SAMPLING PROGRAM

CLAIMS FQ8088 AND FQ8288
SINGLE POST CLAIMS, 16 UNITS EACH
(GROUPED)
KAKWA LAKE AREA, LIARD MINING DIVISION

MAP SHEET 93I/1E

LOCATION OF SOUTHWEST CORNER, CLAIM FQ8088
54° 00' 40" N, 120° 15' 20" W

CLAIM OWNER: MR. BILL BURTON
OPERATOR: THE SAGE GROUP INC.
CALGARY, ALBERTA

AUTHORS:

ALEX BURTON, P. ENG. (BRITISH COLUMBIA)
JAMES F. PERRY, P. ENG. (ALBERTA)

OCTOBER 29, 1992

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KAKWA LAKE AREA, LIARD MINING DIVISION

INTRODUCTION

Location

Claims FQ8088 and FQ8288 are located north and west of Babette Lake, southwest of Kakwa Lake in the Kakwa Lake Recreation Area of northeastern B.C., about 160 air kilometres east of Prince George.

The claims cover the eastern face of the ridge which runs from Mt. St. George to Mt. St. David, and the southeastern face of the ridge north of Babette Lake. The formation of interest is the Lower Cambrian Mahto formation, part of the Gog Group. The formation outcrop, which is about 150 metres thick, occurs on the ridge directly northwest of the western end of Babette Lake. In addition, a large quantity of tumble blocks of quartzite occur in talus slopes below the ridge, slightly east of the geographic centre of claim FQ8088. The geology is described in Minfile 0931-005.

Access

Access to the claims is by helicopter. There is a road into the area from the Alberta side, but it is only suitable for light all-terrain vehicles. Another road, used in times past, starts at the end of the Walker Creek Forestry Road and follows the McGregor River valley into the area. The road has not been maintained, and bridges over Bastille Creek and Buchanan Creek were destroyed years ago. The claims are shown on Map 1.

History

Claims were staked in July and December of 1969 on quartzite outcrops at Babette Lake. In 1970, blocks of stone were brought out by road through Alberta, and samples were prepared. Commercial production of the deposit was contemplated at the time, but sufficient funding was not obtained. The claims were forfeit.

In 1979, interest in the area was renewed, and new claims were staked over the deposit in October. A feasibility study was prepared in early 1980 by Coopers and Lybrand. The study was commissioned and paid for by Sage Holdings, Ltd. of Swift Current, Saskatchewan. Due to the pressures of other business ventures, Sage Holdings and Mr. Bill Burton of Richmond, B.C., holder of record of some of the claims, decided not to proceed with further work, and assigned the claims to Babette Lake Quartzite Products Ltd.

The Babette Lake Quartzite Limited Partnership was formed in 1981 with the objective of beginning commercial production of quartzite for building tiles and facing. A road was constructed from the B.C. side, and blocks were trucked out for testing. Assessment work was done in 1981, including drilling diamond drill holes. (See AR9924). The project was not successful and the claims were forfeit in the late 1980's.

Current Owner and Operator

FQ8088 and FQ8288 were staked as single post claims in August of 1989. The holder of record is Mr. Bill Burton of Richmond, B.C. The Sage Group Inc., now headquartered in Calgary, is the operator.

Economic Assessment

The primary economic factors pertaining to the viability of production from this deposit are the amount of high quality quartzite present, the colour, consistency and properties of the stone, the costs of quarrying or harvesting of tumble blocks, transportation of the stone to a processing plant, the costs of cutting and polishing the rock, and the costs of marketing of the finished product. All of the cost factors involved are outside of the scope of this assessment.

It appears that there is a very large amount of quartzite present on the claims, both in situ and in the form of tumble blocks on the talus slopes. There is a good selection of colours available in the blocks, from plain white and pink quartzite through to banded purple and earthtones. Photo #1 shows the talus slope, as viewed looking northwest from the toe of the glacier at the base of Mt. St. George. Illustration #1 identifies the various features seen in the photo. Photo #2 shows the lower portion of the talus slope and the tumble blocks which are present. For scale, note the size of the person circled in the lower right corner of the photo. This photo was taken looking downwards and northeast from the knoll identified in Photo #1. Kakwa Lake is visible at the top of the photo, with the eastern end of Babette Lake below it on the right side of the photo. Photo #3 was taken while standing at the middle of the talus slope, looking upwards and almost directly west. Note the person standing in the upper left of the photo for scale. The banding and pink colour of several of the tumble blocks is clearly visible.

