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MAKADA LAKE PROPERTY

WATERS TOWNSHIP, Municipality of Greater Sudbury, Ontario CANADA



JUNE 10, 2019
JACK RAUHALA
By: M. Gaudreau

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MAKADA LAKE PROPERTY

Waters Township, Municipality of Greater Sudbury, Ontario CANADA

SUMMARY

The Makada Lake Property (Property) is comprised of the lands underlying the north and north east upper part of Makada Lake where the Makada Fault enters the lake from the southwest. The discharge waters flow of Little Round Lake intersects the Makada Fault a short distance upstream from the creek mouth, then flows into Makada Lake. The Makada Fault is interpreted to extend under Makada Lake and “possibly” associated with or is associated with the “possible” mineralized offset dike already identified on the west shore of Makada Lake, which has been observed to be on strike with the Makada Fault to the northeast. This lake bottom sediment geochemical survey was used to interpret and identify anomalies from watershed water inflow along the shoreline and the inflow of the waters from Little Round Lake into Makada Lake.

The lake bottom sediment geochemical survey was completed on May 18, 2019. The original survey grid was modified after slowly plumbing the bottom, before sampling, it was recognized that some sample locations exceeded the survey sample depth of 75'. Also, it was realized, by slowly plumbing, that the lake bottom was extremely rocky in most places. Of the 20 samples taken at least 20 sample sites had to be abandoned due to 1. 90% rock bottom 2. 95% rocky and hard pan clay and 3. Sampling medium material <20cm in depth. The survey sample locations were adjusted on the water and in most cases a 100m sampling width was maintained. The survey was completed within cell claims 232889, 232890, 261570 and boundary claims 340561, 281631 and 340562.

OWNERSHIP

The Property is recorded 100% in the name of Jack Rauhala. The property legacy claim S4272348 was recorded on May 27, 2016, is 6 units in size. On December 14, 2017 Regulation 455/17 excluded 365 days and set a new anniversary date of May 27, 2019. On April 10, 2018 legacy claim S4272348 was converted to cell claims 232889, 232890, 261570 and boundary claims 281631, 281632, 340561 and 340562.

LOCATION & ACCESS

The Property is located at the extreme north end of Makada Lake, in the central part of Waters Township, Sudbury Mining Division, Ontario, Canada. The property is accessed by travelling west from Sudbury on Regional Road 55 (old HWY #17) to Black Lake Road, just south of Lively. Proceed south on Black Lake Road approximately 3.8km then turn west onto the North Shore Black Lake Road. Follow this road approximately 0.8km and then turn west onto Clark Road, and travel for 0.7km to a parking area on the west side of the Property. Alternately, to access the east side of the Property continue south onto Kantola Road to Makada

Drive. Note that there is no public access onto the lake. Use of the private boat launch requires permission from the landowner.



Figure 1 Makada Lake Property, Ontario Key Map

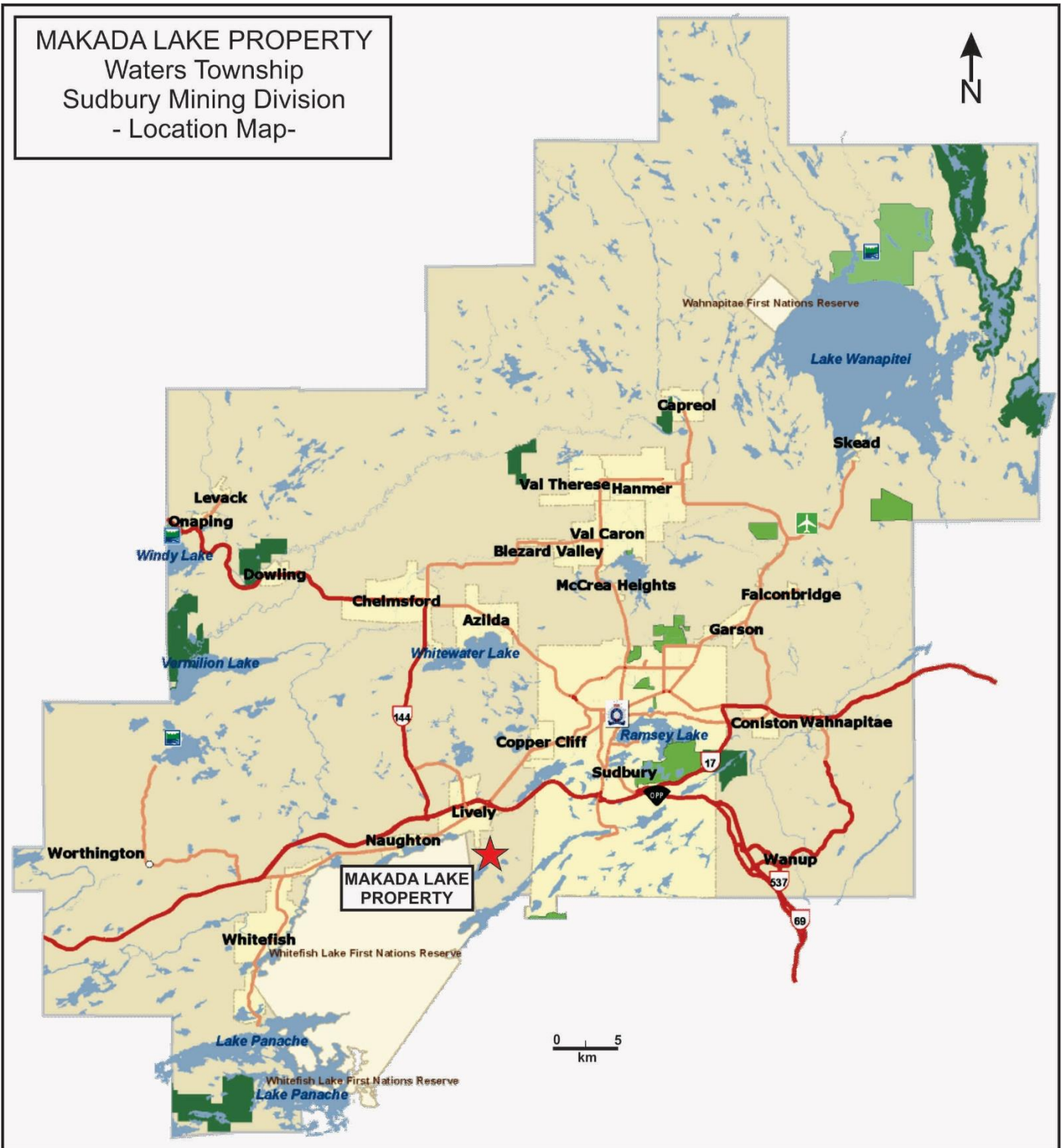
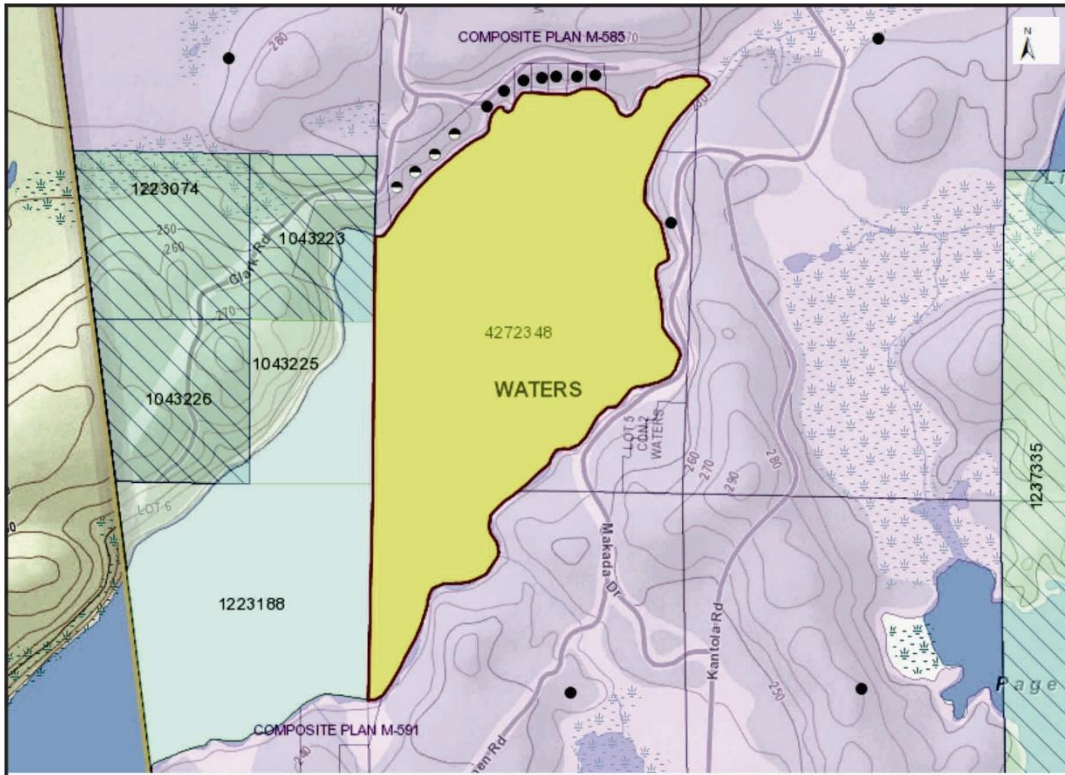
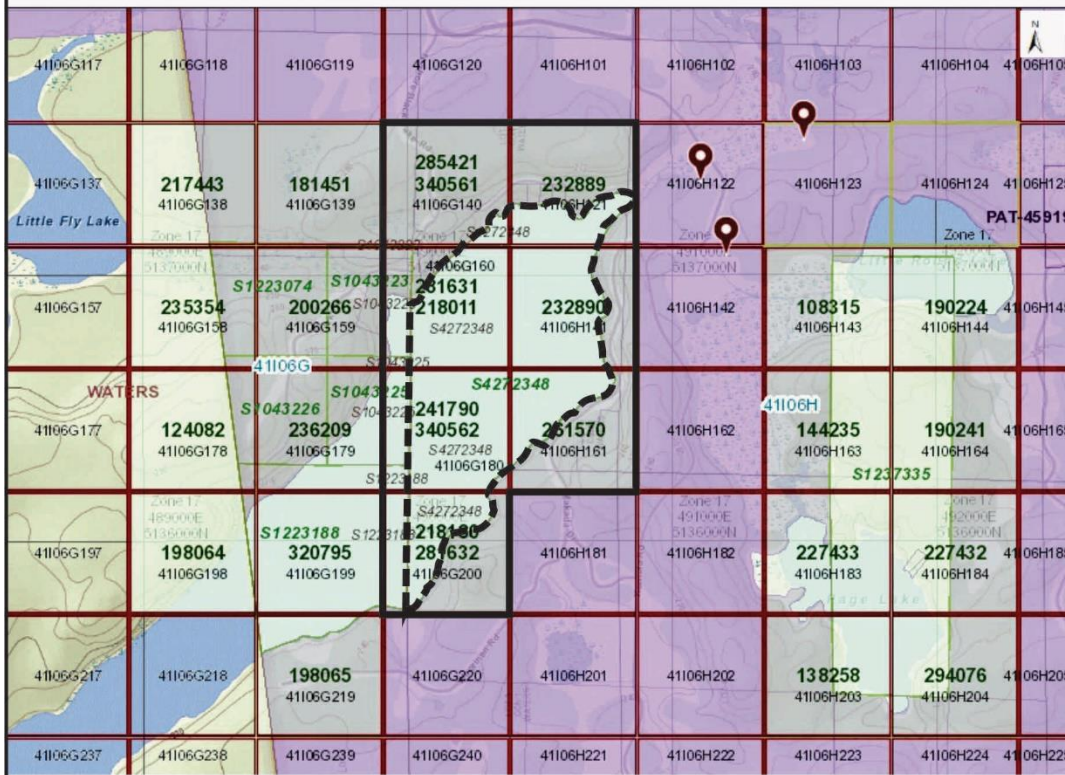


