Gartner Lee Limited

December 6, 2004

Harvey Klatt
Sabina Resources Ltd.
309 Court Street South
Thunder Bay, Ontario
P7B 2Y1

Dear Mr. Klatt:

Re: 40655 – Baseline Water Quality Monitoring Program at Hackett River Project

As per the request of Mr. Harvey Klatt of Sabina Resources Ltd., Gartner Lee Limited (GLL) carried out a baseline water quality monitoring program at the Hackett River Project Area in Nunavut from August 20th to August 23rd 2004. Sample collection, general site observations and subsequent analysis of results were completed by Dr. Leslie Gomm, Environmental Engineer of GLL's Whitehorse, Yukon office.

The scope of work conducted as part of this program included:

- Review of previous water quality survey network reports (1974 and 1975) for adequacy of current environmental baseline program requirements;
- General site reconnaissance and discussion with site personnel (Scott Burgess) regarding current and proposed exploration activities;
- Preparation of a revised sampling network to meet current needs and site development objectives;
- Collection of water quality samples for chemical analysis from ten locations plus a control lake;
- Collection of tap water sample for drinking water quality analysis; and
- Summarization and reporting of the results from the water quality monitoring program

This letter report contains a description of the 2004 water quality monitoring program and a presentation of the results.

Background

The Hackett River property is an advanced-stage base and precious metal property located in the Kitikmeot region of Nunavut at 66 degrees north and 108 degrees west, approximately 480 kilometers northeast of Yellowknife, NWT and 75 kilometers southwest of a potential deep water shipping port at Bathurst Inlet.

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The Hackett River project area is situated in two watersheds: Hackett River and Mara River. Both rivers are tributaries of the Burnside River. Boot Lake, Cleaver Lake, Anne Lake and Turtle Lake are located in the Mara River drainage while Banana Lake, Camp Lake and Sunken Lakes are in the Hackett River drainage. Earlier work[1] characterized surface water conditions in the area as follows:

- Lakes in the area were well mixed, near neutral pH and exhibited limited seasonal variation;
- Lakes with elevated levels of zinc and copper were generally restricted to ones that lie down ice and / or down drainage from mineralized areas (Camp Lake, Sunken Lakes and Cleaver Lake);
- Alkalinity levels, and subsequent buffering capacity, and hardness levels in the area were generally very low; and
- There were few significant surface drainage systems in the area with the exception of the Banana-Camp-Upper Sunken Lake system and during spring freshet.

Methodology

GLL visited the property in August 2004 to conduct an initial baseline water quality monitoring program. The sampling program focused on the areas being targeted by current exploration activities and consisted of sampling from the following ten locations plus one reference lake focusing (Figure 1):

- Upper Sunken Lake;
- Boot Lake;
- Cleaver Lake;
- Anne Lake;
- Mara River (two locations);
- Banana Lake;
- Camp Lake;
- Hackett River (two locations); and
- Cigar Lake (potential reference lake).

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[1] Miller, J.K. 1978. *Geochemical Dispersion over Massive Sulphides within the Zone of Continuous Permafrost, Bathurst Norsemines, District of Mackenzie, N.W.T.* Masters Thesis, University of Akron.

Department of Indian and Northern Affairs. 1974. *Bathurst Norsemines (Hackett River) Potential Mine Water Quality Survey Network Report Series.* Water Management Section.

Department of Indian and Northern Affairs. 1975. *Bathurst Norsemines (Hackett River) Potential Mine Water Quality Survey Network Report Series.* Water Management Section.

Laboratory analysis of samples provided general chemistry, major ion, nutrient/organic, total and dissolved metals concentration data.

GLL collected field measurements of dissolved oxygen, pH, temperature and electrical conductivity at each site. Conductivity and temperature measurements were collected using a YSI-30 Salinity, Conductivity and Temperature probe. pH measurements were collected using a Hanna pHep pH probe. Dissolved oxygen measurements were collected using an OxyGuard Handy Probe. The pH meter was calibrated on site using pH 7 and pH 4 buffer solutions. Calibration of the conductivity probe was checked in standard solutions on site and indicated acceptable calibration. The dissolved oxygen probe was calibrated prior to each measurement to account for altitudes other than sea level. Results of the field measurements are provided in Table 1.

The water samples were collected using recognized sampling protocols. Appropriate measures were taken to mitigate sample contamination from all sources. Field staff wore disposable latex gloves when sampling. All surface water samples were grab samples taken from shore, collected directly into the bottles provided by the laboratory. An attempt was made to collect Camp Lake samples from the deepest area of the lake as determined by Miller (1978). Camp Lake depth samples were collected using a standard Kemmerer vertical sampler.

Samples were collected by GLL for general chemical parameters (laboratory pH, conductivity, sulphate, alkalinity, hardness, nitrate, nitrite, phosphate, total dissolved solids, total suspended solids and turbidity) in a pre-cleaned 1 L plastic bottle supplied by the analytical laboratory. Samples for total metals were collected in 250 mL acid washed plastic bottles supplied by the laboratory and preserved with nitric acid. Dissolved metals were vacuum filtered in the field through 0.45 micron disposable filterware and preserved with nitric acid immediately after filtration. Samples for total organic carbon (TOC), dissolved organic cargon and total nitrogen were collected in 125 mL amber glass bottles. TOC and total nitrogen samples were preserved on site using hydrochloric acid. Samples for ammonia and orthophosphate were collected in 250 mL glass amber bottles and preserved in the field with sulphuric acid.

All samples were kept cold, but not allowed to freeze, at all times between sample collection and delivery to the laboratory. Samples were shipped via air cargo from Yellowknife to ALS Environmental, a CAEAL accredited environmental laboratory in Calgary, Alberta. Chain of custody forms were prepared and accompanied the samples. A copy of the Chain of Custody is attached to the analytical laboratory report (Attachment A).