WORK PERFORMED

Objectives

There were three objectives of the sampling program. First, the extent and colour range of the quartzite present on the claims was to be estimated. Second, sufficient physical samples were to be collected to allow testing to confirm that conventional methods of cutting the rocks, such as a gangsaw, could be used to process the rock. Finally, the extent and quality of the quartzite present in the outcrops below the Mahto formation were to be examined.

Procedure

Two days were spent in examining the claims. A helicopter chartered from Yellowhead Helicopters Ltd. was used to gain access to the area each morning, and to return to McBride each afternoon.

A total of 25 rock samples were collected during the investigation. Map #2 shows the location from which each sample was obtained. Table #1 gives details of each sample.

Three representative samples of quartzite were selected for sawing tests. A 2.54 cm. (one inch) diameter core was drilled from each sample. The cores were each at least 5 cm long. The cores were mounted in a jig in a slabbing saw equipped with a Truco 35.6 cm. diameter (14") by 2.3 mm (0.090") thick diamond blade. The swing arm of the saw was connected to a position sensor which was in turn connected to a chart recorder. As each core was cut perpendicular to its long axis, the time to complete the cut was recorded. A sample taken from the Muriel formation was used in the sawing tests to obtain a qualitative indication of its properties. A sample of Azule Celeste Granite was also cut using the same test equipment for comparison purposes. Multiple cuts were made of most samples, to obtain better statistical accuracy. The results of the sawing tests are shown in Table #2.

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TABLE #1; SAMPLES

#	DESCRIPTION	LOCATION
1	Mahto formation; white-grey quartzite; small purplish quartz pebble inclusions, sized 1-2 mm	West end of claim, in stream cut on vertical outcrop of quartzite, 2m above red marker bed, in situ
2	Mahto formation; brown banded quartzite; bands 1mm thick, mostly darker in colour; some light grey bands	West end, stream cut, 4m below red marker bed, in situ
3	Mahto formation; white-grey quartzite; small quartz pebble inclusions, widely spaced	West end, stream cut, 1m above red marker bed, in situ
4	Mahto formation; white-grey purplish banded quartzite; most bands less than 1mm thick, incompletely metamorphosed	Elevation 1930m, outcrop west of Babette Lake, top of massive section of outcrop, in situ
5	Mahto formation; pinkish-brown unbanded quartzite, no inclusions, well bonded grains	Elevation 1900m, west outcrop, loose sample
6	Mahto formation; whitish quartzite, light purple and grey banding, well bonded grains; purplish bands are 1mm thick, spaced every 2 - 5 cm	Elevation 1880m, west outcrop, loose sample
7	Mahto formation; white quartzite with purplish tinge, very well bonded grains, some cross-banding, infrequent but consistent speckling of small (1/4mm) reddish grains	Elevation 1855m, west outcrop, loose sample

TABLE #1 Continued

#	DESCRIPTION	LOCATION
8	Muriel formation; purple banded quartzite, incompletely metamorphosed; grey thin bands visible, ripple patterns evident	Tumble blocks below knoll at base of west outcrop of Mahto formation, elevation 1770m; loose sample
9	Muriel formation; purple quartzite, consistent colour, large yellowish coloured spots (3 - 5 cm diam.), inconsistent metamorphosis	Tumble blocks at base of knoll, elevation 1780m; loose sample
10	Muriel formation; well metamorphosed purple-banded quartzite, considerable bedding patterns, beds about 1mm thick, ripple patterns evident	Tumble blocks at base of knoll, elevation 1770m; loose sample
11	Muriel formation; incompletely metamorphosed purplish quartzite, considerable ripple patterns	Base of tumble block field at base of knoll; elevation 1765m; loose sample
12	Upper Muriel formation; pink quartzite, some hematite speckling, incompletely metamorphosed	Outcrop at side of knoll below base of Mahto west outcrop; in situ
13	Upper Muriel formation; purple quartzite, grey straight banding; fairly well metamorphosed, fracture planes evident	Outcrop at side of knoll, in situ, 18m N of sample 12, in situ
14	Upper Muriel formation; pinkish - brown incompletely metamorphosed quartzite, no banding evident	Outcrop at side of knoll, in situ, 2m below sample 12, in situ
15	Upper Muriel formation; pinkish incompletely metamorphosed quartzite, no banding, significant hematite speckling; specks every 1 - 2 cm.	Outcrop at side of knoll, 8m north of sample 12, in situ

