FIONA 1-47, 69 CLAIMS

GEOLOGY AND GEOCHEMISTRY, 1981

DAWSON MINING DISTRICT

NTS: 115P/14

LATITUDE: 63°56'N

LONGITUDE: 137°15'W

AUTHOR: J. BICZOK, H.B.Sc.

OWNER: MATTAGAMI LAKE EXPLORATION LIMITED

DATE: JANUARY 1982

090984

This report has been examined by the Mineral Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $ 1,200 .

P. Watson

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

TABLE OF CONTENTS

LIST OF MAPS

LIST OF FIGURES

LIST OF TABLES

CHAPTER ONE: INTRODUCTION

1.1: Location and Access

The 48 FIONA claims are located 26km east of Dawson City, Yukon (Figure 1) in the Syenite Mountain Range at 137°15'W, 63°56'N on NTS mapsheet 115P/14. They are 10km northeast of Barlow Dome on the Clear Creek road and access was by helicopter from a camp at this site.

1.2: History of the Claims

The FIONA 1-47, 69 claims were staked by the 1980 Yukon crew on June 22, 1980 to cover the presumed source of significant geochemical anomalies on streams draining an area geologically favourable for skarn deposits.

Upon acceptance of this report the claims will be in good standing until July 8, 1982.

1.3 Work Program

A crew of six geologists conducted work on the claims from May 27 to June 18, 1981. A total of about 88 mandays was spent on the claims, primarily in geological mapping and stream sampling. This program was greatly hampered by frequent periods of snow, rain and/or fog and several helicopter breakdowns. The following personnel were involved in the work:

John Biczok	Party Chief
Steve Wiecek	Senior Assistant
Paul Wagner	Senior Assistant
Blair Lockhart	Junior Assistant
Kevin Tomlinson	Junior Assistant
Kathy Hyndman	Junior Assistant
Mary Ann Annable	Cook
Doug Brierly	Pilot
Paul Kendall	Pilot

