

# GM 72922

Summary report on the lake Coconipi property

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Énergie et Ressources  
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Québec 

Easting: 709648E  
Northing: 5571986N  
NTS: 12K/01& 08

**SUMMARY REPORT  
ON THE  
Lake Coconipi Property**  
Lienard Township-  
The Lower Northshore of St Lawrence  
Quebec

By  
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## 1.0 INTRODUCTION

Between June 8<sup>th</sup> and June 17<sup>th</sup> 2022, the writer conducted geological research on the Boron potential throughout the province of Quebec. The research reveals only few target areas one of which will be discussed in this report.

Regional geological and geochemical information in this report is gathered from the available regional geological and geochemical surveys completed between 2008 and 2010 by the Ministry of Natural Resources of Quebec. Local geological information is gathered from previous report

## 2.0 LOCATION & ACCESS

(Figure 1&2)

The property is located approximately 450 kilometers east of Sept-Île's, 120 km east of the town of Natashquan and 40 km east of La Romaine village, in the Lower North Shore region of northeastern Quebec.

The village of La Romaine has a population of over 1,000 inhabitants, including an active Innu community. It has many infrastructures including an airport and a seaport. In addition, the main Highway 138 which runs along the Côte-Nord recently completed and opened for traffic to connect Natashquan with La Romaine. Highway 138 which end at Auberge Brion located 80 kilometers west of the property.

The property covers part of map sheet 12K/01 according to the SNRC grid (System National Cartographic Reference) and extends from the Gulf of St Lawrence at the southwest to Lake Coconipi at the northeast.

The Property can be easily accessed via Provincial Highway #138 joining Montreal to Natashquan, via the communities of Sept-Iles, Havre-St-Pierre and Baie Johan-Beetz. In general, access to the property is excellent year-round all the way going east to Auberge Brion, from there a float plan to the property.

Specialized mining equipment would most probably be obtained from Montreal or Val-d'Or, Quebec. Mining expertise does exist in the greater Sept-Iles area, mostly large open pit mining for iron and titanium at QIT's Lac Allard Mine.

### 3.0 TOPOGRAPHY & INFRASTRUCTURES

Topography on the property is characteristic of the Lower North Shore area with low relief and extended swamps, 10 meters to 50 meters above sea level. The region shows a south-southwest trending elongated topography due to the presence of a regional tight anticlinorium structures. Numerous north-south / northeast-southwest trending rivers are located on the property. The watershed is oriented toward the south and the area drains directly into the Gulf of St-Lawrence. Relief is greater as one travels further north with the presence of prominent 30 meters to 60 meters north-northeast trending quartz monzonite hills devoid of vegetation. The climate experienced along the North Shore of the Gulf of St. Lawrence, is one of contrasts: the short summer is warm and humid, with frequent rain showers; the winters are long and severe with snowy, windy conditions and temperatures to -25°C. Annual precipitation at Natashquan is 113 mm. The mean July temperature is 14.5°C, whereas in January it is -15.5°C



Figure 1

**LAKE COCONIPI**  
 Natashquan Area  
 12K/01&8  
**GENERAL LOCATION MAP**



Figure 2

**LAKE COCONIPI**  
 Natashquan Area  
 12K/01& 08  
**ACCESS MAP**

#### 4.0 PROPERTY STATUS

(Figure # 3)

The property consists of two none contiguous claim groups covering a total of 1,432.8 hectares located in map sheet area 12K/01 & 12K/08. Group one consisting of 22 contiguous claims hosting anomaly 1, 2 and 3 and group two consisting of 9 contiguous claims hosting anomaly 4.

Pertinent claim data is as follows:

##### Group One

Title number	Rang/Lot	Area (Hec)	Expiry Date
CDC 2652044	01/51	55.10	2025/06/01
CDC 2652045	01/52	55.10	2025/06/01
CDC 2652046	01/53	55.10	2025/06/01
CDC 2652047	01/54	55.11	2025/06/01
CDC 2652048	02/52	55.09	2025/06/01
CDC 2652049	02/53	55.10	2025/06/01
CDC 2652050	02/54	55.10	2025/06/01
CDC 2652051	03/52	55.09	2025/06/01
CDC 2652052	03/55	55.09	2025/06/01
CDC 2652210	03/56	55.09	2025/06/02
CDC 2652211	04/57	55.08	2025/06/02
CDC 2652212	05/57	55.07	2025/06/02
CDC 2652213	05/58	55.07	2025/06/02
CDC 2652386	02/55	55.10	2025/06/03
CDC 2652404	03/55	55.09	2025/06/04
CDC 2652489	08/55	55.04	2025/06/06
CDC 2652490	09/55	55.03	2025/06/06

Claim group one is representing a total area of 936.45 hectares, 9.36 square kilometers



**Group Two**

Title number	Range/Lot	Area (Hec)	Expiry Date
CDC 2652471	26/43	55.15	2025/06/05
CDC 2652472	26/44	55.15	2025/06/05
CDC 2652473	27/44	55.14	2025/06/05
CDC 2652474	27/45	55.14	2025/06/05
CDC 2652475	28/45	55.15	2025/06/05
CDC 2652387	25/42	55.16	2025/06/03
CDC 2652388	26/42	55.15	2025/06/03
CDC 2652402	24/41	55.17	2025/06/04
CDC 2652403	25/43	55.16	2025/06/04

Claims group two is representing a total area of 496.37 hectares, 4.9 square kilometers.

In addition to the above-mentioned groups, thirty new claims are now in the process of staking to connect both main target areas, the new staking will bring the total area of the property to approximately 25 square kilometers.

According to Quebec government records, no part of the land covered by the property is located within park or area restricted from exploration or mining activities. The property is 100% owned by Fayz Yacoub of Surrey, British Columbia.