TABLE #1 Continued

#	DESCRIPTION	LOCATION
16	Muriel formation; purple-brown quartzite; some horizontal banding evident, 1 - 1.5 cm thick	Outcrop at side of knoll, 5m below sample 12, in situ
17	Upper Muriel formation; pinkish incompletely metamorphosed quartzite, hematite speckling	Outcrop at side of knoll, 1m above sample 12, in situ
18	Mahto formation; high quality pink quartzite, no banding	Largest tumble block on main talus slope north of knoll; loose sample
19	Mahto formation; pink quartzite with brown horizontal banding, bands 1mm thick, spaced 2 - 5 mm	Tumble block on main talus slope; loose sample
20	Muriel formation; purple banded quartzite, incomplete metamorphosis, ripple marks	Top of Muriel outcrop at north side of main talus slope; in situ
21	Muriel formation; dark purple-grey quartzite, unmetamorphosed dark grey quartz grains 1 - 2mm diam. present as inclusions	10m below top of Muriel outcrop, north side of main talus slope; in situ
22	Muriel formation; poorly metamorphosed quartzite, large hematite stains, pinkish-purple colour, no banding evident	15m below top of Muriel outcrop, north side of main talus slope; in situ
23	Muriel formation; very finely bedded red-brown sandstone	18m below top of Muriel outcrop, north side of main talus slope, in situ
24	Muriel formation; grey poorly metamorphosed quartzite, marcasite inclusions	18.1 m below top of Muriel outcrop, north side of main talus slope, in situ
25	Muriel formation; banded purple-brown incompletely metamorphosed quartzite; bands black and grey, 1mm thick, horizontal, no ripple patterns evident	22m below top of Muriel outcrop, north side of main talus slope, in situ

TABLE # 2 - SAW TESTING RESULTS

TEST #	SAMPLE #	ROCK TYPE	CUTTING TIME, SEC.
12	2	Pink quartzite	39
7	2	"	33
5	2	"	41
11	2	"	34
		AVERAGE	36.75
9	10	Purple banded quartzite	42
8	10	"	44
		AVERAGE	43.00
13		Azule Celeste Granite	55
6		"	44
3		"	55
		AVERAGE	51.33
4	3	White quartzite	34
2	3	"	51
1	3	"	55
		AVERAGE	46.67

INTERPRETATION OF RESULTS

As a result of the sampling and test sawing program outlined in this assessment report, the following conclusions may be drawn:

1) There is a significant outcrop of the Mahto formation on claim FQ8088. The formation strikes to the north, and dips between 18 and 25 degrees to the west. The formation is approximately 130m in thickness where it outcrops.

2) The upper 20m of the formation consists of a greyish white quartzite which is not fully metamorphosed. This stone is unlikely to be suitable for dimension stone purposes.

3) A distinctive, 0.3m thick "red bed" which appears to contain a large amount of hematite colouring occurs about 20m below the top of the formation. Below the red bed, the quartzite is well metamorphosed. It is a pinkish colour, with little or no banding evident. Towards the bottom of the formation, banding begins to be seen in the quartzite. These darker bands are thin (1 - 1.5 mm thick). The formation contains white quartzite with brown bands in some sections. The bottom 20 - 30 m of the formation consists of pinkish-brown quartzite with darker pink-brown bands. Almost all of the banding appears to be parallel to the bed boundary. Much of the quartzite present appears to be suitable for dimension stone purposes.