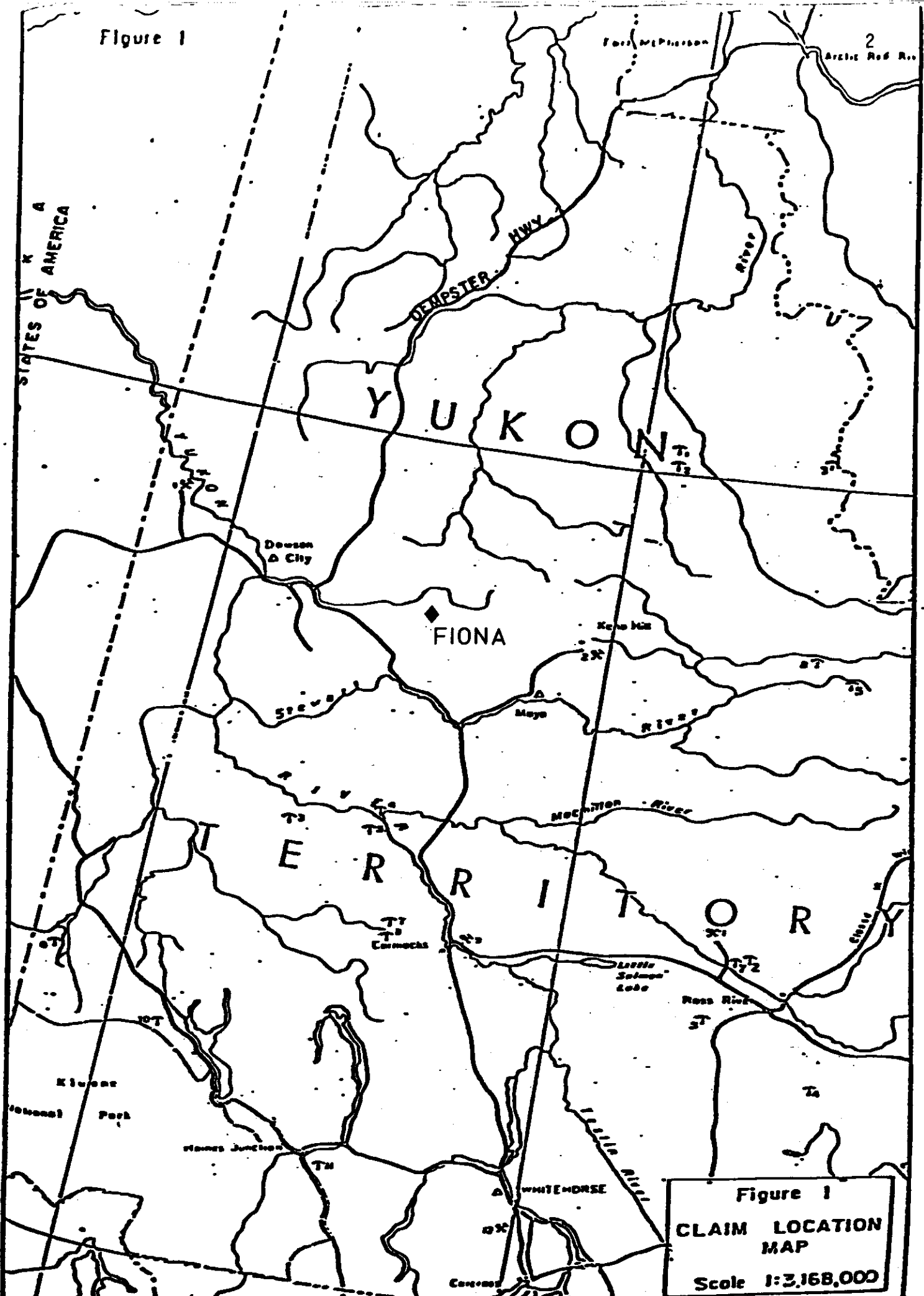


Figure 1
2
STATES OF AMERICA
DEMPSTER HWY
YUKON
TERRITORY
Dawson City
FIONA
Stewart River
Mayo
Macmillan River
Carmacks
Little Salmon Lake
Ross River
Kluane National Park
Haines Junction
WHITEHORSE
Teslin River
Figure 1
CLAIM LOCATION MAP
Scale 1:3,168,000

Geological mapping was conducted on a 1:20,000 scale with the aid of enlarged topographic maps and airphotos. Helicopter support was provided first by a Jet Ranger 206B, and later by a Hiller 12E, both on contract to Mattagami from Buffalo Airways Ltd. of Fort Smith, N.W.T.

CHAPTER TWO: GEOLOGY

2.1: Introduction

The area of the claims was mapped by H.S. Bostock of G.S.C. from 1946-1949 as part of the McQueston mapsheet (Map 1143A, 1964). They cover the contact of a Cretaceous syenite/monzonite intrusion with a series of Ordovician limestones and clastic sediments. These have been interpreted by many geologists as being equivalent to the Road River Formation. However, in the author's opinion, they do not bear any resemblance to this formation and in the opinion of D. Tempelman-Kluit (pers. comm., 1980), the entire section may have been thrust over the Tintina Trench from the southwest.

2.2: Description of Units

Mapping by Mattagami's crew has revealed three major units which are exposed on the claims (Table 1, Map 1).

The oldest strata belong to an Ordovician(?) Limestone Formation with a true thickness of approximately 450m. It strikes NE-SW and dips between 50° and 75° to the northwest. It crops out over a length of 1600m on the claims and is cut off by a major fault zone along its western limit (Map 1). The upper portion of the formation appears to be a very fine-grained, dolomitic quartzite. It is a very hard (H>6), competent, member that does not effervesce with HCl. Like most of the formation it is thinly bedded or laminated. The lower portion of the formation is more similar to a to a true limestone, although, it is also thinly bedded with alternating resistant and recessive beds. Locally these are highly contorted. No fossils were discovered in this formation and it certainly does not appear to be bioclastic in origin.

TABLE ONE: TABLE OF FORMATIONS

Period	Formation	Description
Cretaceous	3. "Lost Horse's" Stock	Hornblende±biotite monzonite/syenite with a K-feldspar porphyritic margin.
Ordovician or Later	2. Unnamed Clastic Formation	Predominantly conglomerate and quartzite in lower strata changing to shale in upper member.
	1. Limestone	Dolomitic quartzite at base, thinly laminated dolomitic limestone upper member. Rare allocthonous block of sheared, graphitic schist.

Within the lower member of the limestone a unique outcrop of very black, highly sheared and contorted, graphitic schist was discovered. The occurrence is approximately 10m x 7m and appears to be generally subhorizontal with a shallow dip to the south. This orientation, of course, does not correspond to that of the limestone, suggesting that the schist represents a large allocthonous block of metamorphosed shale that tumbled into the area of limestone deposition.

