

MAP NO.: ASSESSMENT REPORT X
105 F 14 & 15 PROSPECTUS
CONFIDENTIAL X
OPEN FILE

DOCUMENT NO: 092135
MINING DISTRICT: WHITEHORSE
TYPE OF WORK: GEOLOGICAL

REPORT FILED UNDER: James S. Dodge

DATE PERFORMED: August 1987

DATE FILED: May 9, 1988

LOCATION: LAT.: 61°50'N

AREA: Barite Mountain

LONG.: 133°01'W

VALUE \$: 600.00

CLAIM NAME & NO.: RITE 1-2 YA97267-368

WORK DONE BY: James S. Dodge

WORK DONE FOR: James S. Dodge

DATE TO GOOD STANDING:

REMARKS: #32 BARITE MOUNTAIN

In 1988, grab samples were taken from three of the veins and analysed for calcium content. The samples assayed 54 ppm, 60 ppm and 6 ppm Ca respectively, well within the limits for commercial-grade barite. Two samples were sent for accurate specific gravity determination.

092135
GEOLOGICAL REPORT
RITE 1-2 QUARTZ CLAIMS

MAP SHEET 105F 14 & 15
61°50'N; 133°01'W

JAMES S. DODGE, P.ENG.
02 May, 1988



This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representation work in the amount
of \$ 600,000.

J. H. Bremner
for Regional Manager, Exploration and
Geological Services for Commissioner
of Yukon Territory.

600,000

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SUMMARY

A geological reconnaissance was conducted in August, 1987 on the RITE #1 and #2 barite claims situated on the eastern slope of Barite Mountain south of Ross River, Yukon.

A swarm of sub-parallel, steeply dipping veins of barite were identified with widths up to 2 meters and strike lengths of up to 75 meters.

The dolomitic host beds are in an overthrust block which is separated from the underlying younger rocks by a prominent, steeply dipping reverse fault. Barite probably was mobilized from baritic horizons in the underlying carbonaceous meta-sediments in the underthrust block.

Preliminary sampling indicates that the barite, particularly in the veins which exceed one meter in width, meets or exceeds the specifications required for its use as a weighting additive in oil well drilling fluids.

Core drilling will be an effective means of delineating a threshold tonnage for production of commercial grade barite.

The topographic setting, attitude and width of several of the most prominent veins indicates that it may be feasible by underground mining to produce a direct-grinding barite without beneficiation.

INTRODUCTION

This assessment report describes the collection and interpretation of geological and assay data on the two RITE quartz claims, RITE #1 and #2, during one full day of field work and one full day of report preparation on 25 August, 1987 and 02 May, 1988, respectively.

CLAIM OWNERSHIP

<u>Claim Name</u>	<u>Grant Number</u>	<u>Located By</u>	<u>Claim Sheet</u>	<u>Date</u>
RITE 1	YA 97368	James S. Dodge	105F 14/15	20 May 1987
RITE 2	YA 97367	James S. Dodge	105F 14/15	20 May 1987

A 50% interest in each of the two RITE claims was transferred by Mr. Dodge to both Dodgex Ltd. and H. Coyne & Sons Ltd., of 14 MacDonald Road, Whitehorse, Yukon on 20 May, 1987 under Quartz Regulations Documents Nos. 15966 and 15967, respectively. Dodgex Ltd. and H. Coyne & Sons, both private Yukon corporations, are holders now of all interest in the aforementioned claims.

