# TECHNICAL MEMORANDUM

**DATE** March 30, 2010 **PROJECT No.** 09-1362-0610/8000

**TO** Mr. Chris Filion,
Nunavut Research Institute

**CC** Ms. Nicola Banton

**FROM** Sarah Gauthier **EMAIL** Sarah_Gauthier@golder.com

**2010 NON-TECHNICAL PROJECT PROPOSAL AND 2009 NON-TECHNICAL SUMMARY FOR HYDROLOGICAL INVESTIGATIONS AT THE KIGGAVIK PROJECT, NEAR BAKER LAKE, NU**

## Introduction

The Kiggavik Project is a uranium surface exploration project located approximately 80 kilometres (km) west of Baker Lake (Figure 1A). The project is made of two large groups of mining leases and mineral claims subdivided into Kiggavik to the north and Sissons to the south. The Kiggavik camp was first established in 1977 and it was occupied for drill programs until 1997. Exploration drilling had not taken place at the project since the end of the 1997 field season but recommenced in 2007 and has continued through 2009.

## Non-technical project summary (2010)

The focus of the hydrological assessment is to gather baseline streamflow and lake water level information from drainage areas in the Kiggavik and Sissons area. The collection of stream discharge data and lake level monitoring is to meet the following objectives for the project:

- collect sufficient water data to document the natural range in streamflow from selected locations to satisfy regulatory requirements;
- collect hydrology information that can be used for engineering design purposes; and
- collect baseline hydrology information that could be used in support of an environmental assessment (EA).

The name and contact information for the researcher involved in the hydrological investigations at Kiggavik is as follows:

Brent Topp, B.Sc.
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Hydrological monitoring began at the Kiggavik Project in 2007. Three types of hydrological monitoring are again proposed for the Kiggavik Project in 2010, as presented in Table 1. These include instantaneous stream discharge measurements, continuous instream stage measurements and lake water level measurements.

Stream velocity and depth measurements will be made using a standard flow meter and these measurements will be used to calculate discharge. At each monitoring location, water elevation will be surveyed using an engineer's rod and level for relative elevation according to benchmarks that had been established in 2007. Continuous water level recorders will be re-installed on selected streams and will be removed at freeze-up to avoid damage from ice. Lake level monitoring will be carried out by surveying the lake elevation relative to a previously established benchmark in lakes that could potentially be impacted by project development.

The hydrology monitoring field program requires three field visits. The spring trip is to re-establish all discharge monitoring locations and to install continuous stage recorders. A second field trip is proposed for mid-summer (late July) to collect discharge measurements and survey stream and lake water elevations. During the summer program, a current profiler will also be installed near the shore of Judge Sissons Lake (Figure 1B) in order to define lake current in the vicinity of the location of effluent release. The final trip of the season (early September) will be to measure and record all stream cross-sections and survey all water elevations. At this time the continuous recorders would be downloaded and removed for the winter.

AREVA Resources Canada Inc. (AREVA) will provide camp services and transportation via helicopter for personnel involved with the hydrological assessment.

A report detailing the results of the 2010 hydrology program would be prepared for inclusion in the 2010 annual report (completion date for draft would be decided between AREVA and Golder Associates Ltd.).

## Summary of Work Completed in 2009

The 2009 field season began on June 15 due to a later than usual spring snowmelt. The spring program continued until July 6, the summer field program was conducted from July 24 to 28, and the fall field program was conducted from August 24 to September 3. Continuous water surface elevation sensors were installed at SF2, SF3, SF4, SF5, SF6, SF7, SF8, SF13, and SF14. Two new sites were established to monitor stream discharge near the outflows of Andrew and Mushroom lakes, and lake elevation on Andrew and Mushroom lakes. A continuous water level sensor was also installed in the outflow channel of Andrew Lake. Stream topographic surveys were conducted as part of each of the field programs in 2009 for stream crossing locations along the proposed north all-weather road route (Figures 1A and 1B). These surveys included collection of stream topographic data and stream flow measurement.

During the spring field program stream discharge and lake elevation monitoring locations were re-established and continuous stage recorders were installed. Water elevations were measured relative to local benchmarks, which in each case were large boulders located in the vicinity of the monitoring location. Stream velocity and depth measurements were made using a standard flow meter and these measurements were used to calculate discharge. During the summer field program, water elevation and stream discharge measurements were taken at the monitoring locations and data from the continuous stage recorders were downloaded. Measurements were again taken at each location during the fall program; continuous stage recorders were again downloaded and were removed for the winter. All stream discharge measurements and lake elevation measurements are presented in Tables 2 and 3, respectively (attached). Preliminary results for the estimations of discharge in the streams that had continuous stage recorders are provided in Table 4 (attached). Note that these results are preliminary only. As more data are collected, better estimations of mean discharge may be provided.

If you have any questions concerning this memo, please contact Sarah Gauthier at (306) 665-7989 or Sarah_Gauthier@golder.com.

Attachments: Tables 1 to 4
Figures 1A and 1B

SG/BT/cjf

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**Table 1: Stream Discharge and Lake Elevation Monitoring Locations at the Kiggavik Project, 2009 and 2010**

| Stream Discharge Monitoring Stations | | | |
|---|---|---|---|
| **Station ID** | **Description** | **Crossing Location (UTM NAD 83 Coordinates[a])** | **Continuous Monitoring** |
| SF1 | Outflow of Skinny Lake | Zone 14 W 571655E 7155266N | No |
| SF2 | Outflow of Unnamed Lake Downstream of Cirque Lake | Zone 14 W 563554E 7146242N | Yes |
| SF3 | Northeast Inflow of Pointer Lake | Zone 14 W 565717E 7147088N | Yes |
| SF4 | Outflow of Siksik Lake | Zone 14 W 565790E 7140386N | Yes |
| SF5 | Outflow of Pointer Lake | Zone 14 W 566477E 7140840N | Yes |
| SF6 | Outflow of Shack Lake | Zone 14 W 558223E 7131912N | Yes |
| SF7 | Outflow of Judge Sissons Lake | Zone 14 W 574605E 7134734N | Yes |
| SF8 | Outflow of Siamese Lake | Zone 14 W 580364E 7146775N | Yes |
| SF10 | Tributary to the Northeast Inflow of Pointer Lake | Zone 14 W 565328E 7146771N | No |
| SF11 | Northwest Inflow of Pointer Lake | Zone 14 W 565015E 7144882N | No |
| SF13 | Aniguq River | Zone 14 W 617415E 7123391N | Yes |
| SF14 | Qinguq Creek | Zone 14 W 630101E 7128437N | Yes |
| SF15 | Outflow of Andrew Lake | Zone 14 W 553586E 7134121N | Yes |
| SF16 | Outflow of Mushroom Lake | Zone 14 W 554181E 7136655N | No |
| **Lake Water Surface Elevation Monitoring Stations** | | | |
| **Station ID** | **Description** | **Benchmark Location (UTM NAD 83 Coordinates[a])** | **Continuous Monitoring** |
| LE1 | Pointer Lake | Zone 14 W 565652E 7142467N | No |
| LE2 | Unnamed Lake Downstream of Cirque Lake | Zone 14 W 563603E 7146244N | No |
| LE3 | Judge Sissons Lake | Zone 14 W 574537E 7134751N | No |
| LE5 | Skinny Lake | Zone 14 W 571626E 7154893N | No |
| LE6 | Kavisilik Lake | Zone 14 W 571712E 7155299N | No |
| LE7 | Siamese Lake | Zone 14 W 576086E 7151648N | No |
| LE8 | Andrew Lake | Zone 14 W 553222E 7134135N | No |
| LE9 | Mushroom Lake | Zone 14 W 554219E 7136721N | No |