Overlying the limestone is an Ordovician-Silurian clastic sequence consisting largely of quartzite, conglomerate and shale. Three members have been tentatively identified. The oldest member (2c) is a thinly laminated shale with siliceous interbeds (1-2mm). The unit has the appearance of a slate due to frequent breakage along its bedding planes. Above this is a variable sequence of quartzite and conglomerate (2b). The quartzite is very fine-grained, white and fairly clean while the conglomerate consists of 50-60% pebbles (largely quartz) in a siliceous matrix. The youngest member exposed on the claims is a thick congomerate and quartzite sequence (2a) found mainly on the eastern claims. Like the preceding unit, this quartzite is fine-grained, siliceous and fairly clean. The conglomerate varies throughout the sequence beginning with an upper quartz pebble conglomerate (50-60% pebbles in a siliceous matrix) which becomes increasingly more polymictic and has an increasingly mafic matrix lower in the section. Although quartzite/quartz pebbles still predominate in the lower section, up to 10-15% shale fragments are found. Minor shale beds are also found in these lower strata.

The aforementioned clastic sequence is intruded by the Cretaceous "Lost Horses" stock, a roughly circular intrusion 8km in diameter. Bostock (1963) mapped this stock as a composite body having a syenite/monzonite rim

and a granite core. Our mapping to date cannot confirm this as efforts have been concentrated in the claims area which overlies the outer margin. Here the stock consists of a fairly uniform hornblende±biotite monzonite/syenite. Frequently it is K-feldspar porphyritic with 10-30% phenocrysts up to 3cm in length, locally aligned sub-parallel to the margins of the stock. The monzonite/syenite is generally fine to medium-grained and, neglecting the phenocrysts, quite equigranular. It contains 20-30% hornblende and minor biotite with the remainder being largely feldspar. No thin section or staining work has been carried out to derermine the plagioclase-K-feldspar ratio.

Dykes associated with the stock are found throughout much of the claims area. These appear to have the composition of a syenite/monzonite but are generally quite fine-grained and are therefore termed felsite in the field. The dykes reach 100m in width and generally trend sub-parallel to the margins of the stock.

CHAPTER THREE: GEOCHEMISTRY

The FIONA claims are cut by two large streams and their associated tributaries. Since these have previously been sampled in some detail, only four stream samples were collected in 1981 (Table 2). Their locations are plotted on Map 2. Silt samples were analyzed for Cu, Pb, Zn, Ag, Mo, W, Sn and Au; water samples were analyzed for Cu, Pb, Zn, U F and pH. No anomalous values were detected in any samples. Similarly the one soil sample analyzed did not detect any significant metal levels.

Sixteen rock samples were analyzed for Cu, Pb, Zn, Ag, Mo, W, Sn and Au but did not reveal any significant metal enrichment (Table 3).

Several samples (R-521, 532) had slightly anomalous zinc levels (for their respective rock types) of up to 210 ppm and one sample, R-521, contained an anomalous level of gold - 40 ppb. Unfortunately these were the most highly mineralized samples discovered and suggest that there is no economic mineralization present on the claims.

TABLE 2: 'Fiona Geochemical Results

Silt Samples in ppm, except Au in ppb

Sample Number	Cu	Pb	Zn	Ag	Mo	W	Sn	Au
81-171-S-501	20	20	110	0.2	<2	IS	2	IS
506	36	12	120	0.2	<2	10	1	10
508	50	16	140	0.2	<2	IS	1	10
510	14	18	80	0.2	<2	1	1	10

Soil Samples in ppm, except Au in ppb

Sample Number	Cu	Pb	Zn	Ag	Mo	U	Au
81-171-P-520	20	8	50	0.2	<2	1.2	10

Water Samples in ppb

Sample Number	Cu	Pb	Zn	U	F	pH
81-171-W-502	<10	<20	<10	0.14	30	6.8
507	<10	<20	<10	0.22	30	6.9
509	<10	<20	<10	2.20	70	7.4

IS = Insufficient Sample

TABLE 3: Rock Sample Analyses and Descriptions (Au in ppb, others in ppm)