At the request of Scott Burgess, tap water samples were taken from the cold water tap in the camp dry on August 23, 2004. Camp Lake provides the water supply for the camp. According to Harvey Klatt this water is not used for drinking water but for cooking, cleaning and personal

hygiene purposes. Bottled water is provided to camp personnel for drinking water. The samples were delivered to Taiga Environmental Laboratory in Yellowknife on the same day, as required by the sampling method. Taiga Environmental is accredited by the Standards Council of Canada as a testing laboratory for specific tests registered with the Council. A copy of the analytical report can be found in Attachment B.

Quality Control/Quality Assurance

Quality Control/Quality Assurance protocols are a necessary component to any environmental sampling program. For the purposes of maintaining data quality a number of industry and corporate protocols were applied to this project including field replicates and laboratory duplicates. Field replicate sampling is designed to provide a measure of field variability and the repeatability of sampling. Variability of less than 25 % indicates very low field variability. One replicate sample location was chosen randomly and two samples collected sequentially. The surface sample for Camp Lake was taken in replicate. Laboratory duplicates provide a measure of the analytical variability (precision). Laboratory variability of less than 25% is generally considered acceptable.

Results

The 2004 sampling program sites were chosen based upon previous work carried out in the area and discussions with the site Project Geologist, Scott Burgess, regarding the focus of the site exploration activities. The results of the 2004 water quality program are presented in Tables 2, 3 and 4 and discussed in the following section. Data were evaluated based upon the Canadian Council of Ministers for the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Aquatic Life (2003). Values that exceed guidelines are highlighted within the data tables. Also, where applicable, the general trends in water quality were also compared to those from previous work. A direct comparison to historical water quality cannot be made due to changes in analytical procedures since the earlier work was completed. Photographs of the sampling locations are presented in Attachment C.

Generally, the overall surface water system can be characterized as a series of isolated lakes with minimal surface water drainage systems at the time of sampling (Photograph 1 and 2). Generally the following observations can be made:

- The trends in the results are consistent with previous water quality investigations in the area.
- Cigar Lake was sampled as a potential reference lake to provide an overview of the regional and background water chemistry. The water quality at Cigar Lake is similar to the other locations in the area not receiving drainage from mineralized areas (Boot Lake, Mara River, and Hackett River).
- The lakes and rivers sampled in the area had near neutral pH and were well oxygenated;

- The surface waters sampled were very soft[2] (hardness less than 30 mg/l) with the exception of Cleaver Lake and Anne Lake which were moderately soft[2] (hardness between 60 and 120 mg/l);
- Alkalinity levels in the lakes were generally low (< 10 mg/l $CaCO_3$) indicative of high sensitivity[3] to acidic inputs with the exception of Anne Lake which had slightly higher (10 to 20 mg/l CaCO3) alkalinity levels (17.1 mg/l CaCO3) and therefore moderate sensitivity to acidic inputs[3];
- Alkalinity levels in the rivers were also low indicating a sensitivity to acid inputs[4];
- Organic carbon levels in all waters sampled were low and nutrient levels, specifically phosphorus, are indicative of nutrient poor surface waters[5];
- There were no detectable levels of total suspended sediment in any of the surface samples and turbidity levels are extremely low (< 2.0 NTU).
- Sulphate levels are elevated in lakes potentially receiving drainage from mineralized areas, specifically Camp Lake, Cleaver Lake, Anne Lake, Banana Lake and Upper Sunken Lake.
- Generally, the metal levels were low and within the recommended CCME guidelines with the exception of lakes receiving drainage from mineralized areas, specifically Camp Lake, Cleaver Lake, Anne Lake, Banana Lake and Upper Sunken Lake. Camp, Cleaver, Anne and Upper Sunken Lakes had elevated levels of aluminum and lead compared to the other sampling locations. Concentrations of cadmium, copper, and zinc in Camp, Cleaver, Anne and Upper Sunken Lakes exceeded the recommended CCME guidelines. Banana Lake also exhibited copper concentrations above CCME guidelines levels.
- Depth sampling at Camp Lake indicates that the lake was well mixed at the time of sampling with relatively consistent results for general chemistry parameters throughout the water column.

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[2] McNeeley, R.N., V.P. Neimanis and L. Dwyer. 1979. *Water Quality Sourcebook – A Guide to Water Quality Parameters.* Inland Waters Directorate, Water Quality Branch, Minister of Supply and Services Canada.

[3] Saffran, K.A. and D.O. Trew. 1996. *Sensitivity of Alberta Lakes to Acidifying Deposition: An Update of Maps with Emphasis on 109 Northern Lakes.* Water Management Division. Alberta Environmental Protection.

[4] Boward, D., P. Kayzak, S. Stranko, M. Hurd and A. Prochaska. 1999. *From the Mountains to the Sea: The State of Maryland's Freshwater Streams.* Maryland Department of Natural Resources.

[5] Canadian Council of Ministers of the Environment (CCME). 2003. *Canadian Guidance Framework for the Management of Phosphorus in Freshwater Systems.* National Guidelines and Standards Office, Environment Canada.

Quality Control/Quality Assurance

The surface sample from Camp Lake was collected in replicate (e.g. two samples collected sequentially) and summarized in Table 5. Generally, the two water samples had similar water quality. All non-detects were confirmed in the replicated sample with the exception of ammonia nitrogen. The highest relative percent difference (RPD) was noted in alkalinity with a RPD between samples of 71%. Typically, RPD's greater than 25% can be an indication of field variability, and as parameters approach their detection limit high variability is more likely to occur. Lead also had a high RPD's: 38% for total and 51% for dissolved. A comparison of dissolved and total lead indicates that the majority of the lead in these samples is associated with particulate matter (> 0.45 micron), which could be the cause of this variability. The remainder of the parameters had variability of 15% or less. Laboratory precision is summarized in Table 6 with all RPD's less than 10%.

Tap Water Analysis

The results of the analysis and the corresponding Council of Ministers for the Environment (CCME) Drinking Water Quality Guidelines (2003) are included in Attachment 7. All parameters are within the CCME Drinking Water Quality Guidelines with the exception of pH, turbidity, total coliforms, arsenic and manganese. The pH of the tap water sample was slightly below the recommended aesthetic guideline range of 6.5 to 8.5. The primary objective behind this suggested range is controlling the pH of water to minimize corrosion or incrustation[6]. Corrosion can start to pose problems to water distribution systems below pH 6.5.