Figure 2 Makada Lake Property Location Map



2018 Legacy Claim 4272348



2018 & 2019 Legacy Claim Boundary

Figure 3 Makada Lake Property Claims Maps

EXPLORATION HISTORY, GEOLOGY & MINERALIZATION

EXPLORATION HISTORY

The Property comprising the lakebed under Makada Lake has no previous exploration history in the public records.

REGIONAL GEOLOGY

The region around the Property consists of Early Proterozoic (2.5-1.6Ga) sedimentary rocks of the Huronian Supergroup, Nipissing Gabbro intrusions (~2.2Ga), Middle Proterozoic Sudbury Dyke Swarm (~1.2Ga) intrusions, the Creighton Pluton, and ~1.7Ga Grenville related plutons. The property is about 10km south of the southern edge of the Sudbury Igneous Complex (~1.8Ga) and the Copper Cliff Offset dyke has been traced to within about 6km northeast of the Property, south of Kelly Lake quartz diorite with minor sulphide mineralization has also been confirmed in the area of Page Lake, located about 2.5 km southeast of the Property.

PROPERTY GEOLOGY (assumed from OGS et al bedrock mapping)

The Property is primarily underlain by Nipissing Gabbro intrusive and Huronian Supergroup sedimentary rocks (assumed by outcrop mapping, geological referenced from Ontario Geological Survey (OGS) Map M2119) that include Mississagi Formation feldspathic quartzite, arenite and arkose. A single olivine diabase dike probably related to the Sudbury Dyke Swarm cuts under Makada Lake on the east and west where it is mapped by the OGS. Otherwise the geology under the bed of Makada Lake has not been mapped.

The only mapped and assumed structure trending into the property is the Makada Fault. No record of mineralization is known to occur with this fault however structural relationships extending outward from the property have mineralization in the form of pyrite, chalcopyrite and pyrrhotite. Copper, nickel, gold, silver, cobalt and PGE's are common associated minerals to these structures and in contact with mafic Intrusives.

The Mississagi Formation is mapped on the east shore of the Property and consists primarily of white to pink weathering, fine- to medium-grained, cross-bedded and laminated quartzite (sandstone); feldspathic arenite weathers white to tan and is also cross bedded. Sulphide stains are common in the sedimentary units and typically they contain pyrite and rare chalcopyrite.

Nipissing Gabbro is mapped on the west shore of the property and ranges from medium-grained orthopyroxene gabbro (gabbro-norite to norite) along the western part of the property to medium-coarse-grained gabbro-norite with localized, coarse grained to pegmatitic gabbro in the central to eastern portions of the property. Fine-grained (chilled) quartz gabbro is relatively common proximal to contacts with the sedimentary country rocks.

The east-west olivine diabase dike is described by OGS mapping as a dark brown to orange-brown weathering, medium-grained to locally coarse-grained, magnetite-olivine gabbro dykes occur in the eastern parts of the property. Sudbury Dykes are generally massive and are oriented at ~300/90 degrees. These dikes typically contain about 1% disseminated pyrite and minor pyrrhotite.

2019 LAKE BOTTOM SEDIMENT GEOCHEMICAL SURVEY

The lake bottom sediment geochemical survey was completed on May 18, 2019. The original survey grid was modified after slowly test plumbing the bottom of the lakebed before sampling as to not damage the sampling device. Intermittent rain dampened the progress. It was quickly recognized that some sample locations exceeded the survey sample depth of 75'. Also, it was realized, by slowly plumbing, that the lake bottom was extremely rocky in most places. Of the 20 samples taken at least 20 additional sample sites were abandoned due to 1) 90% rock bottom 2) 95% rocky and hard pan clay and 3) Sampling material was less than 20cm in depth. The survey sample locations were dynamically adjusted on the water by and in most cases a 100m sampling width was maintained.

