the Geological Survey of Canada, fossils occurring in the sedimentary series place the entire group into the Permian. This correlation was confirmed by Prof. Fritz in the University of Toronto, to whom a specimen of a coral species from Claim 63310 was submitted for identification.

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The general strike of the sedimentary-volcanic group is to the northwest, with dips varying from 55° to 90° to the south-west. Some steep, northeasterly, dips were observed opposite Twin Lakes, but these reversals appear to be of a local nature. Marked deviations from the general strike may be observed in several places, as for instance in the vicinity of Teck Gulch. Such variations may be the result of minor drag-folding or cross-faulting. (See Map).

Mapping by Prospectors Airways on the north side of Arch Creek Valley has indicated a similar sequence of sediments and volcanic rocks with a general dip to the northeast. This fact raises the question as to whether the rock formations on both sides of the valley form corresponding limbs of an anticline, the core of which has been removed by erosion. If so, sequence of rock formations on the Muskateer group would be from north to the south, the rocks near the top of the ridge representing the youngest members. Neither cross-bedding nor grain gradation were observed to confirm this supposition.

Irregular dike-shaped bodies of more or less altered diorite were found cutting the sedimentary series on the northern tier of claims. They appear to form part of a continuous mass more than 200 yards wide, the north contact of which lies on Prospectors Airways' ground on the lower valley slope. In fresh condition, the rock is greyish-green and medium-grained in appearance; under the microscope it is seen to contain plagioclase and hornblende as principal constituents. In places, the diorite on the Muskateer claims has been altered to an olive-coloured rock with innumerable slips and slickensides. This alteration is prominent where the diorite has been affected by local shearing or squeezing.



M. H. Froberg.

Nov. 1, 1953.

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Muskateer 1-16

10 Man days Road construction and repairs	\$167.00
40 Man days Surveying for geological mapping	800.00
46 Man days Geological mapping	950.00
85 Man days General Prospecting	1175.00
<u>181</u> Supervision	<u>300.00</u>
100	3,092.00
<u>281</u>	<u>1670.00</u>
TOTAL COST	<u>\$4,762.00</u>



MAP NO. 1

TECK EXPLORATION CO. LTD.
 LOCATIONAL & GEOLOGICAL
 PLAN
 MUSKETEER CLAIMS
 ARCH CREEK AREA
 YUKON TERRITORY

- Feldspar Porphyry
- Peridotite
- Diorite
- Andesitic Lava
- Conglomerate
- Slates and shaly sediments
- Arkose, quartzite and cherty sediments
- Limestone

Scale 1"=1000' September 1953
 A.J.W.



LEGEND

- | | | | |
|---|-----------------------|---|----------------------------------------|
| △ | Triangulation station | ■ | Diorite |
| — | Elevation Contour | ■ | Andesitic Lava |
| — | Contact | ■ | Conglomerate |
| — | Creek | ■ | Slates and shaley sediments |
| ■ | Outcrop | ■ | Arkose, quartzite and cherty sediments |
| — | Fault, shear | ■ | Limestone |
| — | Possible fault | | |
| — | Strike and dip | | |

Map No. 2, 091763
TECK EXPLORATION CO. LTD.
 GEOLOGICAL PLAN
 MUSKETEER CLAIMS
 BLEILER OPTION
 ARCH CREEK AREA
 YUKON TERRITORY
 Scale 1" = 500' September 1953
 A.J.W.