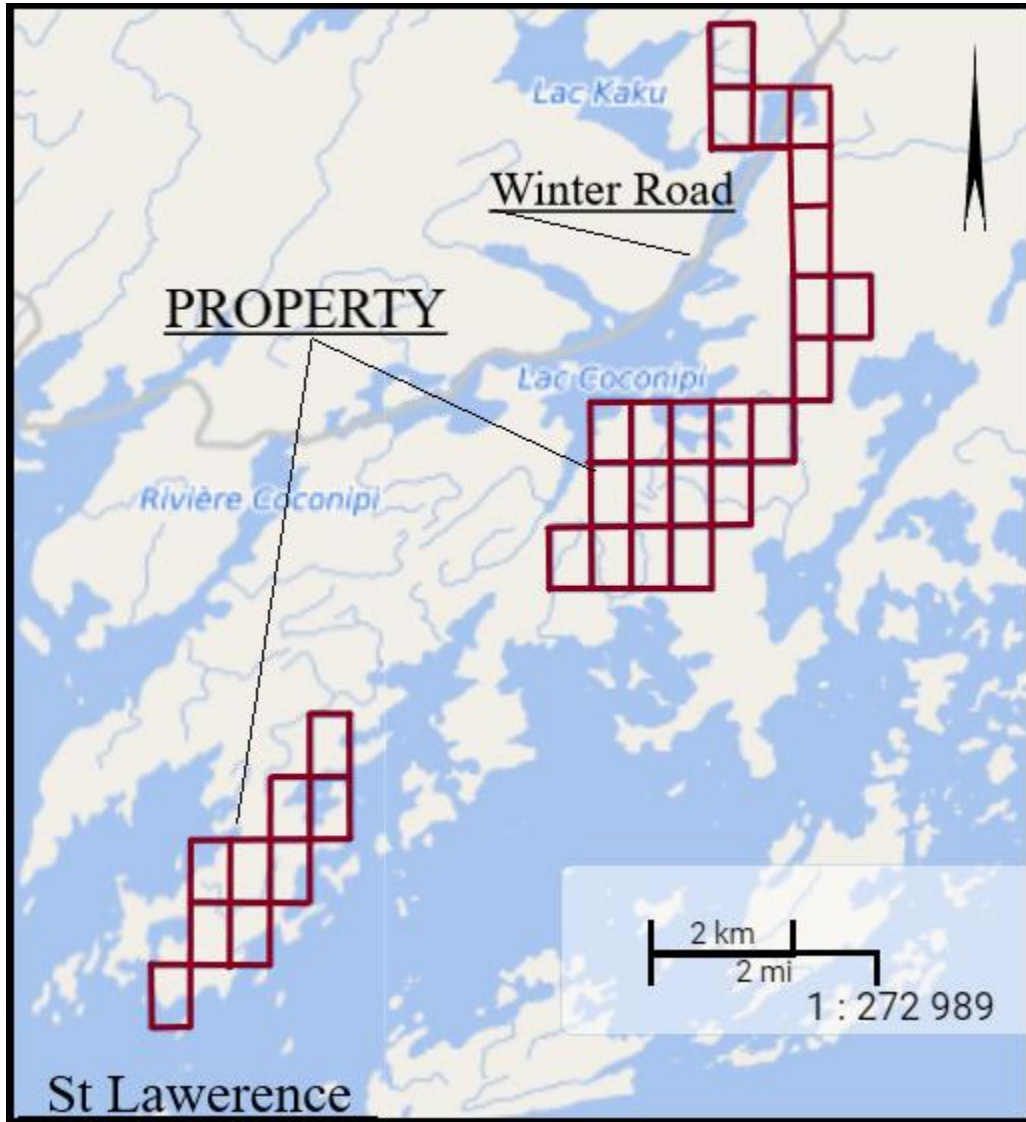


Figure 3

## LAKE COCONIPI

Natashquan Area  
12K/01&8

### CLAIM MAP

## 5.0 ABOUT BORON

Boron Minerals are found in the Earth's crust; various forms come from different types of rocks and geological structures, pegmatite and metamorphic rocks are the most common. Boron minerals that form on Earth today include Tincal, Tincalconite, Colemanite, Kernite, Ulexite, Pandermite, Boracite, Hydroboracite, Inderite, Ascharite, Datolite, Sassolite, Meyerhofferite, Inyoite, and Probertite. is also used in high tech applications, such as the heat-resistant glass for smartphones, materials for renewable energy-for wind and solar projects, in wood protection and fiberglass insulation.

Boron is a strategic element as it is used in many different ways that are essential to the military. Boron fibers are used in advanced aerospace structures like missiles and planes. In addition, boron is used as an industrial catalyst to make polymers, it also has essential uses in electroplating metals and inner plates of ballistic vests. Boron also is a critical component in tank armor and permanent neodymium magnets. The strategic certification enables the Department of Defense to stockpile boron to be available for use in wartime or other emergencies. Boron is also well known as essential to plant growth and usually used in fertilizers.

## 6.0 LOCAL GEOLOGY

After Mario Joly, MSc GM 66970

The south-eastern sector of the Natashquan domain is dominated by felsic gneisses belonging to the Aguanish Complex and contains minor proportions of rocks supracrustal metamorphosed to the upper amphibolite and granulite facies. Supracrustal rocks outcropping in the south-eastern sector of the Natashquan domain were grouped together in an informal unit called the "supracrustal belt of La Romaine". This unit includes mainly metasedimentary rocks, metamorphosed volcanoclastic rocks of composition, similar to those of the Wakeham Group, migmatized aluminous gneiss as well as a composite amphibolite unit. This last unit contains amphibolite migmatized, intercalated with hornblendite, biotite metasomatic rocks and orthopyroxene, garnetiferous amphibolite, calc-silicate rocks and granitites.

Several hydrothermal vents (IOCG type) have been identified in the belt supracrustal of La Romaine. They are defined (1) by a washing zone and (2) by a hydrothermal fluid discharge area. The leaching zone is characterized by a aluminous gneiss exhibiting a high alumina silicate mode (35%) and fragments well preserved volcanic rocks. This gneiss outcrops near a feldspathic quartzite gneiss (interpreted as meta-tuff) rich in alumina veins and nodules, themselves recognized as indicators of hydrothermal alteration.

The biotite rocks and orthopyroxene metasomatic, garnetiferous amphibolite, calc-silicate rocks, granitites and mafic rocks mineralized in copper from the unit amphibolite composite characterizes the fluid discharge zone. Many samples from these hydrothermal vents show anomalous rare earth element (REE) contents. These results suggest a mobility of these elements during hydrothermal activity.

The Aguanish Complex is mainly composed of gneissic granitoids of calc-alkaline affinity comprising (1) granitic orthogneiss as well as (2) minor proportions of tonalitic gneiss and orthopyroxene gneiss. Granitoids gneissic locally contain polarimetric enclaves of recrystallized anorthosite. Orthogneiss is homogeneous and has a lenticular to eyed texture. Its composition varies from granitic to granodioritic. Gneiss of tonalitic composition is heterogeneous, medium-grained, foliated and ribboned and granoblastic texture. Granite veins as well as levels

mafic decimeters very rich in hornblende or of dioritic composition, define a banding parallel to the foliation. The gneiss is extremely depleted with interference patterns of dome and basin folds testifying to a history of complex deformation. The Aguanish Complex and, locally, the supracrustal units are intersected by leucocratic pink granite dykes, banded granite dykes, amphibolite dykes and metagabbro associated with the mafic suites of Robe Noire and Lillian. In the south-eastern sector of the Natashquan domain, extremely good lineaments marked are observed on satellite images. They emphasize large, tight folds of which the axial planes show a NW-SE to NNW-SSE orientation, as well as structures in domes and basins of kilometer scale. This dome and basin structure would be associated with polyphase tectonics. Regional faults-oriented E-W, NE-SW and NO-SE are documented in the Natashquan domain (Bonnet, 2009). In the Lac Couillard sector, Soquem also highlights lineaments of the same orientations with which strong radiometric anomalies are associated.

