

327

GEOLOGICAL REPORT

NONDA CREEK SYNDICATE MINERAL CLAIMS

MILE 428 ALASKA HIGHWAY, B.C. 94K  
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P R E F A C E


This report has been prepared at the request of Mr. Harold R. Dicconson of the Nonda Creek Syndicate, 408 Imperial Bank Building, Edmonton, Alberta.

The Syndicate requests a report on two Mineral Claims, Pat and Pat #1, numbered 8187 and 8188 and registered with the British Columbia Department of Mines and located above the headwaters of Nonda Creek, in northern B.C., located at 58°-57'-20" North Latitude and 125°-31'-30" West Longitude, at an elevation of 6500 feet. The Claims are owned by Mr. Harold R. Dicconson of the City of Edmonton, in the Province of Alberta.

An attempt was made to inspect these claims during October, 1959 but due to the lateness of the season and snow at this elevation an examination of the Barite as to quality and quantity was not possible.

On May 27th and 28th, 1960, a detailed examination was made of these claims. A helicopter, owned by Associated Helicopters of Edmonton, was used for transportation between Toad River Lodge at Mile 428 on the Alaska Highway and top of Barite outcrop, a distance of ten miles.

Report is herewith attached.

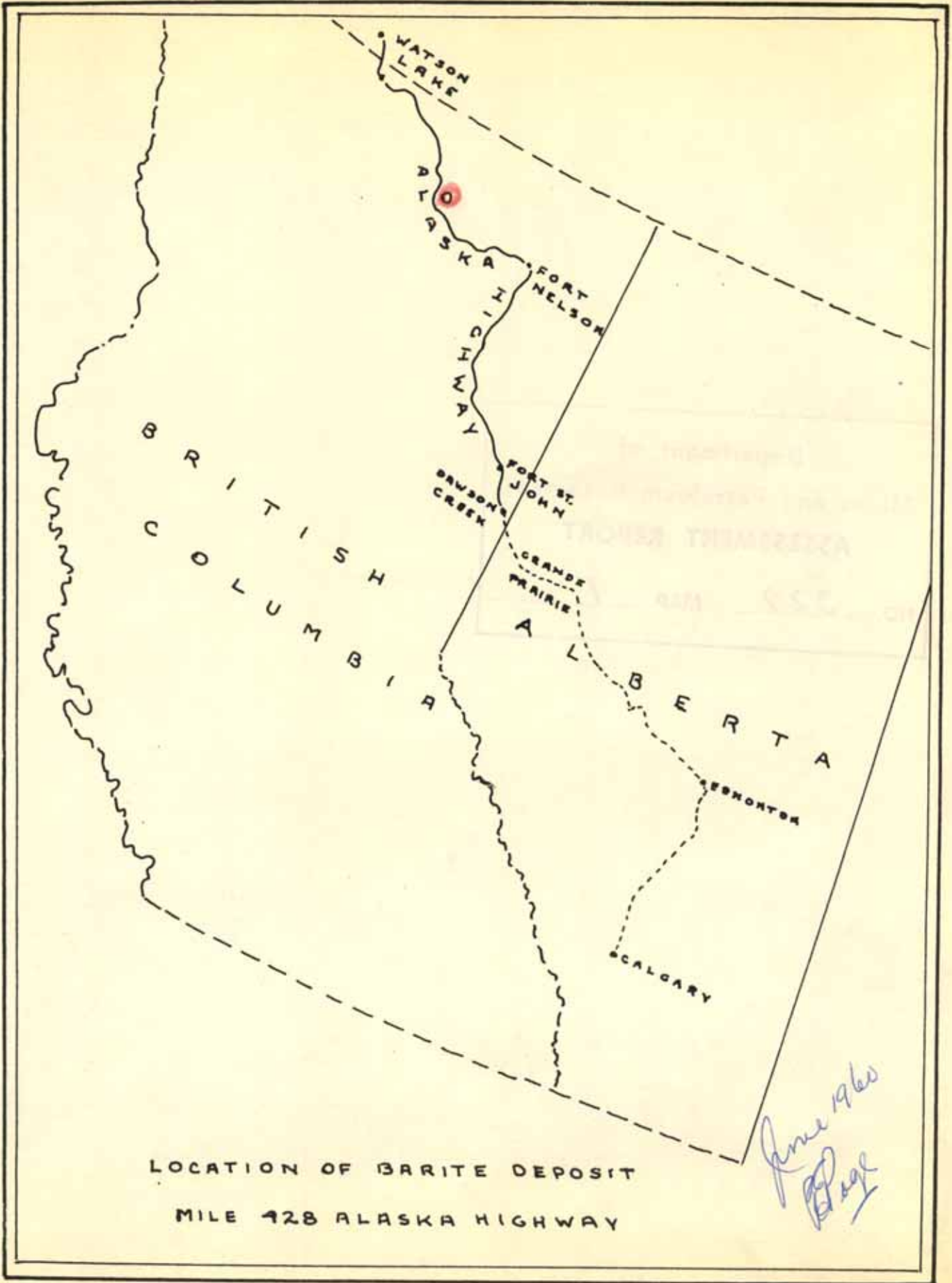
  
Percy E. Page, - P. Eng.  
Geologist

P. E. Page, Geologist  
EDMONTON, ALBERTA

T A B L E O F C O N T E N T S

<u>Page</u>	
1	Table of Contents
2	Location Map
3	Location and Access
4	Barite Occurrences in British Columbia
5	Contour Map
6 & 7	Geology
8	Computation of Quantity of Barite in Upper 400 feet.
9	Samples
10	Contours on Mineral Deposit
11	Comparison of Analyses Obtained
12	Copy of Provincial Analysts Report
13	Results of Analyses
14	Conclusion
15	Photograph 1 - Top of thrust fault.
16	Photograph 2 - Rock structure along line of fault, south of barite deposit.
17	Photograph 3 - Barite deposit at right showing "horse" structure.
18	Photograph 4 - Showing deformation of sediments at contact with Barite.
19	Photograph 5 - Extensive view of west contact.

Department of  
Mineral and Petroleum Resources  
**ASSESSMENT REPORT**  
NO. 327 MAP



LOCATION OF BARITE DEPOSIT  
MILE 428 ALASKA HIGHWAY

June 1965  