Notes: (a) E is easting (in meters), N is northing (in meters)

**Table 2: Stream Discharge and Water Surface Elevation Measurements, 2009**

| Station ID | Date | Water Elevation (m) | Discharge ($m^3/s$) | Station ID | Date | Water Elevation (m) | Discharge ($m^3/s$) |
|---|---|---|---|---|---|---|---|
| SF1 | 18-Jun-09 | 98.790 | 7.03 | SF7 | 17-Jun-09 | 98.771 | 20.60 |
| | 27-Jul-09 | 98.216 | 0.10 | | 25-Jul-09 | 98.519 | 8.23 |
| | 26-Aug-09 | 98.411 | 1.06 | | 25-Aug-09 | 98.321 | 3.89 |
| SF2 | 17-Jun-09 | 99.006 | 0.83 | SF8 | 18-Jun-09 | 99.350 | 2.21 |
| | 20-Jun-09 | 98.985 | 0.71 | | 26-Jul-09 | 99.249 | 1.03 |
| | 27-Jul-09 | 98.759 | 0.04 | | 26-Aug-09 | 99.235 | 0.81 |
| | 24-Aug-09 | 98.870 | 0.18 | SF10 | 16-Jun-09 | 98.897 | 0.10 |
| SF3 | 16-Jun-09 | 99.714 | 0.17 | | 20-Jun-09 | 98.874 | 0.05 |
| | 20-Jun-09 | 99.703 | 0.16 | | 27-Jul-09 | 98.808 | 0.00 |
| | 27-Jul-09 | 99.498 | 0.00 | | 24-Aug-09 | 98.860 | 0.01 |
| | 24-Aug-09 | 99.617 | 0.09 | SF11 | 17-Jun-09 | 99.693 | 0.85 |
| SF4 | 16-Jun-09 | 99.574 | 0.22 | | 20-Jun-09 | 99.684 | 0.79 |
| | 26-Jul-09 | 99.258 | 0.00 | | 27-Jul-09 | 99.477 | 0.01 |
| | 25-Aug-09 | 99.293 | 0.00 | | 25-Aug-09 | 99.534 | 0.15 |
| SF5 | 16-Jun-09 | 99.074 | 9.27 | SF14 | 26-Jul-09 | 33.930 | 2.00 |
| | 25-Jul-09 | 98.511 | 0.24 | SF15 | 18-Jun-09 | 99.705 | 4.00 |
| | 25-Aug-09 | 98.589 | 0.75 | | 6-Jul-09 | 99.290 | 0.37 |
| SF6 | 17-Jun-09 | 99.774 | 6.84 (0.60) | | 25-Jul-09 | 99.132 | 0.07 |
| | 25-Jul-09 | 99.242 | 0.08 | | 25-Aug-09 | 99.165 | 0.12 |
| | 25-Aug-09 | 99.093 | 0.13 | SF16 | 18-Jun-09 | 99.460 | 0.14 |
| | | | | | 25-Jul-09 | 99.216 | 0.02 |
| | | | | | 25-Aug-09 | 99.227 | 0.02 |

**Table 3: Measured Lake Elevations, 2009**

| Station ID | Lake | Date | Elevation (m) |
|---|---|---|---|
| LE1 | Pointer Lake | 17-Jun-09 | 98.906 |
| | | 25-Jul-09 | 98.285 |
| | | 25-Aug-09 | 98.316 |
| LE2 | Unnamed Lake Downstream of Cirque Lake | 17-Jun-09 | 99.142 |
| | | 20-Jun-09 | 99.035 |
| | | 27-Jul-09 | 98.774 |
| | | 24-Aug-09 | 98.900 |
| LE3 | Judge Sissons Lake | 17-Jun-09 | 99.816 |
| | | 25-Jul-09 | 99.680 |
| | | 25-Aug-09 | 99.578 |
| LE5 | Skinny Lake | 18-Jun-09 | 99.601 |
| | | 27-Jul-09 | 99.232 |
| | | 26-Aug-09 | 99.334 |
| LE6 | Kavisilik Lake | 03-Aug-07 | 98.170 |
| | | 20-Sep-07 | 98.255 |
| | | 22-Jul-08 | 98.229 |
| | | 31-Aug-08 | 98.196 |
| | | 18-Jun-09 | 98.540 |
| | | 27-Jul-09 | 98.187 |
| | | 26-Aug-09 | 98.263 |
| LE7 | Siamese Lake | 18-Jun-09 | 97.241 |
| | | 26-Jul-09 | 97.084 |
| | | 26-Aug-09 | 97.043 |
| LE8 | Andrew Lake | 18-Jun-09 | 99.460 |
| | | 6-Jul-09 | 99.028 |
| | | 25-Jul-09 | 98.871 |
| | | 25-Aug-09 | 98.882 |
| LE9 | Mushroom Lake | 18-Jun-09 | 99.579 |
| | | 25-Jul-09 | 99.419 |
| | | 25-Aug-09 | 99.410 |

**Table 4: Monthly Mean, Maximum and Minimum Discharge Estimates in 2009 ($m^3/s$)**

| Station ID | Discharge ($m^3/s$) | June | July | Station ID | Discharge ($m^3/s$) | June | July |
|---|---|---|---|---|---|---|---|
| SF2 | Mean | | 0.06 | SF7 | Mean | 17.2 | 12.4 |
| | Maximum | | 0.25 | | Maximum | 26.1 | 18.9 |
| | Minimum | | 0.01 | | Minimum | 0.00 | 8.09 |
| SF3 | Mean | | 0.01 | SF8 | Mean | 1.76 | 1.35 |
| | Maximum | | 0.06 | | Maximum | 2.80 | 1.99 |
| | Minimum | | 0.00 | | Minimum | 0.00 | 0.85 |
| SF4 | Mean | | 0.00 | SF13 | Mean | 83.4 | 38.0 |
| | Maximum | | 0.00 | | Maximum | 128 | 75.3 |
| | Minimum | | 0.00 | | Minimum | 0.00 | 20.3 |
| SF5 | Mean | 4.29 | 0.77 | SF14 | Mean | | 3.43 |
| | Maximum | 8.77 | 1.92 | | Maximum | | 7.26 |
| | Minimum | 0.00 | 0.23 | | Minimum | | 2.12 |
| SF6 | Mean | 2.53 | 0.29 | SF15 | Mean | 1.84 | 0.21 |
| | Maximum | 5.40 | 0.95 | | Maximum | 3.97 | 0.65 |
| | Minimum | 0.00 | 0.08 | | Minimum | 0.00 | 0.04 |