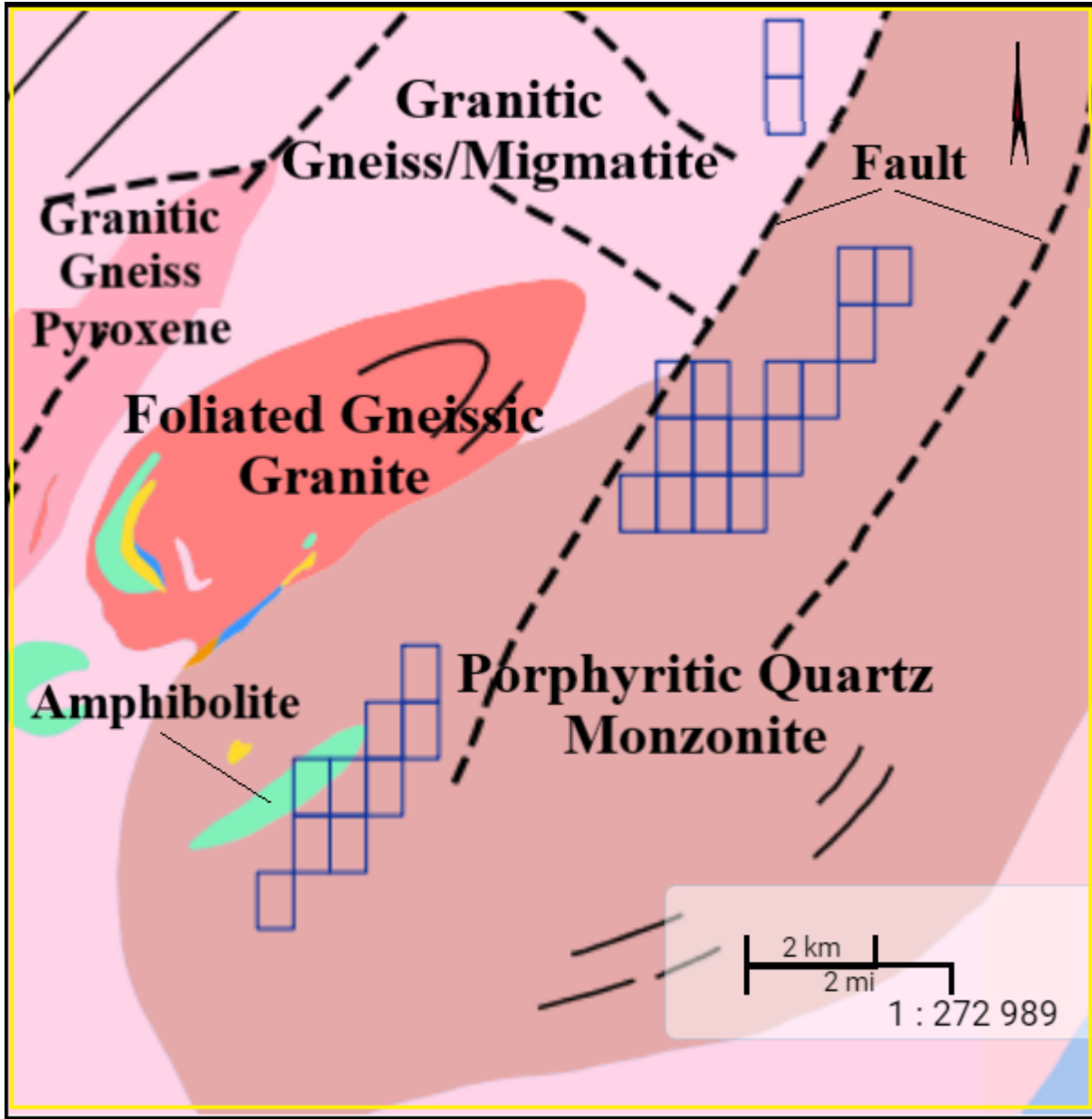


Figure 4

**LAKE COCONIPI**  
Natashquan Area  
12K/01&8  
**GEOLOGY MAP**

## **7-0 REGIONAL MINERALIZATION AND ORIGIN**

The Lake sediments of the North Shore of the Gulf of St Lawrence where the property is located contains large number of anomalous to highly anomalous values in Rare Earth Elements (REE), Boron, Chrome, Vanadium, Strontium, Arsenic, Cadmium, Cobalt and Phosphorus. The high concentration of these elements in Lake bottom samples within the property is directly related to and strongly associated with altered rocks of porphyritic quartz monzonite, granitic gneiss and migmatite. The target area covers approximately ten kilometers long by two kilometers wide area in a northeast direction running parallel to a set of two regional intermediate faults.

It is possible that when the continental crust of St Lawrence area thickens, the temperature of the lower layers became high enough to locally cause partial melting. This part of the continental crust that undergoes partial melting can be of sedimentary or magmatic origin.

The granitic magma thus generated rises within the continental crust and undergoes fractional crystallization. When the magma cools, the crystals formed incorporate and concentrate the critical elements mentioned above in the liquid residue from fractional crystallization. Towards the end of the crystallization of the pluton, this residual liquid will be injected into the surrounding pluton where it will crystallize in the form of highly altered rocks enriched in certain elements.

Anomalous boron in Lake sediments was found in at least four different locations, values are ranging from 4 X to 58 X the background value of 4 -7 ppm.

The origin of the highly elevated values of Boron and other elements is not yet determined due to the lack of exploration and investigation, however based on Google earth study as well as studying the local topography of the area. It is obvious that several targets where local lakes produce high Boron concentration, dark brown altered rocks are exposed marked by lagoons and marshes, this wet environment is probably ideal for Boron to combine with oxygen or other elements to form boric acid or inorganic salts called borates. Knowledge of the Boron geochemistry and the geochemical evolution of water and rocks of the highly anomalous lakes located within the property area might be useful to better understand and promote the sustainable development of possible water resources.

Table 1 illustrate the anomalous values of Lake bottom sediment samples collected during regional survey completed by the Ministry of Energy and Natural Resources of Quebec during the years 1989 and 2008.

**Table 1**

<b>Element</b>	<b><u>Background Value (ppm)</u></b>	<b><u>Anomalous Value (ppm)</u></b>
Boron	4-7	33 - 426
Lithium	1-2	11-20
Cobalt	2-6	22-41
Potassium	2-13	95-188
Molybdenum	2-4	19-36
Sodium	1-5 (cct)	≥ 96 (cct)



Scandium	1-5	10-13
Cadmium	2-4	15-28
Lead	2-6	18-34
Phosphorus	6-1869	3011-3926
Calcium	2-29	49-72
Thulium	2-3	$\geq 10$
Bromine	1-44	$\geq 206$
Antimony	1-2	7-12
Arsenic	1-2	17-32
Nickel	1-9	26-50
Titanium	1-5	10-13
Strontium	1-17	57-112
Magnesium	1-11	$\geq 72$
Vanadium	2-49	79-102
Chromium	1-12	28-54
Copper	1-19	54-106
Zinc	1-86	142-216
PH	4.4-6.3	6.7-6.9