Page 1

LOCATION AND ACCESS  
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The two mineral claims cover a faulted residual deposit of Barite, Calcite and possibly Witherite, which extends from top of mountain down a 34 degree gradient for approximately 2000 feet. Width is consistent at approximately 150 feet, and elevation is from 6900 feet to 5500 feet.

Access from Edmonton is via highway to Dawson Creek, Fort St. John and the Alaska Highway to Mile 428. This road is now in excellent condition and much of it paved.

At Mile 428, Racey McCollum and Associates have erected a bridge across the Toad River and recently constructed twelve miles of gravelled road to service Microwave Tower being built by Canadian National Telegraphs as one of a chain to the new U.S. State of Alaska.

This road passes within two miles of the Nonda Creek Barite Deposit. When arrangements can be made with the Canadian National Telegraphs to use it, the transportation of ore from mine to Highway would be economical.

The one remaining engineering problem is to find the means of lowering Barite in quantity down the 45 degred mountain slope to point near new road where it can be trucked to Alaska Highway. There it can be milled to specifications, packaged and stored for truck transportation to other warehouses, scows or railheads.

BARITE OCCURRENCES IN NORTH EASTERN BRITISH COLUMBIA

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Construction and continued improvement of the Alaska Highway has made this part of B.C. accessible to ground transportation. Now it is possible to bring minerals of value from mines near the highway to outside points and railheads.

For twelve years various deposits of Barite have been held and developed near Summit Lake and Muncho Lake. These occurrences contain large quantities of Barite in impure form. Hertofores, a large quantity of Barite of sufficient purity for uses in drilling mud, paints and ceramics has not been discovered.

At Mile 397 the Alaska Highway crosses such a concentration of impure Barite in shales argillites and silicates. Trenching and diamond drilling have been done but to date, a large tonnage of comparatively pure Barite is not known near this point.