Golder Associates ᔨᓪᑐ ᑲᑐᔾᔨᖅᑎᑎᓪᓗ

# ᐱᓴᓕᑐᔪᓂᖅ ᐱᓪᒥᓕᓂᐊᕐᔪᑐ ᑐᓴᐅᒪᑎᓕᕐᔪᑐᖓᓪᓗ

**ᐅᓪᑐᖓ** ᓴᖅᓄᐊᓕ 30, 2010 **ᐱᓪᒥᐊᕐᑲ ᓇᓴᐅᑦ.** 09-1362-0610/8000

**ᑐᑦᖃᕆᐊᖅ** ᒥᓴᑕ. ძᓕᔪ ᐱᓪᒥᔭᖅ,
ᓄᓇᕗᒥ ᖃᐅᔾᔨᖃᑎᒌᑦ ᑎᒥᖓᓪᓗ

**ᐊᔾᔨᖏᓂᖅ ᑎᑎᖅᑲᐅᔾᔪᐊᕐᑐᖅ** Ms. Nicola Banton

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**2010 ᐱᓴᓕᑐᔪᓂᖅ ᐱᓪᒥᕈᐊᑐᓕᐊᖅᖁᓪᓕᑐᓄᓪᓗ ᑐᓴᔪᕐᓂᑐᓄᓪᓗ ᐊᒡᒪᓗ 2009ᒥ ᐱᓴᓕᑐᓕᐊᖅᖁᓪᓕᑐᓂᖅ ᖃᖅᔨᓴᕐᓂᐅᓕᔾᔨᑉᑐᑦ ᐅᓂᖅᑲᖅᓂᖅ ᓇᐃᓰᔪᓕᓴᐅᓪᓗ ᐊᖅᑎᐊᖅᑐᖅᑐᓄᓪᓗ ᐃᒪᕐძᑎᖅᓯᓂᖅ, ᖃᒪᓂᑐᐊᕐᑲ ᖃᓄᕈᑦᑎᓪᓗ, ᓄᓇᕗᓂ**

## ᖃᐅᔾᔨᖅᑲᐃᕈᐊᕈᑎᑦ

ᑭᖑᓪᓕᒥᒃ ᖃᐅᔾᔨᖃᓪᓕᖅ ᓄᓇᕗᑦᑲ ᖁᑎᖓᓂᖅ ᓇᖓᔪᐃᓚᐅᑐᒥᒃ ᐅᓴᖃᖅᓂᒋᐊᕐᓕᖅᑲᖅᑕᕐᓕᖓᓂ ᐱᓕᕆᐊᖓᔪᓕᒫᓂᖅ ᐃᓕᓴᕐᒃ 80 ᑭᓚᒋᑕᓂᖅ (km) ᖃᖅᓚᓂᑐᐊᕐᑲ ᐱᓇᖅᓇᖅᓂᓂ (ᐃᓕᓴᐅᑎᓪᓗᑦ 1A). ᐱᓕᕆᔨᐅᔪᓕᕐᖃᖅ ᒪᕐᕉᒋᖅᓯᓪᓚᓂ ᐊᖏᕐᕌᒃᑲᓪᓚᑎᑎᓪᓗᒃ ᐅᓴᖃᖅᓂᒋᐊᕐᓕᖅᑲᖅᑕᕐᓕᖓᓂ ᐊᒡᒪᓗ ᐅᓴᖃᖅᓂᒋᐊᕐᓕᖅᑲᖅᑕᕐᓕᖓᓂᓕᓂᖅᓯᓂᖅ ᓄᓇᕗᑦ ᓄᓇᕗᒻᒥᔨᓕᔪᕐᓂᒪᓕᒫᓂ ᐅᐊᖅᓇᖅᓂᓕᓂ ᑭᖑᓪᓕᒪᓕᒫᓂ ᐊᒡᒪᓗ ᓂᓪᓴᓕᒫᓂ ᓂᐅᔪᓗ. ᑭᖑᓪᓕᒥᒃ ᑕᒪᒪᕐᓇᖅ ᒪᑭᑕᐅᑕᐅᓂᔪᕐᓇᖅ 1977ᒥ ᐊᒡᒪᓗ ᓇᔪᖅᑕᐅᓕᐅᖅᓂᔪᓕᓴᐅᓪᓗ ᓂᐅᖅᑐᖅᑐᑎᑎᓪᓗ 1997ᒧᓪᓗ. ᓂᐅᖅᑐᖅᑐᑎᑎᓪᓗᑎᒃ ᖁᓂᓕᖅᑐᖅᑲᖅᑲᓂᕈᓕᐅᖅᓂᔪᓕᓴᐅᓪᓗ ᑕᐃᒪᓕᓴᐅᓪᓗᖅ 1997ᒥ ᖁᓂᓕᓂᖅᓯᓂ ᐅᓂᖅᑐᖅᑐᑎᑎᓪᓗ 2007ᖓᑎᓪᓗᒍ ᑲᔪᓂᔪᓕᓴᐅᓪᓗ 2009ᒧᓪᓗ ᑎᑭᑐᑦ.

## ᐱᓴᓕᑐᓕᐊᖅᖁᓪᓕᑐᓂᖅ ᖃᐅᔾᔨᖃᐅᒪᓂᕐᓓᒧᓪᓗ ᐅᓂᖅᑲᖅᓂ (2010ᒥ)

ᖃᐅᔾᔨᓴᓕᐊᕐᓂᐅᓕᐊᕐᓂᓪᓗ ᐃᒪᓕᖓᓂᖅ ᐊᖏᕐᕌᒃᑲᓪᓚᑐᓄᓪᓗ ᑲᑎᕐᓂᐊᓕᓄᑦ ᑯᓘᓪᓚᒥᒃ ᖃᐅᔾᔨᓴᕐᓂᐅᕐᖃᕐᓂᐅᓕᐅᖅᓂᔪᓕᓴᐅᓪᓗ ᑕᓯᓪᓗ ᐃᑎᒪᓂᖅ ᑯᓘᓪᓚᒥᒃᓯᓂᖅᓯᓂᓪᓗ ᑭᖑᓪᓕᒥᒃ ᓄᓇᕗᒻᒥ ᖃᐅᔾᔨᓴᕐᓂᐅᕐᖃᕐᓂᐅᓕᐅᖅᓂᔪᓕᓴᐅᓪᓗ ᐃᓕᓴᕐᒃ ᐃᓚᖏᑦ ᐃᓚᖏᑦ ᐃᓕᓴᕐᒃ