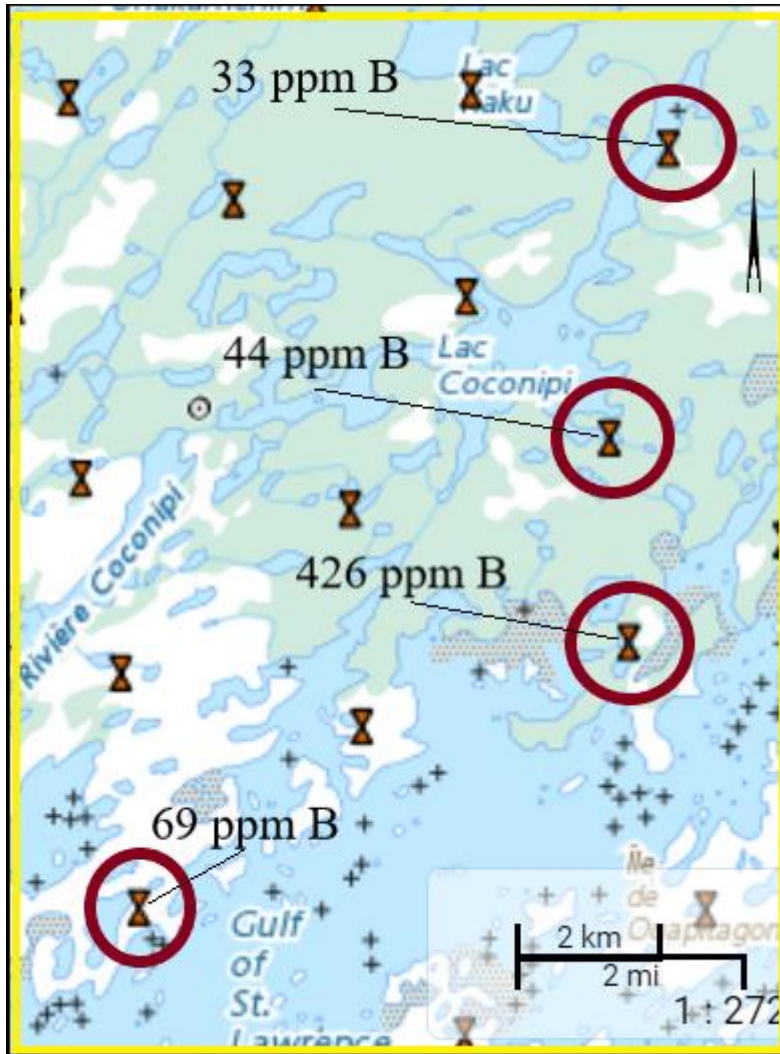


Figure 5

## LAKE COCONIPI

Natashquan Area

12K/01&8

### STREEM SEDIMENT SAMPLE'S LOCATION



Figure 6

**LAKE COCONIPI**  
Natashquan Area  
12K/01  
GOOGLE EARTH IMAGE  
STREEM SEDIMENT SAMPLE SITE

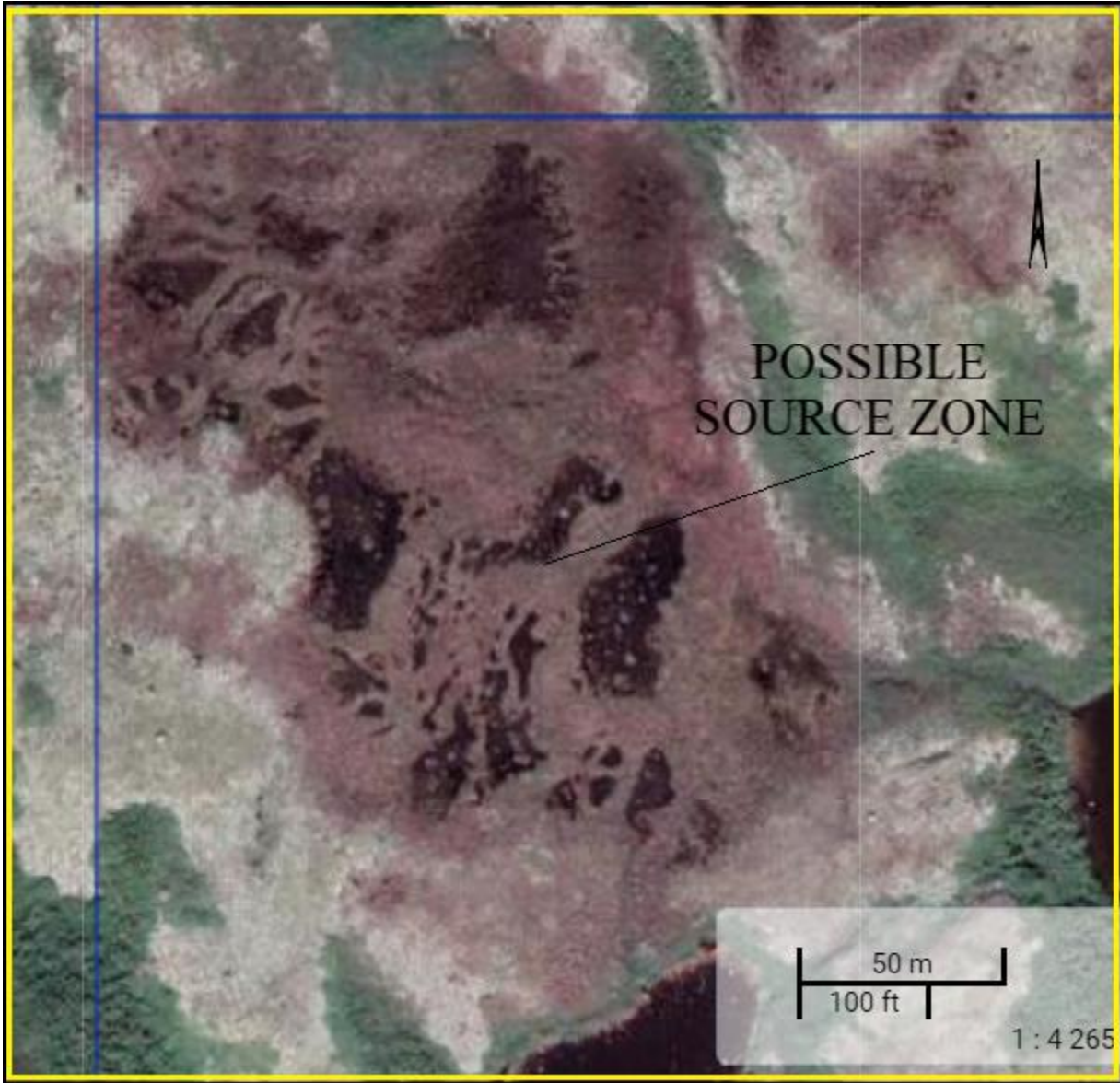


Figure 7

**LAKE COCONIPI**  
Natashquan Area  
12K/01  
**GOOGLE EARTH IMAGE**  
**POSSIBLE SOURCE**

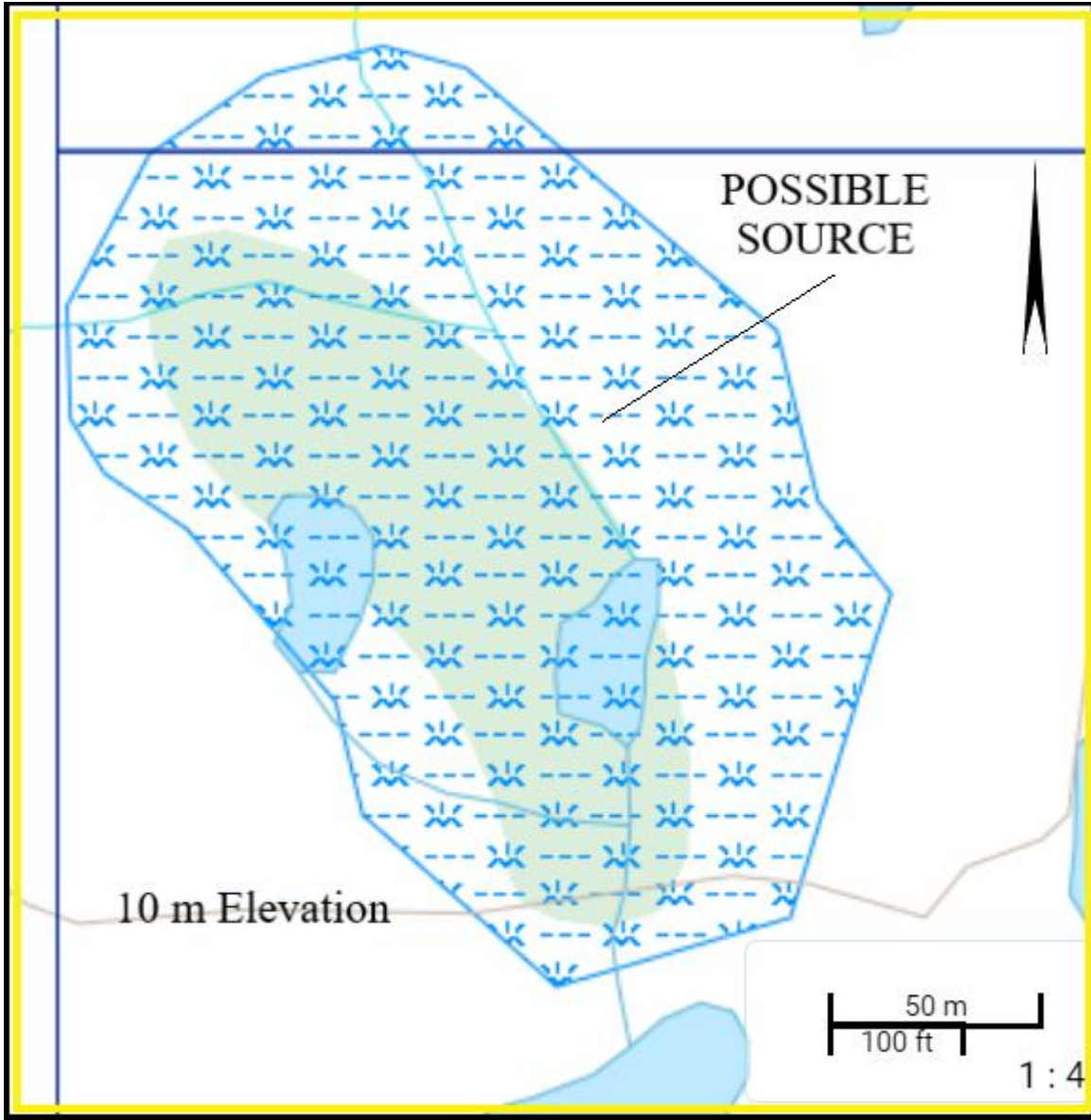


Figure 8

# LAKE COCONIPI

Natashquan Area

12K/01

## TOPOGRAPHIC MAP

## POSSIBLE SOURCE

## 8.0 PROPERTY POTENTIAL AND RECOMMENDATION

- The analytical results of several Lake bottom sediment samples collected from the property area have made it possible to define at least four target areas with Boron values up to 60 times the background with one location returned the highest boron value in Lake bottom sediment samples in the province of Quebec. The anomalous Boron and other 20 elements recognized in Lake bottom sediment samples on the Coconipi property are possibly associated with altered monzonite or metamorphosed gneissic granitic rock units.
- Strong correlation exists between Boron in Lake bottom sediments and 20 other elements suggest possible magmatic origin in the form of highly altered rocks possibly quartz monzonite enriched in certain elements.
- The collected Lake bottom sediment samples covering a vast area of ten kilometers long by two kilometers wide may demonstrate high possibility of delineating more than one source of Boron and other critical elements. Surface investigation and sampling is the most logic way to define targets.
- Geological crew of one geologist and one prospector is recommended to carryout limited investigation and rock sampling in areas nearby the anomalous locations in order to define targets.

## CERTIFICATE OF QUALIFICATIONS

I, FAYZ YACOUB, of 6498-128B Street, Surrey, British Columbia, V3W 9P4, do hereby declare that:

- 1) I am a graduate geologist with a bachelor degree in geology from Assuit University, Egypt B.Sc., and a diploma in Mining Exploration Geology from the International Institute for Aerial Survey and Earth Sciences (I.T.C.), Holland (Diploma 1978).
- 2) I am a fellow in good standing with the Geological Association of Canada (Membership # 5490)
- 3) I am a professional geologist and a member of the Association of the professional Engineers and Geoscientists of British Columbia (Registration No. 20390).
- 4) I am a member of the Ordre des geologies du Quebec (restricted permit # 1748).
- 5) I am the president of On Track Exploration Ltd, a service company that is active in Quebec since 2003, exploring in different parts of the province.
- 6) I have actively pursued my career as a geologist for the past forty years
- 7) The information, opinion, and recommendations in this report are based on database of geological, geochemical reports gathered on the regional area as well as the subject property, also from regional work conducted and published by Ministere des Ressources naturelles, Quebec.

Respectfully submitted



---

Fayz Yacoub, P. Geo.

June 2022

APPENDIX A  
ANOMALOUS LAKE BOTTOM  
STREAM SEDIMENT SAMPLES  
(CHEMICAL REPORT)



*ment sample**1 of 1*
 Location on map

NTS map-sheet number : 12K01  
 Report number : [MB 90-33](#), [MB 95-02](#), [DP-98-02](#), [all](#)  
 Sediment sample type : Lakebottom sediments  
 Sediment project number : 1989050  
 Unique sample number : **1989046492**  
 Sample date : 1989-08-15  
 Easting : 703564  
 Northing : 5565623  
 Zone : 20  
 Location specification : High precision of location  
 Depth : 6  
 Sediment sample comment :  
 Sediment colour intensity : No information  
 Colour sediment : Beige  
 Nodules or oxidation colour intensity :  
 Colour nodules or oxidation :  