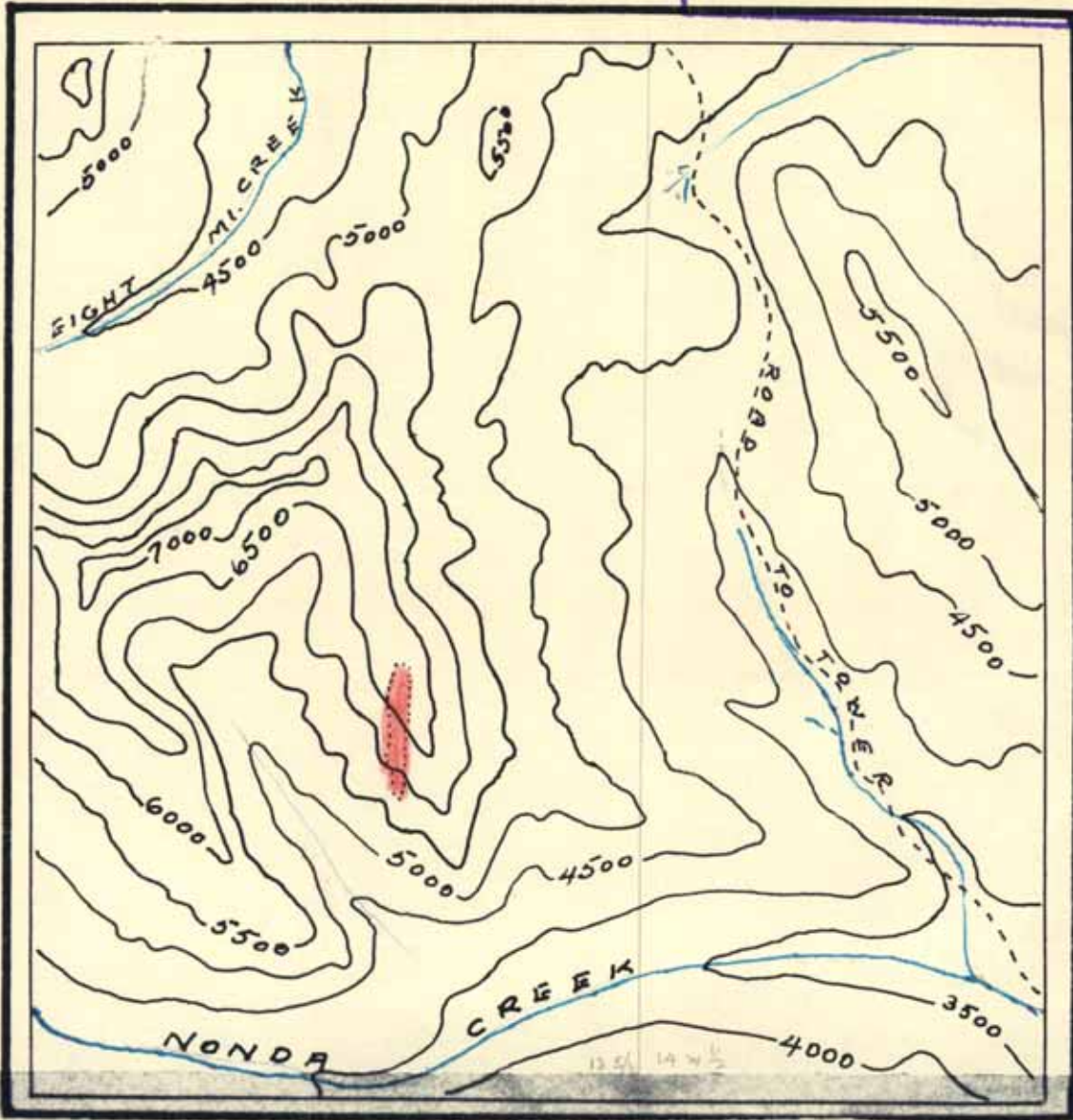
The properties of Barite which make it suitable as a weighting material in drilling mud; are high specific gravity - 4.3 or greater - and insolubility. Such properties occur only in minerals assaying over 92% by weight of barium sulphate.

In September 1959 the two claims on Nonda Creek were staked by a party headed by Harold Dicconson of Edmonton. Evidently this deposit, like many others in the area has been known for some time. It can be seen from a distance as a white streak on the mountainside. One prospector of the area tells of mistaking it for Quartz and when no associated metallic minerals were found, did not bother to claim the property.

*P. E. Page, Geologist*  
EDMONTON, ALBERTA

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 327 MAP 2



PLAN TAKEN FROM NATIONAL TOPOGRAPHIC  
MAP { 94 K-14 W 1/2 SHOWING LOCATION OF BARITE  
DEPOSIT ON 500' CONTOURS OF THE AREA.  
94 K-13 E 1/2

UPPER NONDA CREEK IS INDICATED, ALSO  
NEWLY CONSTRUCTED ROAD.

