80-6[illegible]

GAYLE CLAIMS REPORT NUMBER 1

GEOLOGY AND GEOCHEMISTRY

CLAIMS: GAYLE 1-4

RECORD NUMBERS 805-808

ATLIN MINING DISTRICT

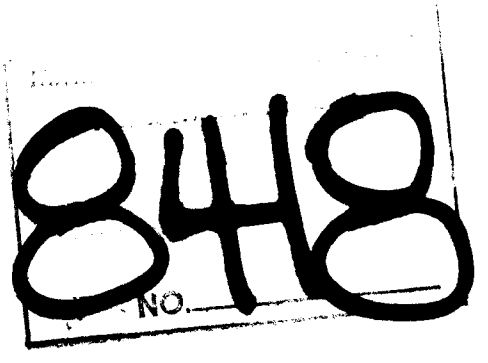
NTS 104N/11E

133°10'W, 59°42'N

OWNER: MATTAGAMI LAKE EXPLORATION

AUTHOR: J. BICZOK

DATE: OCTOBER 1980



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CHAPTER ONE: INTRODUCTION

1-1: Location and Access

The GAYLE 1-4 claims are located 33km northeast of Atlin, B.C., on the east shore of Surprise Lake (Figure 1). The claims consist of 68 units which straddle the length of Moose Creek, a large stream flowing to the northwest into Surprise Lake.

In the past, access has been by helicopter, either from Keystone Helicopter's base in Atlin, or, from the Mattagami base camp at Weir Mountain, 12km to the east. In the future, if the property warrants further work, access may be obtained by boat from the west end of Surprise Lake. A gravel road leads from the town of Atlin to the west shore of the lake, enabling equipment to be trucked to the lake and then taken by boat to the property.

1-2: History

The GAYLE 1-4 claims were staked on September 17, 18 and 23, 1979, by the author, in response to a GSC Open File Release (No. 517). This regional geochemical tin survey revealed a very anomalous area at the mouth of Moose Creek. Sample No. 779152 returned the following analyses: 520 ppm Sn, 275 ppm W and 115 ppm U.

Since the tin value is almost 5 times greater than the next highest value in this region (120 ppm on Weir Creek), it was decided to stake this area. Tungsten is also highly anomalous in this sample (275 ppm), even more so than samples collected near the ADANAC deposit