 Contamination :  
 pH : 6.5  
 Initial weight screened sample :  
 Weight light fraction :  
 Weight heavy fraction :  
 Weight heavy magnetic fraction :  
 Weight heavy non-magnetic fraction :  
 Size of screen mesh : 177  
 Date of release : 20081023

Chemical element	Grade	Grade unit	Analysis method
S	2.3300000	%	Inductively coupled plasma + MS/AES/OES
PAF	16.0000000	%	Gravimetric analysis
Ag	0.4000000	ppm	Plasma emission
Ag	0.1370000	ppm	Inductively coupled plasma + MS/AES/OES
Al	10 500.0000000	ppm	Plasma emission
Al	12 000.0000000	ppm	Inductively coupled plasma + MS/AES/OES
As	11.0000000	ppm	Neutron activation analysis
As	10.3000000	ppm	Inductively coupled plasma + MS/AES/OES
Au	1.0000000	ppb	Inductively coupled plasma + MS/AES/OES
Au	5.0000000	ppb	Neutron activation analysis
<b>B</b>	<b>64.0000000</b>	<b>ppm</b>	<b>Plasma emission</b>
<b>B</b>	<b>69.0000000</b>	<b>ppm</b>	<b>Inductively coupled plasma + MS/AES/OES</b>
Ba	77.8000000	ppm	Inductively coupled plasma + MS/AES/OES
Ba	63.0000000	ppm	Plasma emission
Be	2.0000000	ppm	Plasma emission
Be	0.3000000	ppm	Inductively coupled plasma + MS/AES/OES
Bi	0.0500000	ppm	Inductively coupled plasma + MS/AES/OES
Br	266.0000000	ppm	Neutron activation analysis
Ca	6 200.0000000	ppm	Plasma emission
Ca	7 700.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Cd	1.4000000	ppm	Plasma emission
Cd	1.7600000	ppm	Inductively coupled plasma + MS/AES/OES
Ce	90.0000000	ppm	Plasma emission
Ce	100.3000000	ppm	Inductively coupled plasma + MS/AES/OES
Co	6.0000000	ppm	Plasma emission
Co	7.2000000	ppm	Inductively coupled plasma + MS/AES/OES
Cr	40.2000000	ppm	Inductively coupled plasma + MS/AES/OES
Cr	35.0000000	ppm	Plasma emission
Cs	1.5800000	ppm	Inductively coupled plasma + MS/AES/OES
Cs	2.0000000	ppm	Neutron activation analysis
Cu	28.1900000	ppm	Inductively coupled plasma + MS/AES/OES
Cu	34.0000000	ppm	Plasma emission
Eu	1.3000000	ppm	Plasma emission

Fe	22 500.0000000	ppm	Plasma emission
Fe	30 900.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Ga	5.1000000	ppm	Inductively coupled plasma + MS/AES/OES
Ge	0.2000000	ppm	Inductively coupled plasma + MS/AES/OES
Hf	0.1900000	ppm	Inductively coupled plasma + MS/AES/OES
Hg	10.0000000	ppb	Atomic absorption
Hg	40.0000000	ppb	Inductively coupled plasma + MS/AES/OES
In	0.0300000	ppm	Inductively coupled plasma + MS/AES/OES
K	9 400.0000000	ppm	Plasma emission
K	3 600.0000000	ppm	Inductively coupled plasma + MS/AES/OES
La	48.0000000	ppm	Plasma emission
La	53.5000000	ppm	Inductively coupled plasma + MS/AES/OES
Li	19.8000000	ppm	Inductively coupled plasma + MS/AES/OES
Li	13.0000000	ppm	Plasma emission
Mg	7 600.0000000	ppm	Plasma emission
Mg	8 000.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Mn	246.0000000	ppm	Plasma emission
Mn	277.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Mo	22.0000000	ppm	Plasma emission
Mo	39.5300000	ppm	Inductively coupled plasma + MS/AES/OES
Na	1 300.0000000	ppm	Plasma emission
Na	1 200.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Nb	4.9100000	ppm	Inductively coupled plasma + MS/AES/OES
Ni	24.0000000	ppm	Plasma emission
Ni	28.3000000	ppm	Inductively coupled plasma + MS/AES/OES
P	1 527.0000000	ppm	Plasma emission
P	1 610.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Pb	9.0000000	ppm	Plasma emission
Pb	5.7100000	ppm	Inductively coupled plasma + MS/AES/OES
Pd	< 10.0000000	ppb	Inductively coupled plasma + MS/AES/OES
Pt	< 2.0000000	ppb	Inductively coupled plasma + MS/AES/OES
Rb	30.3000000	ppm	Inductively coupled plasma + MS/AES/OES
Re	30.0000000	ppb	Inductively coupled plasma + MS/AES/OES
Sb	0.4000000	ppm	Neutron activation analysis
Sb	0.2300000	ppm	Inductively coupled plasma + MS/AES/OES
Sc	5.0000000	ppm	Plasma emission
Sc	4.7000000	ppm	Inductively coupled plasma + MS/AES/OES