Sample Number	Cu	Pb	Zn	Ag	Mo	W	Sn	Au	Sample Description
81-171-R- 2	14	48	40	1.4	10	1	1	10	Highly sheared shale block within the limestone.
500	48	22	100	0.2	1	1	1	10	K-feldspar porphyritic biotite syenite.
504	70	20	246	0.2	1	1	2	10	Very fine-grained grey quartzite
516	48	54	246	0.2	2	1	5	10	Shale with disseminated pyrite
517	40	68	52	1.6	1	1	1	10	Biotite porphyritic syenite
518	10	6	92	0.2	1	1	1	10	Biotite-K-feldspar cumulate(?) float.
521	10	58	180	1.8	1	1	1	40	Felsite talus with 5% arsenopyrite.
523	8	12	60	0.2	1	1	1	10	Muscovite quartzite adjacent to quartz vein.
525	24	12	58	0.2	1	1	1	10	Quartzite with a 1 cm wide muscovite vein.
529	18	16	56	0.2	1	1	1	10	K-feldspar porphyritic felsite, 10% fine-grained magnetite.
530	12	10	38	0.2	1	1	1	10	Weakly calcareous quartzite, minor pyrite.
531	2	8	12	0.2	1	1	1	10	5 cm wide quartz vein.
532	2	26	210	0.2	1	1	1	10	Clean quartzite with minor shale partings and arsenopyrite(?).
1500	12	10	18	0.2	1	1	1	10	Quartz pebble conglomerate
1502	2	10	24	0.2	1	1	2	10	Quartz vein with Mn-Fe oxide coatings.
2003	40	40	54	0.2	2	1	3	10	Felsite dyke. Very fine-grained, light grey.

CHAPTER FOUR: CONCLUSIONS AND RECOMMENDATIONS

It is apparent from the local geology that the limestone-intrusion contact will be a considerable depth, at least 800m. No surface skarn mineralization was discovered on the claims in 1981, however in 1980, narrow argentiferous galena veins were discovered in the limestone south of the claims. Similarly, no geochemical anomalies were detected on the actual claims in 1981 but several 1980 samples, collected immediately south of the claims, were moderately anomalous (*Cu - 56 ppm, Zn - 900 ppm*).

There seems to be little potential for near surface mineralization on the FIONA claims and it is recommended that they be dropped.

STATEMENT OF COSTS

Salaries

J. Biczok	$ 68.22/day x 9 days =	$ 613.98
P. Wagner	$ 79.33/day x 1 day =	79.33
S. Wiecek	$ 56.37/day x 15 days =	845.55
K. Hyndman	$ 42.17/day x 17 days =	716.89
B. Lockhart	$ 52.19/day x 13 days =	678.47
K. Anderson	$ 50.10/day x 1 day =	50.10
K. Tomlinson	$ 45.93/day x 14 days =	643.02
M. Annable	$ 65.75/day x 16 days =	1,052.00
		$ 4,679.34

Campl Supplies	1,092.05
Mobilization Expenses	825.25
Expeditor's Fees (includes some accomodation)	1,967.46
Vehicle Rental	3,392.53
Propane	232.57
Helicopter Fuel	350.00
Helicopter Charter	1,715.00
Assays	3,321.21
Report Writing	785.54
Total	$ 18,360.95

CERTIFICATE

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

1. I am a geologist at 8615 - 64 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 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: Feb. 9, 1982

John Biczok

John Biczok, H.B.Sc.

Black Canyon Creek

FIONA CLAIMS

KLONDIKE RIVER

LITTLE SOUTH

Lat. 63° 56' N

137° 15' W

137° 10' W

LEGEND

: Outcrop

: Geological contact; defined, assumed.

: Bedding strike & dip

: Foliation strike & dip

: Fault

CRETACEOUS

3 Lost horses stock
- 3a: Hornblend ± Biotite Monzonite / Syenite
- 3b: K-Feldspar porphyritic Monzonite / Syenite

ORDOVICIAN (or later)

2 Clastic Formation
- 2a: Conglomerate (qtz. pebble & polymictic) with interbedded quartzite.
- 2b: Quartzite, minor conglomerate & shale.
- 2c: Shale, thinly laminated with siliceous interbeds.

1 Limestone
- 1a: Very fine grained, dolomitic quartzite.
- 1b: Thinly laminated dolomitic limestone
- 1c: Sheared, graphitic schist.

CONTOUR ELEVATIONS IN FEET.