*June 1960*  
*[Signature]*

GEOLOGY  
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The Geological Survey of Canada in map 1045A shows this mountainous area as undivided Paleozoic. No detailed geological study or mapping, available to the public, has been made of Nonda Creek and vicinity. A number of oil companies are presently exploring this and adjacent areas for oil and gas. Some seismic and structural mapping has been done by them but this information is classified as confidential.

Mountains of the area are perhaps a series of thrust faults along zones of weakness in sedimentary formations of the Upper Devonian.

The Nonda Creek deposit of Barite, clacite and perhaps Witherite is the surface expression of such a thrust fault and appears to be a branch from the main fracture. Evidence of such a faulted north-south contact between argillaceous sediments - perhaps Fort Creek - and darker more calcareous - perhaps Hume - rocks may be traced for a distance of five or six miles.

The large displaced body of Barite appears to be residual, or perhaps in some parts, a replacement. Much of the material has weathered faster than contact rocks and has disintegrated down steep talus slopes. In places the outcrop is covered by rubble from higher weathered rocks. Large banks of comparatively pure Barite are evident throughout entire length of deposit.

GEOLOGY CONTINUED

Three hundred feet below top of deposit a large lense or "horse" of mottled argillite and Barite separates the main body of mineral. Width is approximately 40 feet and length approximately 100 feet, disposed at an angle of 45 degrees.

When samples were taken it was thought that all white material was commercial Barite of relatively high quality. Analysis has shown that mineral grading 92% or more occurs in lenses 30 - 50 feet in width.

More study will be required to differentiate between high quality Barite and that of lower grade, as they are both of the same white color. Evidently this can be done and mining methods will follow the good quality Barite, avoiding that of lower grade.



COMPUTATION OF QUANTITY OF BARITE IN UPPER 400 FEET

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Length 400 feet This was length over which samples were taken.

Width 150 feet Width is consistent and averages this figure.

Depth 100 feet Depth can only be determined by drilling. Deposit is sedimentary and 100 feet is considered a conservative estimate.

Number of cubic feet-  $400 \times 150 \times 100 = 6,000,000.$

Less "Horse"  $- 40 \times 100 \times 100 = 400,000.$

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5,600,000.

Tons in top 400 feet  $\frac{5,600,000}{8} = 700,000.$

From analysis and from estimate tons of quality Barite in upper 400 feet of deposit.  $- 500,000$

Because of weight of mineral taken it was not possible to sample more than upper 350 - 400 feet. Reconnaissance of most of remaining part of deposit disclosed banks of apparently good quality Barite equal or greater in width to those of upper part. In places continuity could not be determined because of rubble.