The turbidity result (1.41 NTU) is below the aesthetic objective of 5 NTU set for water at the point of consumption but exceeds the CCME maximum acceptable concentration (1.0 NTU) set for water entering distribution (disinfection) systems. Turbidity is the result of fine suspended particles in the water and can be ameliorated by filtration. Typically it is important to control turbidity in drinking water supply as it can be associated with unacceptable taste and odours and interfere with disinfection processes at levels above 1 NTU[6].

Total coliforms in the tap water sample exceed the CCME guideline of 1 mpn/100 mL. The measurement of total coliforms is done to provide an indication of potential microbiological contamination of a drinking water supply. It is not practical to monitor for all potential pathogens in water and therefore the microbiological guidelines are based on indicator organisms[6]. The presences of total coliforms in excess indicate microbiological contamination but not necessary the presence of faeces. The later is confirmed by the presence of a definitive faecal coliform indicator: *Escherichia* coli. Given the non-detectable levels of *Escherichia* coli in the sample analysis, the elevated levels of total coliforms were most likely caused by other faecal coliforms occurring naturally in the environment.

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[6] Health Canada. 1996. *Guidelines for Canadian Drinking Water Quality, 6th Edition.*

The level of arsenic is higher the interim maximum acceptable concentration recommended by CCME: 45 µg/L compared to the guideline of 25 µg/L. Natural sources of arsenic, such as drainage from bedrock, often contribute to elevated levels in drinking water supplies, particularly surface waters[6]. The definitive source of the arsenic in the tap water supply is unknown at this time, as the replicate samples of Camp Lake water collected from the lake had undetectable levels of arsenic (< 1 µg/L).

The level of manganese detected in the tap water is higher than that recommended by the CCME guidelines for aesthetic purposes: 56.3 µg/L compared to the aesthetic guideline of 50 µg/L. Water with high levels (>150 µg/L) of manganese can cause stains on plumbing fixtures and laundry and may result in an unpleasant taste. According to the CCME, manganese is regarded as one of the least toxic elements. Therefore, there is no concern regarding the exceedence of the aesthetic objective for manganese.

It is recommended that the water supply be monitored with another tap water analysis at the beginning of the 2005 operating season. In addition, to assist in the delineation of the source of total coliforms and arsenic, a sample should be taken directly from Camp Lake close to the point of extraction for the water supply. Ongoing sampling frequency should then be determined based on the results of that initial test.

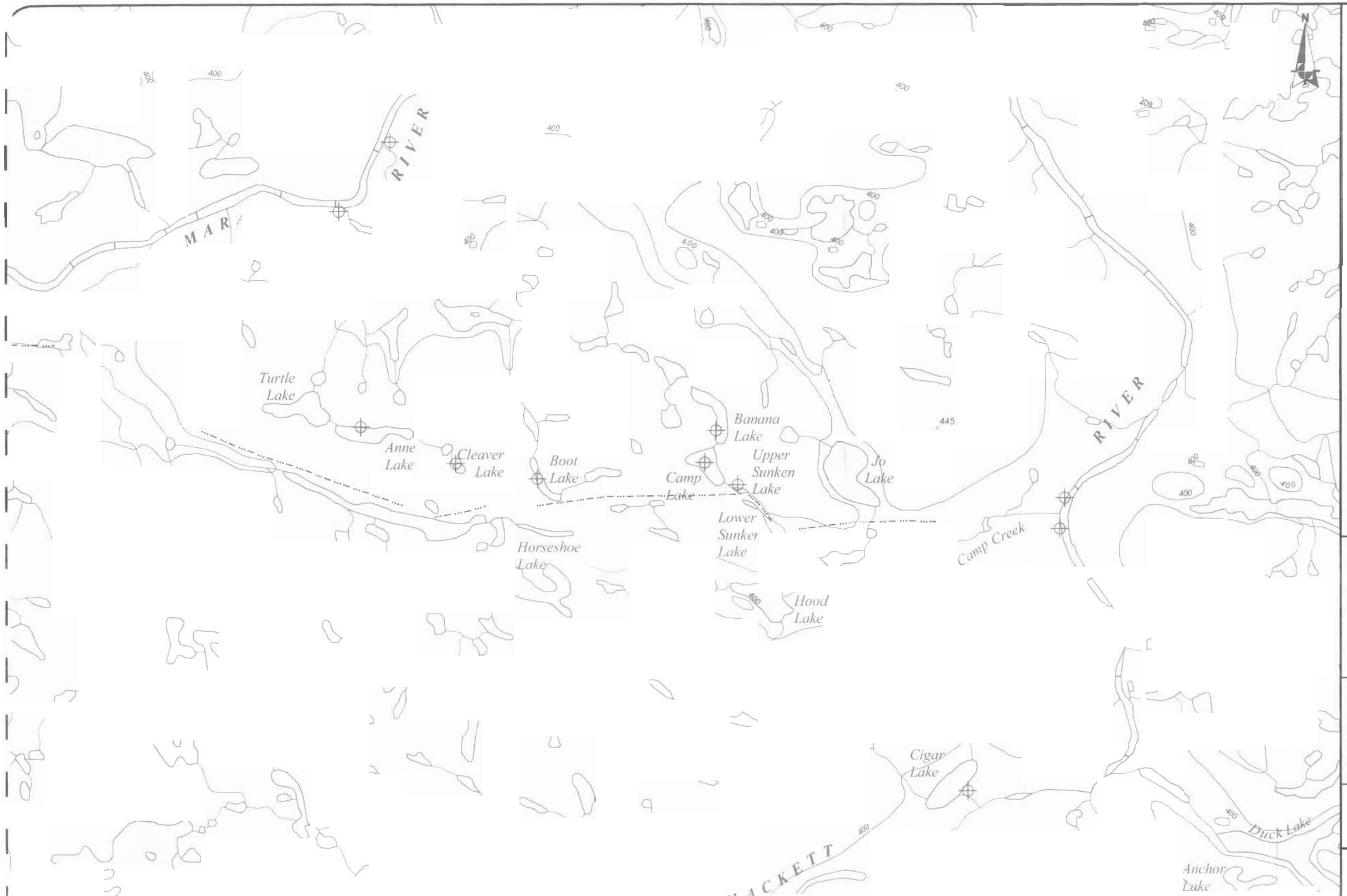
I trust that this summary of the 2004 Baseline Water Quality Monitoring Program at Hackett River Project meets your current needs. If you have any questions, or if we can be of further assistance, please do not hesitate to contact me at (867) 633-6474 ext. 34.

