

EXTRACT FROM pp. 69-74 OF A REPORT ON COOPERATION BETWEEN THE TERRITORY OF ALASKA AND THE UNITED STATES, ETC., BIENNIUM ENDING MARCH 31, 1931

Alaska Nabesna Orange Hill Copper Claims

142°55'W  
62°11'N PE-078-01

B. D. Stewart  
PE 78-1 1930

Near the head of Nabesna River just north of Nikonda Creek a group of patented claims is held by the Alaska Nabesna Corporation. Considerable work has been done upon these claims by opencuts, shafts, tunnels, and by diamond drilling. The writer visited this property in June, 1930, and although the owners were not at the property, most of the workings not caved in were examined. The Alaska Nabesna Corporation owns 18 claims and a mill site. Two substantial log buildings have been erected on the property including an assay office. A complete gasoline-driven diamond drill with necessary equipment is at the property.

Rising from the flat terrace by the side of Nabesna Glacier moraine is a long low hill which reaches a height of over 500 feet. This hill is rusty red in color from the weathering of the diorite rock which composes its mass and from which color it has been named Orange Hill. The hill is over 4,000 feet in length and extends east for over 1,500 feet to the higher mountains which are composed principally of Carboniferous sediments. Orange Hill is cut diagonally by a deep gulch running fnorthwest, which gives an excellent exposure for examination on that side. The hill along Nabesna River and Nikonda Creek is well exposed for its full length. The rock of Orange Hill is quartz diorite very extensively mineralized with chalcopyrite, and pyrite, and contains small amounts of molybdenite, gold, and silver. The hill has been prospected by a number of short underground workings, and by diamond drill holes, these show that chalcopyrite is distributed in small amounts throughout the intrusive rocks.

To some extent the quartz diorite grades into a dark basic rock of the gabbro type. This rock contains many scattered irregular quartz and calcite stringers. Although the quartz of these stringers often contains chalcopyrite, study of hand specimens indicates that the copper mineral is principally disseminated in the diorite itself. The diorites of Orange Hill are much weathered and decomposed at the surface, but oxidation generally extends to only a few feet in depth where the unaltered sulphides are found. There will be no zone of enrichment in this deposit on account of its having been so recently glaciated.

Near the west end of the Glacier Claim at an elevation of 2,806 feet and 20 feet above the foot of the hill, a tunnel has been driven in a direction of N 70° E for a distance of 16 feet. This tunnel shows dissemination of chalcopyrite through the diorite.

About 500 feet north of the above tunnel and near the west end of the Nabesna claim a tunnel has been driven in a direction of S 25° E for a distance of 45 feet. This tunnel is 24 feet above the base of the hill. It shows the same scattered chalcopyrite mineralization in the diorite.

On the California claim, near its west end, a tunnel 16 feet in length shows chalcopyrite scattered through the diorite and also shows a number of quartz and calcite stringers. The quartz stringers contain some chalcopyrite.

Another tunnel driven south from the side of a small gulch, which is a tributary of the deep California Creek Gulch, near the southeast corner of the California claim shows similar chalcopyrite mineralization in its face. This tunnel is 10 feet in length. Several pits and shafts on Orange Hill were caved in and could not be examined.

Along California Creek Gulch and the tributary gulches the same chalcopyrite mineralization shows in the diorite. The creek has carved a canyon from 100 feet to 400 feet deep which exposes the fresh diorite on its walls close to the creek bottom.

Over 2,100 feet of diamond drill holes have been driven into this hill which are said to show an average content of less than 1 per cent of copper.