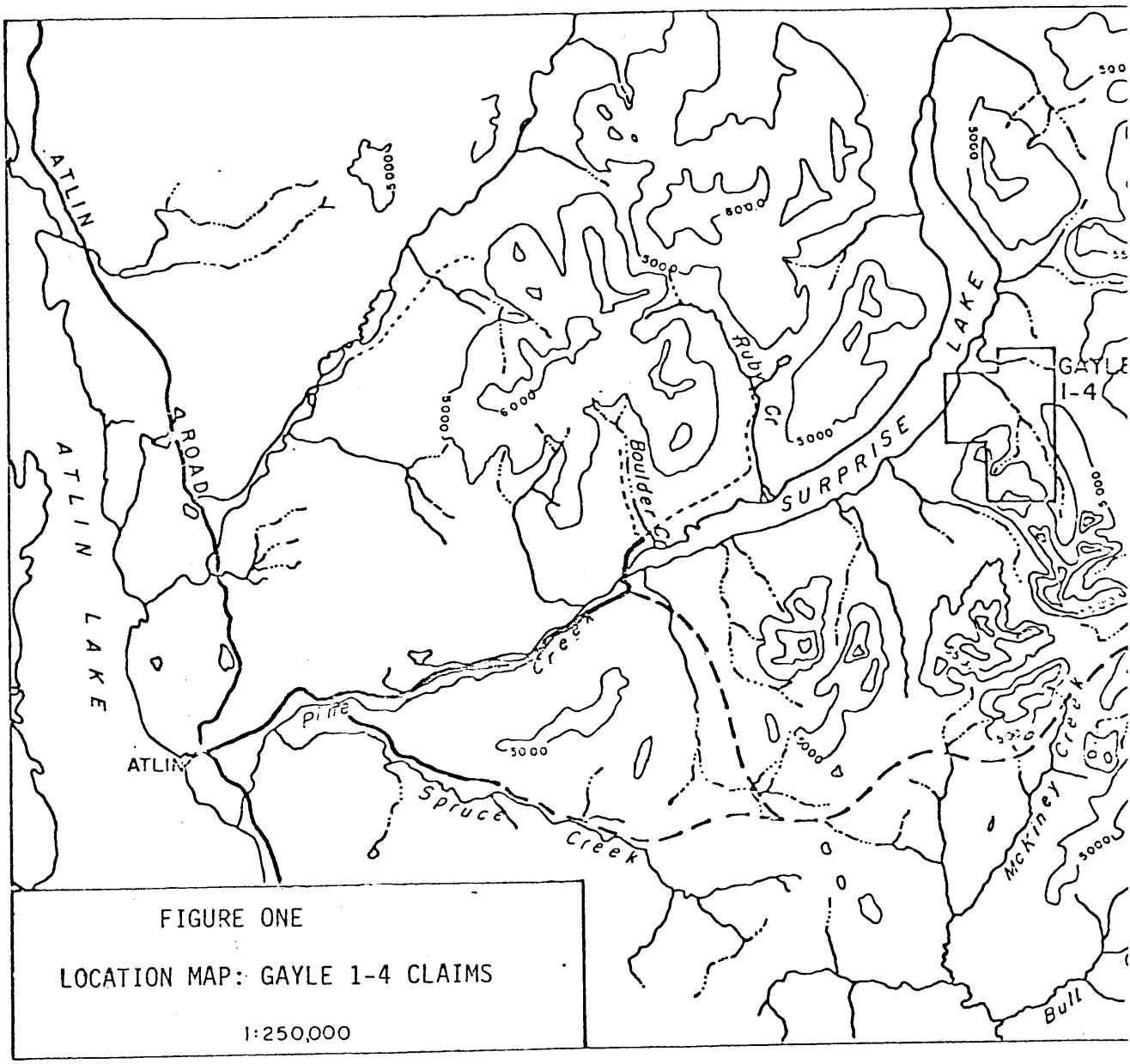


FIGURE ONE

LOCATION MAP: GAYLE 1-4 CLAIMS

1:250,000

(260 ppm) and more than 100 times greater than the regional geometric mean of 2.6 ppm.

The GAYLE 1-4 claims consist of 68 units. The relevant data is summarized below:

CLAIM	NO. OF UNITS	RECORD NO.	DUE DATE
GAYLE 1	20	805	Sept. 28
GAYLE 2	20	806	Sept. 28
GAYLE 3	8	807	Sept. 28
GAYLE 4	20	808	Sept. 28

NTS Sheet: 104N/11E

Coordinates of Legal Corner Posts: GAYLE 1-3: 133°10'30"W, 59°42'N

GAYLE 4: 133°8'W, 59°40'N

Mining District: Atlin

The claims were transferred to Mattagami Lake Exploration Limited in September 1980. They were also grouped into one block at this time.

1-3: Physiography, Flora and Fauna

The major portion of the claim group is above tree line in a relatively gently rolling, mountainous terrain ranging from 942 to 1,700m in elevation.

There are several areas of steep, rocky cliffs, but these are of limited extent. In addition, the Moose Creek valley, and the stream valley to the north, is quite steep sided for much of its length. These streams are incised to depths of 75m.

Much of the area is heavily mantled with glacial till, especially in the lower, northwestern portion of the claims. Outcrops are generally found only on mountain tops or in stream valleys.

Along the shore of Surprise Lake much of the area is heavily wooded with pine and spruce trees. Underbrush is relatively thin due to the sandy nature of the soil and forest fires have decimated most of the forest on the GAYLE 4 claim. As the elevation rises to the east, the trees become increasingly more sparce until they are virtually absent 300m above the level of the lake (942m). The upper slopes are generally covered with low brush, 0.3-1.5 m high, becoming progressively more barren at higher elevations.

The only animals observed on the claims were a number of caribou and sheep. Black and grizzly bears have been observed elsewhere in the region. Richardson ground squirrels are very common in this area.