The file crew consisted of 2 personnel. Experienced contractors, M. Gaudreau and T. Fielding whom completed the survey by use of a 12 foot aluminum boat outfitted with a 9.9 engine. The boat was easily launched at the private ramp on the east side of Makada Lake, and the survey commenced on the west side of the lake. Continuous slow careful plumbing of the lake bottom had to be performed on every sample location and the location moved if (points 1 – 3) didn't meet the sampling criteria. The methodology used in this survey is detailed below taken from OGS report OFR6126.

Dyer, R.D., Takats, P.A. and Felix, V.E. 2004. Sudbury area lake sediment geochemical survey; Ontario Geological Survey, Open File Report 6126, 106p.

Every attempt was made while sampling to follow as closely as possible the sampling procedure performed by the OGS. Below are pertinent excerpts from OGS Report that best describe the sampling and preparation of the lake bottom samples taken by a coring device.

Note that no water sample was taken. The water quality of Makada Lake and numerous other lakes in the Sudbury District are annually monitored by the City. This data can be viewed at - <https://www.greatersudbury.ca/play/beaches-and-lakes/lakes/local-lake-descriptions/makada-black-lake/>

Sampling details such as GPS location and pictures were taken to be used for positioning and sample descriptions.

All the samples texture and colour are best summarized as tan to dark brown. Some medium gray layers were noted in a few samples. Samples with clay or significant rock fragments than in the upper layer were discarded. In most cases moving to a deeper sample site increased the depth of sediment in the sample. Sample 20 was difficult to acquire. The lake bottom in this sample site area was a dense clay with some rock fragments. The survey crew had to progressively move to deeper water towards the wets shore where eventually a sample could be obtained. Sample 20 is also the deepest sample taken in the survey. The average sample depth of the 20 samples is 7 meters.

Sample coordinates, depth and description are detailed in Table 1.

The 20 samples were hand delivered to AGAT Laboratories in Sudbury then sent to AGAT Laboratories in Mississauga Ontario for processing.

- Dry, Screen Soils or Stream Sediments - 80 Mesh, < 1 kg
- Metals Package by Aqua Regia Digest ICP / ICPMS Finish.

Sediment Sampling Methods

A significant mining “footprint” exists in the Sudbury area, which poses a challenge to a survey such as this one, both operationally and scientifically. Operational challenges included the significant cultural (human) presence throughout the region and its effect on the day to day collection of samples. Scientifically, the challenge was to “see” through 119 years of mining and ecological disturbance and understand background geochemical conditions as they would have existed before any industrial activity began. During the mid-1980s, the OGS developed a gravity coring device that allowed for the rapid collection of lake sediments and the reliable discrimination between surface and deep lake sediments (Fortescue 1988). Since then, the equipment and methodology have been updated and refined, such that when using a helicopter, it is now routine to sample an average of 24 lake sites per hour.

Organic lake sediment samples were collected using the OGS sediment sampler (Photo 1) from a helicopter float. In order to avoid any anthropogenic fallout of metals derived from point or non-point sources of pollution and to avoid water–sediment interface effects (i.e., diagenetic cycling of Mn due to anoxic conditions resulting in secondary scavenging or accumulation of base metals), only the deep (older) sediment (>20 cm below the sediment surface) was collected. This deep sediment, which predates industrial activity, closely reflects the natural geochemical inputs to the lake bottom attributable to the geology of the area.

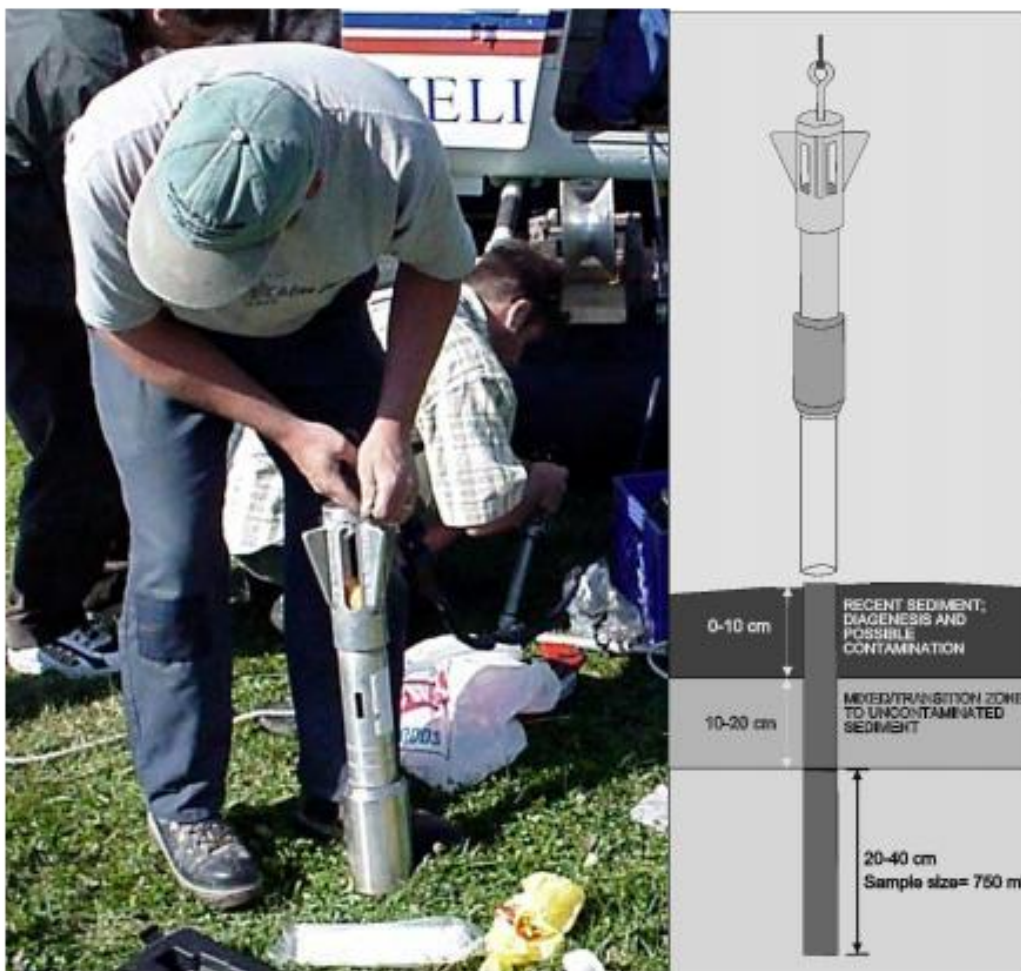


Photo 1. OGS sediment sampling coring device.

The greater than 20 cm sampling depth has been consistently used by the OGS since the early 1980s. It was initially based on studies by Dickman and Fortescue (1984) and Fortescue et al. (1984) on the rise of *Ambrosia* pollen at a sediment depth of 10 to 15 cm within 8 test lakes in the Sudbury and Wawa regions. This rise in the ragweed pollen *Ambrosia* corresponds to the onset of extensive deforestation associated with agricultural development during the post-industrial period of the past 100 years (Dickman and Fortescue 1984). The age of the *Ambrosia* pollen rise has been verified by ^{210}Pb age determinations of lake sediment cores, including 2 lakes north of Wanapitei Lake (Dickman and Fortescue 1991). At these lakes, the pollen rise occurred between 14 and 17 cm deep with a calculated sedimentation rate of approximately 1.2 mm per year. The standardization to a deeper depth of 20 cm was done to account for variations in sedimentation rates between different landscape environments. More recent studies in the Sudbury area confirm that a sample depth of 18 to 20 cm is adequate to avoid contamination (N. Belzile, Laurentian University, personal communication, 2004). One such study was done in the Sudbury area (Hunt 2003) in which sediment from 14 lakes were cored and the ages determined using ^{210}Pb . The sedimentation rate averaged to 1.6 cm per decade. Therefore, a 20 cm depth in lake sediment corresponds to approximately 125 years ago. Most of the lakes investigated by Hunt's (2003) study were also sampled by the OGS for this project. The pre-1880 sediment chemistry of Hunt's (2003) study compares very favourably with the results of this project (*see also* Table 2 and "Comparison of OGS Lake Sediment Geochemistry with Other Studies").

Samples 01 – 20 details Table 1.

