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GEOLOGICAL INVESTIGATION

CALLINAN FLIN FLON MINES LIMITED, BURWASH LANDING.

Saddle.	1-8	63914 - 63921
Bit	1-8	63890 - 63897
Wade	1-8	63922 - 63929
Nowe	1-8	63906 - 63913
Bridge	1-8	63898 - 63905

THE PROPERTY OF CALLINAN FLIN FLON MINES LIMITED

BURWASH LANDING, Y.T.

Preface

The following report covering work to be classified as Geological Investigation under the Yukon Quartz Mining Act is based upon an extensive examination of the above mentioned property with a view to finding mineral in place, which might lead to the discovery of commercial ore bodies and their subsequent development, or locating favourable geological conditions that could lead to the same result.

To make this investigation it was necessary to bring men, equipment and supplies to the base camp at Burwash Landing, the nearest community, which is at Mile 1093 on the Alaska Highway. From this point to the camp on the property, a distance of thirty five miles, transportation via jeep and packhorse is necessary.

As a basis for geological investigation all claims had to be surveyed, then mapped to show claim boundaries and any important topographical features. Instrumental surveying served as a check on magnetic influences which are very important in the locating of nickeliferous ores. The area is mountainous and the work involved is both laborious and expensive, and when concluded is not evidenced in the final report. A crew of from five to seven men was engaged in this work from early June until late September.

Location

The area is shown on Map 1012-A Northwest Shakwak Valley, Yukon Territory. The property is situated in Latitude 61-27 north and Longitude 139-36 west. Access from Burwash is via the Alaska Highway north to Quill creek then upstream by mine road for eleven miles to a low divide opposite Tetamagouche valley. From this point which is the limit of travel by jeep a three mile packtrail leads to the camp site on Camp creek. The overall distance is about thirty five miles. The camp is situated upon the left bank of Camp creek at elevation 4100 and about one mile above its confluence with Maple Creek.

Property

The property four claims in width and ten claims in length lies roughly astride of Camp Creek but extends beyond the source passing over a 5500 foot divide into another valley. The property consisting of forty mineral claims held by right of location is divided into five Groups of eight claims each. The Groups are known as the Wade, Horse, Bit, Saddle and Bridle. The date of record is September the 28th. 1952. The property is bounded on the northeast by the musketeer Group, a Teck Hughes option and the Jeep Group belonging to the Hudson's Bay Mining Company.

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The property occupies a valleylike depression between two short mountain ranges embracing the slopes on either side. This depression or trough is split in two by a transverse divide of 5500 feet elevation and on either side of which the drainage is in opposite directions. Northerly it flows almost directly into the Donjek River while southerly it flows via Camp, Maple and Wade Creeks to the Donjek River. The property boundary on the northeast roughly follows the 6200 foot divide on that side. On the southwest side it follows a slightly lower divide. The valley slopes are gentle at low elevations but as they approach the divides they become rugged and almost precipitous. A number of small creeks indent the slopes. Between creeks occur large areas of moss which cover the underlying perma frost. Rock exposures are confined to creeks and outcrops at extreme elevations. Alder, willow and buck brush adhere to the water courses and lower slopes. The creeks carry over a winter accumulation of snow ice until mid July. Precipitation is moderate and run off rapid. Summer season extends from late May until late September.

Geology

The main geological feature is that the strike of the stratigraphy parallels the mountains on either side, which is characteristic of this whole region. Volcanic, sedimentary, metamorphic and basic igneous rocks are well represented. Of the volcanics purple and green andesites together with fragmental tuffs are commonest. Amongst the sedimentaries limestone predominates with small outcrops of sandstone and quartzite. All structure belongs to the Palaeozoic and Mesozoic eras. Of the metamorphics schist and slate occur. Of the basic igneous rocks Gabbro similar to that accompanying the nickel deposits on Quill Creek which is about three miles northeast, is present. At both ends of the property there are areas of heavy drift mantle.

The purple andesite is exposed in a wide band along the northeastern divide. Below this are bands of green andesite also limestone beds intercalated with greenstone and other volcanics. The southwesterly divide is mostly rusty volcanic rocks. The valley bottom carries an accumulation of boulders and creek wash. Beyond the transverse divide the northeast slopes consist of rusty and cherty tuffs. This divide is heavily strewn with very rusty fragmental tuffs that are striking in appearance. Unconformable with the general strike trend in structure, there occurs along the left bank of Creek No.4 on the Bridle No.2 claim some intensely folded limestone, quartzite and sandstone that appears to be sheared off by faulting along the creek. Opposite this outcrop there is a heavy cover of drift that hides the continuation of the above. On Creek No.13 which descends directly north of the camp there is at 1500 feet an outcrop of Gabbro. This outcrop which is of undetermined width is pretty well hidden by a covering of Gabbro float, but it appears to be several hundred feet in width. Below the Gabbro there are outcrops of limestone, schist and tuffs, and opposite these is a great pile of rock talus. Gabbro float is found in the creek bed and is widespread along the toe of the slope.

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Faulting and shearing are not particularly evident on the property but weathering has been intense amongst the volcanic tuffs. The andesites appear to be weather resistant. The amount of disintegration affecting the gabbro is very noticeable but remains unsolved due to lack of exposure. It is not coarse grained and seems to be a dike the strike of which appears to follow the general northwest-southeast direction of all formations. Some shearing occurs amongst the volcanics in No.13 Creek. Mineralisation is conspicuous by its absence, except for minor concentrations of pyrite in the volcanics. Mineralised float was not discovered in the creek beds either. The gabbro is probably the most favourable host rock for mineralisation but trenching will be necessary to disclose anything. With the exception of the gabbro the lack of intrusive rock exposures is striking for this region. Whether there are occurrences beneath the large areas of overburden is problematical, and could only be disclosed by other means of investigation.


Conclusion

Although this investigation has failed to uncover any important mineralisation the discovery of the Gabbro could prove to be a significant factor in that direction following further investigation. It should be exposed further by trenching methods or subjected to geophysical examination.



Mining Engineer.

October 7th. 1953.

Approved:

13 Nov. 53.

Callinan Flin Flon Mines Ltd.

1. Transp'n crew, camp equip't etc between Whitehorse & Burwash	122.19	
	107.36	
	<u>120.00</u>	\$ 349.55
	\$ 349.55	
2. Setting up camps		\$ 77.67
	\$ 77.67	
3. Truck rentals, gas & oil	150.00	
	39.60	
	155.18	
	35.39	
	150.00	
	65.70	
	51.58	
	200.00	
	<u>75.00</u>	\$ 922.45
	\$ 922.45	
4. Horse rentals, trucking same	45.00	
	110.25	
	125.00	
	<u>100.00</u>	\$ 380.25
	\$ 380.25	
5. Supplies, food, meals, rooms etc	208.37	
	64.35	
	99.90	
	60.52	
	489.52	
	277.04	
	125.00	
	<u>150.00</u>	\$ 1474.70
	\$ 1474.70	
6. Labour- surveys, wrangling, prosp'g and Geol. investig'n		
Campbell 73 dys @ 15.00	1095.00	
McNeill " "	1095.00	
Pickering 102	10.00 1020.00	
R. Dickson 48½	10.00 485.00	
D. Dickson 27	10.00 270.00	
Bergholm 7	15.00 105.00	
Davis	900.00	
	<u>\$ 4970.0</u>	\$ 4970.00
		<hr/>
		\$ 8174.62



GALLINAN PROPERTY
BURWASH LANDING
YUKON

Approved
[Signature]
 12 Jul. 53.

SCALE: 1"=500'

AUG. 20, '53