Adjoining the Orange Hill claims on the east are a number of claims owned by the Alaska Nabesna Corporation, which cover a zone of copper mineralization in the Carboniferous limestone along and near its contacts with intrusive rocks. These contacts are exposed along the mountain and extend in a southeasterly direction. The limestones are generally massive, but in a few places show a more thinly bedded structure. These beds have a thickness of over 1,200 feet vertically, which may represent considerably more than the actual thickness due to tilting and faulting. They trend in a northwest-southeast direction and dip from 17° to 30° to the northeast. Along and in the vicinity of the contacts the limestones show intensive alteration to garnet. The contact minerals magnetite, pyrrhotite, and chalcopyrite are present in relative amounts as listed.

On the Lemon Extension No. 2 claim about 450 feet from the west end line and near the center, a tunnel has been driven for a distance of 90 feet and at an elevation of 3,365 feet. This tunnel is in limestone which is heavily mineralized with garnet, magnetite, pyrrhotite,

and chalcopyrite. The following section is exposed by this tunnel which has a direction of S 77° E.

Mouth of tunnel to point 28 feet in	Massive limestone showing some green garnetization, but no sulphides.
28 feet to 50 feet, fault shows crossing tunnel 90°	Limestone heavily mineralized with garnet, magnetite, pyrrhotite and chalcopyrite.
50 feet to 80 feet, 12 inches wide fault crosses tunnel and cuts off mineralized lime	Heavily mineralized with magnetite and chalcopyrite.
80 feet to 90 feet	Light colored limestone showing slight mineralization.

A diamond drill hole driven under the supervision of Mr. Carlyle Weiss from a point in front of the entrance to this tunnel showed the following log:

No. 11 drill hole having total depth of 188 feet and an angle of dip of 33°.

0-22'	Rock cut is lime and garnet with some quartz.
22-34 1/2'	Cut into solid white iron, most of it showing copper stain on the surfaces; malachite stain in contacts and joints. Rock apparently is solid iron sulphides with the black magnetic variety filling in between the white iron. Shows little signs of oxidation.
34 1/2 - 42 1/2'	Abruptly changes to lime with garnet, showing some streaks of white iron and apparently chalcopyrite. The iron is variable, some places heavy, others light deposits.
42 1/2 - 56 1/2'	Rock cut was chiefly quartz and garnet.
56 1/2 - 68 1/2'	Blue gray lime with iron stain and some white iron, Latter part of core is less mineralized.
68 1/2 - 75 1/2'	Continuation of lime with considerable oxidized iron and some white iron.
75 1/2 - 81'	Lime with some quartz and garnet showing spotted crystallization of white iron.
81 - 82'	Cut through stringer of solid white iron showing some copper stain.
82 - 108'	Lime garnet with crystallized mineralization of white iron appearing throughout.
108 - 188'	Core for this distance was mixed and out of order. Mineralization appears to be thinning out and most core shows practically none. Rock is lime with garnet and quartz and chiefly blue gray color.

Assays of the cores showed the following:

- B-57 Core from 0-28', copper 3.8%
- B-58 Core from 28-34 1/2', copper 3.7%
- B-23 Sludge from 22-27', copper 2.85%
- B-59 Core from 34 1/2 - 42 1/2', copper 2.7%
- B-60 Core from 56 1/2 - 81', copper 0.5%
- B-61 Core from 81-108', copper 0.3%
- B-62 Average of all core from hole, copper 0.95%

There is such a quantity of magnetic minerals (magnetite and pyrrhotite) present in the limestone in the vicinity of this tunnel that the compass needle is deflected as much as 180° on account of which it was difficult to take compass readings in the vicinity.

An opencut 56 feet higher than and directly in line with the tunnel shows the same altered line with magnetite, pyrrhotite and chalcopyrite in considerable amounts. The bed-rock surface for some distance above this cut is obscured by overburden and vegetation, making it impossible to trace the mineralization beyond the bluff where the tunnel and opencut are located. No intrusive rocks are exposed within several hundred feet of the tunnel. About 300 feet south of the tunnel there is a large quantity of diorite talus showing in a gulch. This has probably moved down the mountainside from a location much higher. About 800 feet south from the tunnel, there is a dike of light colored siliceous porphyry rock (probably granodiorite) about 50 feet thick, cutting through the limestone in a northeast direction. This dike shows higher up on the limestone bluffs on the Lemon Extension No. 3 claim.

