Cripple Creek Fluorite Deposit, Fairbanks Mining District

by R.V. Berryhill

Nov, 1963

Field Report

Cripple Cr
Fairbanks Quad

Berryhill

Area VIII

November 4, 1963

Memorandum

To: R. L. Thorne, Project Coordinator, Area VIII Mineral Resource Office

From: Project Leader, Area VIII Mineral Resource Office

Subject: Cripple Creek Fluorite Deposit Summary Report

Attached is Form 6-303, Summary Report of Minerals Examination for the examination of a fluorite deposit on Cripple Creek in the Fairbanks district, Alaska.

A mineralized fault zone in which fluorite occurs was exposed several years ago during stripping in preparation for dredging operations on Cripple Creek by the United States Smelting Refining and Mining Company. The fluorite mineralization apparently was not recognized until the spring of 1963. Most of the fault zone by then had been covered with muck sloughed from cut banks which surround the dredging area. A small amount of additional stripping was done by the company in June 1963 to indicate the quantity of fluorite. They found highly fractured masses of fluorite irregularly dispersed along a large fault zone; other needs for equipment did not permit full stripping of the deposit.

At the time of my examination, most of the deposit was covered with muck and/or had been recovered by sloughing; only one small outcrop was observed. It was not possible to properly sample and attempt a valuation of the fluorite occurrence. Work consisted of making a Be meter survey in the deposit area; no beryllium was detected. Select specimens of fluorite were taken for petrographic analysis. Schist and limestone float indicate the bedrock type in the area.

The company plans to expose the fault zone by dragline stripping in 1964. Stripping will be done after they have completed their dredging operations in the Cripple Creek hole. The deposit should be re-examined when it has been reopened. The mineralogy is favorable for beryllium and the company has expressed an interest in Bureau of Mines assistance, particularly with the beryllium detector.

I have attached a photograph of the deposit area.

R. V. Berryhill

Attachments

Area VIII

November 4, 1963

Mr. J. D. Crawford, Vice President
and General Manager of Alaskan Operations
United States Smelting Refining and Mining
Company
P. O. Box 1170
Fairbanks, Alaska

Dear Mr. Crawford:

On September 20 I discussed with you the fluorite mineralization along the fault zone on the right limit of your Cripple Creek cut. I was later able to examine the cut and complete a rough beryllium survey using our portable detector; no beryllium was found. Our detector source (Sb 124) was approximately two months old at the time of the survey; our lowest limit of detection (by check against our standard samples) was between 0.1 and 0.2 percent BeO.

As you are aware, most of the fault zone was covered with sloughed muck and it is entirely possible that we may have missed any beryllium mineralization. I did observe a moderate amount of limestone float which is a favorable host rock.

Because the mineralogy is favorable for beryllium, the fault zone should be scanned in detail when and if it is reopened. If we can be of assistance, please let us know.

Sincerely yours,

R. V. Berryhill
Mine Examination and Exploration
Engineer

CC:
Bruce I. Thomas, Fairbanks
Berryhill
Min. Files

RVBerryhill:jc

Area VIII

February 14, 1964

Memorandum

To: R. L. Thorne, Project Coordinator, Area VIII Mineral Resource Office

From: Project Leader, Area VIII Mineral Resource Office

Subject: Supplement to Summary Report and Form 6-803, Cripple Creek CaF_2

Attached are a sketch map showing sample locations and sample laboratory reports for the Cripple Creek fluorite deposit. Also attached is a copy of a letter to Mr. Crawford of the USSR&M Co. dated November 4, 1963. The laboratory data confirm the conclusions given in the summary report and in the letter to Mr. Crawford; virtually no beryllium is indicated; no radioactivity and fluorescence were detected.

The samples submitted by Bruce I. Thomas (petrographic report 3-128) contain predominantly fluorite and are quite similar to my sample No. 900 (report 3-171). Virtually no beryllium is present intimately associated with the better fluorite. Sample 901 represents the limonite-stained quartz fault gouge containing lesser fluorite; the fluorite is mostly ground to powder. Field observations indicated bedrock is predominantly quartz and micaceous schist but sample 902 confirms the presence of some limestone.

No further laboratory or field work is presently planned, but as previously suggested, the deposit should be evaluated for the fluorite and/or possible beryllium content when it is reopened.