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ᐃᒪᖏᓂᖅ ᑯᓄᖏᓂᓪᓗ ᓇᐅᕆᔨᑐᑎᓕᒥᓕᐅᕆᔨᒪᔪᓕᑦ ᑭᖑᓚᐱᒻ ᐱᓕᓗᐊᖏᕐᐊᕐᔨᑐᓂ 2007ᖏᑎᓪᓗᔪᑕ. ᐱᖏᓂᕆᓂᖏᖏᓂᖅ ᖃᐅᔨᓴᖅᑲᓄᓕᒫᓕᕐᒥᒪᒃᑕ ᐃᒪᖏᓂᖅ ᑯᓄᖏᑭᓄᓪᓗ ᑭᖑᓚᐱᒻ ᖃᓄᕐᔨᑐᓂ 2010ᖏᓕᕐᓴᑦ, ᓇᓗᓇᐃᔨᑐᖅᓂᒪᔪᓕᑦ ᑎᑎᕕᔨᒪᔪᓕᑦ ᑎᑎᕕᔨᒪᓪᓗᑎᒃ 1. ᖃᐅᔨᓴᕕᓂᐊᕐᔨᑐᓂ ᖃᓇᑎᑎᑦ ᑯᓄᖏᓂ ᓗᓴᖃᑎᒥᒪᖏᓂᑦ, ᑕᑉᖏᓚᓕᒪᖅ ᑯᓄᖏᓂᖅᓂᒃ ᐅᖅᑐᕐᓴᓪᓗᑎᒃ ᑯᐸᓴᓕᐊᖏᓂᖅᓂᒃ ᐊᒻᒪᓗ ᑕᓗᐸᐢ ᐃᑎᓂᖅ <ᓂᕐᓴᓕᐊᐳᓄᖏᓂᓗ ᖃᐅᔨᓴᕆᑕᐅᖅᓂᓪᓗᓂ.

ᑯᒪᓕᐢ ᓴᓄᕐᑎᖅᓂ ᐃᑎᓂᖏᓂᓗ ᐅᖅᑐᕐᖃᐅᑲᓕᓪᓗᓂ ᐊᑐᕐᓗᑎᒃ ᐊᑐᖅᑕᐅᑲᓕᓴᖅᑐᒃ ᑯᕐᑐᒍᓕ ᖃᐅᔨᓴᐅᒪᓕᕐᒥᓂ ᐊᑐᖅᑕᐅᓂᕐᓗᐊᑐᑎᒃ ᖃᐅᔨᓴᕐᓂᖅ ᐃᓕᓴᕐᕕᓂ ᑲᑕᓄᖅᑕᐅᓂᖅᓂᒃ ᐊᑐᖅᑕᐅᓂᖅᓂᒃ ᐃᓕᓴᕐᕕᓂ ᐃᓕᓴᕐ

ᐅᐱᖏᑦᑐᕐᓂᓕᒃ ᖃᐅᔨᓴᓕᐅᖏᑐᒍᑦ ᑯᓴᑎᒋᖏᕐᓂᓕᕐᒃ ᐊᒻᒪᒪ ᑕᓯᐅᑦ ᐃᑎᓂᕐᓂᓕᕐᒃ ᖃᐅᔨᓴᓴᐃᓕᑦ ᐊᑲᐸᑕᐅᕐᒃᖃᓄᓕᓕᐅᖏᑐᒍᑦ ᐊᒻᒪᒪ ᒪᑉᓵᖓᓕᒫᒥᒃ ᓂᐱᓕᐅᓚᖓᓕᓕᐊᔪᓂᒃ ᑯᓴᓂᓕᕐᒃ ᐊᑲᐸᑕᑦ ᓇᓗᓇᐃᕈᑎᐊᓕᐅᖏᓯᓚᖓᑦ ᖃᐅᔨᓴᖏᑐᒍᑦ ᐃᓕᓴᕐᓂᓕᕐᒃ ᖃᐅᔨᓴᓴᐃᓕᖓᓂᒃ ᖃᐅᔨᓴᓴᐃᓕᖓᓂᒃ ᐊᒻᒪᒪ ᐅᑎᕐᓯᓂᖅ, ᐊᑐᓂ ᐅᓴᕆᔨᕐᒃᑕᓐᓇᑐᒍᑦ ᐃᓕᓐᓂᐊᕐᓂᓕᕐᒃ ᖃᐅᔨᓴᓴᐃᓕᖓᓂᒃ ᖃᐅᔨᓴᖃᓂᒃ ᑲᑎᒪᔨᓂᖅ. ᑯᓴᑎᒋᖏᕐᓂᑦ ᐃᑎᓂᖏᓪᓗ ᐅᒃᑐᕆᕐᒃᓂᓕᕐᓂᓕᒃ ᒥᑕᓂᒃ ᐅᒃᑐᕆᐅᑎᓕᖓᓂᒃ ᐊᑐᖅᑐᒃ ᑲᑯᔪᓗ ᓴᓴᐅᑎᖓᑦ ᐊᑐᖅᑕᐅᕐᓂᓕᕐᒃ ᖃᐅᔨᓴᖃᓂᒃ ᐊᒻᒪᒪ ᑲᑎᒪᔨᓂᖅ ᐅᑭᐊᑦᓯᔪᓕᕐᓂᓕᕐᒃ ᖃᐅᔨᓴᖃᓂᒃ ᐃᓕᓐᓂᐊᕐᓂᓕᕐᒃ ᐊᒻᒪᒪ ᑲᑎᒪᔨᓂᖅ ᐅᑭᐊᑦᓯᔪᓕᕐᒃ ᐃᓕᓐᓂᐊᕐᓂᓕᕐᒃ. ᐅᒃᑐᖅᑕᐅᑲᑕᒃᓂᓕᕐᓂᓕᕐᒃ ᐃᑎᓂᖏᓪᓗ ᐅᑭᐊᑦᓯᓕᕐᒥᓚᑦ ᖃᐅᔨᓴᓕᕐᒥᓚᒪᑦ; ᑲᑫᓚᓕᒍᖃᓄᑦ ᓂᐱᓕᐅᓚᖓᓕᑦ ᖃᐅᔨᓴᓴᐃᓕᖓᓂᒃ ᓂᐱᓕᐅᖏᓯᓚᖓᓕᑦ ᐊᓴᖅᑕᐅᕐᓂᓕᓐᓂᓪᓗ ᐅᑭᐅᖓᓂᕐᓂᓕᓂᓄᑦ. ᑯᒪᓕᓕᒍᑦ ᐅᒃᑐᖅᑕᐅᕐᓂᓕᒃ ᑕᓯᐅᑦ ᐃᑎᓂᖏᓪᓗ ᐃᓕᓴᕐᓂᓕᕐᒃ ᐃᓕᓴᕐᓂᓕᕐᒃ ᐊᒻᒪᒪ ᐃᓕᓴᕐᓂᓕᕐᒃ ᐃᓕᓴᕐᓂᓕᕐᒃ ᐊᒻᒪᒪ ᑲᑎᒪᔨᓂᖅ 2ᒥ 3ᒥᓗ, ᑕᐃᒪᓐᓇᒃ ᑭᖓᓕᓂᐸᒃᑐᒃᓂᒃ (ᑕᕐᖑᖓᓪᓚ ᐱᖃᓕᐅᕗᖅᐅᓕᒪᔪᑦ). ᓕᖑᕐᓂᖅᓯᑦ ᖃᐅᔨᓴᖏᑐᕈᓕᐅᖏᑐᒍᑦ ᖃᐅᔨᓴᖏᑐᒍᑦ ᑯᓴᑎᒋᓚᖓᓕᒃ ᑯᒪᓕᓕᑦ ᑲᑫᓚᓕᒍᖃᓄᑦ ᓂᐱᓕᐅᓚᖓᓕᑦ ᖃᐅᔨᓴᐅᑎᖓᖃᓕᐅᖏᑐᒍᑦ ᑯᕐᓴᕐᓂᓕᐊᓂᖓᓚᖓᓕᒃ ᐊᒻᒪᒪ ᑲᑎᒪᔨᓂᖅ 4ᒥ (ᑕᕐᖑᖓᓪᓚ ᐱᖃᓕᐅᕗᖅᐅᓕᒪᔪᑦ). ᐅᓴᓚᕆᐅᓂᐊᖅᓂᖅ ᑲᑯᔪᐊ ᓂᐱᓕᓂᖅᓴᑐᐃᓐᓇᐅᓚᒪᑕ ᖃᐅᔨᓴᐅᕗᖅᐅᓕᒪᔪᑦ. ᓄᐊᑕᓂᕐᓓᐊᓂᑕᑎᓐᓂᒃ, ᒥᖏᐅᑭᓂᓕᓂᐊᓂᕆᓂᒃ ᖃᓄᓄᑑᒪᓐᓇᑦ ᑯᓴᑎᒋᓚᖓᓕᒃ ᐊᑐᐃᓐᓇᕐᑐᑐᐃᓐᓇᓚᐊᓕᑦ ᐱᕐᓕᓂᐊᓂᓂᕐᒃ ᒪᓕᓂᓗᒍ.