On the Lemon Extension No. 3 claim about 150 feet east of the granodiorite dike and 50 feet higher, is a mineralized outcrop in limestone which has been greatly silicified. On the outcrop are two cuts which show some chalcopyrite and considerable carbonate coating on the rocks. The body of mineralized material at this place does not appear to be large.

On the Copper King North Extension No. 1 claim a similar mineralized zone occurs along a light colored limestone bluff for over a thousand feet in length. This mineralized area is irregular and spotted. Close to the east end of the claim at over 4,600 feet elevation, some opencuts and diamond drill holes have prospected a large mineralized zone which occurs there. A cut 50 feet in length along the mountainside shows lime with chalcopyrite, bornite and copper carbonates. Just above this cut at an elevation of 4,670 feet is a tunnel about 6 feet in length. This tunnel shows mineralization similar to that in the cut below. A diamond drill hole driven from a point a few feet east of this tunnel showed the following log:

- No. 14 drill hole having a total depth of 93 feet and an angle of dip of 5° up.
- 0 - 10' First 10 feet was loose side crush and removed by shovel in placing drill.
  - 10 - 15' Oxidized strata of lime and garnet rock showing traces of copper stain, bornite and chalcopyrite.
  - 15 - 20' Going into heavier lime showing good stringers of bornite with chalcopyrite.
  - 20 - 25' Core is stained lime, cutting many cross stringers of chalcopyrite, some as thick as 3/16 inch.
  - 25 - 30' Practically a continuation of last 5 feet.
  - 30 - 34 1/2' Lime becomes more dense giving longer pieces of core. Core shows crosscut mineralization principally chalcopyrite.
  - 34 1/2 - 39' Practically a continuation of above.
  - 39 - 44' First 2 feet is a continuation of last core showing chalcopyrite in crosscut formation. Last 3 feet goes into red lime showing only a little mineralization of chalcopyrite in feather-edge veins.
  - 44 - 47' Lime becomes harder showing a little quartz. Mineralization is poor.
  - 47 - 49' Continuation of last mineralization showing a little.
  - 49 - 54' Core goes into white lime again showing small pockets of bornite.
  - 54 - 61' Dense lime stained and showing small pocket mineralization.
  - 61 - 68 1/2' Into red rock again with almost no mineralization.
  - 68 1/2 - 71 1/2' Continuation of dense stained lime with heavy cross vein mineralization of bornite and chalcopyrite.
  - 71 1/2 - 74' Going into white lime with cross contacts of solid pure white lime showing some bornite present.
  - 74 - 84' Denser lime with small pockets and stringers of bornite, chalcopyrite, and shows cut of mineral pocket apparently MoS<sub>2</sub> at about 76' depth.
  - 84 - 89 1/2' Into dark rock carrying some bornite and chalcopyrite. At 86' depth molybdenite found in spattered pockets. Mineralization becomes poorer as core advances. Hard gray porphyry rock at 88 feet depth.
  - 89 1/2 - 93' Continuation of gray rock with green stain and some little mineralization on contact and seams.

Assays of the above cores showed the following:

B-17	Core from 10-15', copper 8.2%
B-18	Core from 15-16 1/2', copper 9.5%
B-19	Core from 16 1/2 - 18 1/2', copper 0.7%
B-20	Core from 18 1/2 - 20', copper none
B-21	Core from 20-25', copper 1.5%
B-42	Core from 25-41', copper 0.75%
B-43	Core from 41-49', copper 1.5%
B-44	Core from 49-61', copper 1.65%

B-22	Core from 74-79', copper 0.6%
B-45	Core from 61-74', copper 0.4%
B-46	Core from 79-84', copper 0.7%
B-47	Core from 84-88', copper 0.9%
B-48	Core from 88-93', copper 0.9%

The higher portions of the mountains containing these copper-bearing zones are capped by younger lava flows. The extension of the limestone contact with copper mineralization has been found three claims beyond the Copper King North Extension No. 1 claim where it is said to show values similar to the above. The exposures were not examined by the writer.