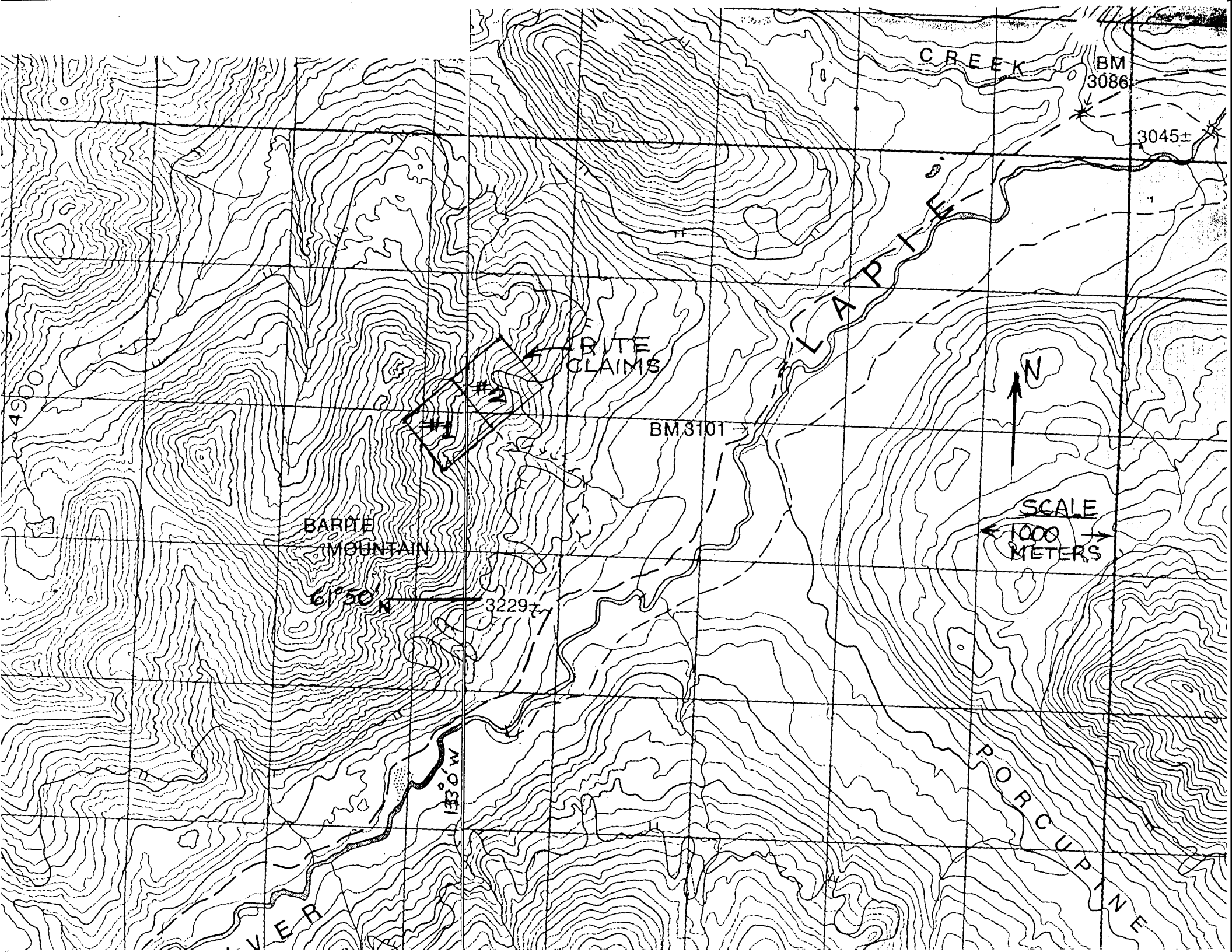
CLAIMS LOCATION AND ACCESS

The RITE group of two full-sized Quartz claims is located on claim sheets 105F/ 14 & 15 in south-central Yukon (Map I) approximately 42 kilometers southwest of the community of Ross River via the South Canol Road. The claims are immediately west of the Canol Road on the eastern slope of Barite Mountain situated at 61°50'30" north latitude and 133°01'30" west longitude.

The claims cover a steep mountain slope area ranging in altitude from 1372m-1708m (4500-5600 feet) largely above timberline (Photo 1). The two principal southeast draining gulches are prominent snow avalanche chutes. Surface water in the gulches from snow melt is usually dried up by the end of June.

Access to the claims is on foot along the steep, 4-wheel drive, switchback road leading 2.0km (1.2 miles) up the northeastern flank of Barite Mountain from a gravel borrow pit beside the South Canol Road near Kilometer 196.5.