Yours very truly,
GARTNER LEE LIMITED

Leslie Gomm, Ph.D., P.Eng.
Senior Environmental Engineer

Attachments: A – Surface Water Quality Laboratory Data Sheets
B – Tap Water Quality Laboratory Data Sheets
C – Photolog

c.c: Scott Burgess, Sabina Resources Ltd.



LEGEND.

Water Quality Sample Locations

Physical Features

- Esker
- Rapids or Falls
- Watercourse
- Waterbody

Elevation Features

- Spot Elevation
- Index Contour (100m)
- Intermediate Contour (20m)

DATA SOURCES AND DISCLAIMERS:

National Topographic Database (NTDB) data compiled by Government of Canada, Natural Resources Canada (NRCan), at 1:250 000 scale.

Sample site locations determined by field Global Positioning System (GPS) locations recorded in UTM Zone 12, NAD83. All sample locations recorded by Gartner Lee Ltd.

Created By: AS
Reviewed By: LG
Date Issued: November 30, 2004
Project Number: 40655
File Name: 40655_water_quality_sample_locations_30Nov2004.mxd
Revision:1
Projection: UTM Zone 12 NAD83

0 1.25 2.5 5 kms

Scale 1: 75 000
Contour Interval: 20 metres

Sabina Resources Limited

Project: Hackett River Project - 40655
Location: Hackett River, NWT
Client: Sabina Resources Limited

2004 Baseline Water Quality Sample Sites

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Figure No. 1

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Hackett River

Table 1. August 21 & 22 2004 Surface Water Sampling

Weather: Drizzle, cold and very windy

Station ID	Station Name	Easting*	Northing*	Electrical Conductivity (uS/cm @ 25°C)	Temperature (°C)	pH	D.O. (mg/L)	Comments
	Upper Sunken Lake	620,506	7,32,454	81.8	5.8	6.86	11.6	Accessed sample location by foot from camp. No outflow - via ground most likely, except for during spring melt. lake level had dropped sign since high flow (~1 m). Sample from west shore <1/2 way from inlet. Outlet during peak flow - see picture. No direct flow link to Lower Sunken Lake. Outlet from Camp Lake. Flowing. Bouldery, would be hard to gauge.
	Boot Lake	616,596	7,312,574	51.9	7.7	6.99	11.50	Accessed sample location by helicopter. Sample location at narrows (east shore). Active drilling going on at time of sampling on east side of lake.
	Cleaver Lake	615,002	7,312,873	201.9	8	7.38	12	Accessed sample location by helicopter. Sampled from island in centre.
	Anne Lake	613,150	7,313,592	161.8	7.8	7.70	11.60	Accessed site by helicopeter. Sampled from north side - middle of lake.
	Mara u/s	612,725	7,317,976	26.3	7.5	7.05	11.50	Accessed site by helicopter. Sample location below rapids area, upstream of drainage input from project area. Ripples/rapids followed by slower deeper pools. Too wide/strong to wade to get width. Fair bit of flow.
	Mara d/s	613,598	7,319,459	19.2	7.3	7.20	11.90	Accessed by helicopter. Sample location downstream from confluence of potential drainage of project area. Downstream of rapids. To wide/deep/fast to wade.
	Banana Lake	620,083	7,313,515	65.8	6.4	7.57	11.80	Accessed site by foot from camp. Sample taken from southern portion of lake from east shore. Lots of orange staining on rocks at outlet. Sample taken u/s (north) of gossan on eastern shore of the lake.
	Camp Lake	619,867	7,312,883	83.4	8.1	7.01	10.80	Sampled from approximate deepest portion of the lake as per Miller (1978). Access by zodiac. Although not as windy as previous days, still a substantial amount of wind. Hard to keep the zodiac in place. Depth sampler was in at approx. 30° angle from surface due to wind effects.
11 Bott.	Camp Lake (bottom)	619,867	7,312,883	42.0	7.0	6.97		Sample depth ~ 13m. Could not use O_2 probe for depth due to wind effects. Zodiac drifted significantly during sampling.
11 Mid.	Camp Lake (middle)	619,867	7,312,883	48.2	6.5	6.93		Middle ~ 9m. Could not use O_2 probe for depth due to windy conditions.
9	Hackett u/s	626,719	7,311,986	38.4	5.1	7.50	11.70	Accessed site by helicopter. Sample take upstream of confluence with Camp Creek. Entire section more like a lake due to low flow - no flow measurement.
10	Hackett d/s	626,808	7,312,124	22.4	6.1	7.34	12.20	Accessed site by helicopter. Sample take downstream of confluence with Camp Creek, prior to ripple section. Again deep pool with no noticible flow - like a lake. According to the pilot, many of the streams which are now dry have substantial flow during freshette, i.e. stream d/s of Lower Sunken Lake.
7	Cigar Lake	624,786	7,306,581	40.4	5.5	6.96	12.30	Accessed by Helicopter. Sample location taken on the south side of the lake east of the outlet. Old tent frame on south east end of lake. Intended for reference.