1-4: Procedures

In order to determine the source of the anomalous tin and tungsten, the author and his assistant (P. Metcalfe) spent a total of three days on the property from September 15 to 17, 1980. Access was by helicopter from Atlin each morning and evening. Traverses to cover approximately 3/4 of the claims, were made with the aid of airphotographs (Scale: 1cm = 350m) and all locations plotted on these. During the traverses, geological mapping, propsecting and stream sampling (silt, water, heavy mineral concentrates) were conducted. A total of 27 rock samples, 17 water samples, 18 panned samples and 17 silt samples were collected for analysis.

Mapping, prospecting and stream sampling were conducted on the GAYLE 1, 2 and 4 claims in 1979 and 1980 while some sampling was carried out on GAYLE 3 in 1979.

During September 1979, the author spent several days on the claims collecting some initial stream and rock samples. Two rock samples, six silt and four panned samples were collected during this time.

In 1979, heavy mineral concentrates were collected with a standard gold pan. In 1980 a specialized pan (Barakso Pan) designed for collecting stanniferous samples was used. These stainless steel pans first utilize a -20 mesh screen to sieve the sample and the resultant concentrate is then panned down to a standard 50 gram size.

CHAPTER TWO: GEOLOGY

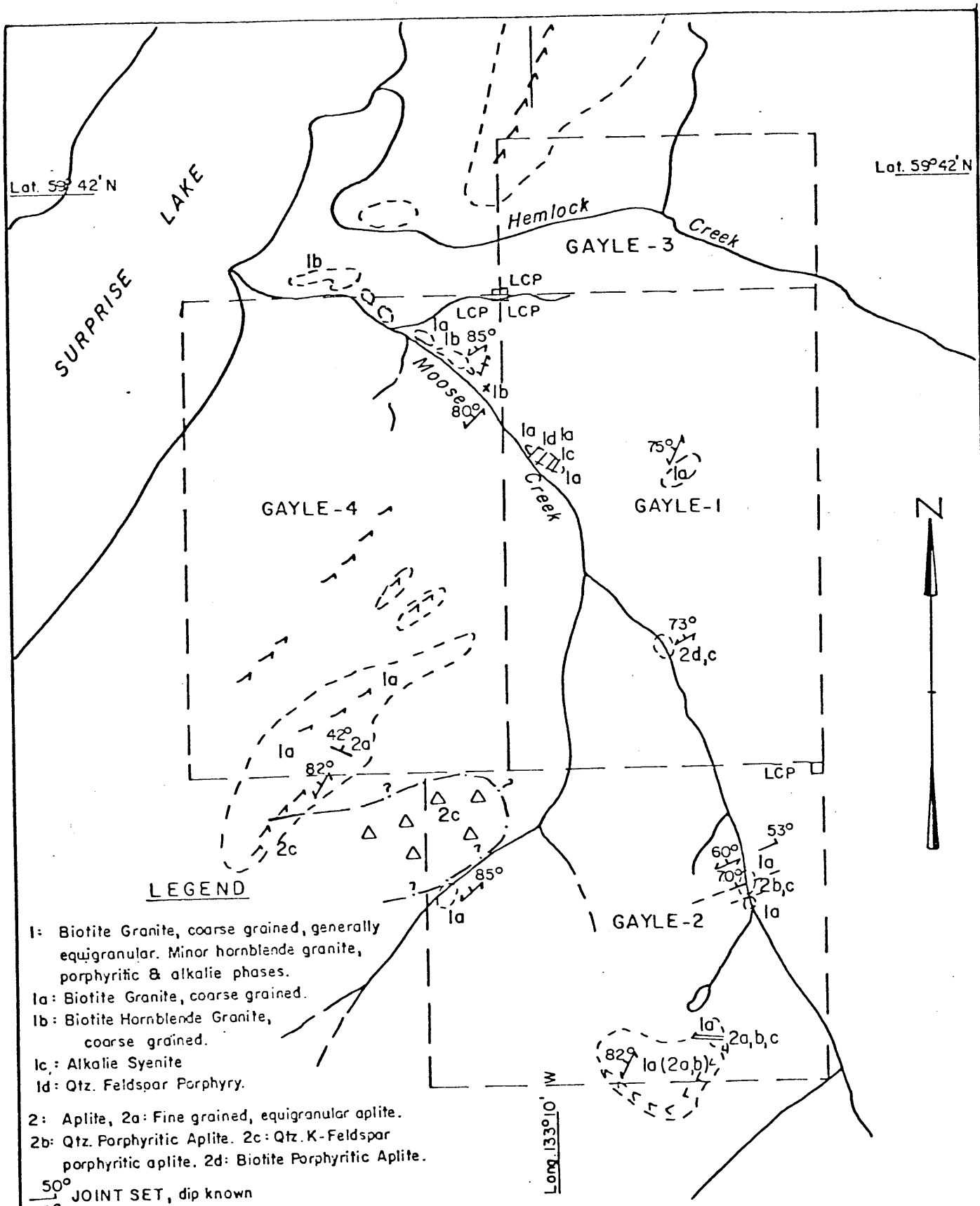
2-1: General Geology