SAMPLES  
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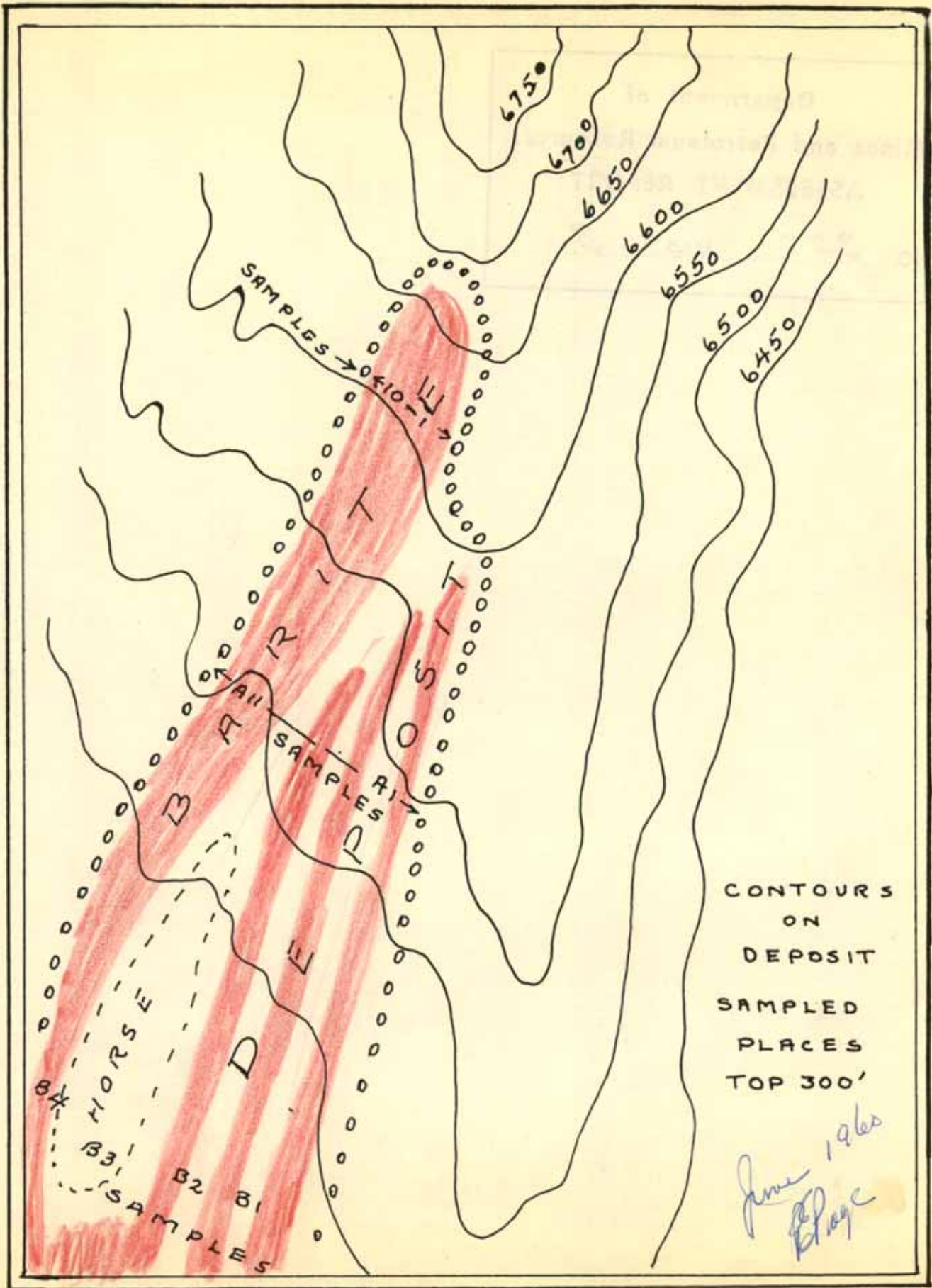
Twenty five representative samples from the upper 400 feet of the Barite deposit were taken; ten, a short distance below top of outcrop, eleven from approximately 100 feet below this, and 4 from the 350 foot level.


All samples were taken from rock "in place" or evidently "in place" as weathering has penetrated several feet into formation.

Each sample was later divided into two nearly equal amounts and first set sent to the Provincial Analyst, Edmonton. The second set was sent to Chemical and Geological Laboratories, Calgary.

It cannot be assumed that samples are identical, but they should yield approximate results since they were taken from same place on deposit.

Rubble covered and weathered surfaces prevent any obvious difference of appearance between the relatively pure barite and the calcite witherite or other impurity as shown by the analysis. When mining or quarrying operations are begun it is believed that only best quality barite will be taken and the limestone or other lenses avoided.



 High Grade Barite

Scale ?

COMPARISON OF ANALYSES OBTAINED BY:

PROV. ANALYST *Baren Sulphate* CHEM & GEOL. LAB.

	<i>Percent by wt</i>		Percent by weight	
1.		Trace		0.4
2.		Trace		1.0
3.		69.48		87.4
4.		95.44		96.9
5.		97.51		97.7
6.		97.75		97.6
7.		98.2		97.9
8.		97.81		98.2
9.		7.79		2.5
10.		6.10		62.4
A 1.		2.63		1.5
A 2.		87.38		99.2
A 3.		18.41		15.9
A 4.		Nil		2.4
A 5.		Nil		6.6
A 6.		17.09		48.7
A 7.		71.93		99.8
A 8.		59.99		7.4
A 9.		11.08		2.6
A 10.		2.55		1.7
A 11.		60.71		81.4
B 1.		5.58		7.1
B 2.		75.87		98.3
B 3.		4.86		3.5
B 4.		95.45		98.0

UNIVERSITY OF ALBERTA

C. Emerson Noble  
Chemical Engineer  
Director Industrial Lab.  
Provincial Analyst

Edmonton Alberta  
28 June 1960

Sample of Baryte #4.