* UTM Zone 12, NAD83

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Table 2 Surface Water Samples from Hackett River, 2004

General Chemistry Analysis (mg/L)

Station	Detection Limits	Water Quality Guidelines	Upper Sunken Lake	Boot Lake	Cleaver Lake	Anne Lake	Mara U/S	Mara D/S	Cigar Lake	Banana Lake	Hackett U/S	Hackett D/S	*Camp Lake	Mid Camp Lake (9 m)	Bottom Camp Lake (13 m)
Date		CCME *	8/21/2004	8/21/2004	8/21/2004	8/21/2004	8/21/2004	8/21/2004	8/22/2004	8/21/2004	8/22/2004	8/22/2004	8/22/2004	8/22/2004	8/22/2004
Physical Tests															
Temperature (°C)			5.8	7.7	7.7	7.8	7.5	7.3	5.5	6.4	5.1	6.1	8.1	7	6.5
Conductivity (lab) (uS/cm)	2		76	50.4	196	158	24.7	17.4	36.1	62.4	33.9	42.4	81.05	81.6	80.9
Conductivity (field) (uS/cm)			81.8	51.9	201.9	161.8	26.3	19.2	40.4	65.8	38.4	22.4	83.4	42	48.2
Total Dissolved Solids	10		41	26	108	90	15	11	21	34	18	30	44.5	34	34
Hardness CaCO3	0.54		27	17.8	81.7	69.2	8.43	5.11	13.7	24.2	11.4	35.6	29.15	-	-
pH (lab)	0.01	6.5-9.0	6.52	6.74	6.8	7.04	6.86	6.81	6.86	6.84	6.72	6.74	6.66	6.8	6.84
pH (field)			6.86	6.99	7.38	7.7	7.05	7.2	6.96	7.57	7.5	7.34	7.01	6.97	6.93
Dissolved Oxygen (field)		5.5-9.5	*11.6*	*11.5*	*12.2*	*11.6*	*11.5*	*11.9*	*12.3*	*11.8*	*11.7*	*12.2*	*10.8*	-	-
TSS	4		<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	90.9
Turbidity (NTU)	0.1		2.03	0.82	0.88	0.44	1.09	0.43	1.69	0.78	1.09	1.06	0.79	0.8	17.8
Dissolved Anions															
Alkalinity-Total CaCO3	1		3.8	4	9.1	17.1	7.6	6.6	8	11	5.7	5.3	5.6	7	7.4
Alkalinity-Bicarbonate CaCO3	1		3.8	4	9.1	17.1	7.6	6.6	8	11	5.7	5.3	5.6	7	7.4
Alkalinity-Carbonate CaCO3	1		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity-Hydroxide CaCO3	1		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity-Phenolphthalein CaCO3	1		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloride	0.5		2.94	1.91	16.4	1.25	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	4.42	4.92	4.4
Sulphate SO4	1		22.3	13	50.8	49.8	4.4	2.3	6.9	15.9	7.6	10.8	22.8	23.1	23
Nutrients															
Ammonia Nitrogen	0.005		<0.0050	0.0107	0.0053	<0.012	0.012	0.0153	<0.083	<0.0050	<0.0050	<0.0050	0.0075	-	-
Total Kjeldahl Nitrogen	0.05		0.109	0.147	0.101	0.111	0.134	0.145	0.175	0.187	0.142	0.116	0.078	-	-
Nitrate Nitrogen	0.005	13	<0.0050	<0.0050	<0.0050	<0.0050	0.017	0.013	<0.0050	<0.0050	0.04	0.038	<0.0050	<0.0050	<0.0050
Nitrite Nitrogen	0.005	0.06	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Nitrate/Nitrite Nitrogen	0.005		<0.0050	<0.0050	<0.0050	<0.0050	0.02	0.01	<0.0050	<0.0050	0.04	0.04	<0.0050	-	-
Dissolved ortho-phosphate	0.001		<0.0010	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.006
Total Phosphate	0.002		<0.0020	0.0044	0.0023	0.0034	0.0034	0.0036	<0.0020	0.0024	<0.0020	0.0022	<0.0020	<0.0020	0.006
Organic Parameters															
Dissolved Organic Carbon			2.12	2.31	1.49	2.17	2.2	2.26	4.13	2.66	1.82	1.8	1.84	-	-
Total Organic Carbon			3.73	3.02	2.6	3.27	3.38	3.31	4.94	3.45	2.88	2.78	2.92	-	-

All units mg/L unless otherwise noted

** Canadian water quality guidelines for the protection of aquatic life, Council of Ministers of the Environment, 1999*

** Average of sample and replicate*

Italic *results exceed CCME Aquatic Life Guidelines*

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Table 3 Surface Water Samples from Hackett River, 2004

Total Metals Analysis (mg/L)