ᐊᐱᖅᑯᑎᖏᖃᖅᑎᓂᕐᒪᑦ ᑲᑯᔪᐊ ᑎᑎᖅᑲᖏᑕ ᒥᑦᓴᓄᑦ, ᖃᐅᔨᓕᐊᑭᐃᓇᐅᑦᑐᑎᑦ ᓂᐊᕆᔭ ᓱᑎᐃᒍᑦ ᐅᕐᖑᓚ (306) 665-7989 ᖃᐅᓚᖓᔨᖅᑯᓂᓗᐃᑦ ᐅᕐᖑᓚ Sarah_Gauthier@golder.com.

ᐱᖃᓂᕐᒥᓚᒪᑦ: ᑎᑎᕋᓂᒪᓕᕐᑐᑎᑦ ᑎᑎᖅᑲᑦ 1ᒥᑲ 4ᒍᑦ
ᓇᓚᕋᓂᒪᓕᕐᑐᑎᑦ ᑎᑎᖅᑲᖏᑕ 1Aᒥᐊᒻᒪᒪ 1Bᒥ

SG/BT/cjf

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## ᑎᑎᕋᔪᒪᓕᕐᓂ 1: ᑯᒃᓴᓂ ᑯᓂᑎᑭᓂᖅᑭᓂᓂ ᑕᐅᔪᓐᓇ ᐃᑎᓂᖅᓂᒃ ᖃᐅᔨᓴᕋᖅᓯᓂ ᑭᖑᓪᓚᓗᒥ ᖃᓄᖅᑐᓂ, 2009ᒥ 2010ᒥᓇ

### ᑯᒃᓴᓂ ᑯᓂᑎᑭᓂᖅᑭᓂᓂ ᖃᐅᔨᓴᕋᖅᓯᓂ

| ᖃᐅᔨᓴᕋᖅᓯᐅᓪᓗᒍ ᓇᓴᐅᑕ | ᖃᐅᔨᓴᕋᕆᔨᖅᑕ | ᑭᓱᓕᕆᔨᖅᑕ (UTM NAD 83 ᓄᓇᓕᖕᒥᐊᒃᑯᓂ ᑐᑭᖅᑕᑦ[a]) | ᑕᑯᖑᓚᐅᒪᖅ ᖃᐅᔨᓴᕋᕆᓂ |
|---|---|---|---|
| SF1 | ᑯᐸᖅᓚᐊᓂᖑᓗ ᓱᑭᓂ ᑕᓱᖑᓚᑕ | Zone 14 W 571655E 7155266N | ᐊᖏᖑ |
| SF2 | ᑯᐸᖅᓚᐊᓂᖑᓗ ᐊᑎᕆᐹᕈᑕᑐᖅ ᑕᓱᖅ ᑯᖃᐃᐅᓪᓚᑐ ᓯᒃ ᑕᓱᖑᓚᓂᒃ | Zone 14 W 563554E 7146242N | ᐃ |
| SF3 | ᐅᐊᓐᓇᖑᓚᑕ ᑲᓇᓐᓇᖑᓂᒃ ᑯᓐᓂᖑᓗ >ᐃᓐᑐᖏ ᑕᓱᖑᓚᑕ | Zone 14 W 565717E 7147088N | ᐃ |
| SF4 | ᑯᐸᖅᓚᐊᓂᖑᓗ ᓱᒃᓱᒃ ᑕᓱᖑᓚᑕ | Zone 14 W 565790E 7140386N | ᐃ |
| SF5 | ᑯᐸᖅᓚᐊᓂᖑᓗ >ᐃᓐᑐᖏ ᑕᓱᖑᓚᑕ | Zone 14 W 566477E 7140840N | ᐃ |
| SF6 | ᑯᐸᖅᓚᐊᓂᖑᓗ ᐊᒃ ᑕᓱᖑᓚᑕ | Zone 14 W 558223E 7131912N | ᐃ |
| SF7 | ᑯᐸᖅᓚᐊᓂᖑᓗ of ᓴᓗ ᓱᓯᓇᓵᖏ ᑕᓱᖑᓚᑕ | Zone 14 W 574605E 7134734N | ᐃ |
| SF8 | ᑯᐸᖅᓚᐊᓂᖑᓗ ᖃᐃᒋᓵ ᑕᓱᖑᓚᑕ | Zone 14 W 580364E 7146775N | ᐃ |
| SF10 | ᐊᓱᖑᓐᓂᒃ ᑯᖏᑐᖏ ᐅᐊᓐᓇᖑᓚᑕ ᑲᓇᓐᓇᖅᑕᐊᓂ >ᐃᓐᑐᖏ ᑕᓱᖑᓚᓄᑦ ᑯᖏᑐᖏ | Zone 14 W 565328E 7146771N | ᐊᖏᖑ |
| SF11 | ᐅᐊᓐᓇᖑᓚᑕ ᐱᓇᓐᓇᖅᑕᐊᓂ >ᐃᓐᑐᖏ ᑕᓱᖑᓚᓄᑦ ᑯᖏᑐᖏ | Zone 14 W 565015E 7144882N | ᐊᖏᖑ |
| SF13 | ᐊᓂᔪᖅᑲ ᑯᖑᓚ | Zone 14 W 617415E 7123391N | ᐃ |
| SF14 | ᖃᓄᖕᔪᖅᑲ ᑯᓗᓴᖑᓚ | Zone 14 W 630101E 7128437N | ᐃ |
| SF15 | ᑯᐸᖅᓚᐊᓂᖑᓗ ᐊᓵᑐᑕᑭ ᑕᓱᖑᓚᓂᒃ | Zone 14 W 553586E 7134121N | ᐃ |
| SF16 | ᑯᐸᖅᓚᐊᓂᖑᓗ ᒪᓕᑭᒪ ᑕᓱᖑᓚᓂᒃ | Zone 14 W 554181E 7136655N | ᐊᖏᖑ |