The road climbs from the Canol Road at 978m (3209 feet) to the highest bulldozer cuts at 1386m (4545 feet) near timberline. The road is now impassable to vehicles because of the thick regrowth and several washouts which have occurred over the last 20 years. Nevertheless, the road can be made serviceable in one day with a D7-D8 bulldozer.



HISTORY

Occurrences of barite from the gulches draining a rugged mountain, subsequently named Barite Mountain, were noted during construction of the Canol Road in the early 1940's. The source veins of barite were originally discovered in 1944 by Mr. E. D. Kindle of the Geological Survey of Canada.

Claims covering the barite veins were successively staked by a number of prospectors over the ensuing years. However, the access road construction and bulldozer trenching was not conducted until 1968, while the property was held by Messrs. Peter Versluce and Jack Bradcoe of Whitehorse. There is no evidence that the bulldozer trenching in itself exposed any important barite mineralization. Nevertheless, many sizeable pieces of white barite with high specific gravities are scattered throughout the unconsolidated talus exposed in bulldozer cuts in the vicinity of the end of the access road near the No. 1 posts of the RITE claims.

No field evidence was seen to indicate that exploratory drilling had been conducted on the bedrock barite showings.

Mr. Dodge staked the RITE claims after being advised that Mr. Harry Versluce did not intend to renew his claims covering the barite showings.

GEOLOGICAL SURVEY

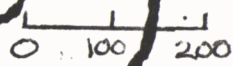
An initial geological reconnaissance of the RITE claims was carried out by Mr. Dodge on 25 August, 1987. The traverse route began at the southwestern end of bulldozer stripping in the south gulch near the southwestern corner of RITE #1 claim ("A" on Map II). Good bedrock exposures were observed for most of the climb up the gulch to the main ridge of Barite Mountain ("B"). Descent was by way of the north gulch, returning to the termination of the access road near the No. 1 posts of RITE #1 and #2 ("C").

Elevations were taken with a pocket altimeter calibrated to the surveyed bench mark altitude of 985.5m (3229 feet) alongside the Canol Road in the borrow pit from which the access road leads to Barite Mountain. On the traverse, elevations of barite showings ranged from 1463m (4800 feet), in the south gulch in southwestern RITE #1 claim, up to 1744m (5720 feet) on the ridge between north and south gulches in the northwestern RITE # 1 claim.

Within the claim boundaries, vein barite was prominently exposed at 12 sites in and along the walls of the south gulch, and at 8 sites along the steep southern wall of the north gulch. The altitude of each barite outcrop was noted and the site plotted in the field on a composite, photoenlargement print of the 105F 14/15 topographic maps (Map II).