Station	Detection Limits	Water Quality Guidelines	Upper Sunken Lake	Boot Lake	Cleaver Lake	Anne Lake	Mara U/S	Mara D/S	Cigar Lake	Banana Lake	Hackett U/S	Hackett D/S	*Camp Lake	Mid Camp Lake (9 m)	Bottom Camp Lake (16 m)
Date		CCME [a]	8/21/2004	8/21/2004	8/21/2004	8/21/2004	8/21/2004	8/21/2004	8/22/2004	8/21/2004	8/22/2004	8/22/2004	8/22/2004	8/22/2004	8/22/2004
Total Metals															
Aluminum	0.001	0.005-0.1 [b]	0.0495	0.0083	0.032	0.0091	0.0099	0.0139	0.0117	0.0102	0.0156	0.012	0.05945	-	-
Antimony	0.0001		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00016	<0.00010	<0.00010	-	-
Arsenic	0.0001	0.005	<0.00010	<0.00010	<0.00010	<0.00010	0.00011	0.00012	0.00014	<0.00010	<0.00010	<0.00010	<0.00010	-	-
Barium	0.00005		0.00739	0.00455	0.0129	0.00786	0.00241	0.00223	0.00301	0.00373	0.00407	0.00469	0.00884	-	-
Beryllium	0.0005		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	-	-
Bismuth	0.0005		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	-	-
Boron	0.01		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-
Cadmium	0.00005	0.000017	*0.00224*	<0.000050	*0.00655*	*0.0011*	<0.000050	<0.000050	<0.000050	*0.000054*	<0.000050	<0.000050	*0.00238*	-	-
Calcium	0.05		7.18	4.37	24.1	20.6	2.18	1.23	3.37	6.38	2.68	3.29	7.95	3.4	3
Chromium	0.0005	0.001	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	-	-
Cobalt	0.0001		0.00076	0.00011	0.00032	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00085	-	-
Copper	0.0001	0.002-0.004 [c]	*0.0367*	0.00111	*0.0194*	*0.0185*	0.00089	0.00119	0.00115	*0.013*	0.00194	0.00153	*0.0453*	-	-
Iron	0.03	0.3	<0.030	<0.030	<0.030	<0.030	<0.030	0.043	<0.030	0.031	0.043	<0.030	0.044	<0.10	<0.10
Lead	0.00005	0.001-0.007 [d]	0.000569	<0.000050	0.00113	0.00006	<0.000050	0.000051	<0.000050	<0.000050	0.000167	<0.000050	0.0003945	-	-
Lithium	0.005		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	-	-
Magnesium	0.1		2.44	1.84	4.58	4.56	0.78	0.62	1.41	2.12	1.28	1.61	2.395	1.7	1.71
Manganese	0.00005		0.0459	0.00438	0.00594	0.00562	0.00255	0.00421	0.00106	0.00233	0.00111	0.00091	0.05325	<0.010	<0.010
Mercury	0.00005	0.000026	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	-	-
Molybdenum	0.00005	0.073	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	-	-
Nickel	0.0005	0.025-0.15 [e]	0.00305	0.00173	0.00369	0.00262	<0.00050	<0.00050	0.00271	<0.00050	0.00135	0.00214	0.00333	-	-
Phosphorous	0.3		<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	-
Potassium	2		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	1	1.02
Selenium	0.001	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
Silicon	0.05		1.11	0.371	1.84	1.26	0.233	0.179	0.156	0.478	0.461	0.521	1.065	-	-
Silver	0.00001	0.0001	<0.000010	<0.000010	0.000011	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	-	-
Sodium	2		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.87	0.83
Strontium	0.0001		0.0259	0.0168	0.125	0.0158	0.0053	0.0048	0.00674	0.00846	0.00725	0.00845	0.0384	-	-
Thallium	0.0001	0.0008	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	-	-
Tin	0.0001		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	-	-
Titanium	0.01		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-
Uranium	0.00001		<0.000010	<0.000010	0.000021	0.000035	0.000038	0.000045	<0.000010	0.000011	0.000015	0.000024	<0.000010	-	-
Vanadium	0.001		<0.0010	<0.0010	*<0.0010*	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
Zinc	0.001	0.03	*0.456*	0.0145	*0.888*	*0.194*	0.0049	<0.0010	<0.0010	0.0091	0.0094	0.0144	*0.4725*	-	-

All units mg/l unless otherwise noted

a) Canadian water quality guidelines for the protection of aquatic life, Council of Ministers of the Environment, 2003

b) 0.005mg/L at pH < 6.5, [Ca2+] < 4 mg/L, DOC < 2 mg/L; 0.1 mg/L at pH ≥ 6.5, [Ca2+] ≥ 4 mg/L, DOC ≥ 2 mg/L

c) 0.002 mg/L at [CaCO3] = 0 - 120 mg/L; 0.003 mg/L at [CaCO3] =120 - 180 mg/L; 0.004 mg/L at [CaCO3] >180mg/L

d) 0.001 mg/L at [CaCO3] = 0 - 60 mg/L; 0.002 mg/L at [CaCO3] =60 - 120 mg/L; 0.004 mg/L at [CaCO3] =120 -180mg/L; 0.007 mg/L at [CaCO3] > 180mg/L

e) 0.025 mg/L at [CaCO3] = 0 - 60 mg/L; 0.065 mg/L at [CaCO3] =60 - 120 mg/L; 0.110 mg/L at [CaCO3] =120 -180mg/L; 0.150 mg/L at [CaCO3] > 180mg/L

**Average of sample and replicate*

Italic *results exceed CCME Aquatic Life Guidelines*

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Table 4 Surface Water Samples from Hackett River, 2004

Dissolved Metals Analysis (mg/L)

Station	Detection Limits	Water Quality Guidelines	Upper Sunken Lake	Boot Lake	Cleaver Lake	Anne Lake	Mara U/S	Mara D/S	Cigar Lake	Banana Lake	Hackett U/S	Hackett D/S	*Camp Lake	Mid Camp Lake	Bottom Camp Lake
Date		CCME [a]	8/21/2004	8/21/2004	8/21/2004	8/21/2004	8/21/2004	8/21/2004	8/22/2004	8/21/2004	8/22/2004	8/22/2004	8/22/2004	8/22/2004	8/22/2004
Dissolved Metals															
Aluminum	0.001	0.005-0.1	0.0144	0.005	0.014	0.0075	0.0065	0.007	0.0078	0.0051	0.0077	0.0213	0.01255	-	-
Antimony	0.0001		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	-	-
Arsenic	0.0001	0.005	<0.00010	<0.00010	0.00012	<0.00010	0.00011	0.00011	0.00013	<0.00010	<0.00010	<0.00010	<0.00010	-	-
Barium	0.00005		0.00717	0.00448	0.0128	0.00769	0.00234	0.00192	0.00288	0.00359	0.00347	0.0053	0.008865	-	-
Beryllium	0.0005		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	-	-
Bismuth	0.0005		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	-	-
Boron	0.01		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-
Cadmium	0.00005	0.000017	*0.0021*	<0.000050	*0.00652*	*0.00106*	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	*0.00229*	-	-
Calcium	0.05		6.95	4.2	24.9	20.3	2.07	1.14	3.23	6.23	2.54	11.4	7.765	-	-
Chromium	0.0005	0.001	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	-	-
Cobalt	0.0001		0.00072	<0.00010	0.0003	<0.00010	<0.00010	<0.00010	<0.00010	0.0001	<0.00010	<0.00010	0.000845	-	-
Copper	0.0001	0.002-0.004	*0.0282*	0.00112	*0.0165*	*0.016*	0.00095	0.00078	0.00124	0.0119	0.0012	0.00187	*0.035*	-	-
Iron	0.03	0.3	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	-	-
Lead	0.00005	0.001-0.007	0.000099	<0.000050	0.000344	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.000125	0.0000765	-	-
Lithium	0.005		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	-	-
Magnesium	0.1		2.33	1.77	4.74	4.51	0.79	0.55	1.37	2.09	1.23	1.73	2.38	-	-
Manganese	0.00005		0.045	0.00361	0.0059	0.00547	0.00119	0.000712	0.000437	0.002	0.000531	0.00227	0.0531	-	-
Mercury	0.00005	0.000026	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	-	-
Molybdenum	0.00005	0.073	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	-	-
Nickel	0.0005	0.025-0.15	0.00293	0.0017	0.00367	0.00261	<0.00050	<0.00050	0.00272	<0.00050	0.00116	0.00208	0.0033	-	-
Phosphorous	0.3		<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	-
Potassium	2		<2.0	<2.0	2.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	-
Selenium	0.001	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
Silicon	0.05		1.1	0.385	1.93	1.26	0.233	0.183	0.147	0.47	0.468	0.559	1.06	-	-
Silver	0.00001	0.0001	<0.000010	<0.000010	0.000011	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	-	-
Sodium	2		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	-
Strontium	0.0001		0.0253	0.0165	0.125	0.0157	0.00509	0.0045	0.00659	0.0083	0.00672	0.0126	0.0384	-	-
Thallium	0.0001	0.0008	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	-	-
Tin	0.0001		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	-	-
Titanium	0.01		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-
Uranium	0.00001		<0.000010	<0.000010	<0.000010	0.000025	0.000029	0.000027	0.000011	<0.000010	<0.000010	0.000026	<0.000010	-	-
Vanadium	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
Zinc	0.001	0.03	*0.437*	0.0163	*0.936*	*0.19*	0.0032	0.003	0.0034	0.0123	0.0075	0.0191	*0.4695*	-	-