4) Natural fracture planes appear in the quartzite, parallel to the bedding planes. At the west end of the claim, the fractures appear to occur every two to three metres. Vertical fractures are also present, on varying spacing from 1/2 metres and up. However, natural weathering has accentuated the fracturing, and it is difficult to determine how far into the formation the fracture pattern extends.

5) There is a large quantity of tumble blocks of good quality quartzite which lie in the talus slope at the west centre of Claim FQ8088. A range of colour is present, from plain pink through banded pinkish-brown as is encountered in the outcrop above. Many of the tumble blocks are a good size (1m on a side or greater) but few are big enough to be a standard dimension stone block, which is 1.4m x 1.4m x 2.7m.

6) Below the Mahto formation an outcrop of the Muriel formation occurs at the west centre of claim FQ8088. Much of the rock in this formation is banded purple-brown incompletely metamorphosed quartzite, unsuitable for dimension stone. However, some layers in the formation are a very attractive quartzite, with unusual ripple patterns. This stone may be suitable for making decorative tiles. Tumble blocks of this quartzite occur below a knoll which is at the base of the Mahto outcrop on the west side of the claim.

7) The sawing tests indicate that both the high quality Mahto quartzite and the better quartzite from the Muriel formation can be cut with a diamond blade at the same rate or faster than the same blade will cut Azule Celeste granite. These preliminary results suggest that commercial cutting of the stone using a gang saw should be possible. However, it must be emphasised that larger scale testing will be needed before a definitive estimate of expected cutting rates can be obtained.

CONCLUSION

It is the authors' opinion that the quartzite which occurs on claim FQ8088 is probably suitable for dimension stone purposes, and that there is a large amount of rock present, both in situ and in the form of tumble blocks.

Economic questions such as the cost of producing raw stone, cutting and polishing it, and marketing the final product are not within the scope of this report.

TABLE # 3: ITEMIZED COST STATEMENT

BABETTE LAKE CLAIMS SAMPLING PROGRAM

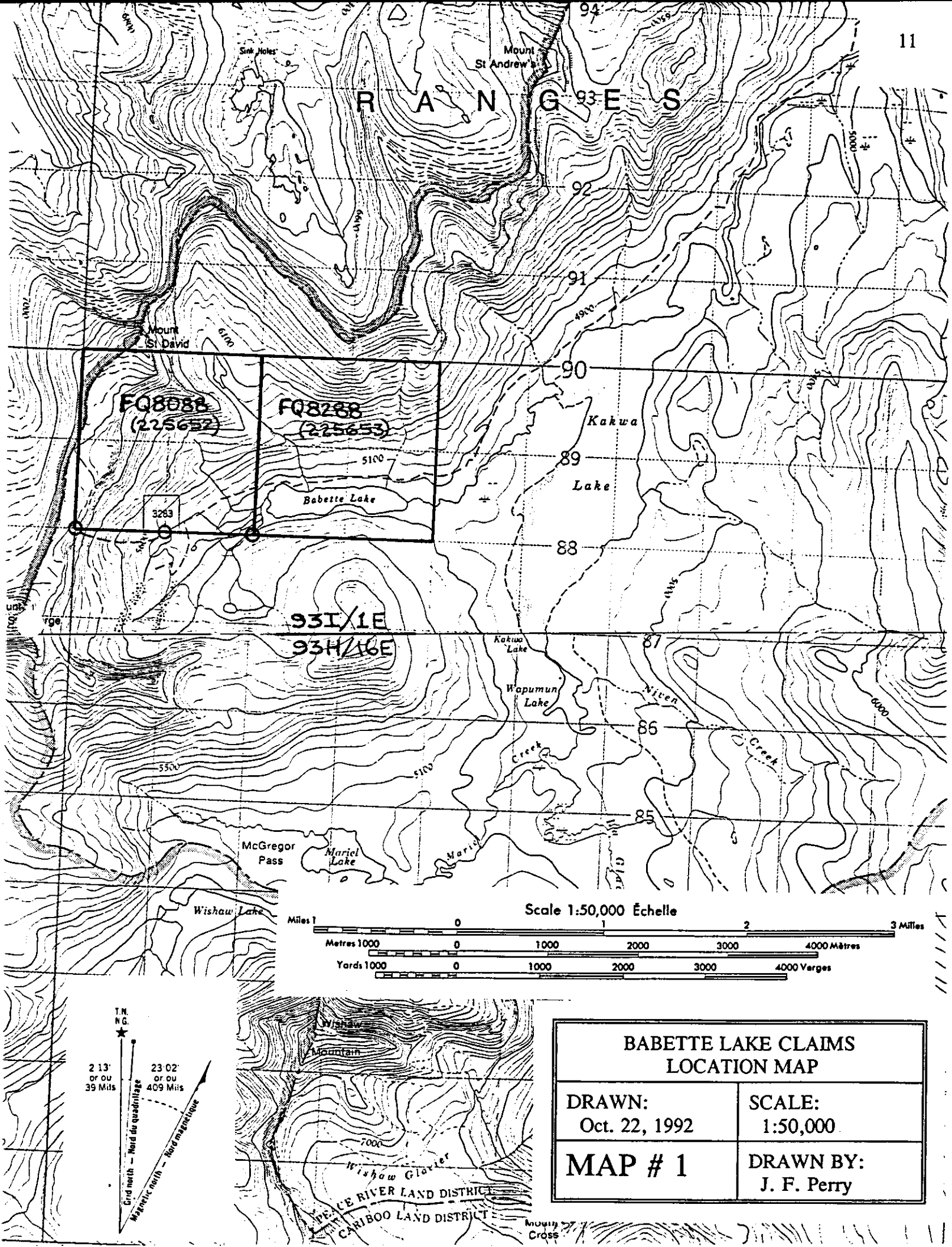
Claim Numbers: FQ8088, FQ8288 Map Sheet: 93I-1E