The GAYLE 1-4 claims lie entirely within the Cretaceous Surprise Lake Batholith. This intrusive consists almost entirely of various phases of alaskite and biotite granite, including numerous aplitic varieties. Pegmatites and xenoliths are both very rare. The batholith is 58km long (east-west) and 29km wide (north-south) with the GAYLE claims situated in the west-central sector, 10km east of the ADANAC deposit.

To date, a total of 9 intrusive phases have been found in outcrop on the claims including 5 granitic phases and 4 types of aplite. By far the dominant phase is a coarse grained biotite granite (1a). Of the remaining granitic phases only the hornblende-biotite granite (1b) occurs in significant amounts while the alkalic syenite (1c) and quartz-feldspar (1d) crop out over limited areas. Both the syenite and porphyry appear to occur as large dykes and have been observed in only one location, on GAYLE 1.

The four aplite phases occur only as dykes on the claims however there is a possibility that the quartz-feldspar porphyritic aplite occurs as a large intrusive plug in the NW corner of GAYLE 2 (Map 1). This suggestion is based largely on the abundance of this rock type in the talus and the paucity of other phases. The major occurrence of all aplite phases is as thick, up to 15m, dykes generally striking E-W and dipping 10-20° south.

Frequently the largest dykes contain several different "phases" as flow banded zones. K-feldspar phenocrysts are especially susceptible to flow banding and have often been concentrated in distinct bands.



LEGEND

1: Biotite Granite, coarse grained, generally equigranular. Minor hornblende granite, porphyritic & alkalie phases.
1a: Biotite Granite, coarse grained.
1b: Biotite Hornblende Granite, coarse grained.
1c: Alkalie Syenite
1d: Qtz. Feldspar Porphyry.