ESTATE ADMINISTRATION  
TAXES - PROBATE

JAMES C. DULIN, JR.  
COUNSELOR AT LAW  
MIBBS BUILDING  
WASHINGTON, D. C.

TELEPHONE  
NATIONAL 2623

September 7, 1943

Mr. B. D. Stewart  
Territorial Mines Commissioner  
Juneau, Alaska

Dear Sir,

Please forward to me a copy of the "Report on cooperation between the Territory of Alaska and the United States in making mining investigations and in the inspection of mines for the Biennium ending March 31, 1931"

I am President of the Alaska Nabesna Corporation which owns Orange Hill and some adjoining property at the head of the Nabesna River and the Geological Survey in Washington suggested that I write you. If there is a charge I will remit when advised.

Yours very truly,

*James C. Dulin, Jr.*

*R.S.  
copy  
sent  
89-74*

October 7, 1943

Mr. James C. Dalin Jr.,  
Counselor at Law,  
Hibbs Building,  
Washington, D.C.

Dear Mr. Dalin,

This acknowledges receipt of your letter to me dated  
September 7, 1943.

It is very much regretted that the supply of my report  
for the biennium ended December 31, 1931 is so completely  
exhausted that only one file copy remains available here.

However, I have had made a typed copy of the section of  
that report that deals with the Orange Hill and adjacent property  
of the Alaska Nabesna Corporation, which copy is herewith  
enclosed. Several additional typed copies are available in  
case you should require more than the one now being sent.

Very truly yours,

B. D. Stewart,  
Commissioner of Mines



ESTATE ADMINISTRATION  
TAXES - PROBATE

JAMES C. DULIN, JR.  
COUNSELOR AT LAW  
HIBBS BUILDING  
WASHINGTON, D. C.

TELEPHONE  
NATIONAL 2623

October 26, 1943

Mr. B. D. Stewart  
Commissioner of Mines  
Juneau, Alaska

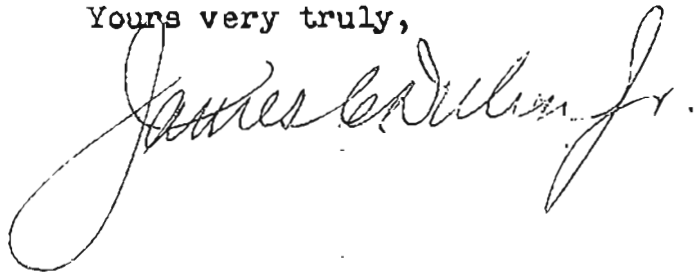
Dear Sir,

Your letter of the 7th instant with enclosure has been received.

I appreciate very much the transcript from your report for the biennium ended December 31, 1931, of that part about Orange Hill and the adjacent property of the Alaska Nabesna Corporation.

I would also appreciate two additional copies of this information while they are now available.

Yours very truly,

A handwritten signature in cursive script, reading "James C. Dulin, Jr.", written in dark ink. The signature is fluid and extends across the width of the page, with a large loop at the end.

November 6  
1943

Mr. James C. Dulin, Jr.  
Counselor at Law  
Ribbs Building  
Washington, D. C.

Dear Sir:

In response to the request contained in your letter of October 26th which has just been received, there is enclosed "Extract from Report on Cooperation Between the Territory of Alaska and the United States in Making Mining Investigations and in Inspection of Mines for the Biennium Ending March 31, 1931", in duplicate.

Very truly yours.

B.  
Enclosures

B. D. Stewart  
Commissioner of Mines