### ᑕᓱᑦ ᐃᑎᓂᖑᑕ ᐅᓪᓂᓂᖑᓚᓂᒃ ᖃᐅᔨᓴᕋᖅᓯᓂ

| ᖃᐅᔨᓴᕋᖅᓯᐅᓪᓗᒍ ᓇᓴᐅᑕ | ᖃᐅᔨᓴᕋᕆᔨᖅᑕ | ᐅᓂᑐᑎᓪᓗᑦ ᖃᐅᔨᓴᕋᖅᓯᖑᓚᑕ (UTM NAD 83 ᓄᓇᓕᖕᒥᐊᒃᑯᓂ ᑐᑭᖅᑕᑦ[a]) | ᑕᑯᖑᓚᐅᒪᖅ ᖃᐅᔨᓴᕋᕆᓂ |
|---|---|---|---|
| LE1 | >ᐃᓐᑐᖏ ᑕᓱᖑᓚ | Zone 14 W 565652E 7142467N | ᐊᖏᖑ |
| LE2 | ᐊᑎᖃᓐᓂᕈᑕᑐᖅ ᑕᓱᖑᓚ ᑯᖃᐃᐅᔪᖅ ᓯᒃ ᑕᓱᖑᓚᓂᒃ | Zone 14 W 563603E 7146244N | ᐊᖏᖑ |
| LE3 | ᓴᓵᓱᓯᓐ ᑕᓱᖑᓚ | Zone 14 W 574537E 7134751N | ᐊᖏᖑ |
| LE5 | ᓱᑭᓂ ᑕᓱᖑᓚ | Zone 14 W 571626E 7154893N | ᐊᖏᖑ |
| LE6 | ᖃᕕᓱᓕᓂᒃ ᑕᓱᖑᓚ | Zone 14 W 571712E 7155299N | ᐊᖏᖑ |
| LE7 | ᖃᐃᒋᓵ ᑕᓱᖑᓚ | Zone 14 W 576086E 7151648N | ᐊᖏᖑ |
| LE8 | ᐊᓵᑐᑕᑭ ᑕᓱᖑᓚ | Zone 14 W 553222E 7134135N | ᐊᖏᖑ |
| LE9 | ᒪᓕᑭᒪ ᑕᓱᖑᓚ | Zone 14 W 554219E 7136721N | ᐊᖏᖑ |

ᖃᐅᔨᒪᓴᐅᑕᓚᓂᒃ: (a) E ᐃᓇᓐᓇᖑᓚᓄᑦ ᑐᖅᑎᑐᖅ ᐅᖏᓱᓐᓂᖑᓗ ᐱᑕᐊᖅᖃᖏᖑᓚᓂᒃ (ᒋᑕᑎᒍᑦ), N ᐅᐊᓐᓇᖑᓚᓄᑦ ᑐᖅᑎᑐᖅ ᐅᖏᓱᓐᓂᖑᓗ ᐱᑕᐊᖅᖃᖏᖑᓚᓂᒃ (ᒋᑕᑎᒍᑦ)

## ᑎᑎᕋᕐᒪᔪᑦ 2: ᑯᑎᓪᓗ ᑯᓯᑎᑭᓂᖅᑭᓂᒃ Δᒪᐅᑦᓗ Δᑎᓂᖅᑎ ᐅᓪᓂᖅᑎᓄᑦ ᐅᒃᑐᖅᑕᐅᓕᕐᒥᓂᕐᑎᑦ, 2009ᒥ

| ᖃᐅᔨᓴᕆᕕᐅᑦ ᓇᓴᐅᑦ | ᐅᑦᓗᖅ | Δᒪᐅᑦ Δᑎᓂᖅ (m) | ᑯᓂᓂᖅᑕ ᓄᒃᖢᓂᖅ (m³/s) | ᖃᐅᔨᓴᕆᕕᐅᑦ ᓇᓴᐅᑦ | ᐅᑦᓗᖅ | Δᒪᐅᑦ Δᑎᓂᖅ (m) | ᑯᓂᓂᖅᑕ ᓄᒃᖢᓂᖅ (m³/s) |
|---|---|---|---|---|---|---|---|
| SF1 | 18-ᔪᑯᓂ-09 | 98.790 | 7.03 | SF7 | 17-ᔪᑯᓂ-09 | 98.771 | 20.60 |
| | 27-ᔪᓕΔ-09 | 98.216 | 0.10 | | 25-ᔪᓕΔ-09 | 98.519 | 8.23 |
| | 26-ᐊᒍᓂ-09 | 98.411 | 1.06 | | 25-ᐊᒍᓂ-09 | 98.321 | 3.89 |
| SF2 | 17-ᔪᑯᓂ-09 | 99.006 | 0.83 | SF8 | 18-ᔪᑯᓂ-09 | 99.350 | 2.21 |
| | 20-ᔪᑯᓂ-09 | 98.985 | 0.71 | | 26-ᔪᓕΔ-09 | 99.249 | 1.03 |
| | 27-ᔪᓕΔ-09 | 98.759 | 0.04 | | 26-ᐊᒍᓂ-09 | 99.235 | 0.81 |
| | 24-ᐊᒍᓂ-09 | 98.870 | 0.18 | SF10 | 16-ᔪᑯᓂ-09 | 98.897 | 0.10 |
| SF3 | 16-ᔪᑯᓂ-09 | 99.714 | 0.17 | | 20-ᔪᑯᓂ-09 | 98.874 | 0.05 |
| | 20-ᔪᑯᓂ-09 | 99.703 | 0.16 | | 27-ᔪᓕΔ-09 | 98.808 | 0.00 |
| | 27-ᔪᓕΔ-09 | 99.498 | 0.00 | | 24-ᐊᒍᓂ-09 | 98.860 | 0.01 |
| | 24-ᐊᒍᓂ-09 | 99.617 | 0.09 | SF11 | 17-ᔪᑯᓂ-09 | 99.693 | 0.85 |
| SF4 | 16-ᔪᑯᓂ-09 | 99.574 | 0.22 | | 20-ᔪᑯᓂ-09 | 99.684 | 0.79 |
| | 26-ᔪᓕΔ-09 | 99.258 | 0.00 | | 27-ᔪᓕΔ-09 | 99.477 | 0.01 |
| | 25-ᐊᒍᓂ-09 | 99.293 | 0.00 | | 25-ᐊᒍᓂ-09 | 99.534 | 0.15 |
| SF5 | 16-ᔪᑯᓂ-09 | 99.074 | 9.27 | SF14 | 26-ᔪᓕΔ-09 | 33.930 | 2.00 |
| | 25-ᔪᓕΔ-09 | 98.511 | 0.24 | SF15 | 18-ᔪᑯᓂ-09 | 99.705 | 4.00 |
| | 25-ᐊᒍᓂ-09 | 98.589 | 0.75 | | 6-ᔪᓕΔ-09 | 99.290 | 0.37 |
| SF6 | 17-ᔪᑯᓂ-09 | 99.774 | 6.84 (0.60) | | 25-ᔪᓕΔ-09 | 99.132 | 0.07 |
| | 25-ᔪᓕΔ-09 | 99.242 | 0.08 | | 25-ᐊᒍᓂ-09 | 99.165 | 0.12 |
| | 25-ᐊᒍᓂ-09 | 99.093 | 0.13 | SF16 | 18-ᔪᑯᓂ-09 | 99.460 | 0.14 |
| | | | | | 25-ᔪᓕΔ-09 | 99.216 | 0.02 |
| | | | | | 25-ᐊᒍᓂ-09 | 99.227 | 0.02 |