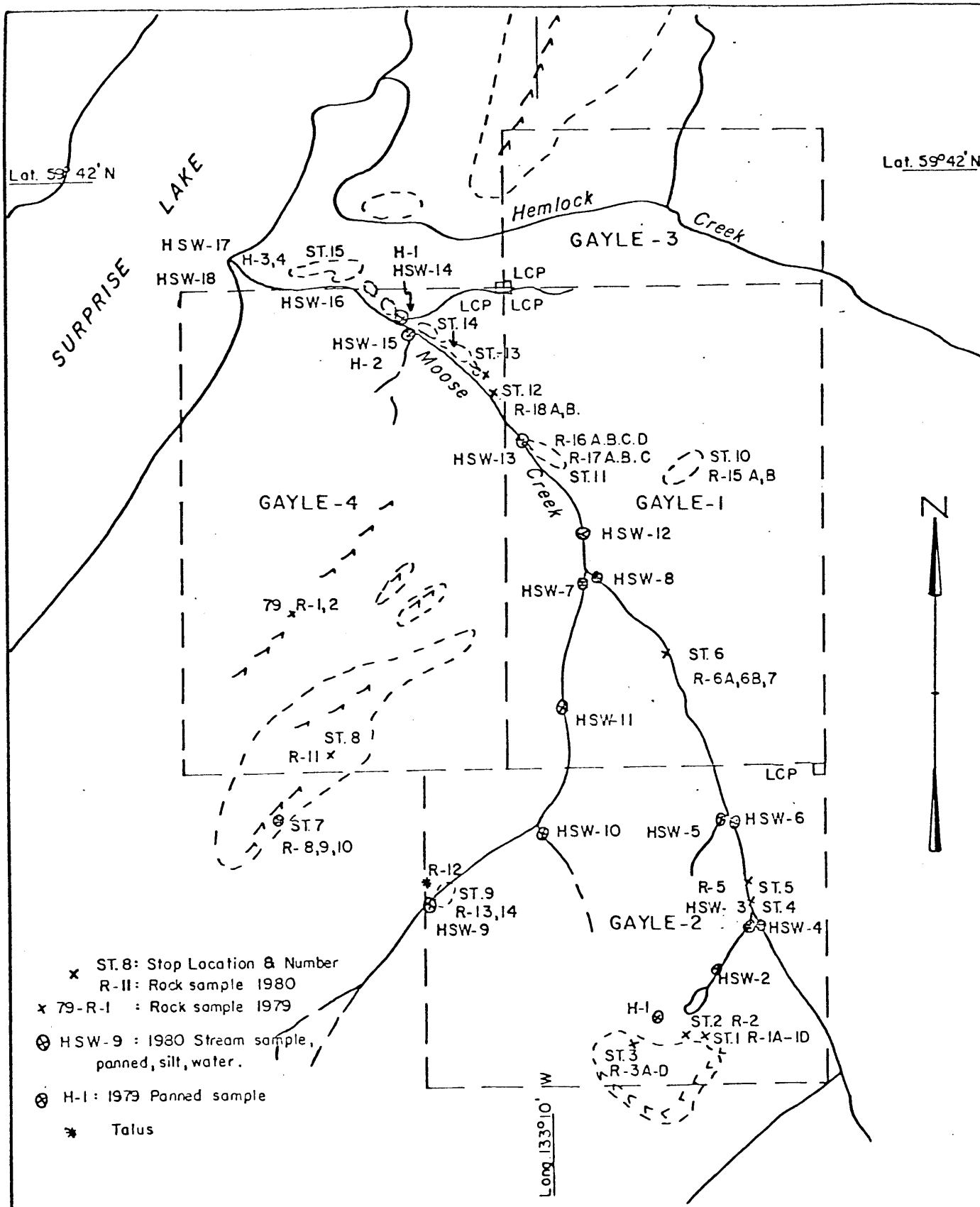
2: Aplite, 2a: Fine grained, equigranular aplite.
2b: Qtz. Porphyritic Aplite. 2c: Qtz. K-Feldspar porphyritic aplite. 2d: Biotite Porphyritic Aplite.

50° JOINT SET, dip known
45° SHEAR FOLIATION, dip known
FAULT, assumed, defined
OUTCROP:
TALUS:
RIDGE:
75° DYKE, dip known.

SCALE
0 500 1000 1500 metres

MATTAGAMI LAKE EXPLORATION LIMITED
WESTERN FIELD OFFICE
EDMONTON, ALBERTA

GAYLE CLAIMS 1-4
MAP 1 : GEOLOGY



MATTAGAMI LAKE EXPLORATION LIMITED
WESTERN FIELD OFFICE
EDMONTON, ALBERTA

GAYLE CLAIMS 1-4

MAP 2 : SAMPLE LOCATIONS

2-2: Description of Units

2-2-1: Granitic Phases

Coarse-grained Biotite Granite (1a)

This phase is the most abundant rock type on the GAYLE claims and probably throughout much of the batholith as well. It is generally equigranular, rarely porphyritic, and contains roughly 60% K-feldspar, 30-35% quartz and 3-10% biotite. K-feldspar occurs as generally subhedral crystals up to 3cm long but averages 1cm in length while quartz occurs as generally anhedral grains up to 1cm in length, averaging 0.5cm. Biotite grains are anhedral to subhedral, 2-5mm long and frequently form clots up to 1cm across.

Coarse-grained Biotite-Hornblende Granite (1b)

This phase is very similar to the previous phase, biotite granite, and the two are generally gradational in the field. Biotite-hornblende granite contains 60-70% subhedral K-feldspar, 7-10mm long; 20-30% anhedral quartz, 3-7mm long; 5-7% subhedral to euhedral hornblende, 4-10mm long and roughly 3-5% subhedral biotite, 1-4mm long. It crops out predominantly in the NE corner of GAYLE 4.