Table 1

Sample	Depth (meter)	Colour	Notes
01	6	medium to dark brown	fine-gritty sediment & clay, no distinct layering, top sludge removed
02	7.5	medium to dark brown	fine-gritty sediment & clay, no distinct layering, top sludge removed
03	7.5	medium brown	fine clay-silt, no distinct layering, top sludge removed
04	6	medium to dark brown	gritty very fine grained sandy silty sludge
05	6.5	medium, brown, grey	silty matrix bottomed in fine grey silt
06	6	medium to dark brown	"chunky texture" with more organic matrix
07	6	light brown to gray	very fine-grained clay texture, lacking significant organic profile
08	3	dark brown	fine silty sludge, good organic profile
09	5	medium to dark brown	sandy, silty texture, darker at base of sample
10	5	medium to dark brown	sandy, silty texture, darker at base of sample
11	4	medium to dark brown	sandy, silty texture, darker at base of sample
12	1.5	medium to dark brown	sandy, silty texture, darker at base of sample
13	7	medium to dark brown	sandy, silty texture, darker at base of sample
14	9	light to dark brown	silty clay texture, darker at base of sample
15	9	light to dark brown	chunky clay texture, darker at base of sample
16	10	light to dark brown	chunky clay texture, darker at base of sample
17	12	light to dark brown	silty clay texture, darker at base of sample
18	7	light to medium dark brown	silty to base of sample, much less organic in matrix
19	9.5	light to medium brown	silty to base of sample, much less organic in matrix
20	12.5	dark brown	fine silty homogeneous matrix