RITE CLAIMS

METERS



REVERSE FAULT

TRaverse

BARRE
MOUNTAIN

CLIMATE

EARLY GROUP

BLACK SLATE

ACCESS ROAD

MAP II

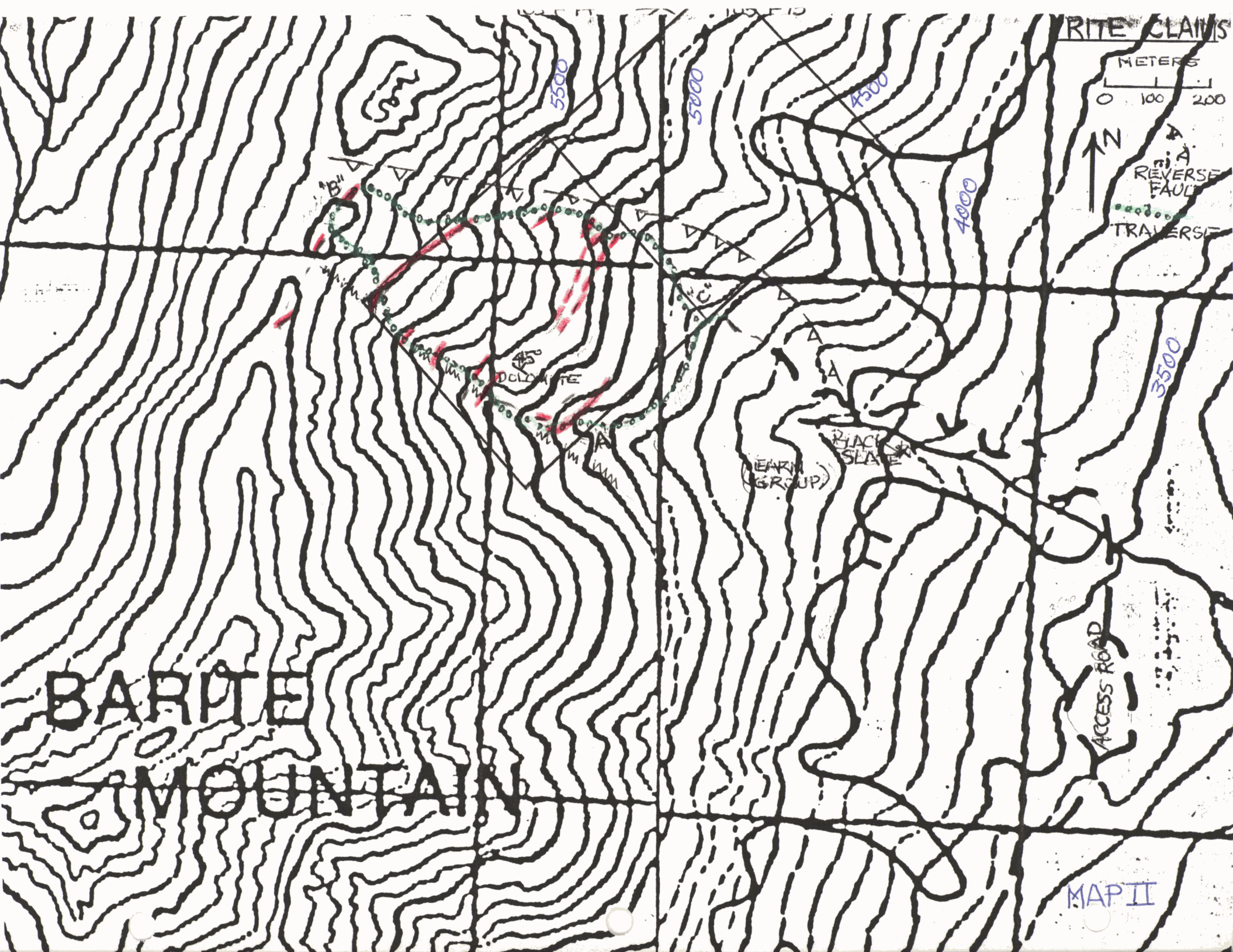




Photo 1. RITE claims viewed from Canol Road looking northwest toward the northeastern flank of Barite Mountain the peak of which lies out of the photograph to the left along the skyline ridge.



Photo 2. S1 barite vein (white) exposed at the 1463m (4800') altitude, as seen looking northeast from the south gulch.

SOUTH GULCH VEINS
(North Side, Unless Noted)

<u>Vein No.</u>	<u>Altitude (meters)</u>	<u>Strike (Azimuth)</u>	<u>Dip</u>	<u>Thickness (meters)</u>	<u>Notes</u>
S1	1463(4899')	60°	80°SE	0.2-3.0	(Photo 2) dia- lating over 25m; commercial quality
S2	1482(4860')	30°	80°SE	0.3	South side
S3	1494(4900')			Pods & veinlets	Convergence of S1 and S2
S4	1494(4900')	50°	80°SE	1.0-1.5	25m long @ 100m north of gulch
S5	1500(1500')	320°	80°SW/NE	0.4	South side sili- cified baritic fault zone
S6	1508(4945')	290°	90°	1.0-1.5	Bed of gulch; ex- tension of S4
S7	1543(5060')	280°	60°NE	0.2-2.0	In bed of gulch
S8	1561(5120')	60°	90°	0.1-1.0	30m long
S9	1576-1580(5170'-5180')	60°	85°SE	0.2-0.4	SW tributary of south gulch
S10	1622(5320')	50°	80°SE	0.1-1.0	In bed of gulch; discontinuous
S11	1665-1671(5460'-5480')	60°	85°SE	3.5	FeOx dolomite mixed w. barite; 10m long @ 100m north of gulch