## ᑎᑎᕋᕐᒪᓕᕐᓂ 3: ᐅᓴᐅᑦᑕᐅᓪᓚᐅᕋᑐᑦ ᑕᓯᑦ ᐃᑎᓂᖅᑎᑦ, 2009ᒥ

| ᖃᐅᔨᓴᕋᖏᑦ ᓱᓇᐅᑦ | ᑕᓯᖅ | ᐅᑦᓗᖅ | ᐃᑎᓂᖅ (ᒪᑕᑦ) |
|---|---|---|---|
| LE1 | >ᐃᐢᑐᕋ ᑕᓯᖅ | 17-ᔪᓂᓕ-09 | 98.906 |
| | | 25-ᔪᑦᓚᐃ-09 | 98.285 |
| | | 25-ᐊᒍᓯ-09 | 98.316 |
| LE2 | ᐊᑎᕋᑲᖅᑭᑐᑐᕋᖅ ᑕᓯᖅᑐ ᑯᖃᕆᐊᐅᔪᖅ ᓯᑲ ᑕᓯᖅᑐᓕᒃ | 17-ᔪᓂᓕ-09 | 99.142 |
| | | 20-ᔪᓂᓕ-09 | 99.035 |
| | | 27-ᔪᑦᓚᐃ-09 | 98.774 |
| | | 24-ᐊᒍᓯ-09 | 98.900 |
| LE3 | ᖃᐅ ᓯᓯᐢ ᑕᓯᖅᑐ | 17-ᔪᓂᓕ-09 | 99.816 |
| | | 25-ᔪᑦᓚᐃ-09 | 99.680 |
| | | 25-ᐊᒍᓯ-09 | 99.578 |
| LE5 | ᓯᑭᓕ ᑕᓯᖅᑐ | 18-ᔪᓂᓕ-09 | 99.601 |
| | | 27-ᔪᑦᓚᐃ-09 | 99.232 |
| | | 26-ᐊᒍᓯ-09 | 99.334 |
| LE6 | ᑲᕃᓯᓕᒃ ᑕᓯᖅᑐ | 03-ᐊᒍᓯ-07 | 98.170 |
| | | 20-Sep-07 | 98.255 |
| | | 22-ᔪᑦᓚᐃ-08 | 98.229 |
| | | 31-ᐊᒍᓯ-08 | 98.196 |
| | | 18-ᔪᓂᓕ-09 | 98.540 |
| | | 27-ᔪᑦᓚᐃ-09 | 98.187 |
| | | 26-ᐊᒍᓯ-09 | 98.263 |
| LE7 | ᓴᐃᒋᑦ ᑕᓯᖅᑐ | 18-ᔪᓂᓕ-09 | 97.241 |
| | | 26-ᔪᑦᓚᐃ-09 | 97.084 |
| | | 26-ᐊᒍᓯ-09 | 97.043 |
| LE8 | ᐊᐢᑐᑭ ᑕᓯᖅᑐ | 18-ᔪᓂᓕ-09 | 99.460 |
| | | 6-ᔪᑦᓚᐃ-09 | 99.028 |
| | | 25-ᔪᑦᓚᐃ-09 | 98.871 |
| | | 25-ᐊᒍᓯ-09 | 98.882 |
| LE9 | ᒪᓴᒪᒪ ᑕᓯᖅᑐ | 18-ᔪᓂᓕ-09 | 99.579 |
| | | 25-ᔪᑦᓚᐃ-09 | 99.419 |
| | | 25-ᐊᒍᓯ-09 | 99.410 |