All units mg/l unless otherwise noted

a) Canadian water quality guidelines for the protection of aquatic life, Council of Ministers of the Environment, 2003

b) 0.005mg/L at pH < 6.5, [Ca2+] < 4 mg/L, DOC < 2 mg/L; 0.1 mg/l results exceed CCME Aquatic Life Guidelines

c) 0.002 mg/L at [CaCO3] = 0 - 120 mg/L; 0.003 mg/L at [CaCO3] = 120 - 180 mg/L; 0.004 mg/L at [CaCO3] >180mg/L

d) 0.001 mg/L at [CaCO3] = 0 - 60 mg/L; 0.002 mg/L at [CaCO3] =60 - 120 mg/L; 0.004 mg/L at [CaCO3] =120 -180mg/L; 0.007 mg/L at [CaCO3] > 180mg/L

e) 0.025 mg/L at [CaCO3] = 0 - 60 mg/L; 0.065 mg/L at [CaCO3] =60 - 120 mg/L; 0.110 mg/L at [CaCO3] =120 -180mg/L; 0.150 mg/L at [CaCO3] > 180mg/L

** Average of sample and replicate*

Italic *results exceed CCME Aquatic Life Guidelines*

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Table 5. QA/QC: Field Replicates

Surface Water Analysis Results (mg/L)

Station	Camp Lake	Camp Lake Rep	RPD
Date	8/22/04	8/22/04	%
Physical Tests			
Conductivity (uS/cm)	80.9	81.2	0%
Total Dissolved Solids	43	46	7%
Hardness CaCO3	29.1	29.2	0%
pH	6.52	6.79	4%
Total Suspended Solids	<4.0	<4.0	0%
Turbidity (NTU)	0.85	0.73	15%
Nutrients			
Ammonia Nitrogen N	0.01	<0.0050	67%
Total Kjeldahl Nitrogen N	0.077	0.079	3%
Nitrate Nitrogen N	<0.0050	<0.0050	0%
Nitrite Nitrogen N	<0.0050	<0.0050	0%
Nitrite/Nitrate Nitrogen N	<0.0050	<0.0050	0%
Dissolved ortho-Phosphate P	<0.0010	<0.0010	0%
Total Phosphate P	<0.0020	<0.0020	0%
Total Metals			
Aluminum T-Al	0.0588	0.0601	2%
Antimony T-Sb	<0.00010	<0.00010	0%
Arsenic T-As	<0.00010	<0.00010	0%
Barium T-Ba	0.00877	0.00890	1%
Beryllium T-Be	<0.00050	<0.00050	0%
Bismuth T-Bi	<0.00050	<0.00050	0%
Boron T-B	<0.010	<0.010	0%
Cadmium T-Cd	0.00236	0.00240	2%
Calcium T-Ca	7.98	7.91	1%
Chromium T-Cr	<0.00050	<0.00050	0%
Cobalt T-Co	0.00084	0.00085	1%
Copper T-Cu	0.0449	0.0457	2%
Iron T-Fe	0.043	0.044	2%
Lead T-Pb	0.00032	0.00047	38%
Lithium T-Li	<0.0050	<0.0050	0%
Magnesium T-Mg	2.38	2.41	1%
Manganese T-Mn	0.0527	0.0538	2%
Mercury T-Hg	<0.000050	<0.000050	0%
Molybdenum T-Mo	<0.000050	<0.000050	0%
Nickel T-Ni	0.00329	0.00337	2%
Phosphorus T-P	<0.30	<0.30	0%
Potassium T-K	<2.0	<2.0	0%
Selenium T-Se	<0.0010	<0.0010	0%
Silicon T-Si	1.07	1.06	1%
Silver T-Ag	<0.000010	<0.000010	0%
Sodium T-Na	<2.0	<2.0	0%
Strontium T-Sr	0.0383	0.0385	1%
Thallium T-Tl	<0.00010	<0.00010	0%
Tin T-Sn	<0.00010	<0.00010	0%
Titanium T-Ti	<0.010	<0.010	0%
Uranium T-U	<0.000010	<0.000010	0%
Vanadium T-V	<0.0010	<0.0010	0%
Zinc T-Zn	0.470	0.475	1%