Se	10.0000000	ppm	Neutron activation analysis
Se	4.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Sm	9.0000000	ppm	Plasma emission
Sn	1.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Sr	41.0000000	ppm	Plasma emission
Sr	59.6000000	ppm	Inductively coupled plasma + MS/AES/OES
Ta	< 0.0500000	ppm	Inductively coupled plasma + MS/AES/OES
Te	< 0.0200000	ppm	Inductively coupled plasma + MS/AES/OES
Th	21.0000000	ppm	Plasma emission
Th	9.2000000	ppm	Inductively coupled plasma + MS/AES/OES
Ti	800.0000000	ppm	Plasma emission
Ti	1 280.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Tl	0.3900000	ppm	Inductively coupled plasma + MS/AES/OES
Tm	10.0000000	ppm	Neutron activation analysis
U	13.5000000	ppm	Neutron activation analysis
U	12.6000000	ppm	Inductively coupled plasma + MS/AES/OES
V	57.0000000	ppm	Plasma emission
V	69.0000000	ppm	Inductively coupled plasma + MS/AES/OES
W	2.0000000	ppm	Neutron activation analysis
W	0.2000000	ppm	Inductively coupled plasma + MS/AES/OES
Y	22.0000000	ppm	Plasma emission
Y	23.6700000	ppm	Inductively coupled plasma + MS/AES/OES
Zn	75.0000000	ppm	Plasma emission
Zn	83.2000000	ppm	Inductively coupled plasma + MS/AES/OES
Zr	7.1000000	ppm	Inductively coupled plasma + MS/AES/OES

*Sediment sample**1 of 1*

NTS map-sheet number : 12K01  
 Report number : MB 90-33, MB 95-02, DP-98-02, all  
 Sediment sample type : Lakebottom sediments  
 Sediment project number : 1989050  
 Unique sample number : **1989046425**  
 Sample date : 1989-08-15  
 Easting : 710664  
 Northing : 5569823  
 Zone : 20  
 Location specification : High precision of location  
 Depth : 4  
 Sediment sample comment :  
 Sediment colour intensity : No information  
 Colour sediment : Beige  
 Nodules or oxidation colour intensity :  
 Colour nodules or oxidation :  
 Contamination :  
 pH : 7.2  
 Initial weight screened sample :  
 Weight light fraction :  
 Weight heavy fraction :  
 Weight heavy magnetic fraction :  
 Weight heavy non-magnetic fraction :  
 Size of screen mesh : 177  
 Date of release : 20081023

Chemical element	Grade	Grade unit	Analysis method
------------------	-------	------------	-----------------

S	2.0600000	%	Inductively coupled plasma + MS/AES/OES
PAF	20.0000000	%	Gravimetric analysis
Ag	0.4000000	ppm	Plasma emission
Ag	0.0850000	ppm	Inductively coupled plasma + MS/AES/OES
Al	10 200.0000000	ppm	Plasma emission
Al	12 100.0000000	ppm	Inductively coupled plasma + MS/AES/OES
As	3.0000000	ppm	Neutron activation analysis
As	5.5000000	ppm	Inductively coupled plasma + MS/AES/OES
Au	5.0000000	ppb	Neutron activation analysis
Au	0.7000000	ppb	Inductively coupled plasma + MS/AES/OES
B	407.0000000	ppm	Plasma emission
B	426.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Ba	63.0000000	ppm	Plasma emission
Ba	61.5000000	ppm	Inductively coupled plasma + MS/AES/OES
Be	2.0000000	ppm	Plasma emission
Be	0.7000000	ppm	Inductively coupled plasma + MS/AES/OES
Bi	0.0300000	ppm	Inductively coupled plasma + MS/AES/OES
Br	62.0000000	ppm	Neutron activation analysis
Ca	6 000.0000000	ppm	Plasma emission
Ca	6 600.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Cd	1.5000000	ppm	Plasma emission
Cd	1.3600000	ppm	Inductively coupled plasma + MS/AES/OES
Ce	92.0000000	ppm	Plasma emission
Ce	89.5000000	ppm	Inductively coupled plasma + MS/AES/OES
Co	6.0000000	ppm	Plasma emission
Co	6.7000000	ppm	Inductively coupled plasma + MS/AES/OES
Cr	31.0000000	ppm	Plasma emission
Cr	31.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Cs	1.0000000	ppm	Neutron activation analysis
Cs	1.3300000	ppm	Inductively coupled plasma + MS/AES/OES
Cu	33.0000000	ppm	Plasma emission
Cu	19.3100000	ppm	Inductively coupled plasma + MS/AES/OES
Eu	1.3000000	ppm	Plasma emission
Fe	24 400.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Fe	21 300.0000000	ppm	Plasma emission
Ga	4.1000000	ppm	Inductively coupled plasma + MS/AES/OES
Ge	< 0.1000000	ppm	Inductively coupled plasma + MS/AES/OES

Hf	0.0900000	ppm	Inductively coupled plasma + MS/AES/OES
Hg	46.0000000	ppb	Inductively coupled plasma + MS/AES/OES
Hg	19.0000000	ppb	Atomic absorption
In	0.0300000	ppm	Inductively coupled plasma + MS/AES/OES
K	12 100.0000000	ppm	Plasma emission
K	4 000.0000000	ppm	Inductively coupled plasma + MS/AES/OES
La	47.0000000	ppm	Plasma emission
La	42.9000000	ppm	Inductively coupled plasma + MS/AES/OES
Li	17.0000000	ppm	Plasma emission
Li	17.5000000	ppm	Inductively coupled plasma + MS/AES/OES
Mg	10 700.0000000	ppm	Plasma emission
Mg	9 700.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Mn	231.0000000	ppm	Plasma emission
Mn	219.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Mo	25.0000000	ppm	Plasma emission
Mo	40.4800000	ppm	Inductively coupled plasma + MS/AES/OES
Na	12 400.0000000	ppm	Plasma emission
Na	11 120.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Nb	3.2500000	ppm	Inductively coupled plasma + MS/AES/OES
Ni	22.0000000	ppm	Plasma emission
Ni	22.6000000	ppm	Inductively coupled plasma + MS/AES/OES
P	1 431.0000000	ppm	Plasma emission
P	1 210.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Pb	9.0000000	ppm	Plasma emission
Pb	5.1000000	ppm	Inductively coupled plasma + MS/AES/OES
Pd	< 10.0000000	ppb	Inductively coupled plasma + MS/AES/OES
Pt	< 2.0000000	ppb	Inductively coupled plasma + MS/AES/OES
Rb	29.3000000	ppm	Inductively coupled plasma + MS/AES/OES
Re	23.0000000	ppb	Inductively coupled plasma + MS/AES/OES
Sb	0.1000000	ppm	Neutron activation analysis
Sb	0.1600000	ppm	Inductively coupled plasma + MS/AES/OES
Sc	5.0000000	ppm	Plasma emission
Sc	4.6000000	ppm	Inductively coupled plasma + MS/AES/OES
Se	10.0000000	ppm	Neutron activation analysis
Se	2.5000000	ppm	Inductively coupled plasma + MS/AES/OES
Sm	10.0000000	ppm	Plasma emission
Sn	0.8000000	ppm	Inductively coupled plasma + MS/AES/OES

