

MAP NO.

ASSESSMENT REPORT X
PROSPECTUS
CONFIDENTIAL
OPEN FILE

1.S.N. 134665
DOCUMENT NO.: 092016
MINING DISTRICT: WHITEHORSE
TYPE OF WORK: Geology

115 G 11

REPORT FILED UNDER: New Alger Mines Ltd.

DATE PERFORMED: 1953

DATE FILED: November 13, 1953

LOCATION: LAT.: 61°28'N
LONG.: 139°32'W

AREA: Swede Johnson Creek
VALUE \$:

CLAIM NAME & NO.: POLARIS 1-8; URSUS 1-8; TOM 1-8; JIM 1-8

WORK DONE BY: Anonymous

WORK DONE FOR: New Alger Mines Ltd.

DATE TO GOOD STANDING | REMARKS: #18 WELLGREEN

'I'
2379

GEOLOGICAL INVESTIGATION

NEW ALGER MINES LIMITED, BURWASH LANDING, Y.T.

Palais 1-8-63674-63681
Ursus 1-8-63682-63689
Tom 1-8-63409-63414
Tim 1-8-63401-63408



282010

THE PROPERTY OF NEW ALGER MINES LIMITED

BURWASH LANDING Y.T.

Preface

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

To make this investigation the operation devolved from bringing men, equipment and supplies first to the base of operations at Burwash Landing at Mile 1093 on the Alaska Highway, thence via truck service to trail head and finally via trail to the property itself. This involved the location and construction of a six mile trail together with selection of site and erection of camp having due regard to centrality and fire hazard. Following this transportation of equipment and an intermittent flow of supplies by means of truck and pack horse was necessary.

As a basis for geological investigation claims had to be surveyed and mapped in order to delineate property boundaries as well as permit the plotting and correlation of geological features and discoveries. Instrumental work in surveying served as a check on magnetic influences in the way of local attraction which is especially important in locating nickeliferous ores. The work involved a lot of climbing oftentimes hazardous, also a lot of hard going through brushwood, creek beds and over deep moss. This work is both laborious and expensive and when concluded is mainly an intangible in the final sumation. A crew of five to seven men was engaged continuously on the property from mid May until mid September.

Location

The property is situated in Latitude 61-30 north and Longitude 139-32 west. It is approximately 30 miles from Burwash Landing. Access is via the Alaska Highway north to Quill creek road, then up this road 4 miles to Johnson's cabin which is trail head. From trail head a six mile trail over numerous small creeks, muskeg and small hills composed of creek wash and supporting growths of black spruce, connects with a log cabin at the property. The cabin and canvas camp is situated upon the right bank of Swede Johnson creek at elevation 2950.

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Property

The property roughly encircles Geodetic Bench March 4114 which is its elevation above sea level at that point. The Bench Mark is shown on Map 1012A Northwest Shakwak Valley. This area is within the headwaters of Swede Johnson creek, a mountainous creek of semi-glacial source and which along with its tributaries drains the northeast slope of the Kluane Range into the Kluane River to the east.

Four groups of mineral claims totalling thirty claims in all constitutes the property. The groups known as the Polaris, Ursus, Tom and Jim consist of eight claims each with the exception of the Ursus group which has only six claims as it abuts the Mercury group of previous staking. The first two groups were staked in the autumn of 1952, and the last two in the spring of 1953. They are held by right of location.

The groups lie somewhat loosely with respect to each other and roughly include an area of four square miles. The property is mainly mountain-side location extending from the flat lying Jim group to the upper reaches of the Polaris group around elevation 5500. The general exposure is north and erosion is slow. Above timber line which is around 4000 feet the terrain consists of large areas of moss that overlie permafrost. Rock talus and drift usually underlies the moss and it remains frozen throughout the summer. Higher and beyond the property boundary occur rugged exposures of unglaciated rock which forms a divide between the watershed of Swede Johnson creek and that one at the headwaters of Arch and Quill creeks. The divide is free of vegetation, rock slides are prevalent and some extend down on to the property.

Summer season extends from May until October and annual precipitation is not heavy. Creek run off occurs in July but may also be heavy during periods of rainfall. Accumulations of snow ice invest the creeks and depressions until well on in the summer.

Geology

Geologically the main feature of the property is its inclusion of the great Shakwak Fault which is nearly one hundred miles long. Locally it strikes north fifty five degrees west and traverses the Jim group and lies in proximity to the larger of two small slough lakes on this group. This great fault could prove to be very important in the economic geology of its area. Its strike parallels the mountain range and its stratigraphy. The mineral discovery on Quill creek shows a similar trend in its mineralisation but the relationship if any is not yet known.

Outcrops of solid rock are not common but are more prevalent in the upper reaches of the small tributary creeks where the gradient is steep and the run off more rapid and enough to keep them clear of loose material. Exposures of sedimentary, metamorphic and igneous rocks of Paleozoic age predominate but due to the nature of the overburden it is difficult to determine contacts, trace structure or investigate beneath the overburden.

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Swede Johnson creek where it crosses the property contains a vast number of boulders of varying size and chiefly of local origin since they are angular in shape thus presenting a picture of local structural content. Included are andesite, limestone, quartzite, shale, schist and dike rocks of acid character. Mineralised float has been found occasionally but occurs so sparsely that tracing is next to impossible. Swede Bergholm creek a tributary of the former is similar in this respect but does present more outcrops of solid rock.