Alkalic Syenite (1c)

This phase has been found at only one location on these claims, in the west-central sector of GAYLE 1, however it somewhat resembles a phase occurring at Weir Mountain, 12km

to the east. On GAYLE 1 it occurs as a dyke(?) roughly 24m wide.

The syenite is fine to medium-grained, generally equigranular, but occasionally porphyritic, and light pink in colour. It contains 5% anhedral quartz as large discrete grains up to 0.5cm across, and 5-10% chloritized amphibole (actinolite?) as subhedral crystals up to 0.5cm long. The remainder is largely K-feldspar, generally coarse grained (GO.5cm) and occasionally as phenocrysts up to 3cm long.

Quartz-Feldspar Porphyry (1d)

This unique phase occurs in only one location, the same one as that of the alkalic syenite. Like the syenite, the porphyry seems to be a dyke-like body, 55m wide. It contains a variable percentage of quartz and feldspar phenocrysts (up to 20%) set in a very fine grained groundmass. Only trace amounts of any mafic minerals (biotite) were found in this phase.

2-2-2: Aplite Phases

Fine-grained Equigranular Aplite (2a)

This is a fairly common aplitic phase which crops out predominantly in the eastern sector of GAYLE 2. It is generally white to light pink in colour and contains roughly 65% K-feldspar, 25% quartz and 10% biotite. All minerals are equigranular, 1-2mm

across and generally anhedral, features which often give the rock a saccharoidal texture.

Pegmatitic segregations are fairly common within this phase as well as the neighbouring granite. The largest one observed was 1m x 0.7m with a core, 0.7m x 0.5m, of solid quartz, which is rimmed by large K-feldspar crystals up to 15cm long.

This equigranular aplite often occurs as large dykes up to 15m thick. These invariably exhibit well developed flow banding, especially in their central zones. K-feldspar and quartz phenocrysts are concentrated into distinct bands containing 30-40% and 25-30% of each respectively. The K-feldspar phenocrysts are up to 3cm long and exhibit a weak alignment parallel to the contacts of the dyke while the quartz phenocrysts are up to 0.5cm across and are generally quite rounded.

Quartz-Porphyritic Aplite (2b)

This phase has been observed only as flow banded segregations within large aplite dykes. It contains 25-30% quartz phenocrysts up to 0.5cm in width, set in a fine grained, granular groundmass of quartz and K-feldspar.

Quartz-K-feldspar Porphyritic Aplite (2c)

This phase occurs both as segregations within large, flow banded aplite dykes, and as discrete dykes. As flow banded zones, it can contain up to 30-40% K-feldspar phenocrysts and

up to 20-30% quartz phenocrysts, however when observed as discrete, homogenous dykes, the K-feldspar phenocrysts generally outnumber the quartz phenocrysts by a wide margin. K-feldspar phenocrysts average 20-30% while quartz phenocrysts are often only 5-10% of the rock. The groundmass, again, is fine grained granular K-feldspar (60-70%) and quartz (30-40%).

Biotite Porphyritic Aplite (2d)

This aplite phase has been observed at only one location, Stop #6 on GAYLE 1 where it occurs as a large vertical dyke, striking roughly North-South. It contains roughly 5% medium grained biotite phenocrysts set in a fine-grained granular groundmass of K-feldspar and quartz. Some portions of this dyke are flow banded, producing K-feldspar and quartz porphyritic zones.

2-3: Structural Geology

On the whole, the granitic and aplite phases of the GAYLE claims tend to be massive. However, there are frequent exceptions.

The aplite dykes are frequently flow banded parallel to their contacts. The aplite is rarely sheared, it seems to have escaped the effects of the local faulting, possibly due to its limited extent. One dyke at Stop #5 has been cut by a high angle fault with a resultant vertical displacement of 6-7m and the generation of a 1 metre wide shear zone.

The granitic outcrops often exhibit a shear foliation, or even a pronounced cataclasis, throughout their extent. More often however, the shearing has been confined to relatively narrow zones. The dominant trend of this shearing is NE-SW, dipping steeply to the NW. This trend is parallel to the steep margins of Surprise Lake, which may be a down-faulted graben. It is likely therefore that the regional foliation was produced by the same tectonism as the Surprise Lake graben.