**ᑎᑎᕋᕐᓯᒪᔪᑦ 4: ᑕᖅᑭᑕᒧᑦ ᒥᕆᐅᕆᕐᓯᒪᔪᓂᑦ, ᓄᖅᑲᓕᓪᓗ ᓄᖅᐃᓪᓗᓂᓐᓄ ᑯᓘᓐᓃᑎᑕ ᒥᕆᐅᕆᕗᐅᓕᐅᕋᑐᑦ 2009ᖁᑎᑦᓄᐃ ($m^3/s$)**

| ᖃᐅᔨᕆᕋᐃᓕᐅᑉ ᐃᓕᓴᕐᑕ | ᑯᓘᓐᓃᑎᑕ ᓄᖅᑲᓘᖓ ($m^3/s$) | ᔪᓂ | ᔪᓕᐃ | ᖃᐅᔨᕆᕋᐃᓕᐅᑉ ᐃᓕᓴᕐᑕ | ᑯᓘᓐᓃᑎᑕ ᓄᖅᑲᓘᖓ ($m^3/s$) | ᔪᓂ | ᔪᓕᐃ |
|---|---|---|---|---|---|---|---|
| SF2 | ᒥᕆᐅᕆᕐᓯᒪᔪᑦ | | 0.06 | SF7 | ᒥᕆᐅᕆᕐᓯᒪᔪᑦ | 17.2 | 12.4 |
| | ᓄᖅᑲᓕᓪᓗ | | 0.25 | | ᓄᖅᑲᓕᓪᓗ | 26.1 | 18.9 |
| | ᓄᖅᐃᓪᓗᓂᓐᓄ | | 0.01 | | ᓄᖅᐃᓪᓗᓂᓐᓄ | 0.00 | 8.09 |
| SF3 | ᒥᕆᐅᕆᕐᓯᒪᔪᑦ | | 0.01 | SF8 | ᒥᕆᐅᕆᕐᓯᒪᔪᑦ | 1.76 | 1.35 |
| | ᓄᖅᑲᓕᓪᓗ | | 0.06 | | ᓄᖅᑲᓕᓪᓗ | 2.80 | 1.99 |
| | ᓄᖅᐃᓪᓗᓂᓐᓄ | | 0.00 | | ᓄᖅᐃᓪᓗᓂᓐᓄ | 0.00 | 0.85 |
| SF4 | ᒥᕆᐅᕆᕐᓯᒪᔪᑦ | | 0.00 | SF13 | ᒥᕆᐅᕆᕐᓯᒪᔪᑦ | 83.4 | 38.0 |
| | ᓄᖅᑲᓕᓪᓗ | | 0.00 | | ᓄᖅᑲᓕᓪᓗ | 128 | 75.3 |
| | ᓄᖅᐃᓪᓗᓂᓐᓄ | | 0.00 | | ᓄᖅᐃᓪᓗᓂᓐᓄ | 0.00 | 20.3 |
| SF5 | ᒥᕆᐅᕆᕐᓯᒪᔪᑦ | 4.29 | 0.77 | SF14 | ᒥᕆᐅᕆᕐᓯᒪᔪᑦ | | 3.43 |
| | ᓄᖅᑲᓕᓪᓗ | 8.77 | 1.92 | | ᓄᖅᑲᓕᓪᓗ | | 7.26 |
| | ᓄᖅᐃᓪᓗᓂᓐᓄ | 0.00 | 0.23 | | ᓄᖅᐃᓪᓗᓂᓐᓄ | | 2.12 |
| SF6 | ᒥᕆᐅᕆᕐᓯᒪᔪᑦ | 2.53 | 0.29 | SF15 | ᒥᕆᐅᕆᕐᓯᒪᔪᑦ | 1.84 | 0.21 |
| | ᓄᖅᑲᓕᓪᓗ | 5.40 | 0.95 | | ᓄᖅᑲᓕᓪᓗ | 3.97 | 0.65 |
| | ᓄᖅᐃᓪᓗᓂᓐᓄ | 0.00 | 0.08 | | ᓄᖅᐃᓪᓗᓂᓐᓄ | 0.00 | 0.04 |

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550000 560000 570000 580000 590000 600000 610000 620000 630000 640000 650000

7170000 7160000 7150000 7140000 7130000 7120000

Whitehills Lake
Ayaktuukvik Lake
Kavisilik Lake
Skinny Lake
Squiggly Lake
Siamese Lake
Long Lake
Qikittalik Lake
Tunuhuk Lake
Thelon River
Pointer Lake
Caribou Lake
Gerhard Lake
Boulder Lake
Cigar Lake
Judge Sissons Lake
Qamanaujaq Lakes
Aniguq River
Thom Lake
Baker Lake
Qinguq Creek
Audra Lake
SF 14
Qinguq Bay
Aniguq River
SF 13
Qamanaugaq Lake
Baker Lake
Buzzard Lake
Dragon Lake

5 0 5
SCALE 1:300,000 KILOMETRES

**Legend**

Stream Flow Monitoring/ Lake Elevation Stations

2008 2007 Continuous Water Level Sensor 2009 2010 (Proposed)

- Aniguq River Basin
- Aniguq River Sub-Basin
- Qinquq Creek Basin
- Thelon River Sub-Basin
- Boulder Lake Sub-Basin
- Caribou Lake Sub-Basin
- Kavisilik Lake Sub-Basin
- Lower Lake Sub-Basin
- Siamese Lake Sub-Basin
- Willow Lake Sub-Basin
- Pit
- Clean Waste Rock Pile
- Airstrip
- 2009 North All Weather Road Crossing
- Proposed North All Weather Access Road

Reference:
Atlas of Canada
NTS Mapsheets 56D/66A/66B
NAD 83 UTM Zone 14

PROJECT
AREVA
AREVA RESOURCES CANADA INC.
KIGGAVIK/SISSONS PROJECT

TITLE
# 2009 AND 2010 PROPOSED MONITORING STATIONS REGIONAL STUDY AREA

Golder Associates
Saskatoon, Saskatchewan

| | | | | | |
|---|---|---|---|---|---|
| PROJECT | | 09-1362-0610 | FILE No. | | |
| DESIGN | | | SCALE AS SHOWN | REV. | 0 |
| GIS | MGD/MK | 21/01/10 | | | |
| CHECK | SG | 30/03/10 | | | |
| REVIEW | BT | 30/03/10 | | | |

**FIGURE: 1A**

530000 540000 550000 560000 570000 580000 590000 600000 610000

7170000 7160000 7150000 7140000 7130000

Aberdeen Lake
Squiggly Lake
Kavisilik Lake
Skinny Lake
Ayaktuukvik Lake
Long Lake
Siamese Lake
Qikittalik Lake
Sleek Lake
Pointer Lake
Caribou Lake
Gerhard Lake
Boulder Lake
Cigar Lake
Judge Sissons Lake
Qamanaujaq Lakes
Aniguq River
Thom Lake
Audra Lake

LE1 LE2 LE3 LE5 LE6 LE7 LE8 LE9
SF 1 SF 2 SF 3 SF 4 SF 5 SF 6 SF 7 SF 8 SF 10 SF 11 SF 15 SF 16

5 0 5
SCALE 1:250,000 KILOMETRES

**Legend**

Stream Flow Monitoring/ Lake Elevation Stations
2008 2007 Continuous Water Level Sensor 2009 2010 (Proposed)

- Aniguq River Basin
- Aniguq River Sub-Basin
- Qinquq Creek Basin
- Thelon River Sub-Basin
- Boulder Lake Sub-Basin
- Caribou Lake Sub-Basin
- Kavisilik Lake Sub-Basin
- Lower Lake Sub-Basin
- Siamese Lake Sub-Basin
- Willow Lake Sub-Basin
- Pit
- Clean Waste Rock Pile
- Airstrip
- Proposed Lake Current Monitoring
- Proposed North All Weather Access Road

Reference:
Atlas of Canada
NTS Mapsheets 56D/66A/66B
NAD 83 UTM Zone 14

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Golder Associates
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| | | | |
|---|---|---|---|
| PROJECT | 09-1362-0610 | | FILE No. |
| DESIGN | | | SCALE AS SHOWN REV. 0 |
| GIS | MGD/MK | 21/01/10 | |
| CHECK | SG | 30/03/10 | **FIGURE: 1B** |
| REVIEW | BT | 30/03/10 | |

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