Area: Kakwa Lake Division: Liard

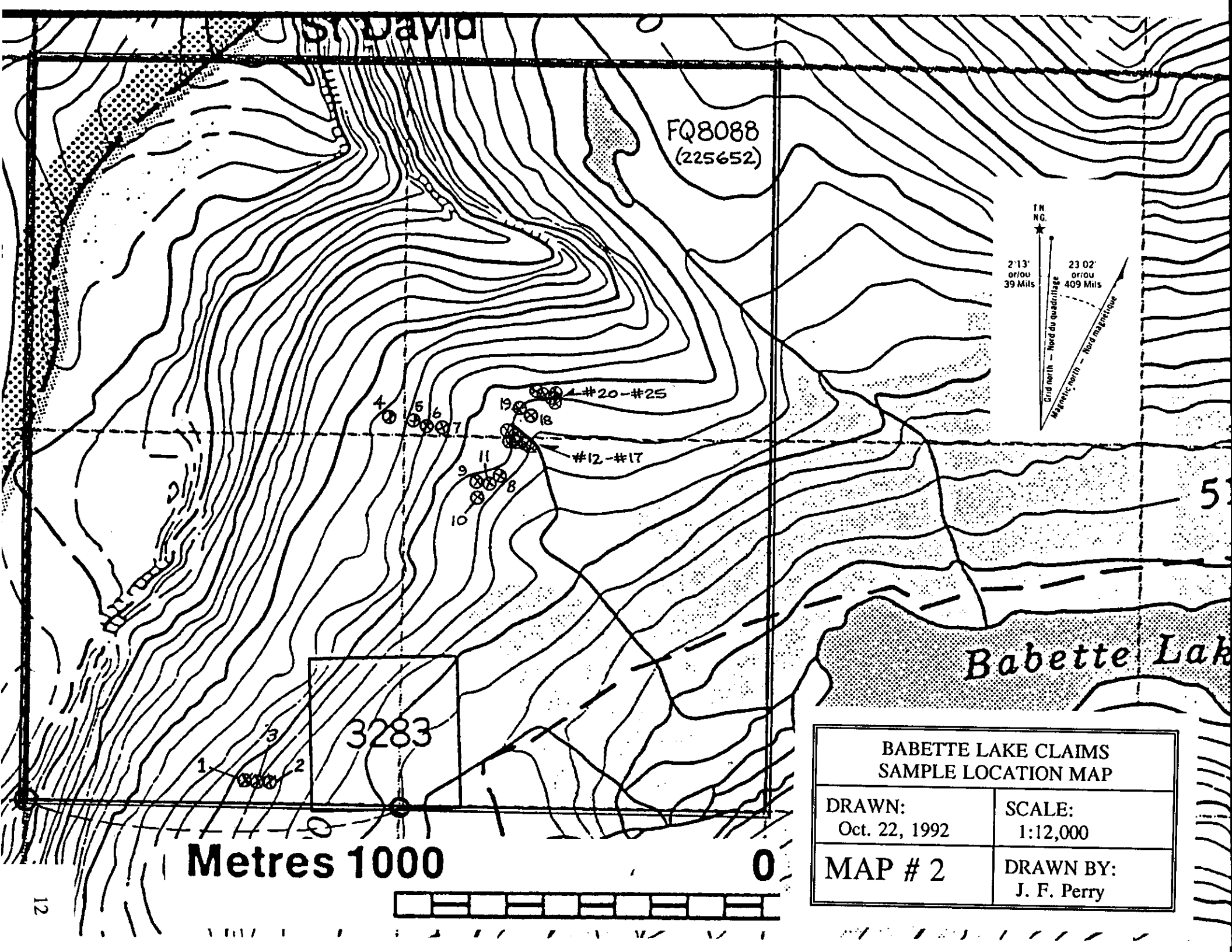
Consulting Geologist:	Mr. Alex Burton, P. Eng. Two days at $425	$ 850.00
Consulting Mining Engineer:	Mr. James Perry, P. Eng. Two days at $500	$1,000.00
Accommodation and Meals	Travellers Inn, McBride Meals and rooms	$ 323.45
Maps	Map Town, Calgary	$ 48.64
Sample Bags and Tags	Various	$ 81.63
Film, developing, tape	Various	$ 83.21