NORTH GULCH VEINS
(All on South Side)

<u>Vein No.</u>	<u>Altitude (meters)</u>	<u>Strike (Azimuth)</u>	<u>Dip</u>	<u>Thickness (meters)</u>	<u>Notes</u>
N1	1677(5500')	10°	80°SE	1.0	Extends 20m up wall; impure
N2	1601(5250')	20°	70°SE	1.0	Splays to narrow veinlets 10m up
N3	1591-1604(5220' 5260')	50°	80°SE	2.0	(Photo 3) narrows to 1.0m top of 13m wall; commercial quality
N4	1564-1576(5130'-5170')	50°	80°SE	0.6	Commercial quality
N5	1549-1561(5080'-5120')	50°	85°SE	0.5	Commercial quality
N6	1537-1543(5040'-5060')	45°	85°SE	0.7-1.0	10m long; commercial quality
N7	1530-1534(5020'-5030')	40°	90°	0.6-1.0	Commercial quality
N8	1512-1515(4960'-4970')	60°	90°	0.1-1.0	Narrows up dip; commercial quality

Host rock for the barite veins between the north and south gulches is pale reddish-brown weathering, medium bedded, dolomite with an average strike of 300°AZ and dip of 45° NE. Northeast of the north gulch grey weathering, thin to medium interbedded dolomite and limestone outcrop with an average strike of 320°AZ and dips ranging 65°-80° NE. A small outcrop of black slate bedrock was observed in the bed of the south gulch approximately 600m southeast of the No. 1 posts of RITE #1 and #2 claims.

Lithologic and structural features observed in this reconnaissance support the interpretation that rocks northeast of the north gulch and southeast of the claims are members of the Earn Group, while those hosting the barite veins are of older Siluro-Devonian age. A reverse fault trending 290°-350° and dipping steeply southwest is postulated with barite veins in the hanging wall block. The fault zone exposed in the bed of the south gulch parallels that of the north gulch. Inasmuch as there is similar lithology and structure south and north from the south gulch, this fault may be normal listric in style.



Photo 3. N3 barite vein, blue-grey from carbonaceous content, exposed at the 1591m (5220') altitude as seen looking southwest from bed of north gulch. Packsack is at footwall of vein measuring over 2 meters wide. Thrust fault zone underlies foreground and dips steeply beneath outcrop of vein.

The six parallel veins between 1512m and 1604m (4960'-5260'), well exposed on the south wall of the north gulch, reflect a preferred depositional environment proximal to the reverse fault which may have provided a conduit for up-welling mineralizing solutions depositing barite in the 40°-60° AZ, steeply dipping fissures. The underlying Earn Group sediments are known to host bedded (stratiform) barite concentrations at sites 15-20km north of Barite Mountain. It is probable that barite in veins on the RITE claims had been mobilized from a baritic horizon(s) in the Earn Group sediments underlying the reverse fault.

BARITE QUALITY

Barite for commercial use as a weighting additive in oil field drilling fluids must be of a specific gravity of 4.20 and must not contain over 250 parts per million in calcium. Three grab samples of barite from veins N3, N6 and N8 were submitted to Chemex Labs Ltd. in Vancouver for analyses of calcium. The results (Assay Certificate No. A8722073) were 54ppm, 60ppm, and 6ppm calcium, respectively. All barite samples contained dark grey to black whisps throughout; these are believed to represent carbonaceous material which had been mobilized from the underlying Earn Group sediments, no doubt contemporaneously with deposition of barite in the fissures. Barite in the south gulch is predominantly white colored, suggesting that carbonaceous material is localized near the reverse fault zone.

Two barite samples are being sent to a laboratory in Carlin, Nevada for accurate specific gravity determinations using the le Chatelier flask method approved by the American Petroleum Institute. The writer's familiarity with barite, together with results of assays performed by Milchem Inc. on samples provided in 1980 by Mr. Peter Verslucce, leave no question that wide-vein barite will have an average specific gravity higher than 4.20.