090984

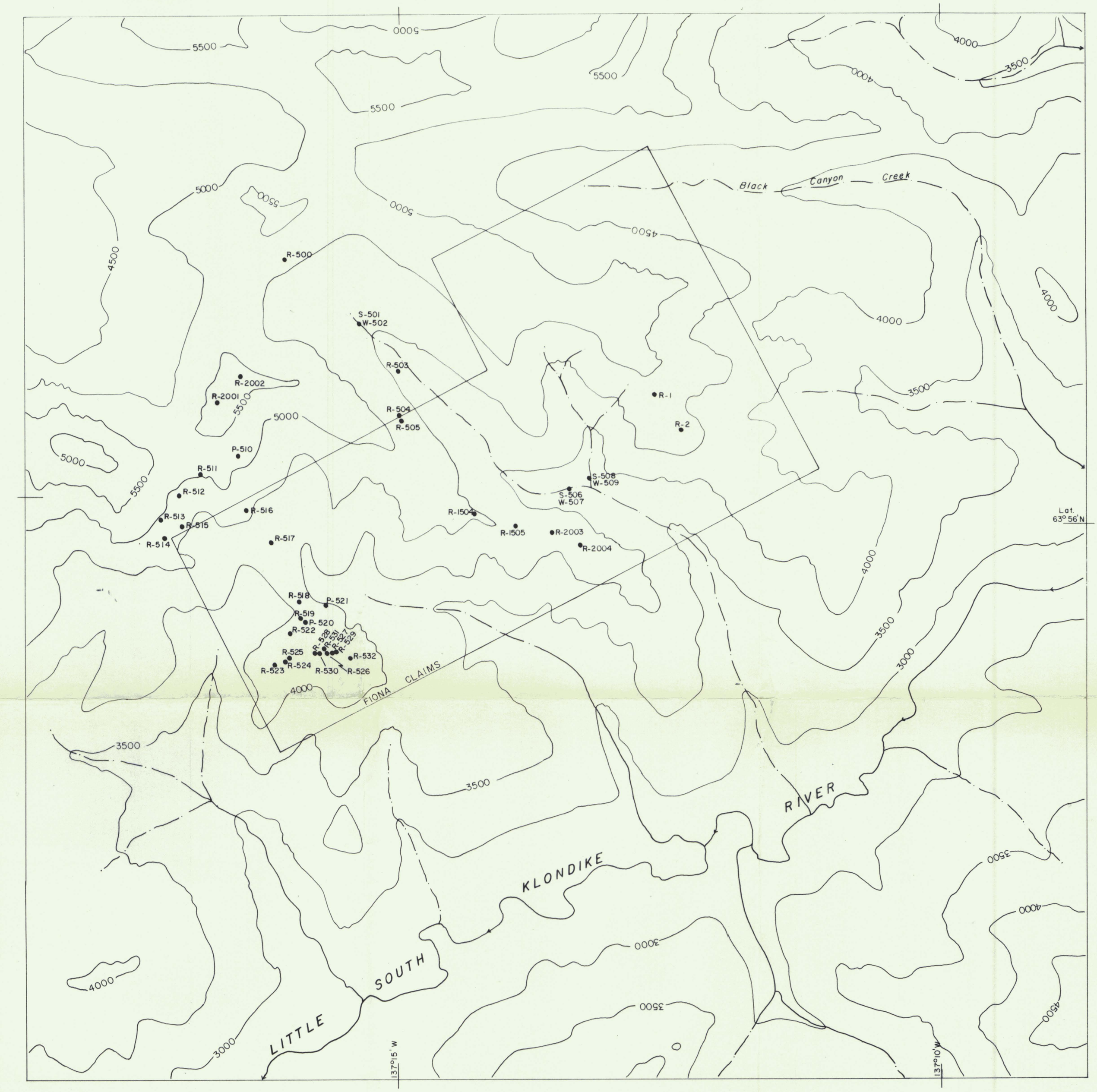
MATTAGAMI LAKE EXPLORATION LIMITED.
WESTERN FIELD OFFICE
EDMONTON - ALBERTA

YUKON FIONA PROJECT.

GEOLOGY MAP

DRAWN BY: D. R. BULL.
DATE: DECEMBER 1981

0 200 1000 metres



CONTOUR ELEVATIONS IN FEET.

- ●: Sample Location
- P: Soil Sample
- S: Silt Sample
- W: Water Sample
- R: Rock Sample

090984

MATTAGAMI LAKE EXPLORATION LIMITED.
WESTERN FIELD OFFICE
EDMONTON - ALBERTA

YUKON FIONA PROJECT.
SAMPLE LOCATION MAP

DRAWN BY: D. R. BULL.
DATE : DECEMBER 1981

0 200 1000 metres