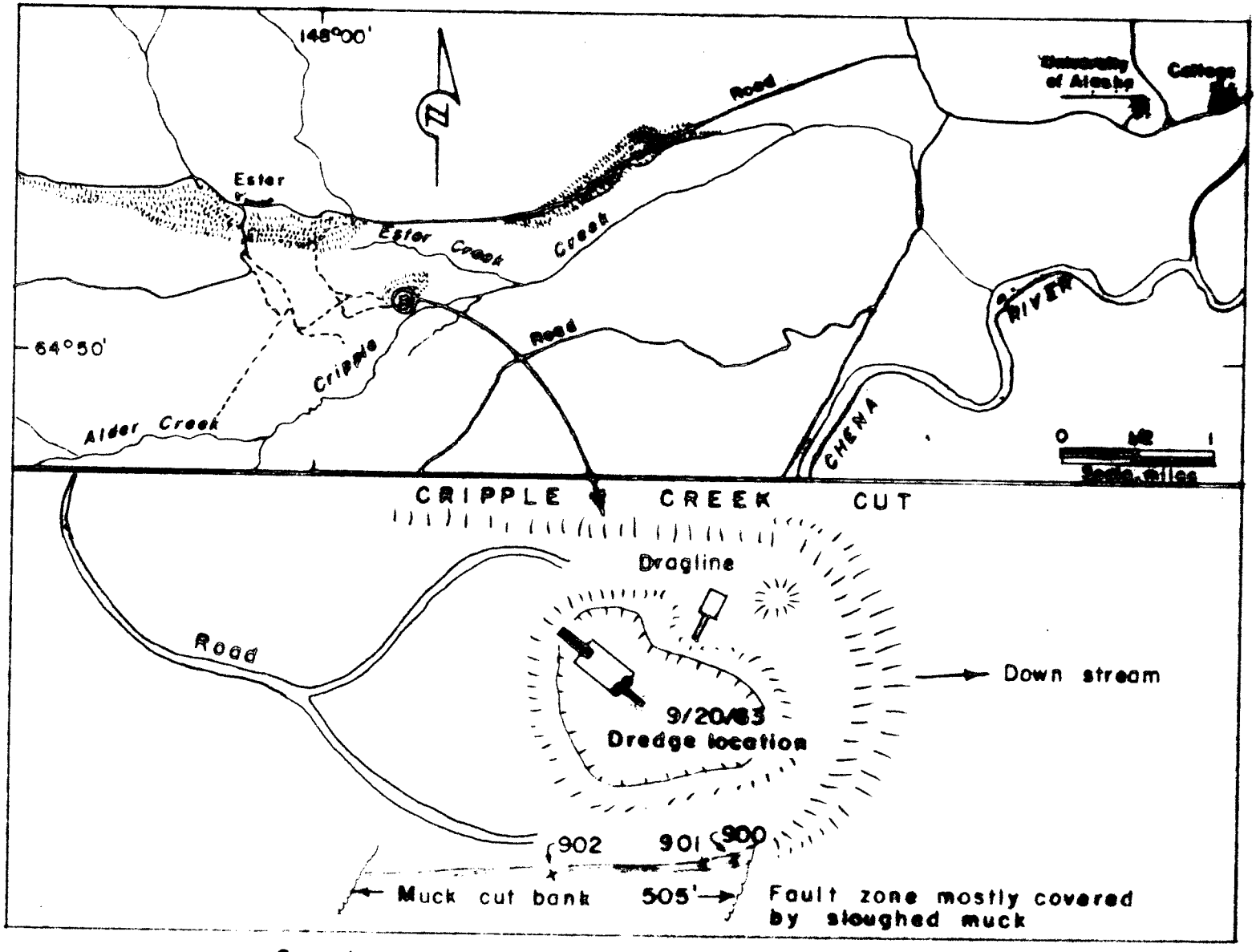
Berry

R. V. Berryhill

Attachments

cc:
Thomas
Berryhill
Min. Files

RVBerryhill:jc



Sample Locations, Cripple Creek Flourite Occurrence.

6-803
(January 1952)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

SUMMARY REPORT OF MINERALS EXAMINATION

State Alaska County Fairbanks Recording Dist. Mineral Products CaF_2 and BaO

Name of property or deposit **Cripple Creek Fluorite Deposit**

Date examined 9/21/[illegible] Engineer R. V. Dengler Date of this report 10/22/[illegible]

Reason for examination Ascertain if BaO occurs associated with recently discovered fluorite

Engineer accompanied by J. [illegible] Curtiss Address Juneau, Alaska

Extent of property Not determined

Owner United States Smelting Refining and Mining Co. Address Box 1170, Fairbanks, Alaska

Leased or optioned to ---- Address ----

Location of property (be specific) 200 yards upstream from the lowest dredging on right limit of Cripple Creek in the Ester mining area, Fairbanks, Alaska

Type of deposit and mineralogy (brief description) Green to purple fluorite in fault zone, highly fractured and occurring as 10-foot to 15-foot masses. Limestone and schist float found in vicinity of the fluorite mineralization.

Known dimensions of the deposit Not determined
Length ..... Width ..... Depth .....

Attitude of the deposit (strike, dip, etc.) Not determined

Possible extensions; correlation of known showings The deposit was exposed during the placer mining on the right limit of the Cripple Creek [illegible]. Subsequent sluicing of the alluvial cut bank has covered most of the deposit. The company management reports the fluorite occurs as large irregular masses along a fault zone of indetermined width and displacement; the fault zone is at least [illegible] feet wide.