Submitted by Nonda Creek Syndicate C/o Harold Dicconson  
9921 - 101A Ave.  
Edmonton Alberta


Labratory Number - 60 - 4845

Barium Sulphate	95.44%
Ignition Loss	0.15%
Ferric Oxide	0.20%
Aluminum Oxide	1.80%
Silica	0.17%
Magnesium Oxide	Nil.
Calcium Oxide	1.83%
Sulphide Sulphur	0.26%
Moisture	0.12%

Signed C. Emerson Noble  
Director,  
Industrial Laboratories.

1959 Sample of Barite - Assayed by Provincial Analyst

Specific Gravity	4.44%
Ignition Loss	1.24%
Barium Sulphate	96.31%
Silica	1.14
Sodium Sulphate	;40%
Iron Oxide	;25%

  
P. E. Page, Geologist  
EDMONTON, ALBERTA

RESULTS OF ANALYSES

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Allowing for reasonable differences in samples and reasonable differences in analytical procedure, the results obtained by Chemical and Geological Laboratories of Calgary and the Provincial Analyst, Edmonton, are comparable; with the exceptions of samples 10 and A8.

It is suggested that either of the technicians may have exchanged the samples inadvertently.

When this possibility is accepted, the two analysis show a comparable concurrence in quantity of high quality Barite. Lenses and contact wallrock of less pure material are also indicated.

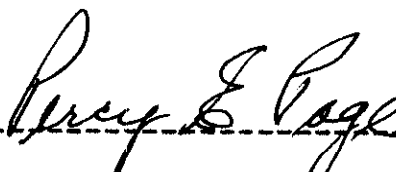
A complete analysis has been obtained on two samples. Percentages of minor elements and compounds are low, particularly sulphide sulphur and moisture.

Samples of contact material and wallrock are low in barium sulphate as can be expected. Extensive thicknesses of excellent quality Barite are indicated. Lenses of low grade material occur at contact and near "horse" structure.

Sample 11A was selected to contain contact material as also was B1. Sample B3 was of mottled appearance and evidently low in barium sulphate.

CONCLUSION

1. This is a major occurrence of Barite of the quality indicated by analysis.
2. 500,000 tons of this Barite were calculated in upper 400 feet of deposit.
3. Reconnaissance of remainder of deposit indicated quantities greater than in upper part and apparently of equal quality.



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Percy E. Page. P. Eng.

Geologist.

Edmonton Alberta

28 June 1960

NONDA CREEK BARITE DEPOSIT

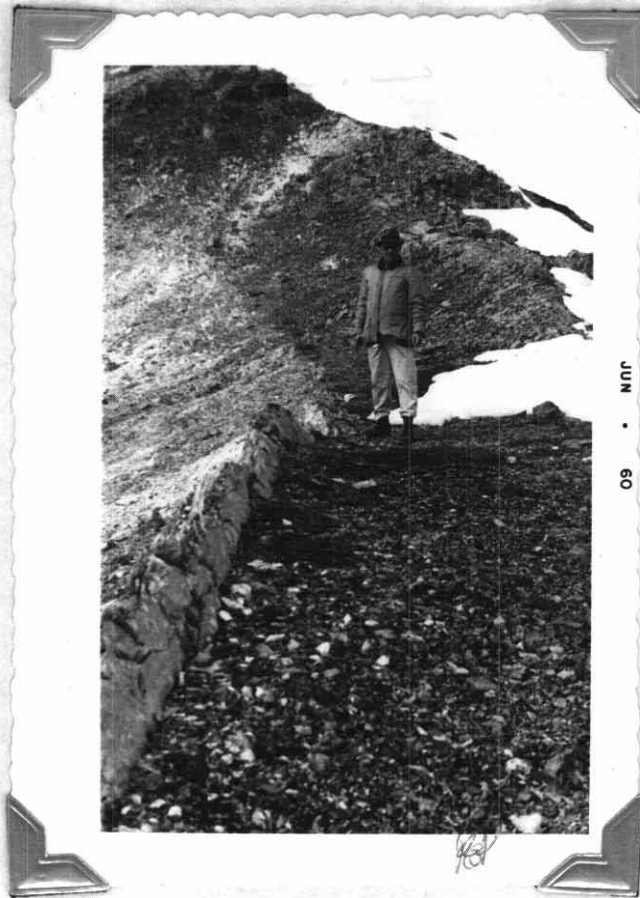


Photo 1.