Sr	60.0000000	ppm	Plasma emission
Sr	71.8000000	ppm	Inductively coupled plasma + MS/AES/OES
Ta	< 0.0500000	ppm	Inductively coupled plasma + MS/AES/OES
Te	< 0.0200000	ppm	Inductively coupled plasma + MS/AES/OES
Th	20.0000000	ppm	Plasma emission
Th	6.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Ti	900.0000000	ppm	Plasma emission
Ti	1 010.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Tl	0.4900000	ppm	Inductively coupled plasma + MS/AES/OES
Tm	3.0000000	ppm	Neutron activation analysis
U	4.6000000	ppm	Neutron activation analysis
U	10.1000000	ppm	Inductively coupled plasma + MS/AES/OES
V	52.0000000	ppm	Plasma emission
V	59.0000000	ppm	Inductively coupled plasma + MS/AES/OES
W	1.0000000	ppm	Neutron activation analysis
W	< 0.1000000	ppm	Inductively coupled plasma + MS/AES/OES
Y	21.0000000	ppm	Plasma emission
Y	18.8300000	ppm	Inductively coupled plasma + MS/AES/OES
Zn	73.0000000	ppm	Plasma emission
Zn	72.8000000	ppm	Inductively coupled plasma + MS/AES/OES
Zr	4.0000000	ppm	Inductively coupled plasma + MS/AES/OES

*Sediment sample**1 of 1*

NTS map-sheet number : 12K08



Report number : MB 90-33, MB 95-02, DP-98-02, all  
 Sediment sample type : Lakebottom sediments  
 Sediment project number : 1989050  
 Unique sample number : **1989046524**  
 Sample date : 1989-08-18  
 Easting : 710264  
 Northing : 5572823  
 Zone : 20  
 Location specification : High precision of location  
 Depth : 24  
 Sediment sample comment :  
 Sediment colour intensity : No information  
 Colour sediment : Brown  
 Nodules or oxidation colour intensity :  
 Colour nodules or oxidation :  
 Contamination :  
 pH : 6.7  
 Initial weight screened sample :  
 Weight light fraction :  
 Weight heavy fraction :  
 Weight heavy magnetic fraction :  
 Weight heavy non-magnetic fraction :  
 Size of screen mesh : 177  
 Date of release : 20081023

Chemical element	Grade	Grade unit	Analysis method
S	4.5800000	%	Inductively coupled plasma + MS/AES/OES
PAF	30.0000000	%	Gravimetric analysis
Ag	0.4000000	ppm	Plasma emission
Ag	0.0900000	ppm	Inductively coupled plasma + MS/AES/OES

Al	15 900.0000000	ppm	Plasma emission
Al	18 100.0000000	ppm	Inductively coupled plasma + MS/AES/OES
As	12.4000000	ppm	Inductively coupled plasma + MS/AES/OES
As	13.0000000	ppm	Neutron activation analysis
Au	5.0000000	ppb	Neutron activation analysis
Au	1.2000000	ppb	Inductively coupled plasma + MS/AES/OES
B	42.0000000	ppm	Plasma emission
B	44.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Ba	111.0000000	ppm	Plasma emission
Ba	64.2000000	ppm	Inductively coupled plasma + MS/AES/OES
Be	2.0000000	ppm	Plasma emission
Be	0.9000000	ppm	Inductively coupled plasma + MS/AES/OES
Bi	0.0600000	ppm	Inductively coupled plasma + MS/AES/OES
Br	151.0000000	ppm	Neutron activation analysis
Ca	6 600.0000000	ppm	Plasma emission
Ca	6 800.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Cd	0.8000000	ppm	Plasma emission
Cd	0.7800000	ppm	Inductively coupled plasma + MS/AES/OES
Ce	108.0000000	ppm	Plasma emission
Ce	99.8000000	ppm	Inductively coupled plasma + MS/AES/OES
Co	9.0000000	ppm	Plasma emission
Co	10.2000000	ppm	Inductively coupled plasma + MS/AES/OES
Cr	20.0000000	ppm	Plasma emission
Cr	22.5000000	ppm	Inductively coupled plasma + MS/AES/OES
Cs	2.0000000	ppm	Neutron activation analysis
Cs	0.9200000	ppm	Inductively coupled plasma + MS/AES/OES
Cu	27.0000000	ppm	Plasma emission
Cu	16.5800000	ppm	Inductively coupled plasma + MS/AES/OES
Eu	1.4000000	ppm	Plasma emission
Fe	50 800.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Fe	23 000.0000000	ppm	Plasma emission
Ga	5.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Ge	0.1000000	ppm	Inductively coupled plasma + MS/AES/OES
Hf	0.0500000	ppm	Inductively coupled plasma + MS/AES/OES
Hg	52.0000000	ppb	Atomic absorption
Hg	106.0000000	ppb	Inductively coupled plasma + MS/AES/OES
In	0.0300000	ppm	Inductively coupled plasma + MS/AES/OES

K	10 600.0000000	ppm	Plasma emission
K	3 100.0000000	ppm	Inductively coupled plasma + MS/AES/OES
La	47.5000000	ppm	Inductively coupled plasma + MS/AES/OES
La	54.0000000	ppm	Plasma emission
Li	14.0000000	ppm	Plasma emission
Li	14.5000000	ppm	Inductively coupled plasma + MS/AES/OES
Mg	7 900.0000000	ppm	Plasma emission
Mg	7 400.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Mn	354.0000000	ppm	Plasma emission
Mn	379.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Mo	20.0000000	ppm	Plasma emission
Mo	51.5200000	ppm	Inductively coupled plasma + MS/AES/OES
Na	4 500.0000000	ppm	Plasma emission
Na	4 570.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Nb	2.8800000	ppm	Inductively coupled plasma + MS/AES/OES
Ni	16.0000000	ppm	Plasma emission
Ni	17.2000000	ppm	Inductively coupled plasma + MS/AES/OES
P	2 415.0000000	ppm	Plasma emission
P	2 340.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Pb	16.0000000	ppm	Plasma emission
Pb	8.5000000	ppm	Inductively coupled plasma + MS/AES/OES
Pd	< 10.0000000	ppb	Inductively coupled plasma + MS/AES/OES
Pt	< 2.0000000	ppb	Inductively coupled plasma + MS/AES/OES
Rb	18.4000000	ppm	Inductively coupled plasma + MS/AES/OES
Re	13.0000000	ppb	Inductively coupled plasma + MS/AES/OES
Sb	0.3000000	ppm	Neutron activation analysis
Sb	0.2700000	ppm	Inductively coupled plasma + MS/AES/OES
Sc	5.0000000	ppm	Plasma emission
Sc	4.2000000	ppm	Inductively coupled plasma + MS/AES/OES
Se	10.0000000	ppm	Neutron activation analysis
Se	2.9000000	ppm	Inductively coupled plasma + MS/AES/OES
Sm	11.0000000	ppm	Plasma emission
Sn	0.7000000	ppm	Inductively coupled plasma + MS/AES/OES
Sr	91.0000000	ppm	Plasma emission
Sr	106.4000000	ppm	Inductively coupled plasma + MS/AES/OES
Ta	< 0.0500000	ppm	Inductively coupled plasma + MS/AES/OES
Te	0.0400000	ppm	Inductively coupled plasma + MS/AES/OES