Mine workings (brief description or attach map or sketch) (indicate whether accessable)

None

(over)

Mining and milling equipment on property [illegible]

Past production (if any) [illegible] fluorite production

Present rate of production (if any) None

Sampling (describe briefly, or attach sketch) Indicated float and fluorite samples taken for analysis

Tentative Estimate of Reserves

(Subject to revision when assays are received or after engineering calculations)

Measurable Not applicable tons Grade

Indicated Not applicable tons Grade

Inferred Not applicable tons Grade

Mining method (actual or suggested) None

Milling or processing method (actual or suggested) None

Processing tests suggested None

Tentative conclusion and decision The mass of fluorite was partially exposed during the examination. The area in the vicinity of the exposure was scanned for beryllium with a portable detector; no Be was indicated.

To be accompanied by brief letter giving examining engineer's general impression of the deposit, his impression of the owner, and any other confidential information he may care to submit. Refer to any known prior examinations and reports. May be executed in pencil. Should be mailed within 24 hours after examination is completed.

Send original and one copy to Washington Office.

PETROGRAPHIC REPORT Proj: 14.4280.5
Bureau of Mines
Area VIII
Petro No. 3-171

Report to: R. L. Thorne
Sample source: Left Limit Cripple Cr. Fairbanks
Sample numbers: 900, 901, & 902-RRX-63
Date received: October 1963
Submitted by: R. W. Berryhill

Reported by: Walter L. Gamzy
Date reported: 12 - 20 - 63
Request: Rock type; minerals major mino

	SAMPLES									
	900	901	902							
Rocks:										
fluorite vein	C	C								
limestone			C							
Minerals:										
calcite			P							
chlorite		S								
sericite	-	-								
fluorite	P	A								
limonite		T								
muscovite		S								
quartz	M	P	S							
scellaite	-	-								

Remarks: Radioactivity and fluorescence were not detected.

Legend:

P - Predominant	Over 50 percent		Numerals Percent
A - Abundant	10 - 50 percent		H - Highly magnetic
S - Subordinate	2 - 10 percent		W - Weakly magnetic
M - Minor	.5 - 2 percent		f - Fluorescent
F - Few	.1 - .5 percent		R - Radioactive
T - Trace	Less than .1 percent		C - Rock classification
X - Detected in sample			
- Sought but not detected			

PETROGRAPHIC REPORT Proj: 14.4280.5
Bureau of Mines Petro No. 3-171
Area VIII

Report to: R. C. Thorne
Reported by: Walter L. Gamgy
Sample source Left Limit Cripple Cr. Fairbanks
Date reported: 12 - 20 - 63
Sample numbers 900, 901, & 902-RBX-63
Request: Rock type; minerals major mino
Date received October 1963
Submitted by R. V. Berryhill

	SAMPLES									
	900	901	902							
Rocks:										
fluorite vein	C	C								
limestone			C							
Minerals:										
calcite			P							
chlorite		S								
cryolite	-	-								
fluorite	P	A								
limonite		T								
muscovite		S								
quartz	M	P	S							
sellaite	-	-								

Remarks Radioactivity and fluorescence were not detected.

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- Sought but not detected			

PETROGRAPHIC REPORT
Bureau of Mines
Area VIII

Proj: 14.4280.2 Central
Petro No. 3-123

Report to: R. L. Thorne
Sample source Cripple Creek Pit
Sample numbers *
Date received 9 - 6 - 63
Submitted by Bruce I Thomas

Reported by: Walter L. Gnagy
Date reported: 12 - 4 - 63
Request: Rock type; minerals major mino
- BeO-Geochemical -

	SAMPLES									
Geochemical:	196	197	198							
BeO, p.p.m.	1	0	1							
Spectroscopic:										
Ca F	X	X								
Al Ba Fe Li Sr Ti	T	T								
Be	-	-	-							
Al Ca F Fe			X							
Ba Li Mg Mn Sr Ti			T							
Minerals:										
chlorite	-	-	S							
cryolite-sellaite	-	-	-							
fluorite	P	P	P							
limonite			T							
quartz	A	A	A							
Fluorescence	-	-	-							
Radioactivity	-	-	-							

Remarks * 196-CC-63 = Lab. No. 63-885
197-CC-63 = " " 63-886
198-CC-63 = " " 63-887

Legend:

P - Predominant	Over 50 percent	Numerals Percent
A - Abundant	10 - 50 percent	H - Highly magnetic
S - Subordinate	2 - 10 percent	W - Weakly magnetic
M - Minor	.5 - 2 percent	f - Fluorescent
F - Few	.1 - .5 percent	R - Radioactive
T - Trace	Less than .1 percent	C - Rock classification
X - Detected in sample		
- Sought but not detected		

August 15, 1963

Fluorite; Grab

Cripple Creek pit

Bruce I. Thomas

	Be
196-CC-63	✓
197-CC-63	✓
198-CC-63	

6-303
(March 1943)

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

No.

Fluorite; Grab
Cripple Creek pit
Ref.: Petro. #3-128

Report to Mr. Bruce I. Thomas

Chemical Laboratory Report

Date received August 15, 1963

Date reported March 30, 1964

Serial No.	DESCRIPTION	Lot No.	% BeO
63-885	196-CC-63		<.005
886	197-CC-63		<.005
887	198-CC-63		<.005

U. S. GOVERNMENT PRINTING OFFICE 16—33553-3

Signed C. Birch (Analyst)