CONCLUSIONS

The following conclusions have been reached with respect to the RITE #1 and #2 claims:

1. Siluro-Devonian ("older") dolomite, hosting the barite veins, outcrops dominantly on RITE #1, while interbedded limestone, dolomite and black slate ("younger" Earn Group) underlies most of RITE #2 claim.
2. Field evidence indicates that a thrust (reverse) fault dips steeply southerly bringing "older" dolomite over "younger" carbonaceous and baritic sediments.
3. Numerous steeply dipping, sub-parallel veins of barite in dolomite outcrop on the claims over a range of altitude 1463m-1677m (4800'-5500').
4. Although widths of barite veins vary considerably, several veins exhibit up to 2 meters of uncontaminated barite over outcrop strike lengths of up to 75 meters.
5. That the thrust fault undoubtedly served as a focus for the mineralizing fluids filling fissures in the hanging wall block is supported by the facts that:
 - a. Barite veins are wider, more persistent along strike, and exhibit few inclusions of wall rock, at the lower altitudes along the north gulch immediately above the thrust fault zone.
 - b. Traces of carbonaceous material in the barite in veins close to the thrust fault become progressively less evident in the same vein with increasing distance from the thrust fault zone.
 - c. Grey dolomite in the upper plate hosting the barite veins becomes increasingly reddish-brown (limonitic) stained on the weathered surface nearer the thrust fault.
6. Deposition of the vein barite in the upper plate rocks was probably from up-welling mineralizing solutions which had mobilized barite and carbonaceous material from the sediments of the Earn Group in the lower plate.

- 7. Assays of representative samples of wide-vein barite indicate that no deleterious quantities of calcium are present. Specific gravity tests are being run to confirm the high values obtained during earlier examinations of Barite Mountain. Most likely, the barite on the RITE claims meets or exceeds the minimum requirements for use as a weighting additive in oil field drilling fluids.
- 8. Core drilling is the most cost-effective method of determining the tonnage reserves of commercial grade barite in the veins.
- 9. The topographic setting, attitude and width of the most prominent veins indicates that it may be feasible by underground mining to produce a direct-grinding barite grade without beneficiation.

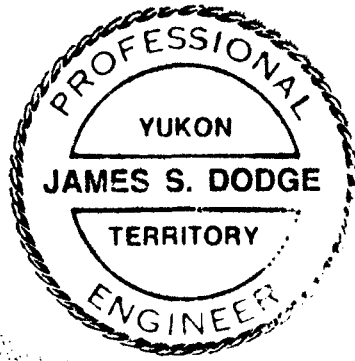
RECOMMENDATIONS

Recommended work to be undertaken to develop the barite veins on the RITE claims include:

- 1. Reopen and improve the former access road leading from the Canol Road at Km 196.5 to the upper bulldozer stripping at the 1402m (4600') altitude.
- 2. Extend a bulldozed switchback road on the ridge northeast of the north gulch up to an altitude of approximately 1591m (5220') near where the N3 vein outcrops.
- 3. Diamond core drill inclined holes to test the depth and lateral extent of the commercial quality barite exposed in the 2-meter (6.5 feet) wide N3 vein. Drilling of N6, N7 and N8 veins would follow, pending results on the N3 vein.
- 4. Prepare a feasibility report focusing on the development of a minimum threshold tonnage of 75,000 tonnes of oil field quality barite mineable by underground methods.

VALUE OF 1987 GEOLOGICAL SURVEY ON RITE CLAIMS

Assays	3 samples geochem calcium	\$12.75
	3 samples specific gravity (pending)	
Groceries	1 man for one day @ \$15/day	15.00
Transportation	Johnson's Crossing to Barite Mountain via Canol Road and return: 350km @ 30¢/km	105.00
Geological Services	James S. Dodge, P.Eng. Yukon One day geological reconn of RITE claims; one day report preparation: 2 days @\$300/d	600.00
TOTAL EXPENDITURES	<u>\$732.75</u>



James S. Dodge
James S. Dodge, P.Eng.