Th	19.0000000	ppm	Plasma emission
Th	4.1000000	ppm	Inductively coupled plasma + MS/AES/OES
Ti	700.0000000	ppm	Plasma emission
Ti	780.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Tl	0.2400000	ppm	Inductively coupled plasma + MS/AES/OES
Tm	4.0000000	ppm	Neutron activation analysis
U	7.2000000	ppm	Neutron activation analysis
U	7.6000000	ppm	Inductively coupled plasma + MS/AES/OES
V	48.0000000	ppm	Plasma emission
V	60.0000000	ppm	Inductively coupled plasma + MS/AES/OES
W	1.0000000	ppm	Neutron activation analysis
W	0.4000000	ppm	Inductively coupled plasma + MS/AES/OES
Y	25.0000000	ppm	Plasma emission
Y	22.3000000	ppm	Inductively coupled plasma + MS/AES/OES
Zn	118.0000000	ppm	Plasma emission
Zn	128.9000000	ppm	Inductively coupled plasma + MS/AES/OES
Zr	1.9000000	ppm	Inductively coupled plasma + MS/AES/OES

*Sediment sample**1 of 1*

NTS map-sheet number : 12K08

Report number : MB 90-33, MB 95-02, DP-98-02, all

Sediment sample type : Lakebottom sediments

Sediment project number : 1989050

Unique sample number : **1989046523**

Sample date : 1989-08-18  
 Easting : 710964  
 Northing : 5577123  
 Zone : 20  
 Location specification : High precision of location  
 Depth : 18  
 Sediment sample comment :  
 Sediment colour intensity : No information  
 Colour sediment : Brown  
 Nodules or oxidation colour intensity :  
 Colour nodules or oxidation :  
 Contamination :  
 pH : 7.2  
 Initial weight screened sample :  
 Weight light fraction :  
 Weight heavy fraction :  
 Weight heavy magnetic fraction :  
 Weight heavy non-magnetic fraction :  
 Size of screen mesh : 177  
 Date of release : 20081023

Chemical element	Grade	Grade unit	Analysis method
S	1.9300000	%	Inductively coupled plasma + MS/AES/OES
PAF	18.0000000	%	Gravimetric analysis
Ag	0.4000000	ppm	Plasma emission
Ag	0.0810000	ppm	Inductively coupled plasma + MS/AES/OES
Al	18 600.0000000	ppm	Plasma emission
Al	18 600.0000000	ppm	Inductively coupled plasma + MS/AES/OES

As	22.0000000	ppm	Neutron activation analysis
As	19.9000000	ppm	Inductively coupled plasma + MS/AES/OES
Au	5.0000000	ppb	Neutron activation analysis
Au	1.0000000	ppb	Inductively coupled plasma + MS/AES/OES
B	33.0000000	ppm	Plasma emission
B	28.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Ba	110.4000000	ppm	Inductively coupled plasma + MS/AES/OES
Ba	103.0000000	ppm	Plasma emission
Be	2.0000000	ppm	Plasma emission
Be	1.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Bi	0.0600000	ppm	Inductively coupled plasma + MS/AES/OES
Br	125.0000000	ppm	Neutron activation analysis
Ca	6 000.0000000	ppm	Plasma emission
Ca	6 800.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Cd	0.5000000	ppm	Plasma emission
Cd	0.5400000	ppm	Inductively coupled plasma + MS/AES/OES
Ce	111.0000000	ppm	Plasma emission
Ce	108.9000000	ppm	Inductively coupled plasma + MS/AES/OES
Co	12.0000000	ppm	Plasma emission
Co	13.2000000	ppm	Inductively coupled plasma + MS/AES/OES
Cr	31.0000000	ppm	Plasma emission
Cr	33.9000000	ppm	Inductively coupled plasma + MS/AES/OES
Cs	1.0000000	ppm	Neutron activation analysis
Cs	1.5300000	ppm	Inductively coupled plasma + MS/AES/OES
Cu	63.0000000	ppm	Plasma emission
Cu	17.5200000	ppm	Inductively coupled plasma + MS/AES/OES
Eu	1.5000000	ppm	Plasma emission
Fe	37 400.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Fe	25 000.0000000	ppm	Plasma emission
Ga	6.8000000	ppm	Inductively coupled plasma + MS/AES/OES
Ge	0.1000000	ppm	Inductively coupled plasma + MS/AES/OES
Hf	0.0800000	ppm	Inductively coupled plasma + MS/AES/OES
Hg	93.0000000	ppb	Inductively coupled plasma + MS/AES/OES
Hg	47.0000000	ppb	Atomic absorption
In	0.0400000	ppm	Inductively coupled plasma + MS/AES/OES
K	12 300.0000000	ppm	Plasma emission
K	3 900.0000000	ppm	Inductively coupled plasma + MS/AES/OES

La	55.0000000	ppm	Plasma emission
La	50.4000000	ppm	Inductively coupled plasma + MS/AES/OES
Li	15.0000000	ppm	Plasma emission
Li	22.4000000	ppm	Inductively coupled plasma + MS/AES/OES
Mg	8 500.0000000	ppm	Plasma emission
Mg	8 300.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Mn	446.0000000	ppm	Plasma emission
Mn	463.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Mo	7.0000000	ppm	Plasma emission
Mo	15.2200000	ppm	Inductively coupled plasma + MS/AES/OES
Na	1 500.0000000	ppm	Plasma emission
Na	1 450.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Nb	3.9200000	ppm	Inductively coupled plasma + MS/AES/OES
Ni	19.0000000	ppm	Plasma emission
Ni	19.5000000	ppm	Inductively coupled plasma + MS/AES/OES
P	3 110.0000000	ppm	Plasma emission
P	2 870.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Pb	15.0000000	ppm	Plasma emission
Pb	7.6700000	ppm	Inductively coupled plasma + MS/AES/OES
Pd	< 10.0000000	ppb	Inductively coupled plasma + MS/AES/OES
Pt	< 2.0000000	ppb	Inductively coupled plasma + MS/AES/OES
Rb	29.9000000	ppm	Inductively coupled plasma + MS/AES/OES
Re	32.0000000	ppb	Inductively coupled plasma + MS/AES/OES
Sb	0.9000000	ppm	Neutron activation analysis
Sb	0.4700000	ppm	Inductively coupled plasma + MS/AES/OES
Sc	7.0000000	ppm	Plasma emission
Sc	5.5000000	ppm	Inductively coupled plasma + MS/AES/OES
Se	10.0000000	ppm	Neutron activation analysis
Se	2.1000000	ppm	Inductively coupled plasma + MS/AES/OES
Sm	11.0000000	ppm	Plasma emission
Sn	1.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Sr	64.0000000	ppm	Plasma emission
Sr	81.2000000	ppm	Inductively coupled plasma + MS/AES/OES
Ta	< 0.0500000	ppm	Inductively coupled plasma + MS/AES/OES
Te	0.0300000	ppm	Inductively coupled plasma + MS/AES/OES
Th	21.0000000	ppm	Plasma emission
Th	5.9000000	ppm	Inductively coupled plasma + MS/AES/OES

Ti	1 000.0000000	ppm	Plasma emission
Ti	1 200.0000000	ppm	Inductively coupled plasma + MS/AES/OES
Tl	0.2500000	ppm	Inductively coupled plasma + MS/AES/OES
Tm	3.0000000	ppm	Neutron activation analysis
U	9.2000000	ppm	Neutron activation analysis
U	8.8000000	ppm	Inductively coupled plasma + MS/AES/OES
V	79.0000000	ppm	Plasma emission
V	89.0000000	ppm	Inductively coupled plasma + MS/AES/OES
W	1.0000000	ppm	Neutron activation analysis
W	0.4000000	ppm	Inductively coupled plasma + MS/AES/OES
Y	26.0000000	ppm	Plasma emission
Y	23.0400000	ppm	Inductively coupled plasma + MS/AES/OES
Zn	108.0000000	ppm	Plasma emission
Zn	112.7000000	ppm	Inductively coupled plasma + MS/AES/OES
Zr	3.2000000	ppm	Inductively coupled plasma + MS/AES/OES