Top of thrust fault at top of Mountain showing Barite at left in contact with dark calcareous shale at right  
Strike; north - south Dip; 80 degrees

*Handwritten signature*



NONDA CREEK BARITE DEPOSIT

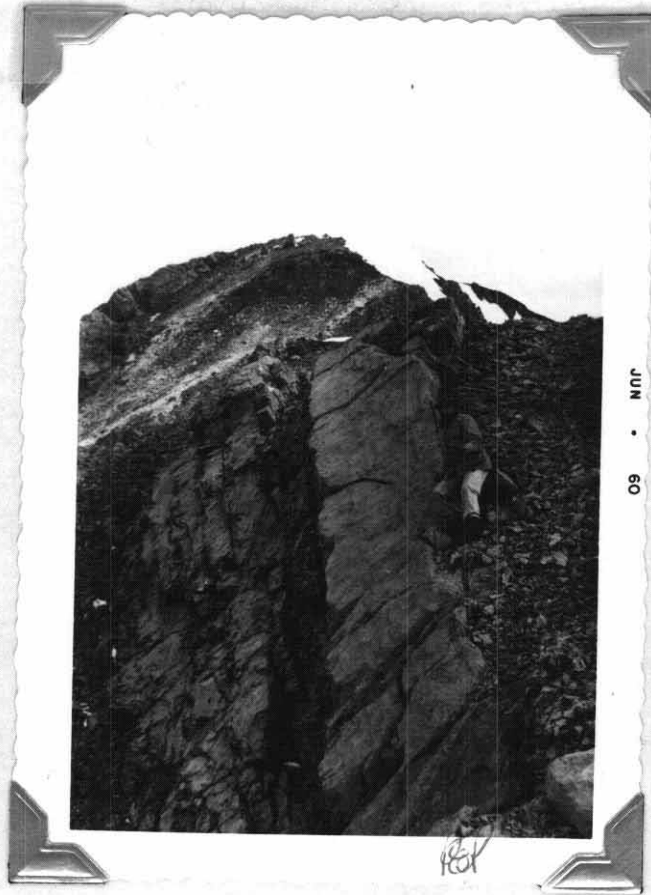


Photo 2.

Rock structure along line of fault, south  
of barite deposit showing contact of thrust  
fault with shale sediments.

Strike: north-south Dip: 90 degrees

*BB*

NONDA CREEK BARITE DEPOSIT

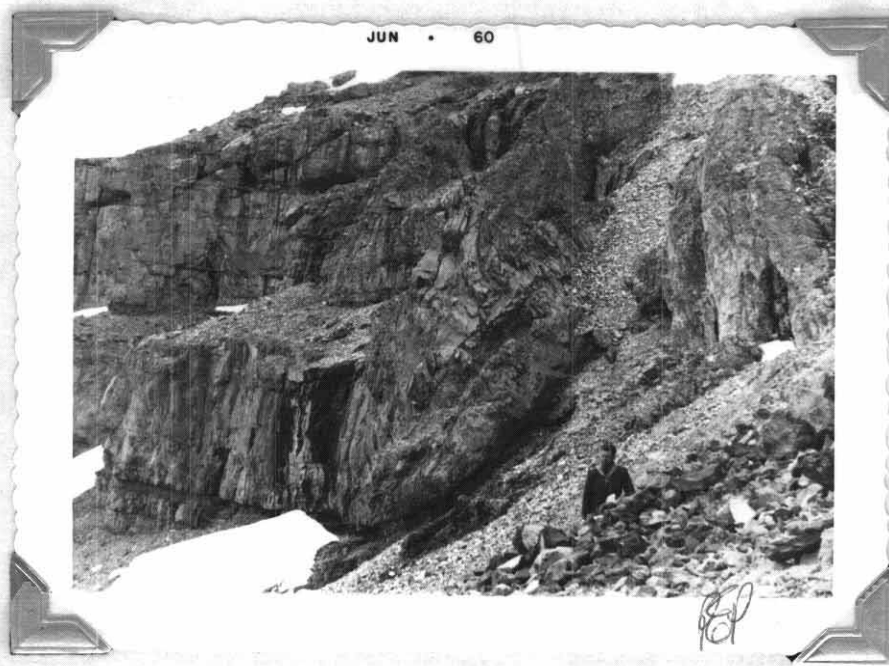


Photo 3. Barite deposit at right showing "horse" structure and horizontal sediments adjacent to fault.