The wide assemblage of rocks noted provide favourable host rock for ferrous, non ferrous and basic metal deposition but since nickel deposition is usually associated with either Olivine Gabbro or Norite and these appear to be missing, the chances in that respect appear to be very limited. With respect to the associate minerals of nickel such as pyrrhotite, chalcopyrite and the cobalt minerals none of these were found in place but the presence of all of them except the last has been found in float. Float of unknown origin but containing massive pyrrhotite was found amongst the rock talus on the upper reaches of the Polaris group. It failed however to react to the Dimethylglyoxime powder test for nickel. Other pieces containing pyrrhotite and chalcopyrite combined and investing green andesite was also found in the same area. This float could lead to extensive mineralisation in place but appears to have originated beyond the property's boundaries but still on its side of the divide. This indicates its source as being upon either the Mars or Venus groups. In Swede Johnson creek float containing pyrite, galena and sphalerite combined was also picked up. Magnetite has also been noted in float in this creek.

Much time and effort was spent in attempting to trace mineralised float since ore bodies may lie hidden beneath the perma frost. Any concentration of minerals cannot be ignored in this area as they may lead to like deposits or those of other minerals as they can and often do, just as mineralisation often changes with depth.

With respect to faulting nothing beyond the known established Shakwak fault was noted. Shearing is evident in bands of andesite in both Swede Bergholm creek and No.5 creek but appears to be unaccompanied by any effect in mineralisation. The overlying limestones are overturned and dip towards the southwest somewhat steeply. Alteration is evidenced by the crystalline limestones in some localities and by the chloritisation of volcanics in No.4 creek and the upper reaches of Swede Bergholm creek. Contact effect where acid dikes occur is not pronounced probably because the dikes are only small in size.

The predominant formations are the green andesites and limestones. There is considerable purple andesite float in both Swede Johnson and Swede Bergholm creeks. It is usually amygdaloidal in structure but is sometimes porphyritic and dense, but always appears to be devoid of mineralisation. The main outcrops of crystalline limestone takes place off the property and is situated above and beyond the Polaris No.8 claim. The green andesites seem to offer the best possibilities for finding mineralisation, as shown by its association with pyrrhotite and chalcopyrite mineralisation in float discovered. The green andesites are particularly widespread and on upper Swede Bergholm creek beyond the property they are particularly attractive.

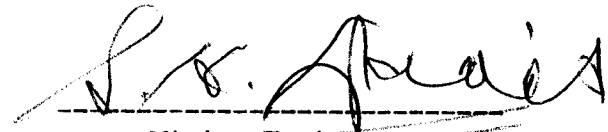
The property of New Alger Mines Limited


Large boulders of white quartzite are occasionally found in both Swede Johnson and Swede Bergholm creeks, it shows up well in upper Swede Bergholm creek where a slight pyrite and chalcopyrite content was noticed, however it has not been noted in place upon the property. The schist and black slate outcrop on No.8 claim of the Ursus Group is relatively narrow though steeply dipping it does not however appear to be attractive but the adjoining dike of apparently altered diorite should be rewarded with further investigation. Also the granitic dike outcropping along the bank of Swede Bergholm creek on Ursus claim No.6 seems to favour further attention.

Conclusion

Unfortunately the whole area embracing both the above property and that upon which the nickel discovery occurred on upper Quill Creek has not so far been investigated by the Geological Survey of Canada. The only available report has ignored the economic geology of the district entirely. This is quite an impediment to progress and unless remedied will have an adverse effect on future discoveries and development. Due to the numerous overburdened areas further investigation appears to be dependent upon resorting to geophysical methods.

October 1st. 1953.

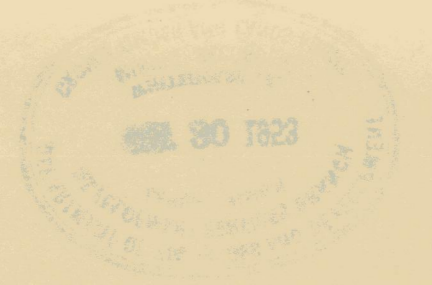

Mining Engineer.

Approved

13 Oct. 53.

New Alger Mines

1. Transp'n crew, camp equip't etc Whitehorse-Burwash		
60.00		
180.05		
119.97		
<u>\$ 360.02</u>		\$ 360.02
2. Setting up camps		
\$ 310.66		\$ 310.66
3. Truck rentals, fuel & oil		
160.00		
150.00		
35.39		
150.00		
100.00		
<u>\$ 595.39</u>		\$ 595.39
4. Horse rentals		
168.93		
48.50		
<u>\$ 217.43</u>		\$ 217.43
5. Supplies, food, lamp gas etc		
182.89		
9.72		
208.36		
103.96		
99.91		
60.53		
351.73		
33.85		
146.53		
125.00		
<u>\$ 1322.48</u>		\$ 1322.48
6. Labour, (surveys, prosp'g & Geol. Investigation)		
Easton 122 dys @ 15.00	1830.00	
Bergholm " " "	1830.00	
Peebles 101 dys @ 10.00	1010.00	
Iwanciu 99 " "	990.00	
Davis	900.00	
	<u>\$ 6560.00</u>	\$ 6560.00
		<hr/>
		\$ 9365.98

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NEW ALGER PROPERTY
 BURWASH LANDING
 YUKON

Approved
[Signature]
 13 Oct. '53

SCALE 1"=500'

AUG. 31 '53