Assessment Report Preparation

Consulting Mining Engineer	Mr. James Perry, P.Eng. Two days at $500	$1,000.00
	Total Work Costs:	$3,386.93
Helicopter Charter	Yellowhead Helicopters 7.6 hours at $776 $5,897.60	
	Limit: 50% of Work Costs	$1,693.46
Grand Total Assessment Cost Claim:		$5,080.39
Costs Allocated to Babette Lake Claims		$3,200.00
Remainder		$1,880.39



BABETTE LAKE CLAIMS LOCATION MAP	
DRAWN: Oct. 22, 1992	SCALE: 1:50,000
MAP # 1	DRAWN BY: J. F. Perry



BABETTE LAKE CLAIMS SAMPLE LOCATION MAP	
DRAWN: Oct. 22, 1992	SCALE: 1:12,000
MAP # 2	DRAWN BY: J. F. Perry

PHOTO #1: OVERVIEW OF THE CLAIMS

ILLUSTRATION #1: IDENTIFICATION OF FEATURES IN PHOTO # 1

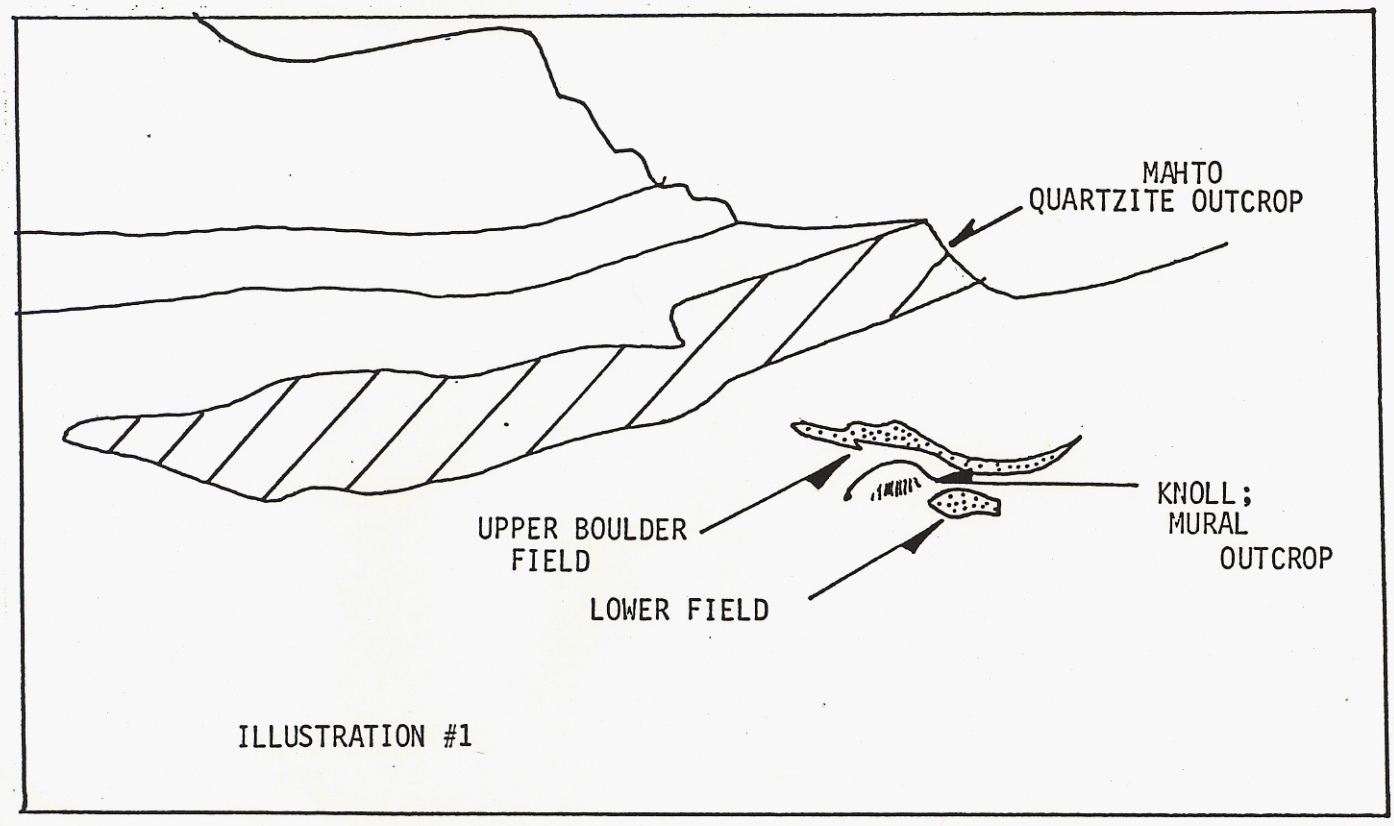


PHOTO #2: TUMBLE BLOCKS ON LOWER PART OF TALUS SLOPE

PHOTO #3: TUMBLE BLOCKS ON MIDDLE OF TALUS SLOPE

STATEMENT OF QUALIFICATIONS

I, James F. Perry, hereby certify that:

1. I am a graduate of the University of British Columbia with a degree in Mineral Engineering, awarded in 1970.

2. I am a registered member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of the Province of Alberta.

3. I have been involved in resource services and management for the past 22 years.

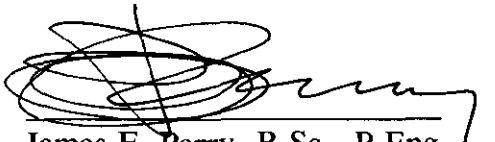
4. I carry on a consulting practice as President of Trilobite Management Ltd., 12919 Candle Cres. S.W., Calgary, Alberta.

4. Alex Burton, P. Eng. is a consulting geologist with wide experience in mining exploration in British Columbia and elsewhere. He carries on practice as a Geological Consultant at 5900 No. 1 Road, Richmond, B.C.

6. We have personally examined the subject property.

7. We have compiled this report from our personal observations and from the published material related herein.

8. We consent to the use of this report in submissions to the various ministries and agencies of the Government of British Columbia.



James F. Perry, B.Sc., P.Eng.

October 29, 1992