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NONDA CREEK BARITE DEPOSIT

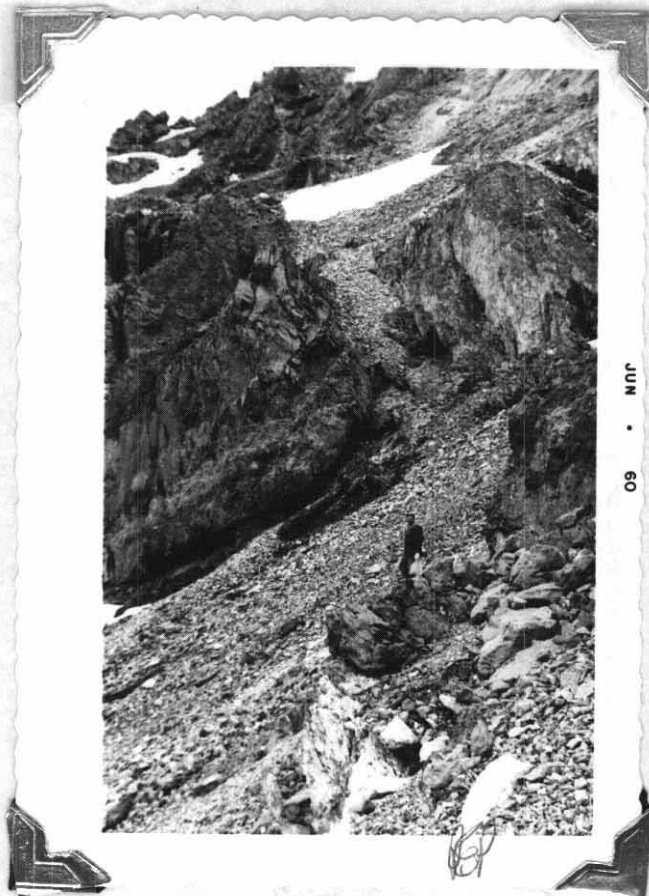


Photo 4.

Showing deformation of sediments at  
contact with Barite  
Foreground, Barite with rubble covered  
barite formation beyond.

*Boyer*

NONDA CREEK BARITE DEPOSIT

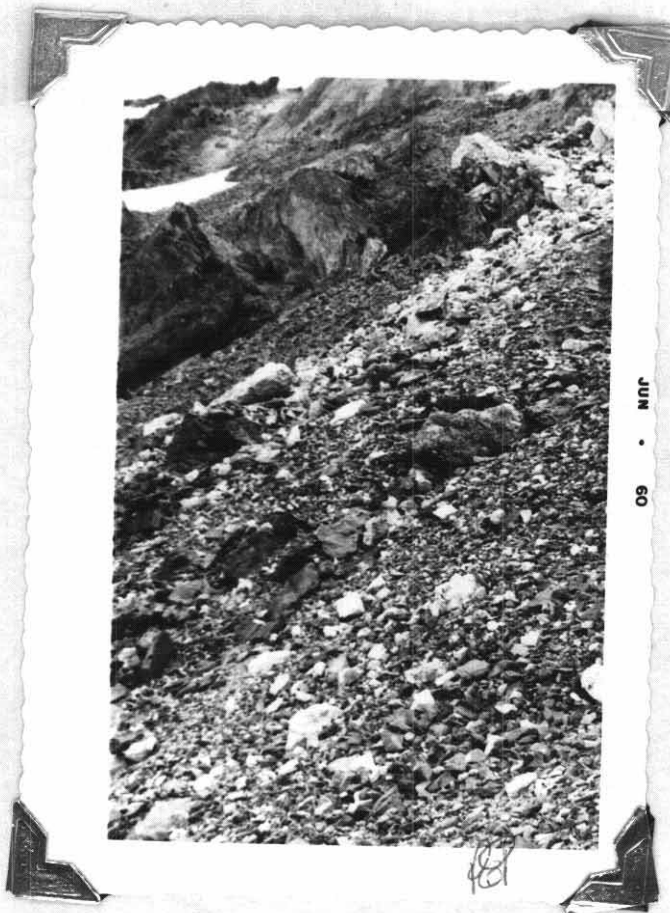


Photo 5.

Extensive view of west contact.

Looking up from 800 feet below top

White material and much of darker material

is Barite.

*P. J. ...*