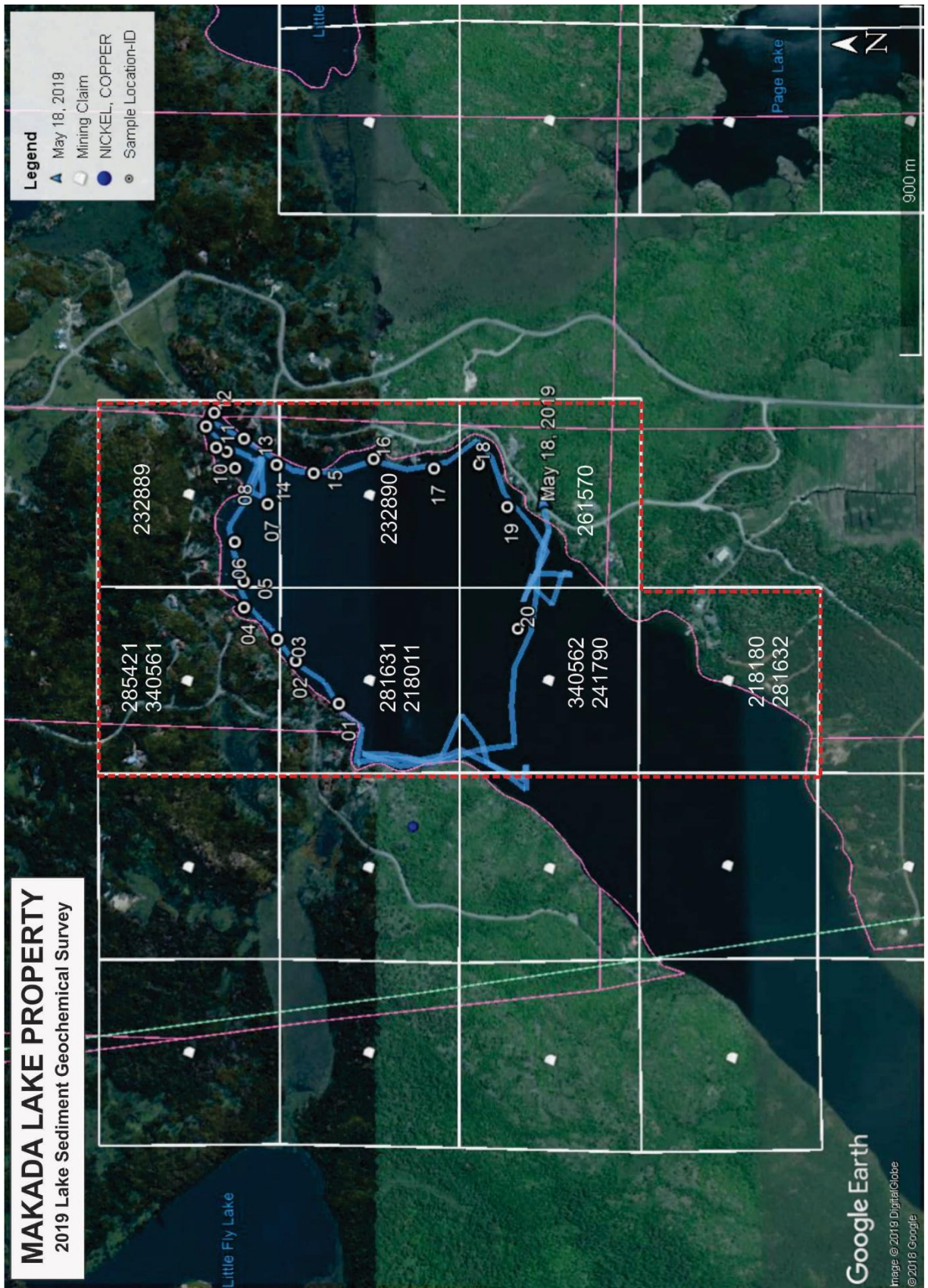


Figure 4 Survey Track and Mining Claims

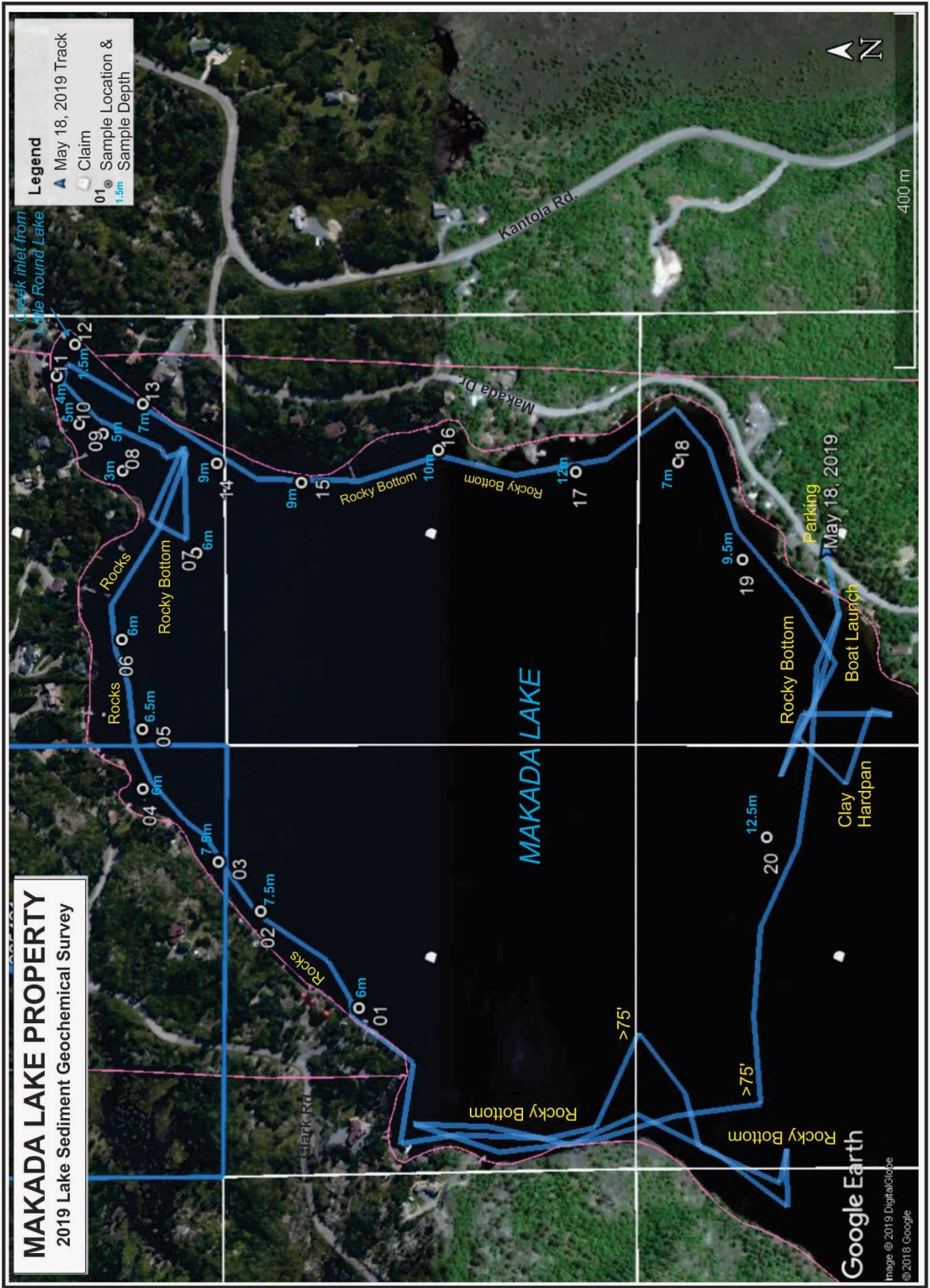


Figure 5 Survey Track and Sample Locations



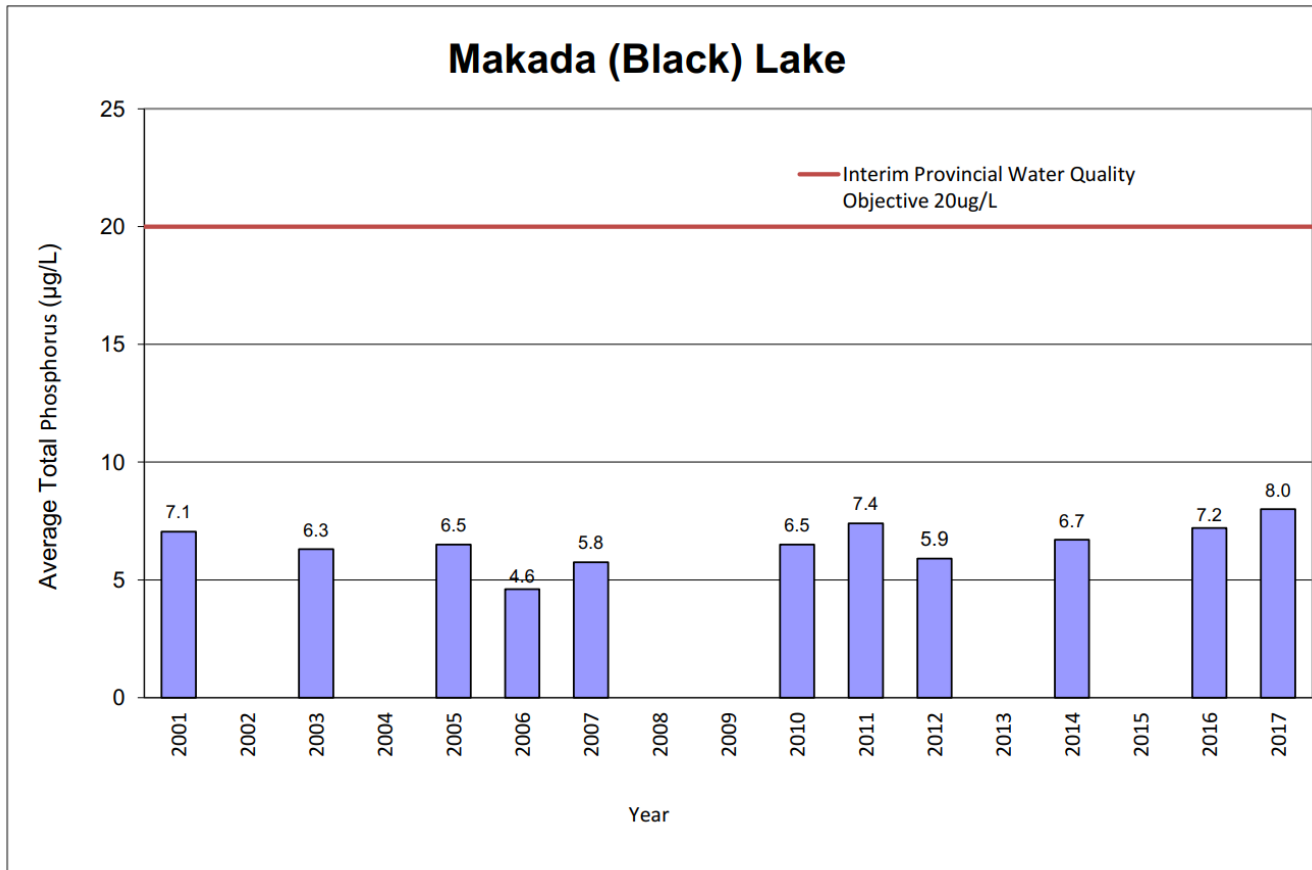


Figure 6 Makada Lake Regional Water Quality Survey

SURVEY RESULTS SUMMARY

The Makada Lake sediment geochemical survey was success in being able to acquire somewhat representative horizons of confident material (beyond 20 cm depth) for analysis. It’s suspected that a few samples could not penetrate beyond the 20 centimeter mark. This however is hard to determine with the type of sampling equipment used as the upper part of the instrument is slotted, a design intended to remove the upper portion of what is plunged as the instrument is lifted to the surface. Otherwise the top portion above 20 centimeters was removed manually or if the sample instrument didn’t penetrate sufficiently then only the bottom portion of material was retained and bagged.

Assay result highlights include several elevated nickel values. A nested group of anomalous nickel samples as high as 734 ppm returned from the small bay at the inlet of the creek from Little Round Lake, which is also coincident with the Makada Fault, mapped by the Ontario Geological Survey on map M2119. This anomaly might be considered typical, caused by a higher inflow of contaminants due the inflow and/or a combination of inflow enrichment into Makada Lake at this location. The series of anomalous nickel assays on the northwest shore, samples 01, 02 and 04 might be explained as they represent the rainwater flow from the higher elevation precipitating into the lake from the Nipissing diabase rock unit that has known nickel showings.

Samples 17, 18 and 20 are not that easily explained. Notwithstanding the average nickel value of the 20 samples is 204 ppm, appears to be above normal. The highest nickel value being sample 08 also has the highest lead, silver bismuth and gold values.

Sample 20 taken the furthest from the shoreline returned the highest overall group of the metals which include: 1690 ppm barium, 1.13 ppm beryllium, 137 ppm cerium, 55.7 ppm cobalt, 9.55 ppm iron, 5.77 ppm gallium, 0.21 ppm hafnium, 0.11 ppm potassium, 57.4 ppm lanthanum, 28600 ppm manganese, 5.68 ppm molybdenite, 250 ppm nickel, 0.227 phosphorous, 6.9 ppm scandium, 32.9 ppm strontium, 0.90 ppm thallium, 59.2 ppm vanadium, 0.70 ppm tungsten, 27.2 ppm yttrium, 197 ppm zinc and 7.1 ppm zirconium. Being the furthest from shore, near the centre of the lake have some influence on the upper most and clustered anomalous values is still to be explained.

Overall the survey was a technical success in that all the samples were obtainable within a somewhat confident spacing and that each sample location was test plumbed beforehand to confirm the bottom structure before taking the sample. Therefore, the sampling procedure, methodology and results appear to be somewhat reliable depending on how they are interpreted.