CHAPTER THREE: RESULTS

The results of rock, silt, panned and water sample analyses are presented in the following tables (Table 1, 2, 3). No significant mineralization or anomalies are evident in the data. The reason for the strong GSC anomaly on Moose Creek remains a mystery - it may be due solely to a mechanical concentration of heavy minerals from the large volume of till in this drainage system. The anomaly has not been reproduced in two years of sampling and therefore it may represent a spurious result.

TABLE 1: ROCK SAMPLE ANALYSES (All in ppm)

Sample #	Ag	Cu	Pb	Zn	Mo	Sn	W	U	F
1a	1.5	18	114	121	4	7	L2	13.0	460
1b	0.7	7	14	47	2	7	3	10.0	105
1c	0.1	4	6	32	2	8	3	4.2	1,100
1d	0.2	7	8	37	4	18	22	3.2	1,400
2	0.3	32	13	12	7	19	5	14.0	1,160
3a	0.7	54	35	98	7	n/a	n/a	3.8	4,000
3c	0.2	68	321	160	2	8	22	6.0	280
3d	0.4	60	116	150	2	5	5	6.2	1,880
5	0.6	31	107	53	2	8	3	7.6	1,850
7	0.1	3	22	59	2	5	L2	4.4	290
8	0.1	9	2	45	2	L5	5	2.8	710
9	0.1	4	3	30	1	L5	3	2.4	275
10	0.2	18	2	12	5	19	n/a	2.4	n/a
11	0.2	16	6	13	9	L5	n/a	n/a	500
12	0.1	6	3	20	2	L5	13	6.6	295
13	0.2	5	3	52	1	L5	14	22.0	1,100
14	0.1	3	2	25	2	L5	7	2.6	175
15a	0.1	7	4	33	2	L5	3	2.0	360
15b	0.1	6	3	30	1	L5	5	2.6	375
16a	1.4	3	159	n/a	2	L5	L2	8.4	220
16b	0.1	2	6	n/a	2	L5	3	2.0	140
16c	0.1	2	6	n/a	1	L5	13	0.6	110
16d	0.1	2	4	n/a	3	L5	L2	3.8	570
17a	0.1	3	2	87	1	12	L2	1.8	760
17b	0.1	4	2	45	2	L5	3	2.8	235
18a	0.1	4	3	60	3	L5	L2	2.4	210
18b	0.1	4	1	42	1	L5	5	2.6	285

L denotes Less than; n/a = not available

TABLE TWO: PANNED (H) AND SILT (S) SAMPLE ANALYSES

SAMPLE NUMBERS	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm	Sn ppm	W ppm	U ppm	Au ppb
H 1	0.8	10	23	108	1	n/a	14	13	L5
2	0.4	10	5	66	3	24	6	12	L5
3	0.3	12	5	85	2	16	20	15	L5
4	0.1	5	8	82	1	12	L2	4.4	L5
5	0.2	1	5	24	1	L5	3	6.0	L5
6	0.2	9	3	83	1	9	6	12.0	L5
7	0.1	10	9	79	2	8	34	8.0	L5
8	0.2	8	8	67	2	L5	L2	10	L5
9	0.4	8	4	41	2	8	L2	2.0	L5
10	0.1	11	2	33	2	L5	7	6.6	L5
11	0.1	11	3	39	2	8	18	8.2	L5
12	0.2	3	2	46	1	n/a	n/a	7.8	L5
13	0.1	8	8	56	2	n/a	n/a	13	L5
14	0.1	4	7	41	2	n/a	13	7.0	L5
15	0.1	10	2	30	2	13	7	1.2	L5
16	0.2	4	2	23	2	n/a	50	1.0	L5
17	0.1	9	4	40	2	8	5	3.0	L5
18	0.1	13	4	47	2	23	29	7.0	L5
S 2	0.5	n/a	n/a	n/a	4	6	3	n/a	
3	0.3	n/a	n/a	n/a	1	L5	6	72	
4	0.2	14	17	169	2	5	18	30	
5	0.1	3	11	111	1	L5	7	40	
6	0.3	9	8	138	2	n/a	n/a	93	
7	0.2	10	7	87	1	L5	n/a	50	
8	0.2	13	10	149	2	6	6	n/a	
9	0.1	20	6	56	3	L5	L2	20	
10	0.2	20	7	79	2	L5	3	46	
11	0.3	15	6	70	2	L5	28	81	
12	0.2	8	8	100	2	19	4	66	
13	0.3	7	7	89	2	13	7	81	
14	0.1	10	4	80	2	11	7	40	
15	0.3	35	1	90	3	L5	3	41	
16	0.1	11	5	74	1	13	n/a	30	
17	0.1	7	4	49	1	L5	5	12	
18	0.1	8	6	56	2	L5	L2	34	