Station	Camp Lake	Camp Lake Rep	RPD
Date	8/22/04	8/22/04	%
Dissolved Anions			
Alkalinity-Total CaCO3	3.6	7.6	71%
Alkalinity-Bicarbonate CaCO3	3.6	7.6	71%
Alkalinity-Carbonate CaCO3	<1.0	<1.0	0%
Alkalinity-Hydroxide CaCO3	<1.0	<1.0	0%
Alkalinity-Phenolphthalein	<1.0	<1.0	0%
Chloride Cl	4.40	4.44	0%
Sulphate SO4	22.8	22.8	0%
Organic Parameters			
Dissolved Organic Carbon C	1.80	1.88	4%
Total Organic Carbon C	2.84	2.99	5%
Dissolved Metals			
Aluminum D-Al	0.0128	0.0123	4%
Antimony D-Sb	<0.00010	<0.00010	0%
Arsenic D-As	<0.00010	<0.00010	0%
Barium D-Ba	0.00891	0.00882	0%
Beryllium D-Be	<0.00050	<0.00050	0%
Bismuth D-Bi	<0.00050	<0.00050	0%
Boron D-B	<0.010	<0.010	0%
Cadmium D-Cd	0.00232	0.00226	3%
Calcium D-Ca	7.78	7.75	0%
Chromium D-Cr	<0.00050	<0.00050	0%
Cobalt D-Co	0.00085	0.00084	1%
Copper D-Cu	0.0351	0.0349	1%
Iron D-Fe	<0.030	<0.030	0%
Lead D-Pb	0.000096	0.000057	51%
Lithium D-Li	<0.0050	<0.0050	0%
Magnesium D-Mg	2.36	2.40	2%
Manganese D-Mn	0.0530	0.0532	0%
Mercury D-Hg	<0.000050	<0.000050	0%
Molybdenum D-Mo	<0.000050	<0.000050	0%
Nickel D-Ni	0.00332	0.00328	0%
Phosphorus D-P	<0.30	<0.30	0%
Potassium D-K	<2.0	<2.0	0%
Selenium D-Se	<0.0010	<0.0010	0%
Silicon D-Si	1.05	1.07	2%
Silver D-Ag	<0.000010	<0.000010	0%
Sodium D-Na	<2.0	<2.0	0%
Strontium D-Sr	0.0384	0.0384	0%
Thallium D-Tl	<0.00010	<0.00010	0%
Tin D-Sn	<0.00010	<0.00010	0%
Titanium D-Ti	<0.010	<0.010	0%
Uranium D-U	<0.000010	<0.000010	0%
Vanadium D-V	<0.0010	<0.0010	0%
Zinc D-Zn	0.471	0.468	1%

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Table 6. QA/QC: Lab Duplicates

Surface Water Analysis Results (mg/L)

Station	Cigar Lake	Cigar Lake	RPD
Date Sampled	8/22/2004	QC# 9664	%
Physical Tests			
Conductivity (uS/cm)	36.1	35.6	1.39
pH	6.86	6.85	0.146
TSS	<4.0	<4.0	0
Turbidity (NTU)	1.69	1.57	7.36
Dissolved Anions			
Alkalinity-Total CaCO3	8.0	8.0	0
Alkalinity-Bicarbonate CaCO3	8.0	8.0	0
Alkalinity-Carbonate CaCO3	<1.0	<1.0	0
Alkalinity-Hydroxide CaCO3	<1.0	<1.0	0
Alkalinity-Phenolphthalein	<1.0	<1.0	0
Chloride Cl	<0.50	<0.50	0
Sulphate SO4	6.9	6.8	1.46
Nutrients			
Nitrate Nitrogen N	<0.0050	<0.0050	0
Nitrite Nitrogen N	<0.0050	<0.0050	0
Dissolved ortho-Phosphate P	<0.0010	<0.0010	0

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Table 7 Drinking Water Sample - Hackett River, 2004

Drinking Water Analysis

Station	Units	Result	CCME Drinking Water Guideline	Detection Limits	Analysis Date	Analytical Method
Physicals						
Colour		20		5	8/27/2004	SM2120:B
pH	pH units	6.28	*6.5-8.5*	0.05	8/26/2004	SM4500-H:B
Total Dissolved Solids	mg/L	46	*≤500*	10	8/26/2004	SM2540:C
Turbidity	ntu	1.41	1, *≤5*	0.05	8/27/2004	SM2130:B
Subcontracted Nutrients						
Nitrate	mg/L	<0.1	10	0.1	9/1/2004	SM4110:B
Nitrite	mg/L	<0.05	45	0.05	9/1/2004	SM4110:B
Major Ions						
Sodium	mg/L	0.8		0.1	9/22/2004	SM4110:B
Subcontracted Major Ions						
Chloride	mg/L	3.6	*≤250*	0.5	9/2/2004	SM4110:B
Sulphate	mg/L	22.3	*≤500*	0.2	9/2/2004	SM4110:B
Microbiology						
Total Coliforms	mpn/100mL	16	1	1	8/24/2004	SM9223:B
Escherichia coli	mpn/100mL	<1.0	1	1	8/24/2004	SM9223:B
Total Metals						
Aluminum	ug/L	65	n/a	30	9/13/2004	EPA200.8
Arsenic	ug/L	45	25[a]	1	9/15/2004	SM3113:B
Barium	ug/L	9.4	1000	0.1	9/13/2004	EPA200.8
Cadmium	ug/L	2.2	5	0.1	9/13/2004	EPA200.8
Chromium	ug/L	0.8	50	0.3	9/13/2004	EPA200.8
Copper	ug/L	46.8	*1000*	0.3	9/13/2004	EPA200.8
Iron	ug/L	229	*300*	50	9/13/2004	SM3111:B
Lead	ug/L	0.8	10	0.1	9/13/2004	EPA200.8
Manganese	ug/L	56.3	*50*	0.1	9/13/2004	EPA200.8
Mercury	ug/L	<0.02	1	0.02	8/27/2004	EPA200.8
Selenium	ug/L	<1.0	10	1	9/13/2004	EPA200.8
Uranium	ug/L	<0.1	20	0.1	9/13/2004	EPA200.8
Zinc	ug/L	475	5000	10	9/13/2004	EPA200.8

SM - Standard Methods for the Examination of Water and Wastewater

EPA - United States Environmental Protection Agency

a) Interim Maximum acceptable Guideline

italics	Aestheic Guidelines
	Exceeds Guideline