ASSAY CERTIFICATES

Work Order Number: 19T470522

Company

4568710	FUDGE & ASSOCIATES INTERNATIONAL		
160 BRYAN ROAD			
NORTH BAY	ON	P1C 1C2	
Tel: 705-472-3053	Fax:		

Contact

Contact Name:	Don Fudge
Tel:	705 472 3053
Fax:	
Email:	df@ontera.net; canmap@cyberbeach.net

Other Information

PO:	Submission Date: 5/22/2019 1:51:00 PM
AFE:	Effective Date: 5/22/2019 12:00:00 AM
Project No: OFR6126	

Operations,analysis,materials included in work order

PRODUCT ID	DESCRIPTION	QUANTITY
200221	Environmentally safe disposal of rejects	20
200012	Dry, Screen Soils or Stream Sediments - 80 Mesh, < 1 kg	20
201074	Metals Package by Aqua Regia Digest ICP / ICPMS Finish	20
200220	Environmentally safe disposal of pulps	20

Sample Identification Information, Provided by client

Sample Id	Type	Sample Description	Analysis Required	Other Information
Sample Date				
215948A	Sediment	01		
	May 22, 2019			
215949A	Sediment	02		
	May 22, 2019			
215950A	Sediment	03		
	May 22, 2019			
215951A	Sediment	04		
	May 22, 2019			

Work Order Number: 19T470522

215952A	Sediment	05
	May 22, 2019	
215953A	Sediment	06
	May 22, 2019	
215954A	Sediment	07
	May 22, 2019	
215955A	Sediment	08
	May 22, 2019	
215956A	Sediment	09
	May 22, 2019	
215957A	Sediment	10
	May 22, 2019	
215958A	Sediment	11
	May 22, 2019	
215959A	Sediment	12
	May 22, 2019	
215960A	Sediment	13
	May 22, 2019	
215961A	Sediment	14
	May 22, 2019	
215962A	Sediment	15
	May 22, 2019	
215963A	Sediment	16
	May 22, 2019	
215964A	Sediment	17
	May 22, 2019	
215965A	Sediment	18
	May 22, 2019	
215966A	Sediment	19
	May 22, 2019	
215967A	Sediment	20
	May 22, 2019	

Work Order Number: 19T470522



CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL
160 BRYAN ROAD
NORTH BAY, ON P1C 1C2
705-472-3053

ATTENTION TO: Don Fudge

PROJECT: OFR6126

AGAT WORK ORDER: 19T470522

SOLID ANALYSIS REVIEWED BY: Sherin Moussa, Senior Technician

DATE REPORTED: Jun 07, 2019

PAGES (INCLUDING COVER): 11

Should you require any information regarding this analysis please contact your client services representative at (905) 501-9998

***NOTES**

VERSION 1: Sediments were dried at 40 degrees Celsius

All samples are stored at no charge for 90 days. Please contact the lab if you require additional sample storage time.



Certificate of Analysis

AGAT WORK ORDER: 19T470522

PROJECT: OFR6126

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
TEL (905)501-9998
FAX (905)501-0589
<http://www.agatlabs.com>

CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

ATTENTION TO: Don Fudge

(200-) Sample Login Weight

DATE SAMPLED: May 22, 2019

DATE RECEIVED: May 22, 2019

DATE REPORTED: Jun 07, 2019

SAMPLE TYPE: Sediment

Sample ID (AGAT ID)	Analyte:	Sample Login Weight
	Unit:	kg
	RDL:	0.01
01 (215948)		0.4214
02 (215949)		0.4158
03 (215950)		0.5058
04 (215951)		0.5872
05 (215952)		0.5842
06 (215953)		0.5710
07 (215954)		0.3816
08 (215955)		0.2836
09 (215956)		0.3982
10 (215957)		0.6062
11 (215958)		0.6026
12 (215959)		0.2358
13 (215960)		0.4978
14 (215961)		0.3948
15 (215962)		0.2612
16 (215963)		0.4024
17 (215964)		0.6288
18 (215965)		0.4026
19 (215966)		0.5288
20 (215967)		0.3476

Comments: RDL - Reported Detection Limit

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 19T470522

PROJECT: OFR6126

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
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CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

ATTENTION TO: Don Fudge

(201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: May 22, 2019

DATE RECEIVED: May 22, 2019

DATE REPORTED: Jun 07, 2019

SAMPLE TYPE: Sediment

Sample ID (AGAT ID)	Analyte: Unit: RDL:	Ag ppm 0.01	Al % 0.01	As ppm 0.1	Au ppm 0.005	B ppm 5	Ba ppm 1	Be ppm 0.05	Bi ppm 0.01	Ca % 0.01	Cd ppm 0.01	Ce ppm 0.01	Co ppm 0.1	Cr ppm 0.5	Cs ppm 0.05
01 (215948)		0.35	1.94	19.0	<0.005	<5	128	0.92	0.61	0.57	1.72	78.7	24.5	74.4	0.88
02 (215949)		0.21	0.95	10.3	<0.005	<5	62	0.47	0.57	0.21	0.67	40.7	15.6	32.9	0.49
03 (215950)		0.10	0.95	3.0	<0.005	<5	89	0.49	0.12	0.22	0.51	55.3	11.6	35.2	0.52
04 (215951)		0.26	0.60	12.7	<0.005	<5	49	0.26	0.86	0.21	0.88	26.9	13.4	23.8	0.39
05 (215952)		0.12	1.01	4.9	<0.005	<5	82	0.38	0.20	0.24	0.42	50.1	15.3	37.1	0.67
06 (215953)		0.10	1.11	3.9	<0.005	<5	79	0.40	0.15	0.24	0.48	50.0	15.2	38.4	0.58
07 (215954)		0.07	0.54	3.8	<0.005	<5	37	0.18	0.16	1.32	0.21	27.6	10.1	23.8	0.42
08 (215955)		0.76	0.94	33.9	0.008	<5	91	0.49	2.98	0.30	2.83	39.0	41.9	37.8	0.75
09 (215956)		0.25	0.60	12.4	<0.005	<5	51	0.26	0.84	0.22	1.06	26.1	15.9	22.0	0.42
10 (215957)		0.16	0.77	10.1	<0.005	<5	61	0.30	0.47	0.31	0.84	32.1	15.4	29.2	0.52
11 (215958)		0.41	0.86	22.6	<0.005	<5	88	0.42	1.43	0.50	2.45	38.2	28.7	31.0	0.73
12 (215959)		0.28	0.74	18.4	<0.005	<5	67	0.32	0.98	0.28	1.82	26.5	36.5	28.2	0.63
13 (215960)		0.22	1.29	11.6	<0.005	<5	78	0.53	0.44	0.37	0.97	59.2	20.7	47.9	0.67
14 (215961)		0.20	1.74	7.9	<0.005	<5	107	0.73	0.28	0.34	0.90	81.5	19.2	57.6	0.86
15 (215962)		0.21	0.95	10.8	<0.005	<5	58	0.45	0.69	0.18	0.66	42.0	14.7	30.5	0.51
16 (215963)		0.11	0.81	7.7	<0.005	<5	46	0.31	0.34	0.16	0.37	32.8	10.1	25.7	0.43
17 (215964)		0.20	1.44	21.2	<0.005	<5	334	1.04	0.46	0.27	2.08	116	40.9	39.3	0.64
18 (215965)		0.26	0.60	13.8	<0.005	<5	45	0.31	1.02	0.16	0.89	31.3	19.6	20.9	0.37
19 (215966)		0.17	1.59	6.0	<0.005	<5	103	0.69	0.23	0.26	0.69	74.3	17.0	45.8	0.72
20 (215967)		0.16	1.85	21.2	<0.005	<5	1690	1.13	0.18	0.36	2.57	137	55.7	45.0	0.77

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 19T470522

PROJECT: OFR6126

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
TEL (905)501-9998
FAX (905)501-0589
<http://www.agatlabs.com>

CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

ATTENTION TO: Don Fudge

(201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: May 22, 2019

DATE RECEIVED: May 22, 2019

DATE REPORTED: Jun 07, 2019

SAMPLE TYPE: Sediment

Sample ID (AGAT ID)	Analyte: Unit: RDL:	Cu ppm	Fe %	Ga ppm	Ge ppm	Hf ppm	Hg ppm	In ppm	K %	La ppm	Li ppm	Mg %	Mn ppm	Mo ppm	Na %
01 (215948)		156	2.64	5.42	<0.05	0.08	0.18	0.028	0.10	39.7	14.7	0.54	665	1.98	0.01
02 (215949)		88.4	1.63	3.06	<0.05	0.04	0.07	0.016	0.06	19.5	7.8	0.31	357	0.98	<0.01
03 (215950)		22.6	1.52	3.23	<0.05	0.06	0.06	0.012	0.07	25.8	8.2	0.35	476	1.07	0.01
04 (215951)		177	0.94	2.30	<0.05	0.02	0.06	0.023	0.04	14.4	5.8	0.21	167	0.55	<0.01
05 (215952)		37.5	1.38	3.73	<0.05	0.05	0.04	0.011	0.09	25.1	9.5	0.39	350	0.85	<0.01
06 (215953)		34.1	1.35	3.68	<0.05	0.06	0.07	0.011	0.07	24.6	9.2	0.35	282	1.06	<0.01
07 (215954)		22.2	0.98	2.38	<0.05	0.03	0.04	0.009	0.05	13.6	6.5	0.89	310	0.24	<0.01
08 (215955)		615	2.12	3.82	<0.05	0.03	0.11	0.064	0.07	20.5	8.9	0.39	415	0.92	0.01
09 (215956)		183	0.98	2.34	<0.05	0.03	0.06	0.026	0.04	13.3	5.6	0.23	216	0.40	<0.01
10 (215957)		115	1.17	2.92	<0.05	0.03	0.07	0.016	0.05	16.9	7.2	0.31	222	0.64	<0.01
11 (215958)		428	1.87	3.53	<0.05	0.04	0.11	0.035	0.06	20.0	7.8	0.37	249	0.77	<0.01
12 (215959)		277	1.27	2.96	<0.05	0.03	0.07	0.022	0.05	13.5	7.5	0.34	188	0.58	<0.01
13 (215960)		97.7	1.79	4.05	<0.05	0.04	0.10	0.021	0.08	29.3	9.8	0.42	371	1.25	<0.01
14 (215961)		58.8	1.88	4.92	<0.05	0.07	0.10	0.020	0.10	38.7	12.2	0.49	574	1.34	0.01
15 (215962)		112	1.40	2.93	<0.05	0.04	0.06	0.019	0.07	19.7	7.9	0.29	407	0.50	<0.01
16 (215963)		67.3	1.00	2.58	<0.05	0.03	0.05	0.013	0.05	15.4	7.0	0.26	190	0.41	<0.01
17 (215964)		101	5.65	4.51	0.12	0.12	0.08	0.018	0.08	46.8	8.7	0.35	5590	3.00	<0.01
18 (215965)		176	1.18	2.23	<0.05	0.03	0.06	0.021	0.04	14.4	5.7	0.21	305	0.45	<0.01
19 (215966)		44.9	2.00	4.28	<0.05	0.08	0.08	0.018	0.09	33.6	11.2	0.42	566	0.97	0.01
20 (215967)		62.6	9.55	5.77	<0.05	0.21	0.13	0.018	0.11	57.4	11.1	0.39	28600	5.68	0.01

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 19T470522

PROJECT: OFR6126

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
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CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

ATTENTION TO: Don Fudge

(201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: May 22, 2019

DATE RECEIVED: May 22, 2019

DATE REPORTED: Jun 07, 2019

SAMPLE TYPE: Sediment

Sample ID (AGAT ID)	Analyte: Unit: RDL:	Nb ppm	Ni ppm	P %	Pb ppm	Rb ppm	Re ppm	S %	Sb ppm	Sc ppm	Se ppm	Sn ppm	Sr ppm	Ta ppm	Te ppm
01 (215948)		1.85	189	0.131	27.4	13.6	0.051	0.74	0.63	5.5	2.7	1.0	25.8	0.06	0.22
02 (215949)		0.77	136	0.071	13.6	7.6	0.036	0.41	0.30	2.9	1.2	0.7	9.7	0.02	0.23
03 (215950)		0.91	33.4	0.073	5.4	8.4	0.021	0.07	0.31	3.5	0.6	0.4	12.8	0.01	0.01
04 (215951)		0.69	222	0.040	22.0	5.9	0.049	0.46	0.42	2.0	1.9	1.4	9.6	0.01	0.39
05 (215952)		1.17	51.3	0.062	6.6	11.1	0.026	0.27	0.28	3.5	1.1	0.5	10.8	<0.01	<0.01
06 (215953)		1.10	48.5	0.065	6.6	9.8	0.028	0.34	0.39	3.7	0.9	0.5	11.9	<0.01	<0.01
07 (215954)		0.93	41.0	0.053	5.8	6.3	0.024	0.04	0.24	1.8	<0.2	0.5	12.0	<0.01	0.05
08 (215955)		1.10	734	0.048	82.2	10.1	0.064	0.83	1.66	2.8	4.8	3.0	14.7	<0.01	1.69
09 (215956)		0.66	235	0.042	23.9	5.6	0.058	0.35	0.43	1.7	1.6	1.1	9.9	<0.01	0.46
10 (215957)		0.83	143	0.048	15.0	7.1	0.045	0.55	0.37	2.3	1.2	0.7	14.0	<0.01	0.21
11 (215958)		1.04	565	0.044	48.3	8.8	0.088	1.18	0.55	2.4	3.7	1.7	21.6	0.01	0.82
12 (215959)		0.81	484	0.039	36.0	7.7	0.064	0.57	0.45	1.9	2.7	1.0	13.4	<0.01	0.59
13 (215960)		1.14	123	0.072	15.0	10.8	0.049	0.78	0.51	3.7	2.1	0.8	17.3	0.01	0.16
14 (215961)		1.35	88.1	0.106	10.5	13.6	0.034	0.32	0.32	4.7	1.4	0.6	16.0	<0.01	0.12
15 (215962)		0.66	161	0.068	17.0	8.3	0.031	0.16	0.31	2.8	0.9	0.9	8.3	<0.01	0.30
16 (215963)		0.63	89.4	0.050	10.3	7.0	0.033	0.24	0.27	2.3	0.9	0.6	8.0	<0.01	0.13
17 (215964)		1.14	188	0.192	16.2	10.6	0.028	0.22	0.45	4.9	1.4	0.7	14.6	<0.01	0.27
18 (215965)		0.61	231	0.052	26.6	5.6	0.025	0.14	0.33	1.8	1.8	0.9	6.4	<0.01	0.56
19 (215966)		1.27	70.3	0.096	12.2	12.1	0.028	0.22	0.34	4.8	0.9	0.6	13.5	<0.01	0.02
20 (215967)		1.39	250	0.227	10.0	12.9	0.023	0.14	0.48	6.9	1.2	0.5	32.9	<0.01	0.06

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 19T470522

PROJECT: OFR6126

5623 McADAM ROAD
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<http://www.agatlabs.com>

CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

ATTENTION TO: Don Fudge

(201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: May 22, 2019

DATE RECEIVED: May 22, 2019

DATE REPORTED: Jun 07, 2019

SAMPLE TYPE: Sediment

Sample ID (AGAT ID)	Analyte: Unit: RDL:	Th ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
01 (215948)		2.4	0.045	0.16	3.46	43.7	0.38	23.0	158	2.4
02 (215949)		2.0	0.028	0.02	1.52	22.9	0.26	10.9	71.7	1.1
03 (215950)		3.0	0.031	0.04	1.75	28.8	0.32	14.3	68.4	1.7
04 (215951)		1.4	0.022	<0.01	1.14	14.1	0.13	7.82	58.8	0.7
05 (215952)		3.2	0.036	0.09	1.96	26.3	0.15	13.9	61.1	1.9
06 (215953)		2.8	0.034	0.06	2.16	24.1	0.14	15.2	68.1	2.0
07 (215954)		3.4	0.037	<0.01	0.59	18.1	0.08	6.10	25.3	2.5
08 (215955)		2.7	0.037	0.11	1.52	25.3	0.26	9.61	145	1.3
09 (215956)		1.6	0.022	<0.01	0.94	13.5	0.11	6.46	63.4	0.8
10 (215957)		1.9	0.026	0.03	1.56	16.6	0.15	8.36	60.4	1.2
11 (215958)		1.8	0.029	0.08	1.83	20.0	0.17	9.05	112	1.6
12 (215959)		1.8	0.028	0.04	1.11	18.3	0.18	5.47	111	1.0
13 (215960)		2.0	0.037	0.19	2.55	27.9	0.18	15.8	106	1.3
14 (215961)		2.4	0.043	0.17	2.87	36.1	0.21	22.7	123	1.8
15 (215962)		2.1	0.029	<0.01	1.43	18.3	0.15	11.3	73.2	1.0
16 (215963)		1.6	0.025	<0.01	1.13	14.4	0.09	8.82	57.3	0.8
17 (215964)		3.9	0.035	0.46	2.65	49.0	0.70	21.6	168	4.2
18 (215965)		1.9	0.022	0.02	0.86	15.3	0.19	7.38	63.8	0.8
19 (215966)		3.1	0.040	0.11	2.18	33.3	0.33	18.7	106	2.2
20 (215967)		5.1	0.040	0.90	2.75	59.2	0.70	27.2	197	7.1

Comments: RDL - Reported Detection Limit

215948-215967 Au determination by this method is semi-quantitative due to small sample size.