L denotes less than, n/a = not available

TABLE THREE: WATER SAMPLE ANALYSES

SAMPLE NUMBERS	Cu_{ppb}	Pb_{ppb}	Zn_{ppb}	U_{ppb}
2	2	L5	L2	0.67
3	2	L5	L2	0.20
4	2	L5	L2	0.55
5	2	L5	L2	0.08
6	L2	L5	L2	0.12
7	L2	L5	L2	0.08
8	2	L5	23	0.08
91	3	L5	19	L0.02
10	n/a	n/a	L2	0.26
11	3	L5	L2	0.60
12	L2	L5	4	0.20
13	2	L5	L2	0.30
14	2	L5	L2	0.40
15	2	L5	L2	0.67
16	3	L5	L2	0.73
17	L2	L5	L2	0.26
18	4	L5	L2	0.86

L denotes less than, n/a = not available

CERTIFICATE

I, John Biczok, of Edmonton, Province of Alberta, do hereby certify that:

1. I am a geologist residing at #5, 10556 - 80 Avenue, Edmonton, Province of Alberta.
2. I am a graduate of Lakehead University, Ontario with a H. B.Sc. (1976) in geology and am presently completing an M.Sc. at the University of Manitoba, Winnipeg.
3. I have been practising my profession since 1973 and am at present Exploration Geologist with Mattagami Lake Exploration Limited in Edmonton.
4. I was party chief for the crew that conducted the work in this report and the report is correct to the best of my knowledge and ability.

Dated: October 24th, 1980

John Biczok

John Biczok, H. B.Sc.

STATEMENT OF COSTS

Wages:	J. Biczok, 1979 - 2 days @ $ 63.00/day =	$ 126.00	
	J. Biczok, 1980 - 5 days @ $ 74.00/day =	370.00	
	P. Metcalfe, 1980-5 days @ $ 63.50/day =	317.50	
			$ 813.50
Travel Expenses:			
	Airfare - Edmonton to Whitehorse (2)	$ 618.00	
	Taxi fare - Edmonton to Airport	18.00	
	Vehicle Rental: 5 days @ $ 21.95/day	109.75	
	Vehicle Operations: Gasoline	15.50	
	Mileage Charges: 390km x 14¢/km	54.60	
	Freight Charges	17.00	
			832.85
Accomodations:	5 nights x $ 35.00/night		165.00
Food:			131.15
Helicopter Flights:	1980 - September 15th	$ 288.00	
	September 16th	256.00	
	September 17th	256.00	
	Fuel	89.60	
	1979 - Two trips from Weir Mountain	576.00	
			1,465.60
Analyses:			
	17 water samples for Cu, Pb, Zn, U x $ 17.50	$ 127.50	
	17 silt samples for Ag, Cu, Pb, Zn, Mo, Sn, W, U, Au x $ 19.15 (Less ommissions) (21.75)	303.80	
	17 panned samples for Ag, Cu, Pb, Zn, Mo, Sn, W, U, Au x $ 19.80 (Less ommissions) (24.50)	312.10	
	27 rock samples for Ag, Cu, Pb, Zn, Mo, Sn, W, U, F x $ 20.15 (Less ommissions) (24.00)	520.05	
			1,263.45
Report Writing:	J. Biczok - 3 days @ $ 74.00	$ 222.00	
	Drafting - 1 day @ $ 50.00	50.00	
	Typing - 1 day @ $ 50.00	50.00	
			322.00
Fees:	Grouping, Bill of Sale, Work Recording		365.00
TOTAL			$ 5,358.55