Whitehorse, Yukon
02 May, 1988



Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

DODGE, JAMES S.

14 MACDONALD RD.
WHITEHORSE, YUKON
Y1A 4L2

Project :
Comments :

**Page No. : 1
Tot. Pages: 1
Date : 23-SEP-87
Invoice # : I-8722073
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8722073

SAMPLE DESCRIPTION	PREP CODE	As ppm	Ca ppm	Au ppb FA+AA						
21010 E	205 ---	-----	4	-----	< 5					
21011 E	205 ---	-----		54	-----					
21012 E	205 ---	-----		60	-----					
21013 E	205 ---	-----		6	-----					

CERTIFICATION : Hart Bichler



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

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PHONE (604) 984-0221

o: DODGE, JAMES S.

**

14 MACDONALD RD.
WHITEHORSE, YUKON
Y1A 4L2

*** INVOICE NUMBER 18722073 ***

BILLING INFORMATION

Date : 23-SEP-87
 Project :
 P.O. # : NONE
 Account : BKY

Billing : For analysis performed on
 Certificate A8722073

Terms : Net payment in 30 Days
 1.5% per month (18% per annum)
 charged on overdue accounts.

Please remit payments to:

CHEMEX LABS LTD.
 212 Brooksbank Ave.,
 North Vancouver, B.C.
 Canada V7J-2C1

CHEMEX CODE	ANALYSIS DESCRIPTION	SAMPLES ANALYZED	UNIT PRICE	AMOUNT
13 - As	ppm			
100 - Au ppb	FA+AA	1	10.50	10.50
26 - Ca	ppm	3	4.25	12.75
Sample preparation and other charges :				
205 - Rock/Core - RING		4	3.00	12.00
Total Cost \$				35.25
TOTAL PAYABLE \$				35.25

PAID

STATEMENT OF QUALIFICATIONS

I, James S. Dodge, of 14 MacDonald Road, Whitehorse, Yukon submit the following information which establishes some of my qualifications bearing on the necessary level of competence required to carry out the field work and preparation of the report qualifying for assessment work credit on the RITE claims:

Education

Missouri School of Mines, B.S. Mining Engineering, 1941
Princeton University, Field Geology, 1940
Stanford University, M.S., Economic Geology, 1951
Albert Ludwigs Universitaet (Germany), Economic Geology, 1952

Experience

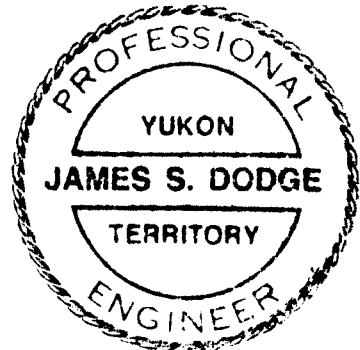
Active in mineral industry since 1941 in North and South America, Asia and Africa as prospector, company geologist, mining engineer, mine operator, and consultant in ferrous and non-ferrous metals and in industrial minerals. Among the many organizations with which I have been associated as an employee or consultant:

Anaconda, Esso, Mitsui, USAEC, Ventures, DIAND, SCAP-Japan, Atlas, Glidden, Spartan/Nuspar, Hirst-Chichagof, Floyd Odlum, Yukon Barite, Standard Silver, Ocean Gold

Experience on barite deposits gained in Yukon, Nevada, and New Mexico during consulting, mine operation, and prospecting. Directed exploration and development of one of world's largest commercial grade, stratiform barite deposits (Lakes Mine) in northern Nevada during 1979 82. While prospecting in 1969, discovered first known stratiform barite deposit in Yukon (Moose claims) near Macmillan Pass. Consulted for Glidden Paint Co. on barite in New Mexico, U.S.A.

Professional Affiliations

Registered Professional Engineer (No. 311) by Association of Professional Engineers of the Yukon Territory
Member of Society of Economic Geologists
Member of American Institute of Mining Engineers



James S. Dodge
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