Certified By:



CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

ATTENTION TO: Don Fudge

(201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

Parameter	REPLICATE #1				RPD													
	Sample ID	Original	Replicate	RPD														
Ag	215956	0.25	0.24	4.1%														
Al	215956	0.60	0.60	0.0%														
As	215956	12.4	12.7	2.4%														
Au	215956	< 0.005	< 0.005	0.0%														
B	215956	< 5	< 5	0.0%														
Ba	215956	51	50	2.0%														
Be	215956	0.26	0.27	3.8%														
Bi	215956	0.84	0.83	1.2%														
Ca	215956	0.22	0.22	0.0%														
Cd	215956	1.06	1.08	1.9%														
Ce	215956	26.1	24.9	4.7%														
Co	215956	15.9	15.8	0.6%														
Cr	215956	22.0	22.4	1.8%														
Cs	215956	0.420	0.402	4.4%														
Cu	215956	183	183	0.0%														
Fe	215956	0.975	0.970	0.5%														
Ga	215956	2.34	2.36	0.9%														
Ge	215956	< 0.05	< 0.05	0.0%														
Hf	215956	0.031	0.023	29.6%														
Hg	215956	0.06	0.07	15.4%														
In	215956	0.0255	0.0205	21.7%														
K	215956	0.04	0.04	0.0%														
La	215956	13.3	12.7	4.6%														
Li	215956	5.6	5.7	1.8%														
Mg	215956	0.23	0.23	0.0%														
Mn	215956	216	218	0.9%														
Mo	215956	0.40	0.38	5.1%														
Na	215956	< 0.01	< 0.01	0.0%														
Nb	215956	0.657	0.623	5.3%														
Ni	215956	235	240	2.1%														
P	215956	0.042	0.042	0.0%														



CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

ATTENTION TO: Don Fudge

Pb	215956	23.9	24.0	0.4%														
Rb	215956	5.63	5.53	1.8%														
Re	215956	0.058	0.043	29.7%														
S	215956	0.355	0.357	0.6%														
Sb	215956	0.433	0.383	12.3%														
Sc	215956	1.74	1.77	1.7%														
Se	215956	1.6	1.4	13.3%														
Sn	215956	1.1	0.9	20.0%														
Sr	215956	9.86	9.81	0.5%														
Ta	215956	< 0.01	< 0.01	0.0%														
Te	215956	0.455	0.382	17.4%														
Th	215956	1.6	1.5	6.5%														
Ti	215956	0.022	0.022	0.0%														
Tl	215956	< 0.01	< 0.01	0.0%														
U	215956	0.94	0.91	3.2%														
V	215956	13.5	13.6	0.7%														
W	215956	0.11	0.15	30.8%														
Y	215956	6.46	6.34	1.9%														
Zn	215956	63.4	63.4	0.0%														
Zr	215956	0.8	0.8	0.0%														



CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

ATTENTION TO: Don Fudge

(201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

Parameter	CRM #1 (ref.ME-1308)				CRM #2 (ref.ME-1206)											
	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits								
Ag	45.7	43.5	95%	90% - 110%	274	256	94%	90% - 110%								
Cu	3980	4075	102%	90% - 110%	7900	7659	97%	90% - 110%								
Pb	5410	5540	102%	90% - 110%	8010	7832	98%	90% - 110%								
Zn	4290	4076	95%	90% - 110%	23800	21758	91%	90% - 110%								



Method Summary

CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

AGAT WORK ORDER: 19T470522

PROJECT: OFR6126

ATTENTION TO: Don Fudge

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Solid Analysis			
Sample Login Weight	MIN-12009		BALANCE
Ag	MIN-200-12018		ICP-MS
Al	MIN-200-12020		ICP/OES
As	MIN-200-12018		ICP-MS
Au	MIN-200-12018		ICP-MS
B	MIN-200-12020		ICP/OES
Ba	MIN-200-12018		ICP-MS
Be	MIN-200-12018		ICP-MS
Bi	MIN-200-12018		ICP-MS
Ca	MIN-200-12020		ICP/OES
Cd	MIN-200-12018		ICP-MS
Ce	MIN-200-12018		ICP-MS
Co	MIN-200-12018		ICP-MS
Cr	MIN-200-12020		ICP/OES
Cs	MIN-200-12018		ICP-MS
Cu	MIN-200-12018		ICP-MS
Fe	MIN-200-12020		ICP/OES
Ga	MIN-200-12018		ICP-MS
Ge	MIN-200-12018		ICP-MS
Hf	MIN-200-12018		ICP-MS
Hg	MIN-200-12018		ICP-MS
In	MIN-200-12018		ICP-MS
K	MIN-200-12020		ICP/OES
La	MIN-200-12018		ICP-MS
Li	MIN-200-12018		ICP-MS
Mg	MIN-200-12020		ICP/OES
Mn	MIN-200-12020		ICP/OES
Mo	MIN-200-12018		ICP-MS
Na	MIN-200-12020		ICP/OES
Nb	MIN-200-12018		ICP-MS
Ni	MIN-200-12018		ICP-MS
P	MIN-200-12020		ICP/OES
Pb	MIN-200-12018		ICP-MS
Rb	MIN-200-12018		ICP-MS
Re	MIN-200-12018		ICP-MS
S	MIN-200-12020		ICP/OES
Sb	MIN-200-12018		ICP-MS
Sc	MIN-200-12018		ICP-MS
Se	MIN-200-12018		ICP-MS
Sn	MIN-200-12018		ICP-MS
Sr	MIN-200-12018		ICP-MS
Ta	MIN-200-12018		ICP-MS
Te	MIN-200-12018		ICP-MS
Th	MIN-200-12018		ICP-MS
Ti	MIN-200-12020		ICP/OES
Tl	MIN-200-12018		ICP-MS
U	MIN-200-12018		ICP-MS
V	MIN-200-12020		ICP/OES
W	MIN-200-12018		ICP-MS



Method Summary

CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

AGAT WORK ORDER: 19T470522

PROJECT: OFR6126

ATTENTION TO: Don Fudge

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Y	MIN-200-12018		ICP-MS
Zn	MIN-200-12018		ICP-MS
Zr	MIN-200-12018		ICP-MS

REFERENCES

Dyer, R.D., Takats, P.A. and Felix, V.E. 2004. Sudbury area lake sediment geochemical survey; Ontario Geological Survey, Open File Report 6126, 106p.

SURVEY COST REVIEW

Survey, mileage round trip from Hanmer to the Makada Lake

50km @ 0.50 per kilometer =	\$50.00
Boat and motor package rental for 1 day =	\$50.00
Sampling instrument =	\$20.00
Misc. supplies, sample bags etc. =	\$10.00
Field crew @ 2 persons \$400 + \$400 =	\$800
Report preparation and filing =	\$1,500
Assay cost without HST =	\$630.00
TOTAL =	<u>\$3,050.00</u>